Agenda Item #1

OC DEVELOPMENT SERVICES REPORT

DATE:	October 7, 2021
TO:	Orange County Zoning Administrator
FROM:	OC Development Services / Planning Division
SUBJECT:	Planning Application PA20-0175 for a Use Permit
PROPOSAL:	The applicant is seeking a Use Permit for over height walls located within the side setback.
ZONING:	125-E4-20,000 "Small Estates"
GENERAL PLAN:	1B "Suburban Residential"
LOCATION:	The project is located at 1901 Park Skyline Rd. within the Third (3rd) Supervisorial District (APN 502-071-12)
APPLICANT:	Evelyn and Mike Wong, Property Owner Anders Lasater, Architect
STAFF CONTACT:	Cynthia Burgos, Contract Staff Planner Phone: (714) 667-8898 E-mail: Cynthia.Burgos@ocpw.ocgov.com

RECOMMENDED ACTION(S):

OC Development Services/Planning recommends the:

1. Receive the staff report and public testimony as appropriate
2. Find that the proposed project is exempt from CEQA because the Class 3 (New Construction) Section 15303, consists of construction of limited numbers of new structures (One single-family residence) and Section 15304, Class 4 (Minor Alterations to Land).
3. Approve Planning Application PA20-0175 for a Use Permit subject to the Findings and Conditions of Approval provided as attachments #1 and #2 to this report.

BACKGROUND AND EXISTING CONDITIONS:

The subject property, portion of lot C of Tract Map 61, is located within an area designated 125-E4-20,000 "Small Estates" District in the unincorporated Santa Ana area. The subject site is located on a hillside and faces Park Skyline Road along the west and Skyline Drive along the east. The vacant lot is generally a rectangular shaped through lot and is 0.48 acres in size. The lot has an average depth of 180 feet and an average width of 102 feet.

Proposed Project

The applicant is requesting a Use Permit to allow for the construction of over height walls located within the side setback. The proposed walls would begin at a maximum height of 18 feet and would reduce in height as they head towards the street following the sloping grade of the lot. As per Section 7-9-64 (c)(1) of the Zoning Code no fences or walls over six-feet tall are permitted within the side setback area unless approved by the Zoning Administrator.

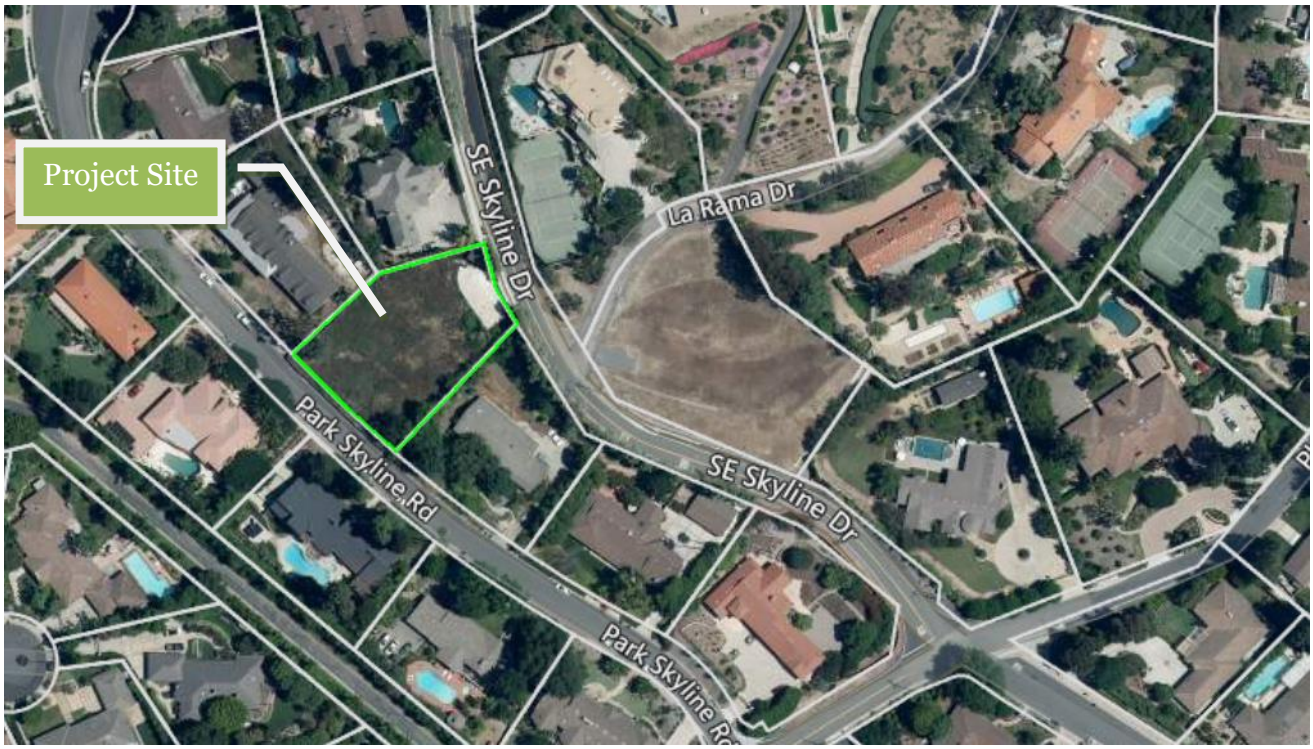
SURROUNDING LAND USES:

Zoning and existing land uses for the project site and for other surrounding properties beyond are as follows.

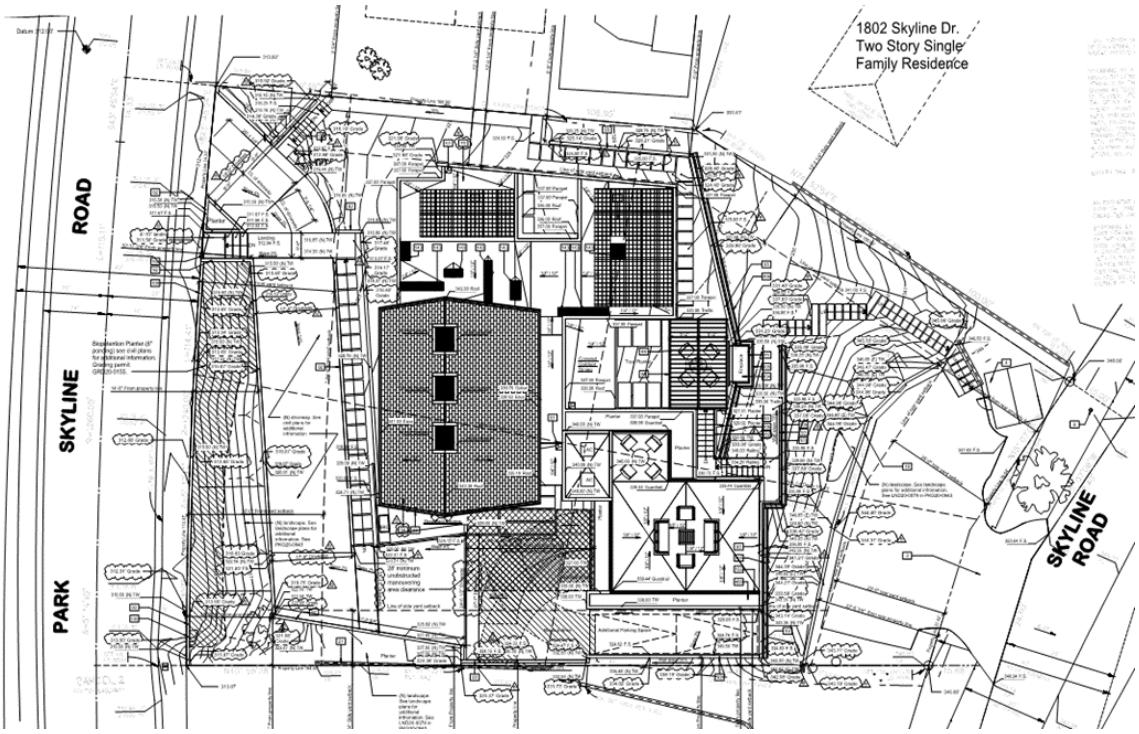
DIRECTION	ZONING DISTRICT	EXISTING LAND USE
Project Site	125-E4-20,000 "Small Estates" District	Vacant
North	125-E4-20,000 "Small Estates" District	Single Family Dwelling
South	125-E4-20,000 "Small Estates" District	Single Family Dwelling
East	125-E4-20,000 "Small Estates" District	Single Family Dwelling
West	125-E4-20,000 "Small Estates" District	Single Family Dwelling

Aerial of Project Site

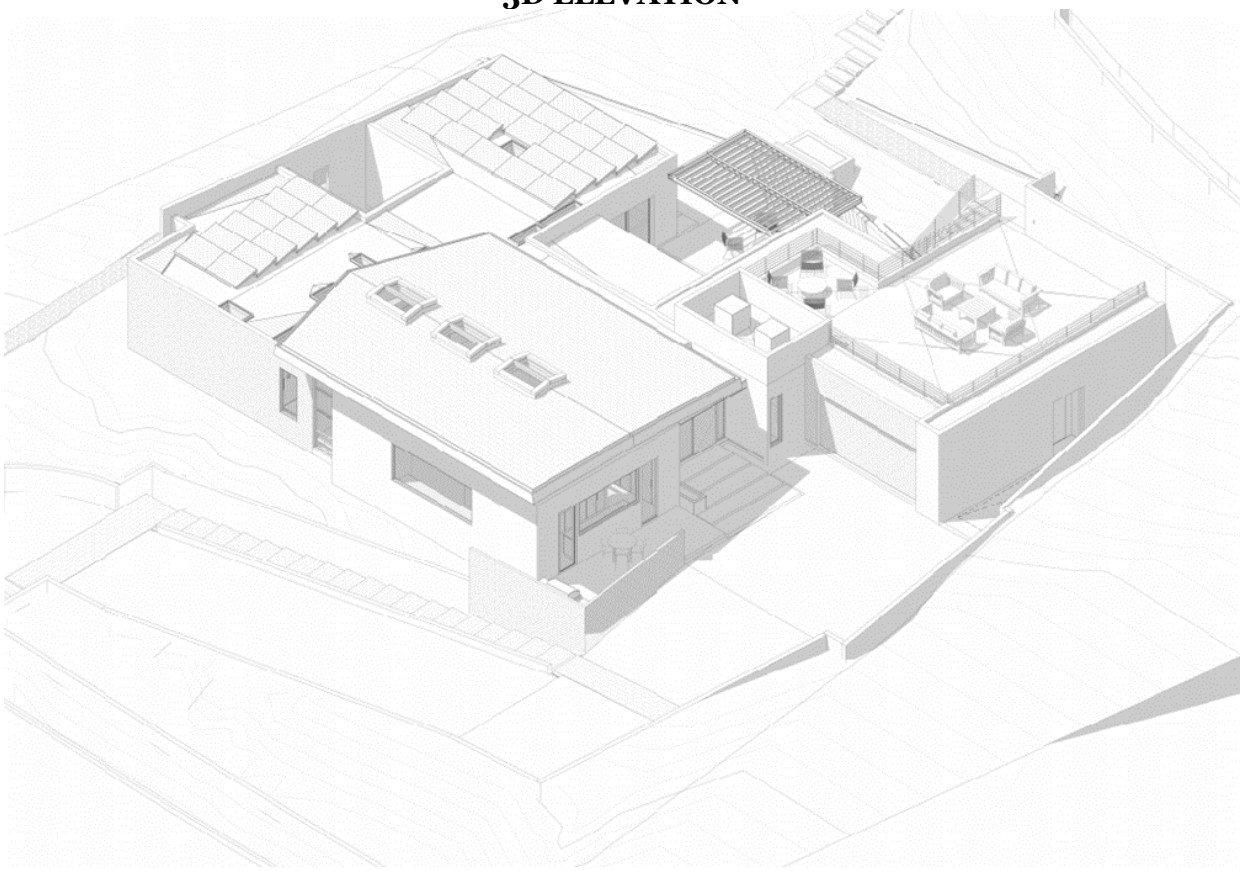
An aerial photograph of the Project site and surrounding properties within unincorporated Santa Ana is provided below.



SITE PLAN



3D ELEVATION



DISCUSSION/ANALYSIS:

Below is a table comparing the development standards for the 125-E4-20,000 "Small Estates" District with the Applicant's proposal.

STANDARD	PERMITTED	PROPOSED
Building Site Area	10,000 minimums	0.48 acres (existing)
Maximum Fence and Wall Height	3 ½ feet (within the front setback area) 6 feet (within side or rear setback)	2'10" to 18' block wall (proposed)*
Structural Front Setback	30' minimum	19' block wall (proposed)* 41' house (proposed)
Structural Side Setback	12' (Side setback is ten (10) percent of average ultimate net width of building site - maximum twenty (20) feet)	7" block wall right side (proposed)* 16' house right side (proposed) 12'6' house left side (proposed)
Structural Rear Setback	25'	27'5" block wall (proposed) 39' house (proposed)

*Indicates deviation from Site Development Standards

Over Height Walls

The applicant is proposing to build a new single-family house on a sloped lot. The slope of the property requires retaining walls that exceed the allowed height along the south side of the property. The retaining walls in question form the back of the garage and the side service yard adjacent to the garage. The maximum height of the retaining walls will be 18 feet but will reduce in height as they head towards the street following the sloping grade of the lot. Per the County of Orange Zoning Code any deviation from the maximum height shall require approval of a Use Permit to the Zoning Administrator. Consequently, the applicant is requesting approval to allow the height of the walls to exceed the maximum allowable height within the side setback area.

County of Orange Zoning Code Section 7-9-64(f), state that exceptions and modifications to the wall height provisions may be permitted by approval of a Use Permit by Zoning Administrator if the following findings can be made:

A. *That the height and location of the fence or wall as proposed will not result in or create a traffic hazard.*
B. *The location, size, design and other characteristics of the fence or wall will not create conditions or situations that may be objectionable, detrimental or incompatible with other permitted uses in the vicinity.*

The proposed walls have been reviewed by traffic engineering and since the walls reduce in height from a maximum of 18' in the rear of the property to 2'10" within the front setback area it has been determined that the walls will not result in or create a traffic hazard. Furthermore, since the walls follow the slope of the property only a maximum of 2'8" of the walls will be visible from the adjacent neighborhood's property. The location, size and design of the walls are consistent with similar improvements throughout

the area. As a result, this project will not be objectionable, detrimental or incompatible with other permitted uses in the vicinity.

Additionally, similar projects in the area have been proposed and approved. Below is a table of similar project approved in the last ten (10) years.

APPLICATION	LOCATION	PERMITTED	HEIGHT
PA180008	1505 Skyline Dr.	Use Permit for an over height fence and gate within the front setback area.	5’
PA170018	12421 Newport Ave.	Use Permit for an over height wall along a side setback area.	10’
PA100035	11322 Vista Del Lago	Use permit for an over height wall within a side setback area.	9’

REFERRAL FOR COMMENT AND PUBLIC NOTICE:

A copy of the planning application and the proposed site plan were distributed for review and comment to appropriate County division. Staff has reviewed all comments received, and where appropriate, has addressed the comments through recommended Conditions of Approval, which are provided as Attachment 2. Public notices were mailed to all owners of record within 300 feet of the subject property, and posted in front of the project site, the Orange County Hall of Administration at 333 W. Santa Ana Blvd., and in the lobby at the County Administration South building located at 601 N. Ross Street, Santa Ana, CA 92701, at least ten days prior to this public hearing, as required by established public hearing posting procedures. As of the writing of this staff report, no comments raising issues with the project have been received from OCFA or other County divisions.

The North Tustin Advisory Committee (NTAC) reviewed the applicants request at its August 18, 2021 meeting. After reviewing the project, NTAC voted 4-0 to recommend approval of the project. Minutes from the meeting are included in the staff report as Attachment 7.

CEQA COMPLIANCE:

The proposed project is exempt from CEQA because the Class 3 (New Construction) Section 15303, consists of construction of limited numbers of new structures (One single-family residence) and Section 15304, Class 4 (Minor Alterations to Land).

CONCLUSION:

Staff has reviewed the applicant's request for a Use Permit for over-height walls and found it to be compliant with the special findings necessary under Zoning Code Section 7-9-64(f). Staff recommends Zoning Administrator approval of Planning Application PA20-0175 for a Use Permit subject to the attached Recommended Findings and Conditions of Approval provided as Attachments 1 and 2.

Submitted by:

Richard Vuong, Planning Division Manager
OC Development Services/Planning

Concurred by:

Amanda Carr, Interim Deputy Director
OC Public Works/Development Services

ATTACHMENTS:

1. Recommended Findings
2. Recommended Conditions of Approval
3. Applicant's Letter of Justification
4. Environmental Documentation NOE PA20-0175
5. Site Photos
6. Site Plans
7. NTAC Meeting Minutes

APPEAL PROCEDURE:

Any interested person may appeal the decision of the Zoning Administrator on this permit to the OC Planning Commission within 15 calendar days of the decision upon submittal of required documents and a filing deposit of $500 filed at the Development Processing Center, 601 N. Ross Street, Santa Ana. If you challenge the action taken on this proposal in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this report, or in written correspondence delivered to OC Development Services/Planning Division.

Attachment 1

Attachment 1
Findings
PA20-0175

1	**ZONING**	**PA20-0175**

That the use, activity or improvement(s) proposed, subject to the specified conditions, is consistent with the provisions of the Zoning Code, or specific plan regulations applicable to the property.

2	**COMPATIBILITY**	**PA20-0175**

That the location, size, design and operating characteristics of the proposed use will not create unusual conditions or situations that may be incompatible with other permitted uses in the vicinity.

3	**GENERAL WELFARE**	**PA20-0175**

That the application will not result in conditions or circumstances contrary to the public health and safety and the general welfare.

4	**ENVIRONMENTAL**	**PA20-0175**

That the proposed project is exempt from CEQA because the Class 3 (New Construction) Section 15303, consists of construction of limited numbers of new structures (One single-family residence) and Section 15304, Class 4 (Minor Alterations to Land).

5	**FISH & GAME**	**PA20-0175**

That pursuant to Section 711.4 of the California Fish and Game Code, this project is exempt from the required fees as it has been determined that no adverse impacts to wildlife resources will result from the project.

6	**GENERAL PLAN**	**PA20-0175**

That the use or project proposed is consistent with the objectives, policies, and general land uses and programs specified in the General Plan adopted pursuant to the State Planning and Zoning Law.

7	**PUBLIC FACILITIES**	**PA20-0175**

That the approval of the permit application is in compliance with Codified Ordinance Section 7-9-711 regarding public facilities (fire station, library, sheriff, etc.).

8	**OVER HEIGHT WALL 1**	**PA20-0175**

That the height and location of the fence or wall as proposed will not result in or create a traffic hazard.

9 **OVER HEIGHT WALL 1** **PA20-0175**

That the location, size, design and other characteristics of the fence or wall will not create conditions or situations that may be objectionable, detrimental or incompatible with other permitted uses in the vicinity.

Attachment 2

Attachment 2
Conditions of Approval
PA20-0175

BASIC/APPEAL EXACTIONS - - Z06 **SC**

Pursuant to Government Code Section 66020, the applicant is hereby informed that the 90-day approval period in which the applicant may protest the fees, dedications, reservations or other exactions imposed on this project through the conditions of approval has begun.

BASIC/COMPLIANCE - - Z04 **SC**

Failure to abide by and faithfully comply with any and all conditions attached to this approving action shall constitute grounds for the revocation of said action by the Orange County Planning Commission.

BASIC/LAND USE PLAN - - Z03 **SC**

Except as otherwise provided herein, this permit is approved as a land use plan. If the applicant proposes changes regarding the location or alteration of any use or structure, the applicant shall submit a changed plan to the Director, OC Development Services, for approval. If the Director, OC Development Services, determines that the proposed change complies with the provisions and the spirit and intent of the original approval action, and that the action would have been the same for the changed plan as for the approved plot plan, he may approve the changed plan without requiring a new public hearing.

CONSTRUCTION NOISE

A. Prior to the issuance of any grading permits, the project proponent shall produce evidence acceptable to the Manager, Permit Services, that:

(1) All construction vehicles or equipment, fixed or mobile, operated within 1,000 feet of a dwelling shall be equipped with properly operating and maintained mufflers.

(2) All operations shall comply with Orange County Codified Ordinance Division 6 (Noise Control).

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(3) Stockpiling and/or vehicle staging areas shall be located as far as practicable from dwellings.

B. Notations in the above format, appropriately numbered and included with other notations on the front sheet of the project's permitted grading plans, will be considered as adequate evidence of compliance with this condition.

BASIC/ZONING REGULATIONS - BASIC/ZONING REGULATIONS - Z01 BASIC

This approval constitutes approval of the proposed project only to the extent that the project complies with the Orange County Zoning Code and any other applicable zoning regulations. Approval does not include any action or finding as to compliance or approval of the project regarding any other applicable ordinance, regulation or requirement.

INDEMNIFICATION (new one January 2018) - - Z05 SC

Applicant shall, at its own expense, defend, indemnify and hold harmless the County of Orange, its officers, agents and employees from any claim, action or proceeding against the County, its officers, agents or employees to attack, set aside, void, or annul any approval of the application or related decision, or the adoption of any environmental documents, findings or other environmental determination, by the County of Orange, its Board of Supervisors, Planning Commission, Zoning Administrator, Subdivision Committee, Director of OC Public Works, or Deputy Director of OC Development Services concerning this application. The County may, at its sole discretion, participate in the defense of any action, at the applicant's expense, but such participation shall not relieve applicant of his/her obligations under this condition. Applicant shall reimburse the County for any court costs and attorney's fees that the County may be required to pay as a result of such action. If litigation is filed challenging the Project, the County may, at its sole discretion, require the Applicant to post a bond, enter into an escrow agreement, obtain an irrevocable letter of credit from a qualified financial institution, or provide other security, to the satisfaction of the County, in anticipation of litigation and possible attorney's fee awards. The County shall promptly notify the applicant of any such claim, action or proceeding.

BASIC/TIME LIMIT - - Z02 SC

This approval is valid for a period of 36 months from the date of final determination. If the use approved by this action is not established within such period of time, this approval shall be terminated and shall thereafter be null and void.

EROSION AND SEDIMENT CONTROL PLAN

Prior to the issuance of any grading or building permit, the applicant shall submit an Erosion and Sediment Control Plan (ESCP) in a manner meeting approval of the Manager, Building and Safety Division, to demonstrate compliance with the County's NPDES Implementation Program and state water quality regulations for grading and construction activities. The ESCP shall identify how all construction materials, wastes, grading or demolition debris, and stockpiles of soil, aggregates, soil amendments, etc. shall be properly covered, stored, and secured to prevent transport into local drainages or coastal waters by wind, rain, tracking, tidal erosion or dispersion. The ESCP shall also describe how the applicant will ensure that all BMPs will be maintained during construction of any future public right-of-ways. The ESCP shall be updated as needed to address the changing circumstances of the project site. A copy of the current ESCP shall be kept at the project site and be available for County review on request.

Attachment 3

ANDERS LASATER
ARCHITECTS

February 8, 2021

Re: Justification for retaining wall exceeding 8 feet in height
1901 Park Skyline Road,
Santa Ana, CA 92705

Dear Planners,

The retaining wall in question forms the back of the garage and the side service yard adjacent the garage.

The wall is an integral part of the proposed garage structure which is oriented on the site in such a way that the back of the garage is cut into the sloping lot by as much as 18 feet. This back retaining wall then extends out from the garage into the south side-yard setback and returns along the south property line creating a service yard adjacent to the garage. The retaining wall quickly reduces in height as it heads west, toward the street, following the sloping grade of the lot.

If we are not allowed to have this retaining wall as proposed the south service yard outside the garage would not be possible.

Regards,

Anders Lasater, AIA
President
ANDERS LASATER ARCHITECTS, INC.

384 Forest Avenue, #12 Laguna Beach, CA 92651
office 949 497 1827 web www.anderslasaterarchitects.com
Anders Lasater Architects, Inc. | a professional corporation

Attachment 4

CEQA Exemption Exceptions Worksheet

Project Name: Wong Residence **Project Number:** PA 20-0175

Project Location: 1901 Park Skyline Road, Santa Ana, CA (APN 502-071-12)

Project: The applicant is proposing to build a new single-family house on a sloped lot.

Eligible Orange County Local CEQA Exemption(s)	Analysis
None	None
Eligible State CEQA Guidelines Exemption(s)	**Analysis**
Class 3 – New Construction Class 4 - Minor Alterations to Land	Section 15303(a) - one single-family residence, or a second dwelling unit in a residential zone. I Section 15304 - minor private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes
Exemption Exceptions (Guidelines §15300.2)	**Analysis**
§15300.2(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.	This exception does not nullify the use of the Class 3 or 4 exemption.
§15300.2(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.	This exception does not nullify the use of the Class 3 or 4 exemption. The construction project does not include or require additional or successive projects to implement the proposed project.

CEQA Exemption Exceptions Worksheet

Eligible Orange County Local CEQA Exemption(s)	Analysis
§15300.2(c) Significant Effect due to Unusual Circumstances. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.	This exception does not nullify the use of the Class 3 or 4 exemption. In the 2015 California Supreme Court Case (Berkeley Hillside Preservation v. City of Berkeley) the court created a two-part test to determine if unusual circumstances are operative that would nullify the use of an exemption: 1) Is there an unusual circumstance? 2) If yes, is there a reasonable possibility it will create a significant impact? • The project is within a developed commercial shopping center. • The proposed improvements are similar to the existing uses on the shopping center. • Project implementation will not result in significant impacts. The test for Unusual Circumstances has not been met because unusual circumstances are not present.
§15300.2(d) Scenic Highways. A categorical exemption shall not be used for a project, which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.	This exception does not nullify the use of the Class 3 or 4 exemption. The project site is not located near scenic resources.
§15300.2(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.	This exception does not nullify the use of the Class 3 or 4 exemption. The project site is not located near any hazardous waste sites.
§15300.2(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.	This exception does not nullify the use of the Class 3 or 4 exemption. The project site is not a historical resource.

Attachment 5

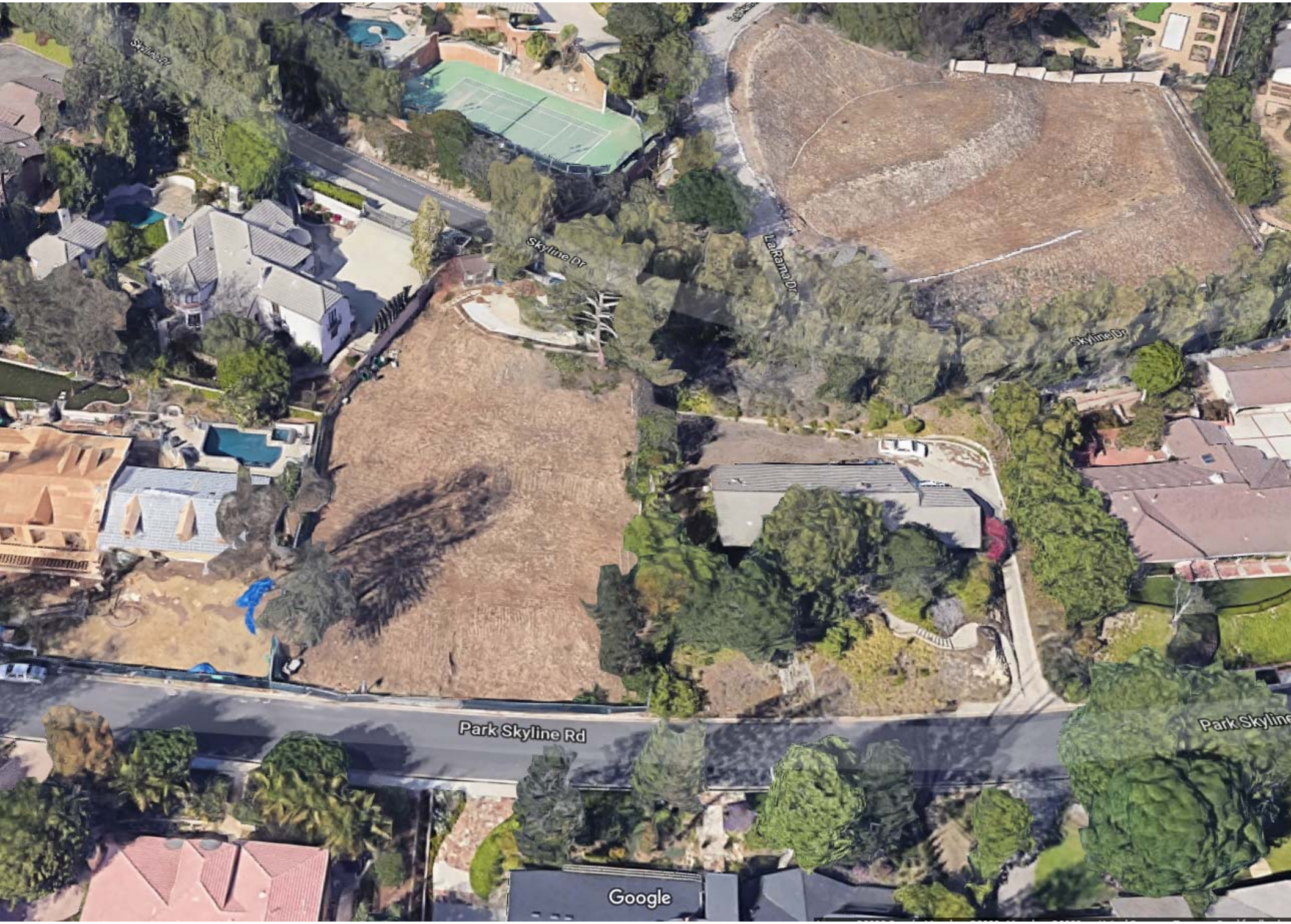
Skyline Dr
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Image capture: Feb 2019
© 2020 Google
United States
Terms
Report a problem

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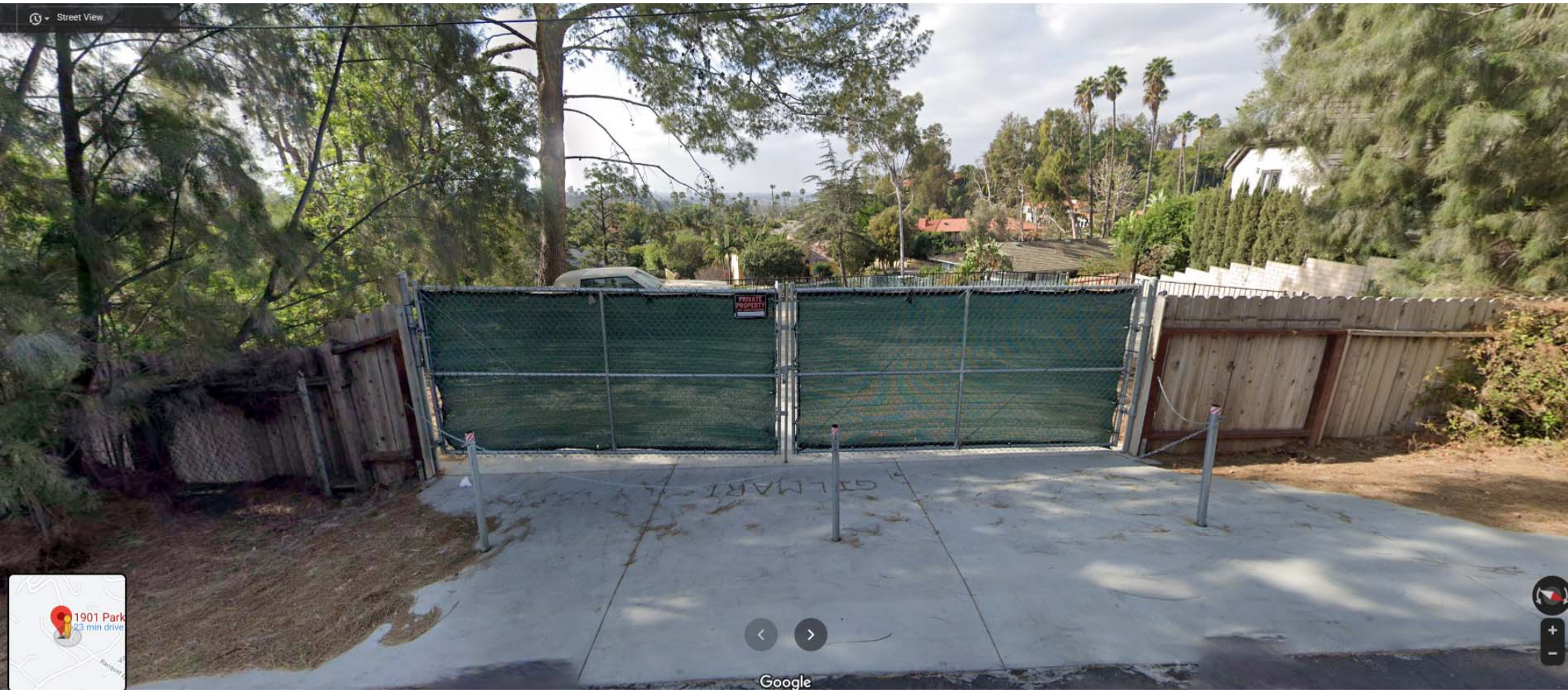
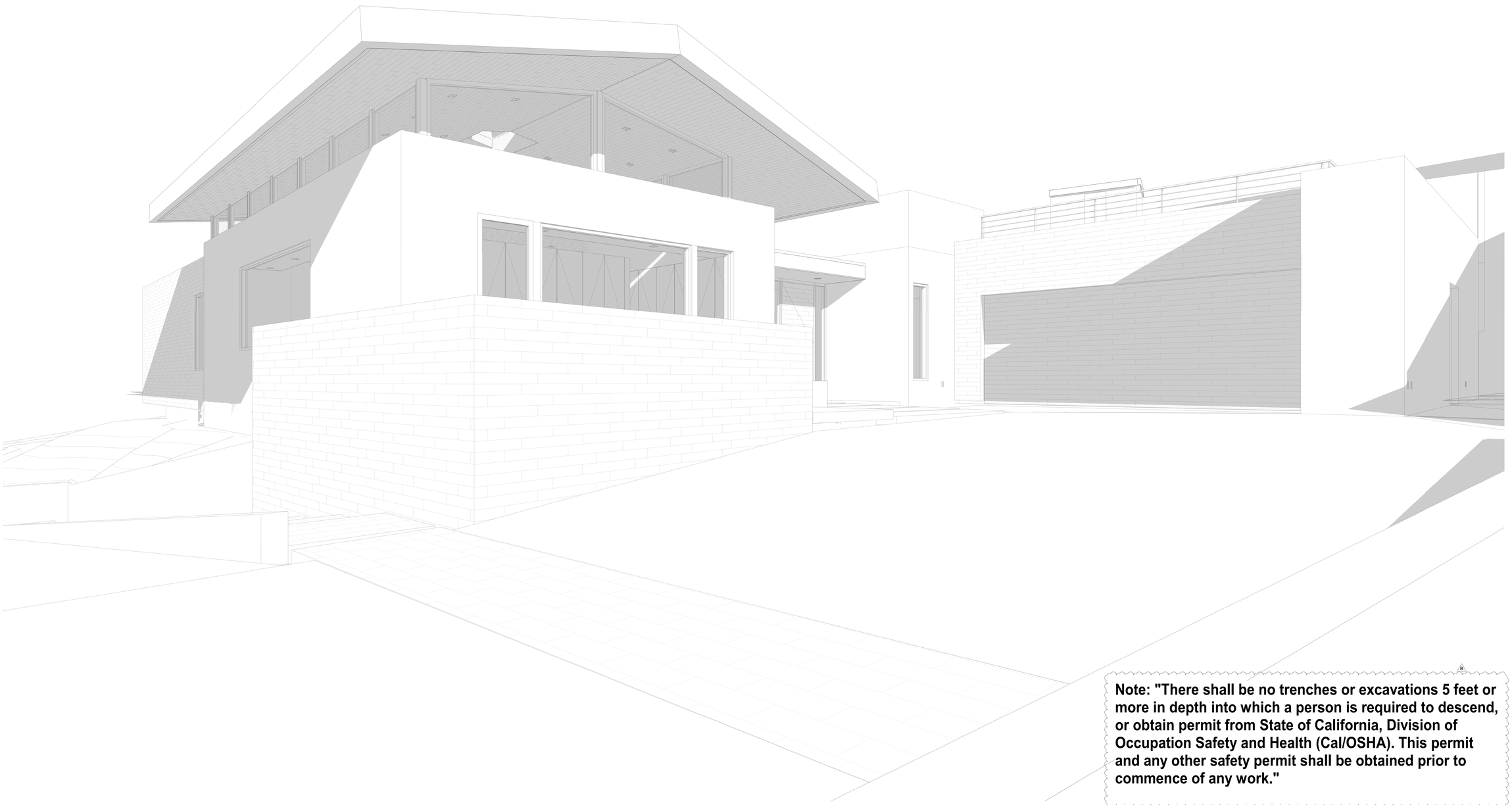

Street View
PRIVATE PROPERTY
1901 Park
23 min drive
Google

Attachment 6

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705



Note: "There shall be no trenches or excavations 5 feet or more in depth into which a person is required to descend, or obtain permit from State of California, Division of Occupation Safety and Health (Cal/OSHA). This permit and any other safety permit shall be obtained prior to commence of any work."

ANDERS LASATER ARCHITECTS

ANDERSLASATERARCHITECTS.COM

384 FOREST AVENUE, SUITE 12

LAGUNA BEACH, CA 92651

949 497 1827

These drawings and specifications, and the designs and ideas contained herein are the property of ALA and shall not be duplicated, altered or utilized in any way by anyone other than the "OWNER" whose name appears in the title block and with whom ALA is contracted. Said contract is a license for the OWNER to use these Instruments of Service solely for completing the Project scope defined in the contract between ALA and the OWNER.

ALA reserves all rights including the copyright. Any unauthorized duplication or alteration of these drawings and specifications is a violation of said copyright and is subject to full civil liabilities and penalties. In the case of such unauthorized use ALA shall be held harmless and absolved of all liability related to the use of these drawings and specifications.

Written dimensions shall take preference over scaled dimensions and shall be verified in the field. Any discrepancy or error shall be brought to the attention of the Architect prior to the commencement of any work.

LICENSED ARCHITECT
ANDERS LASATER
C-30374
REN 03 31 2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

- A. 12/10/2020 County PC rev 1
- B. 03/26/2020 County PC rev 2
- C.
- D.
- E.

Issued

- 1 10/30/2020 - Orange County
- 2
- 3
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Printed 7/9/2021 11:37:43 AM

Cover Sheet

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Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

GENERAL NOTES

NOTE TO GENERAL CONTRACTOR - This set of construction documents is an interrelated and cross-referenced package of information that should not be separated into constituent parts for distribution to sub trades. It is the sole responsibility of the general contractor to ensure that all subtrades received all pertinent and relevent information related to their work as defined within these construction documents.

1. The contractor is responsible to make himself familar with California Building Code as applicable to this project. All construction must meet the **2019** CBC.

2. This project shall comply with the **2019** California Building Code, **2019** California Residential Code and **2019** California Fire Code. (see Building Code Data below for more information) and City Ordinances.

3. New utilities and communication lines to be under grounded to the nearest existing utility location.

4. Contractor to stake-out and verify with Architect the building setbacks, floor, pad and roof elevations, and driveway prior to start of construction.

5. Surface water shall drain away from building at a minimum of 1/4" per foot.

6. All site elements, flat work, and landscape to be coordinated with landscape architect and their documents.

7. Contractor shall locate all existing utilities (whether shown herein or not) and protect them from damage. Contractor shall bear all expense of repair or replacement in conjunction with the execution of this work.

8. Prior to commencement of construction, all applicable provisions related to brush clearance in the uniform fire code shall be fully complied with, to the satisfaction of city Fire Department.

9. Contractor shall sign and post a notice on the building certifying that the installed insulation complies with the California state standards.

10. All chimneys shall be equipped with spark arrestors which will permit the passage of objects no greater in size than one-half inch nor obstruct the passage of objects smaller than three-eighths inch.

11. Contractor to verify all existing pad and finish floor elevations. If any discrepancies are discovered, Contractor shall notify the Architect before the start of construction.

12. All exposed non-prefinished metal is to be primed and painted including shop or factory primed surfaces. Architect to approve final color.

13. Contractor may not change design materials or details without permission of the Architect.
14. Written dimensions to take presedence over scaled dimensions.

15. Contractor shall verify all details and dimensions prior to the start of construction and shall notify the Architect of any omissions, errors, or discrepancies.

16. Residence to be pre-wired for cable television per city policy.

17. All grading must comply with City Municipal Code and Appendix Chapter 70 of the CBC.

18. Upon completion of grading, an as-built grading plan shall be provided by the civil engineer. The Geologist and Soils Engineer must certify that the site is suitable for the intended use at the completion of grading and prior to building construction.

19. Civil Engineer shall certify that the elevation of the graded pad of the future finish floor does not vary by more than 2/10ths of a foot from the approved elevations prior to start of building construction.

20. This project shall comply with all provisions of the **2019** California Green Building Standards as enforced by the municipality in which the project resides.

21. Licensed Civil Engineer who prepared the drainage plan shall certify at the completion of the project that the site drainage is in substantial compliance with the approved drainage plan.

22. CAL OSHA permit shall be obtained for all excavations deeper than 5 feet. A copy of the permit shall be provided to the city prior to issuance of building permit.

23. Deputy Inspector (as required) to obtain Building Department clearance prior to commencement of structural steel field welding.

24. Prior to the issuance of a Building Permit, the Contractor shall have a certificate of current workmen's compensation insurance coverage on file with the Building Department.

25. House street number shall be visible and legible from street. Minimum 4" height with a stroke width of not less than 0.5" (CRC R319.)

26. Separate review and permit(s) is/are required for pools, spas, walls, fences, patio covers and other freestanding structures

27. Shower compartments and walls above bathtubs with shower heads installed shall be finished with a smooth, nonabsorbent surface to a height of not less than 72" above the floor. CRC R307.2

28. Handrails shall satisfy the following:
   a. provide a minimum of one continuous handrail on stairways with 4 or more risers and at all open sides. R311.7.8
   b. handrail height shall be 34 to 38 inches above the nosing of treads. R311.7.8.1
   c. handrail with circulat cross-section shall have a diamter of 1.25 to 2 inches. R311.7.8.3 item 1
   d. handrails with other than circular cross-sections shall have a perimeter dimension of 4 to 6.25 inches with a maximum cross-section of 2.25 inches. R311.7.8.3 item 1
   e. handrails with a permiter greater than 6.25 inches shall comply with R311.7.8.3 item 2.
   f. handrail shall be continuous without interruption by newel post or other obstruction, except at the landing, volute, or turnout on lowest tread. R311.7.8.2, exception 1&2
   g. clear spaces between handrail and wall shall be 1.5 inches minimum R311.7.8.2

29. Attic space with ceiling heights greater than 6 feet - " Not to contain any air registers, electrical outlets, or lighting other than is required by Code. Not to contain any insulation, drywall, or simlar interior wall finishing material."

30. Contractor to provide a detectable warning product sample to the Building Inspector for approval of color contrast with finish surface.

PROJECT SUMMARY TABLE

Use	SFD	Zone	E4	Lot Slope (%)	28.10%

Zoning Standards	Required	Existing	Proposed	Conforms
Lot Area	20,095 SF	20,095	no change	Yes
Lot Width (Avg.)	121.83'	121.83'	no change	Yes
Lot Depth (Avg.)	176.73'	176.73'	no change	Yes
Setbacks:				
Front Yard	30'	30'	no change	Yes
Rear Yard	25'	6 1/2"	25' to proposed building	Yes
Side Yards (comb/ each)	12'- 2.196" each	1'-7",10'-5"	12'-2 1/4" each	Yes
Lot Coverage (BSC)	35% (7033.25SF)	123.83 SF (0.6%)	5,831 SF (29.02%)	Yes

Project Data				
Description	Existing	Removed	Proposed	Total
Living Area				
Lower Living Area	0	0	3709	3709
Total Living Area	0	0	3709	3709
Carport	0	0	0	0
Garage	0	0	1102	1102
Elevated Deck / Terrace	0	0	1004	1004
Mechanical	0	0	16	16
Storage	123.83	0	0	123.83

Side Yard Setback Calculation

Average Site Width : 121.83'
10% of side width: 121.83' x 10% = 12.183'
Side yard setback : 12' - 2.196" at each side

Note: "There shall be no trenches or excavations 5 feet or more in depth into which a person is required to descend, or obtain permit from State of California, Division of Occupation Safety and Health (Cal/OSHA). This permit and any other safety permit shall be obtained prior to commence of any work."

SCOPE OF WORK FOR PLANNING APPLICATION (PA20-0175)

- New site retaining walls
- Site shoring walls
- New driveway access to the house
- 28' minimum unobstructed maneuvering area clearance from garage door
- Soils Report
- See sheet SWN1 to SW5 for Site wall notes, site wall foundation plan, site wall and shoring details
- See existing and new site plan on sheet A1.0 and A1.1
- See floor plans on A2.1 & A2.2.
- See Section drawings on sheet A3.3 to A3.7 for reference

SCOPE OF WORK FOR ROAD ENCROACHMENT PERMIT (RE21-0082)

- Make changes to the curb and side walk, driveway access to the house.

OCFA PERMIT (SR291302)

- fire department access through out the house.
- fire sprinkler is a defeered submittal.

SCOPE OF WORK FOR BUILDING PERMIT (BLD20-2220) & BUILDING PACKAGE (PKG20-0941)

- (N) one-story single family residence w/ attached 4-car garage (1,084 SF)
- House Floor area 3,709 SF
- New Deck area above garage 1,004 SF
- New Mechanical area 16 SF
- New Solar plan E1.1 and electrical plans E0.1 to E4.0 (ELE20-1516)
- New Indoor fireplace
- New outdoor fireplace
- New attached Trellis to the house
- See Architectural plans from A0.0 to AC2
- See Structural plan from SN1 to SD3.0
- See House Structural calculations
- Soils Report
- ~~Structural site wall sheets are for reference only~~
- New mechanical plans M-0.1 to M-4.1 (MEC20-0921)
- New plumbing plans P-0.1 to P5.1 (PLB20-1455)

SCOPE OF WORK FOR GRADING (GRD20-0155) AND LANDSCAPE PACKAGE (PKG20-0943)

- New Landscape area (LND20-0079)
- New Grading plan (GRD20-0155)
- New driveway access to the house
- WQMP (WQ20-0077)
- Hydrology Study
- Soils Report
- See Civil drawings from C1 to C8
- See Landscape drawings from LT1.0 to LW-1

SCOPE OF WORK FOR RETAINING WALLS AND SHORING PACKAGE (BLD21-0527)

- New site retaining walls
- Site shoring walls
- New driveway access to the house
- Soils Report
- See sheet SWN1 to SW5 for Site wall notes, site wall foundation plan, site wall and shoring details
- See site wall strctural calculation sheets
- See existing and new site plan on sheet A1.0 and A1.1
- See Section drawings on sheet A3.3 to A3.7 for reference

SCOPE OF WORK FOR OUTDOOR FIREPLACE

- Exterior gas only fireplace

DEFERRED SUBMITTAL

- ~~Fire sprinkler~~
- Site retaining walls
- Shoring walls
- Wind load calculation for full high glazing.
- Portion of existing wall that is to remain unchanged may cross the property line. General Contractor to verify location of existing wall as it relates to the property line and, if possible, remove that portion of the wall that extends beyond the property line. Contractor to obtain a writtern permission from the adjacent property owner before doing any work that is not in the 1901 Park Skyline Road property. See keynote #20 on Sheet A1.0 for location of the wall.

SEPARATE PERMIT

- Grading plan
- Landscape & Irrigation
- Exterior gas only fireplace
- Site retaining walls and shoring
- Encroachment permit for the proposed curb and side walk, driveway access to the house.

Below are all the ongoing permits # that related to the 1901 Park Skyline Road project for your reference.

PKG20-0941
- Building permit: BLD20-2220
- Mechanical permit: MEC20-0921
- Electrical permit: ELE20-1516
- Plumbing permit: PLB20-1455
- Solar permit: SLR21-0231

PKG20-0943
- Grading permit: GRD20-0155
- Landscape permit: LND20-0079
- WQ permit: WQ20-0077

Other Individual permits are:
- Planning permit: PA20-0175
- Retaining and shoring wall permit: BLD21-0527
- Road Encroachment permit: RE21-0082
- OCFA permit: SR291302

PROJECT TEAM

PROJECT ARCHITECT:	Anders Lasater Architects, Inc. 384 Forest Avenue, Suite 12 Laguna Beach, CA 92651 949 497 1827 Office anders@anderslasaterarchitects.com hnin@anderslasaterarchitects.com	STRUCTURAL ENGINEER:	Burke Structural Engineers P.C. 151 Kalmus Drive, Bldg. E-140, Costa Mesa, CA 92626 657 289 0460 Phone tom@burkese.com christophe@burkese.com
PROJECT OWNER:	Mike & Evelyn Wong 116 Homecoming Irvine, CA 92602 949 701 1133 Mike 714 227 1007 Evelyn drmhwong@gmail.com evelynwong@me.com	LANDSCAPE ARCHITECT:	M.D. Wilkes Design and Counsulting Michael Wilkes 690 Thalia St. Laguna beach, CA 92651 wilkesdrb@hotmail.com 949 637 1050
SURVEYOR:	G & G Engineering, Inc. Andrew Grechuta 1251 N. Manassero St., Ste. 402 Anaheim, CA 92807 714 970 7220 info@mygng.com	SOILS ENGINEER:	GeoFirm Kevin Trigg 801 Glenneyre St, Suite F Laguna Beach, CA 92651 949 494 2122 ktrigg@geofirm.com
CIVIL ENGINEER:	Civilscapes Engineering, INC Will Rolph 28052 Camino Capistrano, Suite 213 Laguna Niguel, CA 92677 949 464 8115 will@civilscapes.com	TITLE 24 ENGINEER:	Build Smart Group Nick Brown 400 Los Altos Ave Long Beach, CA 90814 714 984 3397 nick@buildsmartgroup.com
MEP ENGINEER:	Riverside Engineering Mark Alexander 17875 Von Karman Ave. Suite 250 Irvine, CA 92614 888 401 7483 Office 949 538 3049 Cell malexander@riv-eng.com	CONTRACTOR:	- - - - - -

T24 REQUIREMENTS

Special Features
- Battery system: 13.5 kWh (Self Utilization Credit taken)
- Indoor aire quality, blanced fan
- Cool roof
- Window overhangs and/or fins
- Non-standard duct location (any location other than attic)

HERS Verified Features
Building-level verifications:
- Quality insulation installation (QII)
- Indoor aire quality ventaliation
- Kitchen range hood

Cooling system verifications:
- Minimum airflow
- Verified EER
- Verified SEER
- Verified refrigerant charge
- Fan efficacy Watts/CFM

Heating system verifications:
- Verfied HSPF
- Verfied heat pump rated heating capacity

HVAC Distribution system verifications:
- Duct leakage testing
- Verified low-leakage ducts in conditioned space must meet maximum 25 cfm leadage to outside (RA3.1.4.3.8)

Domestic Hot Water System Verifications:
- None

NPDES NOTES

1 In case of emergency, call

Contractor Name: TBD
Cell Phone: -
Email: -

2 Sediment from areas disturbed by construction shall be retained on site using structural controls to the maximum extent practicable.

3 Stockpiles of soil shall be properly contained to minimize sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tacking, or wind.

4 Appropriate BMP's for construction-related materials, wastes, spills shall be implemented to minimize transport from the site to streets, drainage facilities, or adjoining properties by wind or runoff.

5 Runoff from equipment and vehicle washing shall be contained at construction sites unless treated to reduce or remove sediment and other pollutants.

6 All construction contractor and subcontractor personnel are to be made aware or the required best management practices and good housekeeping measures for the project site and any associated construction staging areas.

7 At the end of each day of construction activity all construction debris and waste materials shall be collected and properly disposed in trash or recycle bins.

8 Construction sites shall be maintained in such a condition that an anticipated storm does not carry wastes or pollutants off the site. Discharges of material other than stormwater only when necessary for performance and completion of construction practices and where they do not: cause or contribute to a violation of any water quality standard; cause or threaten to cause pollution, contamination, or nuisance; or contain a hazardous substance in a quantity reportable under Federal Regulations 40 CFR Parts 117 and 302.

9 Potential pollutants include but are not limited to: solid or liquid chemical spills; wastes from paints, stains, sealants, glues, limes, pesticides, herbicides, wood preservatives and solvents; asbestos fibers, paint flakes or stucco fragments; fuels, oils, lubricants, and hydraulic, radiator or battery fluids; fertilizers, vehicle/equipment wash water and concrete wash water; concrete, detergent or floatable wastes; wastes from any engine/equipment steam cleaning or chemical degreasing and super chlorinated potable water line flushing. During construction, permittee shall dispose of such materials in a specified and controlled temporary area on-site, physically separated from potential stormwater runoff, with ultimate disposal in accordance with local, state and federal requirements.

10 Dewatering of contaminated groundwater, or discharging contaminated soils via surface erosion is prohibited. Dewatering of non- contaminated groundwater requires a National Pollutant Discharge Elimination System Permit from the respective State Regional Water Quality Control Board.

11 Graded areas on the permitted area perimeter must drain away from the face of slopes at the conclusion of each working day. Drainage is to be directed toward desilting facilities.

12 The permittee and contractor shall be responsible and shall take necessary precautions to prevent public trespass onto areas where impounded water creates a hazardous condition.

13 The permittee and contractor shall inspect the erosion control work and insure that the work is in accordance with the approved plans.

14 The permittee shall notify all general contractors, subcontractors, material suppliers, lessees, and property owners: that dumping of chemicals into the storm drain system or the watershed is prohibited.

15 Equipment and workers for emergency work shall be made available at all times during the rainy season. Necessary materials shall be available on site and stockpiled at convenient locations to facilitate rapid construction of temporary devices when rain is imminent.

16 All removable erosion protective devices shall be in place at the end of each working day when the 5-Day Rain Probability Forecast exceeds 40%.

17 Sediments from areas disturbed by construction shall be retained on site using an effective combination of erosion and sediment controls to the maximum extent practicable, and stockpiles of soil shall be properly contained to minimize sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking, or wind.

18 Appropriate BMPs for construction-related materials, wastes, spills or residues shall be implemented and retained on site to minimize transport from the site to streets, drainage facilities, or adjoining property by wind or runoff.

PLANNING INFORMATION

Zone:
125-E4-20000 "Small Estates"

Lot Area:
20,095 SF

APN:
502-071-12

Legal Description:
PARCEL 1:

THAT PORTION OF LOT C OF TRACT NO. 61, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 10, PAGE 5 MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTHEASTERLY LINE OF SAID LOT C, NORTH 32°12'30" WEST, 128.05 FEET FROM THE SOUTHEASTERLY TERMINUS OF THAT CERTAIN COURSE ON SAID NORTHEASTERLY LINE SHOWN AS "COURSE 51, NORTH 32°12'30" WEST 152.65 MEAS." ON A MAP OF SURVEY; RECORDED IN BOOK 23 PAGE 50, RECORD OF SURVEY, IN THE OFFICE OF THE COUNTY RECORDER OF SAID ORANGE COUNTY; THENCE ALONG SAID NORTHEASTERLY LINE, NORTH 32°12'30" WEST, 24.60 FEET, AND NORTH 15°16'15" WEST, 37.40 FEET; THENCE, SOUTH 74°43'45" WEST, 115.00 FEET; THENCE, SOUTH 46°01'30" WEST, 127.36 FEET; THENCE, SOUTH 43°58'30" EAST, 15.46 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE NORTHEASTERLY HAVING A RADIUS OF 1260.00 FEET; THENCE SOUTHEASTERLY, 115.14 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF, 5°14'09" TO A POINT TO WHICH A RADIAL LINE BEARS, SOUTH 40°47'21" WEST; THENCE NORTH 40°47'21" EAST, 200.84 FEET TO THE POINT OF BEGINNING.

EXCEPT THAT PORTION THEREOF INCLUDED WITHIN THE RIGHT OF WAY OF SKYLINE DRIVE.

PARCEL 2:

AN EASEMENT FOR ROAD PURPOSES AND UTILITY PURPOSES OVER A STRIP OF LAND 20.00 FEET IN WIDTH LYING 20.00 FEET NORTHEASTERLY (MEASURED RADIALLY), OF THE FOLLOWING DESCRIBED LINE:

BEGINNING AT THE NORTHEASTERLY TERMINUS OF THE CENTER LINE OF THAT CERTAIN 40.00 FOOT WIDE STRIP OF LAND DESCRIBED IN THE DEAD OF THE COUNTY OF ORANGE, RECORDED DECEMBER 8, 1959 IN BOOK 5005, PAGE 300, OFFICIAL RECORDS, SAID POINT BEING ON THE ARC OF A CURVE, CONCAVE NORTHEASTERLY, AND HAVING A RADIUS OF 1260.00 FEET (A RADIAL THROUGH SAID POINT BEARS SOUTH 37° 03'30" WEST); THENCE NORTHWESTERLY, 80.22 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 3°38'51" TO A POINT THROUGH WHICH A RADIAL BEARS, SOUTH 40°47'21" WEST, SAID POINT BEING THE MOST SOUTHERLY CORNER OF THE HEREIN ABOVE DESCRIBED PARCEL I.

BLDG. CODE

Description of Use: Single Family Residence

Occupancy: R3 / U

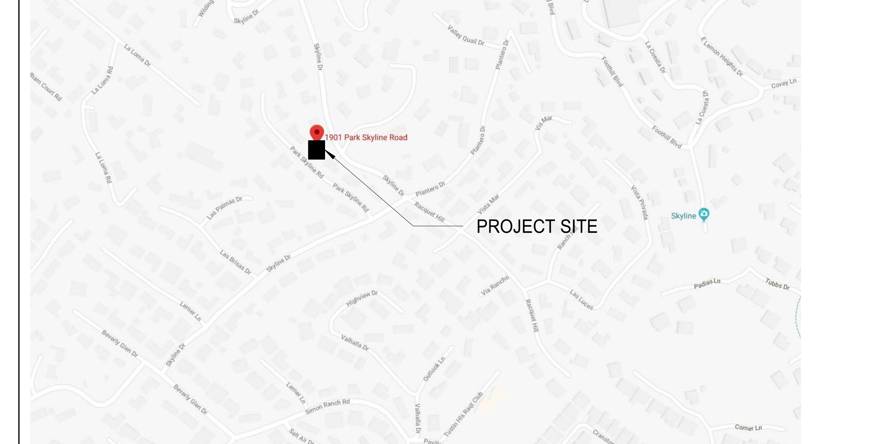
Number of Stories: 2

Construction Type: V-B

Fire Sprinklers: Yes - The new building will be protected by an automatic sprinkler system.

Codes:
2019 California Building Code (CBC)
2019 California Residential Code (CRC)
2019 California Mechanical Code (CMC)
2019 California Plumbing Code (CPC)
2019 California Electrical Code (CEC)
2019 California Green Buildings Standards Code CGBS
2019 California Energy Efficiency Standards (CEES)
2019 California Fire Code (CFC)
County of Orange Regulations & Ordinances

VICINITY MAP



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ANDERS LASATER ARCHITECTS

ANDERSLASATERARCHITECTS.COM
384 FOREST AVENUE, SUITE 12
LAGUNA BEACH, CA 92651
949 497 1827

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Written dimensions shall take preference over scaled dimensions and shall be verified in the field. Any discrepancy or error shall be brought to the attention of the Architect prior to the commencement of any work.

LICENSED ARCHITECT
E. ANDERS LASATER
C-30374
REN. 01/ 31/ 2023
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions
- A 12/10/2020 County PC rev 1
- B 03/26/2020 County PC rev 2
- C
- D
- E

Issued
- 1 10/30/2020 - Orange County
- 2
- 3
- 4
- 5

Printed 7/9/2021 11:37:44 AM

Title Sheet

A0.1

1 General Requirements

1.1 All work and material shall conform to or exceed the minimum standards and requirements set forth by agencies having authority over any portions of the work, including the State of California Division of Safety, and those codes and standards listed in these drawings and specifications.

1.2 The Contractor and all Sub-Contractors shall possess active California State Contractors Licenses, City Business Licenses, current general liability insurance and workman compensation insurance and shall be in good standing.

1.3 It is the intent and meaning of these drawings and specifications to provide for and secure a first class, workmanlike job of high quality from all subcontractors. The contractor shall ensure that all incidental items necessary for the proper function and complete installation of the finished structures and systems described in these drawings are provided, correctly installed and adjusted.

1.4 The general contractor shall visit the site and review and verify all dimensions, elevations and site conditions prior to starting construction and shall notify the Architect of any discrepancies prior to commencement of construction.

1.5 Written dimensions shall take precedence over scaled dimensions. Drawings are not to be scaled for the purpose of construction. Notes and Details shall take precedence over these general specifications.

1.6 These construction documents represent the design intent of the finished structure. They do not indicate the method of construction. The design, adequacy and safety of erection, bracing, shoring, temporary supports, construction equipment, etc. are the sole responsibility of the contractor and shall not be considered by the Architect or Structural Engineer. The contractor is responsible for the stability of all structures and materials during the course of construction and shall provide all necessary bracing, shoring, temporary supports and construction equipment required, as required, until the project is complete. Observation visits by the Architect and Structural Engineer shall not include inspection or evaluation of bracing, shoring, temporary supports and construction equipment.

1.7 The contractor shall verify the location of all existing utilities, whether shown in the construction drawings or not, and to protect them from damage during the course of construction. The contractor shall be responsible for and shall bear the expense of repair or replacement of all utilities damaged during the course of construction in conjunction with the execution of the work described herein.

1.8 The contractor shall investigate the site prior to and during clearing of earthwork operations for filled excavations or buried structures such as cesspools, cisterns, foundations, or utility pipes or lines, or other items. If any such items are found the architect and structural engineer shall be notified immediately.

1.9 Construction materials shall be spread out if placed on framed floors or roof. Load shall not exceed the design live load per square foot nor cause more than normal deflection of such structure. Adequate shoring and/or bracing shall be provided where structure has not attained design strength.

1.10 All factory or shop built items such as cabinets, custom skylights, window systems, structural and ornamental steel, precast concrete, and other items not mentioned requiring shop drawings shall have shop drawings submitted to the architect for review and approval prior to ordering or fabricating or installing such item.

1.11 Contractor to make no changes in design, materials, details except with permission of the Architect. Items which are not specified on the plans shall be brought to the attention of the architect for review and/or approval if required.

1.12 Contractor to field verify topography and existing pad elevations, finish floor elevations, and ceiling heights prior to commencement of construction. Any discrepancies shall be reported immediately to the Architect.

1.13 If owner supplies any product or service needed for the construction of the residence he is to do so in a timely manner and coordinate delivery of goods and services with the general contractor.

Sample Requirements
1.20 Contractor to provide samples for review and approval by the architect and owner prior to order and installation of any of the following materials:

1.21 Stucco
12" x 12" smooth troweled finish UNO
3 various color samples per each different color proposed, architect to specify colors,

1.22 Paint
3' x 3' painted sample of selected colors
prime finish prior to paint application provide a two-color-coat finish for the sample

1.23 Floors
Provide a min. 6" x 6" sample of each Stone / Tile / Wood / Carpet / Concrete product specified
Additional samples in larger sizes may be required

1.24 Ceilings
Provide a min. 6" x 6" sample of each finish product specified
Additional samples in larger sizes may be required

1.25 Veneers
Provide a min. 6" x 6" sample of each Stone/ Tile veneer product specified
Additional samples in larger sizes may be required

1.26 Windows
Window provider to supply a corner sample of proposed window frame and finish, color, and glass type etc.

1.27 Electrical outlets and switches
Electrical contractor to provide one sample each of the switches, outlets, and dimmers to be installed

1.28 Recessed Light Fixtures
Electrical contractor to provide one sample each of the recessed light fixtures and trims to be installed

1.29 Milwork
Provide a min. 12" x 12" sample of each product specified

1.30 Stone and Solid Surface Countertops
Provide a min. 6" x 6" sample of each product specified

2 Site Work

2.1 For additional information and specifications see civil engineering drawings, "C sheets" as prepared by:
See Title sheet for additional contact information

Civil Engineer: Civilscapes Engineering, Inc.
28052 Camino Capistrano, Suite 213
Laguna Niguel, CA 92677
9494648115
will@civilscapes.com

2.2 The geotechnical investigation report (soils report) has been prepared by:
See Title sheet for additional contact information

Soils Engineer: GeoFirm
Kevin Trigg
801 Glenneyre St, Suite F
Laguna Beach, CA 92651
949 494 2122
ktrigg@geofirm.com

2.3 The soils report is not a part of the construction documents prepared by the Architect and Structural Engineer for this project, but shall be considered a part of the contract document set for this project. In addition to general earthwork, grading, over-excavation, and geotechnical recommendations, the soils report has requirements that are unique to this project. It is the responsibility of the General Contractor to secure a copy of the report from the owner or his agent, and become thoroughly familiar with its requirements and recommendations. It is the responsibility of the General Contractor to secure a copies of the report for use by the Sub-contractors as required.

2.4 The General Contractor and Sub-contractor(s) including the Grading, Foundation (concrete), and Shoring Sub-contractor shall review and coordinate all the requirements and recommendations and summaries of the soils report and its amendments. Any discrepancies between the soils report recommendations and the construction documents shall be brought to the immediate attention of the Architect.

2.5 Existing structures to remain, if any, and adjacent public and private properties shall be adequately protected in place during all demolition and debris removal operations.

2.6 Demolition of existing structures shall include the demolition of related foundations unless noted otherwise.

2.7 All demolition debris shall be shall be removed from the site and transported to a legal dumpsite per applicable municipal and or county codes or requirements.

2.8 The site shall be left in a neat and orderly condition after the completion of demolition and debris removal operations.

2.9 If a soils report has been prepared that soils engineer shall verify that earthwork at the site is in accordance with the recommendations and conclusions set forth in the soils report. All grading, excavation and re-compaction shall be checked and approved by a qualified soils engineer prior to the placement of any concrete to ensure compliance with the requirements of the soils report. A field memo prepared by the Soils Engineer and outlining the findings of the Soils Engineer in this regard shall be maintained on site at the time of inspection and a copy shall be submitted to the architect for record and to local agencies as required.

2.10 Where concrete expansion joints, construction joints and control joints are not indicated on the plans, their location shall be coordinated with the Architect and placed at intervals to divide slabs into max. 400 square feet sections.

2.11 Structural concrete and reinforcing steel specifications shall be as indicated herein under separate sections. See structural drawings "S sheets" for additional information and specifications.

2.12 All imported foreign soil material for fill or backfill shall be approved by the project Soils Engineer prior to placement. The General Contractor shall bear all costs associated with rejected fill material.

2.13 During construction, if unexpected underground utilities, underground water, or other unusual items are discovered, the general contractor shall notify the Architect and the project soils engineer immediately.

2.14 Foundation shall be provided in specified depths into approved native or compacted soil, or bedrock per soils engineer report recommendations. If loose materials exist on site, they shall be removed in accordance with the soils engineer report and recommendations.

2.15 General Contractor to provide finish grading of site which provides proper drainage of site away from building at min. of 1/8" per foot or as specified in accordance with the grading / drainage plan and shall leave site clean of materials and debris.

2.16 Site drains, trench drains, area drains, deck drains, and catch basins shall be provided with grates to prevent the entrance of foreign material or debris into the drainage system. Roof drains may tie into underground system. Pipe fittings shall include only sanitary T's and along 90-degree bends.

2.17 All new utility services shall be installed per utility company requirements and the General Contractor shall obtain all required utility company inspections prior to backfilling.

2.18 Water service where required shall be min. 1" diameter copper pipe from meter to full port ball valve at building with T's and separate shut off for irrigation (location to be coordinated with Architect or per landscape drawings). An appropriate pressure regulator shall be provided where required for excessive water pressure.

2.19 Where connecting to an existing sewer lateral, contractor shall ensure that the connection is secure and the existing lateral is unobstructed.

3 Exterior and Interior Concrete.

3.0 All concrete work shall conform to the American Concrete Institute (ACI) and American Society of Concrete Contractors (ASCC) standards and guidelines.

3.1 All non-structural exterior concrete slabs shall be a min. of 5" thick with #4 deformed bar reinforcement placed at 18" on center each way in the middle third of the slab thickness, and shall be placed over a min. of 2" bed of clean sand. Slabs shall be formed and finished to slope as indicated on plan to within 1/4" of specified elevations.

Exterior slabs shall receive a light "acid washed" finish using Top Cast #3 concrete retarder unless noted otherwise on plans. All exterior flatwork is to slope away from the structure with a minimum slope of 1/4" per foot.

3.2 Exterior and interior concrete slabs to be saw cut per plan to a depth of 1" (one inch). General Contractor to snap out grid for Architect's review + approval prior to saw cutting. Whenever possible, concrete is to be cut the same day as the pour to prevent cracking. Any panels with an excessive amount of cracks are to be replaced with care taken to match adjacent panels for color and finish. Concrete is to be protected in accordance with 3.4 to avoid damage.

3.3 Interior concrete slab to be 5" thick - or as specified in the structural plans - see structural drawings (S sheets) for more info. Finish to be verified with Architect prior to pour. "Acid washed" using Top Cast #3 concrete retarder or polished finish per architect prior to framing. Sample of finish to be submitted to Architect for approval.

3.4 Provide adequate protection of concrete slab surface with gypsum board panels, taped at seams to prevent damage to concrete surface during the remainder of the construction process.

3.5 At the end of the job clean concrete surface with "TSP" cleaner. Interior concrete to be sealed after curing with CRP Clear Glaze (finish per architect). Prepare surfaces and apply product per manufacturer recommendations and specifications.

3.6 Board Formed Concrete or plywood formed concrete where indicated shall be placed as "architectural grade", suitable as exposed finish material and protected in place during construction. General Contractor to provide mock up of formwork for review and approval by Architect.

3.7 Post tension slab - note to General Contractor regarding post-tension slab use caution!

General Contractor shall be responsible for X-raying or otherwise examining the foundation to locate the existing post-tension strands prior to demolition of any kind, trenching for new plumbing or electrical, or the installation of any petrofit epoxy anchor bolts or other hardware. Failure to do so may result in great damage to existing foundation.

It is advised that a minimum of 9 inches of concrete is maintained to either side of each post-tensioned strand.

It is further advised that the General Contractor consult with a Post-tension Slab Engineer or Specialty Consultant to determine the best manner of working in and around the strands, and to determine if they should be relieved of their tension during the demolition and construction process.

4 Masonry

4.1 See structural drawings "S sheets" for additional information and specifications

4.2 Install bricks in accordance with the appropriate standards from the Masonry Institute of America "Masonry Design Manual" and the Brick Institute of America.

4.3 Install concrete masonry units in accordance with standards set forth in the Masonry Institute of America "Masonry Design Manual" and the Concrete Masonry Institute.

4.4 All exposed concrete masonry walls and columns where occurs are to be constructed in a manner that is suitable for "Architectural" masonry. All due care and diligence required to ensure a consistent and quality assembly is the responsibility of the Masonry Contractor. Any installation or erection of exposed masonry not meeting this standard is to be removed and re-installed at the direction of the Owner, Architect, or General Contractor. Blocks of different color, texture, or manufacturer shall not be mixed.

4.5 Stone veneer, where occurs, to be installed in accordance with the appropriate standards. See structural drawings for details and method of attachment to structure. Masonry Contractor to provide a "mock - up" of wall assembly for approval by Architect prior to construction of main structure.

4.6 Exposed concrete masonry units, where occurs, to be assembled in a running bond with flush - tooled joints unless noted otherwise.

4.7 Masonry Fireplace Contractor to verify fireplace design opening size and structural strapping with Architect and Structural Engineer prior to construction

5 Metals

5.1 Structural Steel. See structural drawings "S sheets" for additional information and specifications.

5.2 The Structural Steel Fabricator shall submit shop drawings of all steel elements to the Architect and Structural Engineer for review and approval for conformance to the design intent of the construction documents prior to fabrication and erection.

5.3 All structural field welding shall be continuously inspected by a registered Deputy Inspector provided by the Steel Fabricator.

5.4 All welds shall be ground smooth and primed ready for painting. Dents in the steel shall be filled and sanded ready for painting.

5.5 All exterior exposed structural steel and exterior steel guard rails and assemblies shall be shop metalized and all structural welds to be field galvanized prior to painting.

5.5 Exterior and interior exposed structural steel finish to be Benjamin Moore Iron Clad "Deep Bronze", unless noted otherwise. Architect to verify and approve color and finish. Apply finish per manufacturer recommendations and specifications.

5.6 Plates or embeds behind exterior plaster, where occurs, shall be pre-painted with a rust inhibitor paint before plastering. A Bituthene pad with the paper backing still a ffixed at the edges shall be placed between the plate and framing and overlap the building paper on the bottom. The building paper shall overlap the bituthene pad on top. Caulking shall be applied around the perimeter of the plate.

5.7 Steel railing assembly, where occurs, shall have all welds ground smooth and polished to an even finish. Color to be Benjamin Moore Iron Clad "Deep Bronze", unless noted otherwise. Architect to verify and approve color and finish. Apply finish per manufacturer recommendations and specifications.

5.8 Class "A" Standing Seam Metal Roof where occurs to be "Cee-Lock" roof panels by Berrige, installed o/ 2 layers #30 ASTM D 226 asphalt saturated organic felt o/ plywood sheathing. ICC-ES Report ESR-3486. Install per manufacturer recommendations

5.9 All steel should be delivered to the site primed and ready to paint

6 Woods and Plastics

6.1 See structural drawings "S sheets" for additional information and specifications.

6.2 All wood fabrication shall conform to the appropriate standards established in the American Wood Preservers Association Publications (AWPA), the American Wood Preservers Bureau (AWPB) and the Woodworkers Institute of California (WIC) custom grade.

6.3 All wood shall be a minimum of 8" above finish grade per CBC and shall be pressure treated when in contact with concrete or masonry per CBC.

6.4 All plywood sheathing for floors and decks to be glued to joists with an approved adhesive and nailed immediately per structural drawings while adhesive is fresh.

6.5 General Contractor to provide, adequately nail, and verify location of proper backing for deck rails, windows or glazing, fixtures, supports in walls, roofs, and ceilings prior to covering with roofing, drywall, or plaster.

6.6 All deck and roof sheathing to slope to drain by a minimum of 1/4" per foot by method called out in plans to drain.

6.7 Wood flooring to be solid hardwood - no veneer or laminates unless noted otherwise. Species and finish per Architect. General Contractor shall provide sample for approval prior to installation.

6.8 Install proper backing for all finish items and accessories. Install all bath accessories including: mirrors, towel bars, grab bars, tissue dispensers, coat hooks, trash receptacles, etc. Install all finish hardware including: latches, locks, closers, hinges, weather stripping, cabinet pulls, glides, etc. Install all wood base, handrails, casing, trim, moldings, paneling, etc. as described on drawings.

6.9 All fasteners in architectural woodwork shall be countersunk and plugged or filled to match surrounding finish surfaces unless noted otherwise.

6.10 All installed architectural wood fabrications shall be clean and neat and free of tooling marks, scratches and other defacements of visible finish surfaces.

6.11 A minimum of (2) sets of shopdrawings for all millwork shall be provided to the architect for review and approval prior to fabrication and installation of cabinetry. The General Contractor shall field verify all dimensions for millwork prior to the development of shop drawings.

6.12 A finished sample of all proposed wood species and finishes shall be provided to Architect for review and approval prior to fabrication of millwork.

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Written dimensions shall take preference over scaled dimensions and shall be verified in the field. Any discrepancy or error shall be brought to the attention of the Architect prior to the commencement of any work.

LICENSED ARCHITECT
ANDERS LASATER
C-30374
REN 03 31 2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

A. 12/10/2020 County PC rev 1
B. 03/26/2020 County PC rev 2
C.
D.
E.

Issued

1. 10/30/2020 - Orange County
2.
3.
4.
5.

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Architectural Specifications

AO.2

7 Thermal and Moisture Protection

7.1 "Bituthene" where called out, shown in plans, or referred to in these specifications shall be Bituthene Ice and Water Shield waterproofing by Grace Construction Products, W.R. Grace & Co.

7.2 Waterproofing system for retaining walls shall be a Mira drain composite system over Miradri waterproof membrane over Miradri mastic and Miradri primer as recommended by soils report, grading and drainage plan, and shown in retaining wall details. All products by Mirafi moisture protection company of Norcross, Georgia (800) 234-0484. Installation to be under constant supervision of a Mirafi certified inspector and installed by a certified installer per manufacturer specifications. Contact Ruta Bandziulis Engineering Business Manager - Southwest | TenCate Geosynthetics. 562-480-7948.

7.3 Sub-drain at retaining walls to be Mirafi "Quick Drain" drain mat and discharge manifold. Installation to be under constant supervision by a Mirafi certified inspector and installed by a certified installer per manufacturer specifications. Contact Ruta Bandziulis Engineering Business Manager - Southwest | TenCate Geosynthetics. 562-480-7948.

7.4 Waterproofing at slab on grade to be Mirafi "Mirclay" bentonite pad over "Mira drain 6000xl" drain mat with fabric side down. Installation to be by Mirafi certified installer and inspected by Mirafi certified inspector. Contact Ruta Bandziulis Engineering Business Manager - Southwest | TenCate Geosynthetics. 562-480-7948.

7.5 Waterproofing at horizontal deck surfaces to be covered with stone or tile shall be Mirafi "Miradri 200v" fabric over "Miradri 860" membrane (UL 790). Installation to be by Mirafi certified installer and inspected by Mirafi certified inspector. Contact Ruta Bandziulis Engineering Business Manager - Southwest | TenCate Geosynthetics. 562-480-7948.

7.6 Waterproofing at horizontal deck surfaces not to be covered with stone or tile shall be "Weather Deck" walking surface by Mer- Ko Products. Installation shall be by Merko certified installer and inspected by Merko certified inpsector. Contact WICR, Inc. @ 888-429-2909. Color per Architect.

7.7 Metal flashing where indicated on plans shall be minimum 16# copper flashing. All seams to be properly soldered.

7.8 15 lbs. Fiberglass roofing paper to be used as underlayment at the roof. "Moistop" shall be used as an underlayment for all other conditions.

7.9 Sealants and caulking where indicated on plans or referred to in these specifications shall be "Vulkem" one part polyurethane manufactured by Mameco International, Cleveland, Ohio.

7.10 See Title 24 sheet for required R-values of exterior walls, floors, and ceilings. All interior wall partitions shall receive R-11 batt insulation. All interior floors shall receive R-19 batt insulation.

7.11 Skylights to be curb or ledger mounted per plan and made of extruded aluminum. Color to match window frames. Architect to approve sample for color and finish. All base extrusions to have condensation gutters and integral weep drainage system. General Contractor to provide skylight shop drawings to architect for review and approval prior to ordering.

7.12 All protrusions through exterior building finish shall be flashed with Bituthene pad around the perimeter of the protrusion. The pad shall lap the lath paper on the bottom and the lath paper shall lap the sides and top and be affixed to the Bituthene on all sides.

7.13 Built-up flat roofs, and metal roofing underlayment for slopes of 3:12 and less to be 2-ply fiberglass, Class "A" built-up roof comprised of 3 layers 30# sheet felt. Minimum 6" overlap toward eaves with hot asphalt between layers and followed by hot asphalt finish layer - per roofing product manufacturer's spec. GenFlex EZ TPO by Genflex Single-Ply Roofing Membrane - ESR-2831 (or equal).

7.14 Kalwall skylight, where / if occurs, to be provided by Carmel Architectural Sales, 1173 N. Armando St., Anaheim, CA 92806-2609, (714) 630-7221 contact: Dave Traino. Architect to approve frame color and shop drawings prior to ordering. Install skylight, flashings and attachments per manufacturer's specifications.

7.15 Waterproofing at exterior plaster shall be 2 layers grade "D", or better, tar impregnated building paper or other approved weather resistive material such as 1 layer Tyvek "Home Wrap" over 1 layer Tyvek "Stucco Wrap", or 2 layers Tyvek "Home Wrap". Install per manufacturer's specifications.

7.16 All protrusions through the building paper or Tyvek are to be caulked with Vulkem and flashed with Bituthene or other manufacturer approved sealant and tape so as to provide a moisture barrier at the protrusion.

7.17 All parapets shall be wrapped with 2 layers of Bituthene. Flat surfaces are to be covered with Bituthene waterproofing under finish material.

7.18 "Shingle" siding, if called out on the plans, to be fiber cement HardieShingle as manufactured by James Hardie Siding Products - U.N.O. ESR-2290. Install over approved waterproofing and substrate per manufacturer's specifications and recommendations. Contact James Hardie Siding Products directly for further information:

James Hardie
6300 La Alameda, Suite 250
Mission Viejo, California 92691
Tel: 1-888 J-HARDIE (1-888 542-7343)

7.19 "Board and Batten" siding if called out on the plans to be fiber cement HardiePanel vertical siding as manufactured by James Hardie Siding Products - U.N.O. ESR-2290. Install over approved waterproofing and substrate per manufacturer's specifications and recommendations. Contact James Hardie Siding Products directly for further information:

James Hardie
6300 La Alameda, Suite 250
Mission Viejo, California 92691
Tel: 1-888 J-HARDIE (1-888 542-7343)

7.20 "Horizontal Siding" as called out on the plans to be fiber cement HardiePanel horizontal siding as manufactured by James Hardie Siding Products - U.N.O. Install over approved waterproofing and substrate per manufacturer's specifications and recommendations. Contact James Hardie Siding Products directly for further information:

James Hardie
6300 La Alameda, Suite 250
Mission Viejo, California 92691
Tel: 1-888 J-HARDIE (1-888 542-7343)

7.21 "Comp. Shingle Roof" to be GAF Timberline Ultra HD in charcoal U.N.O. ESR-1475 over 2 layers GAF "Versa Shield" ESR-2053

8 Doors And Windows

8.1 Door and Window frame assemblies shall meet or exceed quality standards set forth in by: the Woodwork Institute of California or the National Wood Window and Door Association and shall be delivered free of defects in material and workmanship.

8.2 All fire rated door assemblies indicated on drawings shall bear appropriate labeling indicating their fire resistance as determined by the Underwriter's Laboratories. Fire rated doors shall be provided with smoke gaskets at head and jambs and an approved seal at the threshold.

8.3 General Contractor shall protect all doors and windows from damage after installation until construction is complete.

8.4 Exterior access doors and panels are to be weather tight.

8.5 All access doors and panels located in fire rated walls, ceilings and partitions where permitted shall be of appropriate fire resistance for application and shall bear appropriate labeling indicating their fire resistance as determined by the Underwriter's Laboratories.

8.6 All access doors and panels shall be placed and sized to allow for adequate working space to service items being accessed. General Contractor shall coordinate location of all access doors and panels with Architect prior to installation.

8.7 All door, window and skylight frames, material, size, operation, rating, performance and hardware shall be as indicated in the door, window, and skylight schedules respectively. General Contractor to compare plans and schedules and notify Architect of discrepancies prior to ordering material.

8.8 Door and window assemblies and hardware packages shall be complete in every detail including all incidental items required for proper fit, finish and function. Door hardware to be specified & approved by Architect - install per manufacturer specifications.

8.9 All aluminum door and window assemblies to be Fleetwood products unless noted otherwise. Aluminum window frame, where occurs, finish to be "Dark Bronze Anodized" unless noted otherwise.

8.9.1 All aluminum clad door and window asseblies to be Jeld-Wen products unless noted otherwise. Aluminum window frame, where occurs, finish to be "Dark Bronze Anodized" unless noted otherwise. Wood window frame, where occurs, to be stain grade Walnut or equal, unless noted otherwise.

8.10 All door and window assemblies to be installed per manufacturer recommendations and specifications.

8.11 All exterior door and window assemblies shall be installed for a watertight condition including proper caulking of joints, screw holes and weather stripping.

8.12 New glazing style and color to match existing unless noted otherwise - verify with Architect.

8.13 All windows to be flashed with "Moist Stop" and caulked around entire perimeter with "Vulkem".

8.14 All window and door frames are to sit in a 3 sided copper sill pan - see door and window details for further information.

8.15 Isolate all metal door and window frames from dissimilar metals with approved gasket material to prevent electrolysis.

8.16 Aluminum break metal (finish and color to match window frames) to be provided per elevations and details.

8.17 For all field glazed window systems (storefront, curtain wall, multiple frame & sash), general contractor shall provide Architect with shop drawings and calculations, including glass strength and thickness. Storefront details shall include waterproofing details, electrolysis prevention, and thermal expansion control. No installation of field glazed window systems shall commence without Architect's review and approval of shop drawings.

8.18 For window systems fabricated from storefront components, General Contractor shall have Consultant provide shop drawings and calculations for window system which include the following design criteria:
A) Calculations for glass strength and deflection under wind load.
B) Storefront design to consider thermal expansion and provide relief to minimize related expansion sounds.
C) Storefront to structure interface details indicating how to flash windows from moisture intrusion.
D) Glass type with UV and shading considerations.
E) All sliding or operating components to be in accordance with manufacturer's specifications, and must be approved for "wet" location use as intended.
F) Separations of dissimilar materials to prevent electrolysis, for example, aluminum to steel.

9 Finishes

9.1 Gypsum wallboard at walls and ceilings to be 5/8" Type "X" unless noted otherwise where indicated on plans shall have a "smooth" finish.

9.2 All gypsum wall board shall be installed in accordance with the provisions of the state and local codes. Reference the Gypsum Board Association publication GA-216 "Recommended Specifications for Application and Finish of Gypsum Board" for clarification as needed.

9.3 Install gypsum board only over dry framing and insulation. If weather conditions are such that rain or other moisture has caused the framing to become saturated, general contractor shall allow ample time for the wood to dry. See specification 17.6 for more info. If batt insulation becomes damp due to rain or other moisture it shall be replaced prior to installation of gypsum board.

9.4 If mold or moisture related problems should occur due to the installation of gypsum board over damp framing or insulation, general contractor to be held solely responsible for the removal and repair of damaged areas.

9.5 Dye added to touch-up mud to be kept light enough not to show through paint color.

9.6 All corners to be square & plum with metal corner bead.

9.7 Shadow base metal to be provided at all hard surface floors and properly attached at the correct height to maintain even reveal. See details for further info.

9.8 Exterior stucco, where indicated on the plans shall have a smooth steel trowel finish unless noted otherwise. 12"x12" samples of color to be submitted to architect for review and approval.

9.9 All stucco and plaster shall conform to the CBC Ch. 25

9.10 Contractor to take all provisions necessary to eliminate cracking. Proper time is to be allowed after brown coat application for curing and for any cracks to occur and be patched before the finish coat is applied. Contractor to water scratch and brown coat daily between applications and before application of color coat.

9.11 All expansion joints, vent screeds and plaster milcor to be plastic "Vinyl Tech" by Plastic Components Inc., of Florida unless noted otherwise. Paint to match stucco color.

9.12 Expansion joints to be applied per plans with a level and string line. If no expansion joints are shown, contractor to notify architect for specific locations prior to plastering. Layout of expansion joints to be approved by architect before scratch coat is applied. The brown coat is to be tooled into the expansion joint to prevent separation of the color coat from the expansion joint. All outside corner meetings of the expansion joints are to be mitered, and all perpendicular meetings are to be kept flat and without gaps. All corner aid is to be applied straight and level. Panels to be rodded to keep walls as flat as possible. All expansion joints are to be left clean and free of plaster.

9.13 All exterior windows, railings, trim, and fixtures are to be masked off with plastic and red vinyl tape before any plastering is done. No tapes that leave a residue are to be used and any such residue shall be removed without damaging the effected surface. Where interior plastering is to be done, blue painter's masking tape is to be used. Interior floors or exterior flatwork in proximity to plastering are to be protected with plastic and roofing felt. All masking is to be promptly removed after plastering is complete.

9.14 Exterior stucco, concrete walls, and flatwork to be sealed with "Rainshield" by Omega Products, Ph# 714-556-3830. Install per manufacturer's specs. Allow 14 days cure time of stucco before application of product.

9.15 Counter top finishes and cabinet material to be selected by owner. Submit shop drawings and samples for all millwork and countertops to Architect for review and approval prior to installation and or fabrication.

9.16 Paint - Unless Otherwise Noted or specified shall be as follows:

Gypsum wallboard ceilings:
1st coat sprayed: prep coat plus
2nd coat sprayed: Walltone w 420 as a sealer
3rd coat sprayed: Behr Ultra Pure White 1850
4th coat sprayed: Behr Ultra Pure White 1850

Walls:
1st coat sprayed: prep coat plus
2nd coat sprayed: Walltone w 420 as a sealer
3rd coat sprayed: Behr Ultra Pure White PR-W15
4th coat rolled or sprayed / back-rolled: Behr Ultra Pure White PR-W15

Interior doors and jambs if painted:
1st coat sprayed: Unikote w 707
2nd coat sprayed: split coat Walltone / Behr Ultra Pure White PR-W15
3rd coat sprayed: Behr Ultra Pure White PR-W15 Satin Enamel

Exterior jambs if painted:
1st coat sprayed: E-Z Prime w 708
2nd coat sprayed: Evershield w 701
3rd coat sprayed: Evershield w 701
4th coat sprayed: Optional color coat, color per architect

Exterior metal doors:
1st coat sprayed: corrobar 43-5
2nd coat sprayed: Evershield w 701
3rd coat sprayed: Evershield w 701
4th coat sprayed: Optional color coat, color per architect

Final interior wall color, U.N.O. to be Benjamin Moore as selected by architect.

Exposed structural or decorative steel shall be primed with 2 part epoxy primer and painted with 2 coats: Benjamin Moore - Iron Clad. Color to be "Deep Bronze".

9.17 Protect all pre finished surfaces, lawns, plants, and adjacent surfaces against paint and damage. Furnish sufficient drop cloths and plastic covers to prevent over spray and splattering from damaging surfaces not being painted. Masking tape used shall not leave a residue on protected surfaces.

9.18 The number of coats specified is the minimum that shall be applied. Apply additional coats when undercoats, stains, or other conditions show through final paint coat until paint film is of uniform finish, color and appearance. Finish exterior doors on top, bottom, and edges same as faces. All protrusions from the exterior plaster such as stack vents or louvers shall be primed and painted to match adjacent plaster. Architect to approve sample for color and finish. Painting contractor to provide touch-up and refinishing to paint as required.

9 Finishes (cont.)

9.18 The number of coats specified is the minimum that shall be applied. Apply additional coats when undercoats, stains, or other conditions show through final paint coat until paint film is of uniform finish, color and appearance. Finish exterior doors on top, bottom, and edges same as faces. All protrusions from the exterior plaster such as stack vents or louvers shall be primed and painted to match adjacent plaster. Architect to approve sample for color and finish. Painting contractor to provide touch-up and refinishing to paint as required.

9.19 Shower compartments and walls above bathtubs with shower heads installed shall be finished with a smooth, non-absorbent surface to a height of not less than 72" above the floor per CRC R307.2. General Contractor to verify material and height with Architect in field prior to installation.

9.20 Contractor to provide waterproofing, uncoupling membrane, movement joints, and termination / transition profiles at all tile installations. Verify location and type with Architect prior to installation.

9.21 Provide Schluter-DITRA or DITRA-XL uncoupling and waterproofing membrane, or equal, at all tile floors. Install per manufacturer specifications and recommendations.

9.22 Provide Schluter-KERDI waterproofing membrane at all tile wall installations. Install per manufactuer specifications and recommendations.

9.23 Provide Schluter Schiene edge profile at all tile terminations and material transitions. Size per tile, verify finish with Architect and owner prior to purchase or installation.

9.24 Proide DILEX-EZ movement joint by Schluter Systems or equal as required per TCNA standards. Size per tile selection, color per owner, confirm location and profile with Architect in field prior to installation. Install per manufacturer specifications and recommendations.

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LICENSED ARCHITECT
ANDERS LASATER
C-30374
REN 03 31 2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

A 12/10/2020 County PC rev 1
B 03/26/2020 County PC rev 2
C
D
E

Issued

1 10/30/2020 - Orange County
2
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Architectural Specifications

A0.3

10 Specialties

10.1 Fan systems exhausting air from the building to the outside shall be provided with closable damper to maintain constant temperature inside the building.

10.2 Heating registers and grills to be "Metalaire" series 2000 adjustable linear bar diffusers. Unless noted otherwise finish to be satin aluminum anodized. Substitutions shall be considered and must be approved by Architect prior to installation.

10.3 All chimneys to have spark arrestors which permit the passage of objects no larger than 1/2" nor obstruct the passage of objects smaller than 3/8".

10.4 Provide metal address numbers on street side elevation - 4 inches minimum, or per local code and CBC requirements for visibility. Submit sample to Architect for approval prior to ordering or installation.

11 Equipment

11.1 See Mechanical, Electrical, and Plumbing drawings "M, E, and P sheets" for additional information and specifications.

12 Furnishings

12.1 No specifications.

13 Special Construction

13.1 Media room soffit / ceiling to be sound proofing system by SoundAway or equal. See application SACJ12 or SACJ14 consisting of sound proofing insulation between framing members, sound isolation clips or sound isolation tape applied to underside of framing members, 2 layers of sound proofing drywall with green glue / sound proofing adhesive between, and acoustical caulk sealant at edges of ceiling. See www.soundaway.com for additional information. Verify system with Architect and Owner prior to installation.

13.2 Provide mass loaded vinyl barrier (MLV) underlayment at all wood floors.

14 Conveying systems

14.1 Elevators, where occurs, U.N.O. on plans, to be “Cemcolift” residential elevator by:

Inclinator Co. of California
8116-A Byron Road, Whittier, CA 90606
phone: 800-201-1212. attn. Ron Woodward

14.2 General Contractor to provide shop drawings detailing elevator cab dimensions, finishes, and specifications to Architect for review and approval prior to ordering.

14.3 Dumbwaiter, where occurs to be "Home Waiter 120" residential dumbwaiter by

Inclinator Co. of California
8116-A Byron Road, Whittier, CA 90606
phone: 800-201-1212. attn. Ron Woodward

14.4 General Contractor to provide shop drawings detailing elevator cab dimensions, finishes, and specifications to Architect for review and approval prior to ordering.

15 Mechanical & Plumbing

15.1 See Mechanical drawings (either M sheets for engineer's mechanical plans, or AE sheets for architectural ducting and venting plan) for additional specifications.

15.2 All work shall be in accordance with all codes, rules and regulations of the governing agencies and most recent adopted codes.

15.3 See T-24 sheet for specifications, size, and make of FAU, AC units, and water heater.

15.4 Plumbing fixtures and fittings shall be selected by Owner and approved by the Architect prior to ordering. Submit cut sheets of fixtures to Architect for approval. Plumbing fixtures for public facilities shall meet California T-24 accessibility standards and federal ADA requirements. Toilet fixtures to be low flush per current CRC.

15.5 Roof drains shall be Thunderbird Copper roof drains with raised overflow, I.A.P.M.O. #2441. Roof drains are to exit the building below grade and be tied into the site drainage system. Overflows are to exit the building 6" above grade and outlet onto a splash block or other dissapating surface. All piping penetrating exterior walls to be properly caulked with "Vulkem".

15.6 Plumbing vents shall not be located closer than 10 feet to any property line or operable skylight.

15.7 In the case of a tanked water heater a hot water recalculating system with pump shall be installed and properly insulated when below the slab.

15.8 Tanked water heaters shall be properly seismically strapped. See plumbing drawings (“P” sheets) for specifications and strap details.

15.9 Temperature and pressure relief valve shall be installed on water heater.

15.10 Two 3/4" water lines shall be installed from the water heater to the most advantageous location of future solar water heating panels. The lines shall be capped and flashed at the roof penetration and insulated when in un-conditioned space.

15.11 Fan systems exhausting air from the building to the outside shall be provided with closable damper to maintain constant temperature inside the building.

15.12 Heating registers and grills to be "Metalaire" series 2000 adjustable linear bar diffusers. Unless noted otherwise finish to be satin aluminum anodized. Substitutions shall be considered and must be approved by architect prior to installation.

16 Electrical

16.1 See Electrical drawings (either E sheets for engineer's electrical plans, or A7 sheets for architectural lighting and outlet plan) for additional specifications.

16.2 All work shall be in accordance with all most recent adopted codes, rules and r egulations of the governing agencies.

16.3 All electrical equipment installed outdoors and exposed to weather shall be weather proof.

16.4 Prior to running wire to fixtures and outlets, electrical contractor to notify Architect who shall field verify and adjust, if necessary, all lighting fixtures, floor outlets, lighted mirrors, and recessed lighting prior to final installation.

16.5 All switch and outlet locations to be field verified by Architect. Color of switch and outlet plates to match adjacent wall color unless noted otherwise.

16.6 Lighting and electrical control system (if indicated on the A7 sheets - architectural electrical plans) to be "Home Works" as manufactured by Lutron Electronics Company, (949) 249-8020. System to be fully dimmable and controlled by “Graphic Eye” controllers and key pads. All timed circuits are to be tied to an astronomical time clock. Electrical contractor to verify all circuits with Architect.

16.7 All switches and outlets to be by "Legrand" u.n.o.

17 California Green Building Standards

See 2019 California Green Building Standards Code on Sheet A0.5 + A0.6

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LICENSED ARCHITECT
ANDERS LASATER
C-30374
REN 03 31 2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

A. 12/10/2020 County PC rev 1
B. 03/26/2020 County PC rev 2
C.
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1. 10/30/2020 - Orange County
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Architectural Specifications

A0.4

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

AIA California

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

CHAPTER 3
GREEN BUILDING
SECTION 301 GENERAL

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

ABBREVIATION DEFINITIONS:

HCD	Department of Housing and Community Development
BSC	California Building Standards Commission
DSA-SS	Division of the State Architect, Structural Safety
OSHPD	Office of Statewide Health Planning and Development
LR	Low Rise
HR	High Rise
AA	Additions and Alterations
N	New

CHAPTER 4
RESIDENTIAL MANDATORY MEASURES
DIVISION 4.1 PLANNING AND DESIGN

SECTION 4.102 DEFINITIONS
4.102.1 DEFINITIONS
The following terms are defined in Chapter 2 *(and are included here for reference)*

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.

WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls.

4.106 SITE DEVELOPMENT
4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.

4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.

1. Retention basins of sufficient size shall be utilized to retain storm water on the site.
2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
3. Compliance with a lawfully enacted storm water management ordinance.

Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil.

(Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html)

4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

1. Swales
2. Water collection and disposal systems
3. French drains
4. Water retention gardens
5. Other water measures which keep surface water away from buildings and aid in groundwater recharge.

Exception: Additions and alterations not altering the drainage path.

4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.4.1, 4.106.4.2, or 4.106.4.3 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code,* Article 625.

Exceptions:
1. On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
   1.1 Where there is no commercial power supply.
   1.2 Where there is evidence substantiating that meeting the requirements will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the homeowner or the developer by more than $400.00 per dwelling unit.
2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.

4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

4.106.4.2 New multifamily dwellings. If residential parking is available, ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.

Notes:
1. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.
2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

4.106.4.2.1 Electric vehicle charging space (EV space) locations. Construction documents shall indicate the location of proposed EV spaces. Where common use parking is provided at least one EV space shall be located in the common use parking area and shall be available for use by all residents.

4.106.4.2.1.1 Electric Vehicle Charging Stations (EVCS) When EV chargers are installed, EV spaces required by Section 4.106.2.2, Item 3, shall comply with at least one of the following options:

1. The EV space shall be located adjacent to an accessible parking space meeting the requirements of the *California Building Code,* Chapter 11A, to allow use of the EV charger from the accessible parking space.
2. The EV space shall be located on an accessible route, as defined in the *California Building Code,* Chapter 2, to the building.

Exception: Electric vehicle charging stations designed and constructed in compliance with the *California Building Code*, Chapter 11B, are not required to comply with Section 4.106.4.2.1.1 and Section 4.106.4.2.2, Item 3.

Note: Electric Vehicle charging stations serving public housing are required to comply with the *California Building Code*, Chapter 11B.

4.106.4.2.2 Electric vehicle charging space (EV space) dimensions. The EV space shall be designed to comply with the following:

1. The minimum length of each EV space shall be 18 feet (5486 mm).
2. The minimum width of each EV space shall be 9 feet (2743 mm).
3. One in every 25 EV spaces, but not less than one EV space, shall have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).
   a. Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

4.106.4.2.3 Single EV space required. Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. Construction documents shall identify the raceway termination point. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

4.106.4.2.4 Multiple EV spaces required. Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics and electrical load calculations to verify that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.

4.106.4.2.5 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the *California Electrical Code.*

4.106.4.3 New hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV spaces.

Notes:
1. Construction documents are intended to demonstrate the project's capability and capacity or facilitating future EV charging.
2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

4.106.4.3.1 Number of required EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.

TABLE 4.106.4.3.1

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED EV SPACES
0-9	0
10-25	1
26-50	2
51-75	4
76-100	5
101-150	7
151-200	10
201 and over	6 percent of total

4.106.4.3.2 Electric vehicle charging space (EV space) dimensions. The EV spaces shall be designed to comply with the following:

1. The minimum length of each EV space shall be 18 feet (5486mm).
2. The minimum width of each EV space shall be 9 feet (2743mm)

4.106.4.3.3 Single EV space required. When a single EV space is required, the EV space shall be designed in accordance with Section 4.106.4.2.3.

4.106.4.3.4 Multiple EV spaces required. When multiple EV spaces are required, the EV spaces shall be designed in accordance with Section 4.106.4.2.4.

4.106.4.3.5 Identification. The service panels or sub-panels shall be identified in accordance with Section 4.106.4.2.5.

4.106.4.3.6 Accessible EV spaces. In addition to the requirements in Section 4.106.4.3, EV spaces for hotels/motels and all EVSE, when installed, shall comply with the accessibility provisions for the EV charging stations in the *California Building Code*, Chapter 11B.

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL
4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303 INDOOR WATER USE
4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.4.4.

Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

4.303.1.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.

4.303.1.3 Showerheads.

4.303.1.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only allow one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.

4.303.1.4 Faucets.

4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.

4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.

4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

4.303.2 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code.*

NOTE:
THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER.

TABLE - MAXIMUM FIXTURE WATER USE

FIXTURE TYPE	FLOW RATE
SHOWER HEADS (RESIDENTIAL)	1.8 GMP @ 80 PSI
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI
METERING FAUCETS	0.2 GAL/CYCLE
WATER CLOSET	1.28 GAL/FLUSH
URINALS	0.125 GAL/FLUSH

4.304 OUTDOOR WATER USE
4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

NOTES:
1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the *California Code Regulations,* Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are available at: https://www.water.ca.gov/

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE
4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING
4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.

Exceptions:
1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.
3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.

1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
3. Identify diversion facilities where the construction and demolition waste material collected will be taken.
4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.

Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

4.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4..

Notes:
1. Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section.
2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

4.410 BUILDING MAINTENANCE AND OPERATION
4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
2. Operation and maintenance instructions for the following:
   a. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.
   b. Roof and yard drainage, including gutters and downspouts.
   c. Space conditioning systems, including condensers and air filters.
   d. Landscape irrigation systems.
   e. Water reuse systems.
3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
4. Public transportation and/or carpool options available in the area.
5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
6. Information about water-conserving landscape and irrigation design and controllers which conserve water.
7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
9. Information about state solar energy and incentive programs available.
10. A copy of all special inspections verifications required by the enforcing agency or this code.

4.410.2 RECYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are note required to comply with the organic waste portion of this section.

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL
4.501.1 Scope
The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors.

SECTION 4.502 DEFINITIONS
5.102.1 DEFINITIONS
The following terms are defined in Chapter 2 *(and are included here for reference)*

AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section 93120.1.

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

DISCLAIMER: *THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE 2016 CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING DEPARTMENT JURISDICTIONS, THIS CHECKLIST IS TO BE USED ON AN INDIVIDUAL PROJECT BASIS AND MAY BE MODIFIED BY THE END USER TO MEET THOSE INDIVIDUAL NEEDS. THE END USER ASSUMES ALL RESPONSIBILITY ASSOCIATED WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.*

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C-30374
REN. 01/ 31/ 2023
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

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1	10/30/2020 - Orange County
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CalGreen Checklist

A0.5

AIA California

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O^3/g ROC).
Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94701.

MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).
Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

VOC. A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).

4.503 FIREPLACES

4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.

4.504 POLLUTANT CONTROL

4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system.

4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.

4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and tricloroethylene), except for aerosol products, as specified in Subsection 2 below.

2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with section 94507.

4.504.2.2 Paints and Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.

4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

1. Manufacturer's product specification.
2. Field verification of on-site product containers.

TABLE 4.504.1 - ADHESIVE VOC LIMIT[1,2]

(Less Water and Less Exempt Compounds in Grams per Liter)

ARCHITECTURAL APPLICATIONS	VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVE	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

TABLE 4.504.2 - SEALANT VOC LIMIT

(Less Water and Less Exempt Compounds in Grams per Liter)

SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS[1]	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

TABLE 4.504.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD[2]	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)

4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the testing and product requirements of at least one of the following:

1. Carpet and Rug Institute's Green Label Plus Program.
2. California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers" Version 1.1, February 2010 (also known as Specification 01350).
3. NSF/ANSI 140 at the Gold level.
4. Scientific Certifications Systems Indoor Advantage™ Gold.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.

4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.

4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed , at least 80% of floor area receiving resilient flooring shall comply with one or more of the following:

1. Products compliant with the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350), certified as a CHPS Low-Emitting Material in the Collaborative for High Performance Schools (CHPS) High Performance Products Database.
2. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children & Schools program).
3. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program.
4. Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers", Version 1.1, February 2010 (also known as Specification 01350).

4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5

4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

1. Product certifications and specifications.
2. Chain of custody certifications.
3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards.
5. Other methods acceptable to the enforcing agency.

4.505 INTERIOR MOISTURE CONTROL

4.505.1 General. Buildings shall meet or exceed the provisions of the *California Building Standards Code.*

4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.

4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:

1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.
2. Other equivalent methods approved by the enforcing agency.
3. A slab design specified by a licensed design professional.

4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:

1. Moisture content shall be determined with either a probe-type or contact-type moisture meter.Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.
2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified.
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.

4.506 INDOOR AIR QUALITY AND EXHAUST

4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.
   a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment.
   b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)

Notes:

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.
2. Lighting integral to bathroom exhaust fans shall comply with the *California Energy Code.*

4.507 ENVIRONMENTAL COMFORT

4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:

1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.
2. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.
3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS

702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

1. State certified apprenticeship programs.
2. Public utility training programs.
3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
4. Programs sponsored by manufacturing organizations.
5. Other programs acceptable to the enforcing agency.

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

1. Certification by a national or regional green building program or standard publisher.
2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
3. Successful completion of a third party apprentice training program in the appropriate trade.
4. Other programs acceptable to the enforcing agency.

Notes:

1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS

703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

DISCLAIMER: *THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE 2016 CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING DEPARTMENT JURISDICTIONS, THIS CHECKLIST IS TO BE USED ON AN INDIVIDUAL PROJECT BASIS AND MAY BE MODIFIED BY THE END USER TO MEET THOSE INDIVIDUAL NEEDS. THE END USER ASSUMES ALL RESPONSIBILITY ASSOCIATED WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.*

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Written dimensions shall take preference over scaled dimensions and shall be verified in the field. Any discrepancy or error shall be brought to the attention of the Architect prior to the commencement of any work.

LICENSED ARCHITECT – E. ANDERS LASATER – C-30374 – REN. 01/31/2023 – STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

- A 12/10/2020 County PC rev 1
- B 03/26/2020 County PC rev 2
- C
- D
- E

Issued

- 1 10/30/2020 - Orange County
- 2
- 3
- 4
- 5

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CalGreen Checklist

A0.6

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July 14, 2020

Mike and Evelyn Wong
28 Brookhollow
Irvine, California 92602

Project No: 72472-02
Report No: 20-8740

Subject: **Geotechnical Update Report for Revised Design**
Proposed Single-Family Residence
1901 Park Skyline Road
Santa Ana, California

Reference: Geofirm, 2019, "Preliminary Geotechnical Investigation, Proposed Single-Family Residence, 1901 Skyline Road, Santa Ana, California", Project No. 72472-00, dated November 19.

INTRODUCTION

This report presents select updated geotechnical criteria for the design of proposed site improvement in accordance with the 2019 California Building Code. Recommendations for this update report are based on the revised architectural plans prepared by Anders Lasater Architects and the results of our previous geotechnical investigation (referenced). The conclusions and recommendations provided in the referenced report remain valid and appropriate, except as revised herein.

Proposed Development

Based on a review of the revised architectural plans prepared by Anders Lasater Architects, the proposed development includes a new single-story residence with roof deck. Proposed exterior improvements include construction of landscape retaining walls to accommodate proposed hardscape grades along front and sides of the residence.

The proposed improvements may utilize conventional foundations constructed in new engineered fill locally deepened to an adequate slope setback where necessary. Caisson foundations supporting structural slabs may alternatively be utilized as presented in the referenced report.

UPDATED RECOMMENDATIONS

Remedial Grading

Where non-bedrock soils are encountered, remedial grading at least 5± feet deep is recommended below design pad elevations to expose competent weathered bedrock prior to backfill and recompaction. Locally deeper removals may be necessary pending field review by the geologist. Bedrock may be locally exposed at design pad grades and should be over-excavated at least 3 feet to minimize potential differential settlement. Over-excavation, moisture, conditioning and re-compaction should be observed and approved in writing by a representative of this firm.

Remedial grading may be omitted provided improvements utilize structural slabs supported on deep foundation systems (caissons) constructed in bedrock as recommended in the referenced report.

Shoring Design

Shoring should be designed for areas where slope layback is unfeasible. It is anticipated that shoring may be integrated into permanent retaining wall construction. Shoring should consider topographic and structural surcharges of the adjacent properties. Shoring design should also consider the depth of remedial grading, which is recommended to extend 5 feet deep below design pad grades.

Temporary and permanent cantilever shoring may be designed using an equivalent fluid pressure of 45 and 60 pounds per cubic foot, respectively. Shoring with sloping backfill up to 2:1 (horizontal: vertical) should add an additional 15 pounds per cubic foot to the pressure above. Lateral resistance may be computed utilizing 200 pounds per cubic foot equivalent fluid density for engineered fill and 400 pounds per cubic foot for competent bedrock, acting on a tributary area of twice the caisson diameter.

Vibratory techniques for placement of piles or steel sheet lagging should not be utilized, as damage to adjoining property improvements may otherwise occur. It is the contractor's responsibility to develop appropriate means and methods of construction to avoid damage to adjacent properties. We also suggest that ground vibration monitoring be performed during construction due to the close proximity of adjacent improvements and the relatively high cost of real estate in the area.

If temporary shoring elements are to be removed, the builder and homeowner must be aware that such removal could result in settlement and possible damage to improvements on the adjacent property. The adjacent property owners must be advised of the risks and the builder should provide arrangements to repair any possible damages.

The contractor should also recognize the risk of leaving voids during removal of shoring elements. Lagging plates and piles should therefore be removed slowly and the voids created should be filled immediately. Consideration should be given to continuously injecting grout at the base of the piles and plates as they are being removed to fill the resultant voids.

Proper installation of shoring is the responsibility of the contractor. The adjacent property owners must be advised of the risks and the owner and builder should provide arrangements to repair any possible damages.

Conventional Foundation System

Conventional foundations should be designed in accordance with the 2019 California Building Code. Conventional spread footings should be embedded into recompacted engineered fill. Footings founded in fill may be designed for an allowable bearing value of 2,000 pounds per square foot, with a minimum width of 18-inches and a minimum embedment of 18-inches below the lowest adjacent grade. The design value may be increased one-third for short duration wind or seismic loading.

Lateral loads may be resisted by passive pressure forces and by friction acting on the bottom of footings. The allowable passive pressure forces may be computed in fill using an equivalent fluid density of 150 pounds per cubic foot, up to a maximum of 1,500 pounds per square foot. A coefficient of friction of 0.25 may be used in computing the frictional resistance. Friction resistance and passive pressure may be combined without reduction.

Slabs should be underlain by 4 inches of ½ to ¾ inch open graded gravel. Slab underlayment is deferred to the project architect; however, in accordance with the American Concrete Institute, we suggest that slabs be underlain by a 15-mil thick vapor retarder/barrier (Stego Wrap or equivalent) placed over the gravel in accordance with the requirements of ASTM E:1745 and E:1643.

Pre-moistening of slab subgrade soils is required prior to construction of slabs.

Spa

Earth pressure forces acting on the spa walls should be designed using an equivalent fluid density of 60 pounds per cubic foot for onsite materials. These recommendations may be modified pending verification of soil conditions during construction. Surcharge loads, both topographic and structural, should be considered by the pool engineer.

Slope Setback

The bottom of new foundation elements supporting near or on-slope construction should be setback a minimum lateral distance of 10 feet from the nearest slope face.

Seismic Design

Based on the geotechnical data and site parameters, the following is provided by the USGS (ASCE 7-16) to satisfy the 2019 CBC design criteria:

Table 1, Site and Seismic Design Criteria

Design Parameters	Recommended Values
Site Class	C
Site Longitude (degrees)	-117.7849
Site Latitude (degrees)	33.7557
Ss (g) B	1.327
S1 (g) B	0.473
SMs (g) C	1.593
SM1 (g) C	0.709
SDs (g) C	1.062
SD1 (g) C	0.473
Fa	1.2
Fv	1.5
Seismic Design Category	D
PGAM	0.6

The structural engineer should review the above parameters and the California Building Code to evaluate the seismic design.

Seismic Design of Retaining Walls

The site is classified as being in Seismic Design Category D (Type II occupancy, $SD_S \geq 0.5g$, $SD_1 \geq 0.2g$). Seismic design of retaining walls over 6 feet high may be based on the Mononobe-Okabe method, as updated by Atik and Sitar (2010), using an additional dynamic load of 19 pounds per cubic foot equivalent fluid pressure, acting at 1/3 H above the base of the wall. Final design requirements should be determined by the structural engineer.

Thank you for this opportunity to be of continued service. If you have any questions, please contact this office.

Respectfully submitted,

GEOFIRM

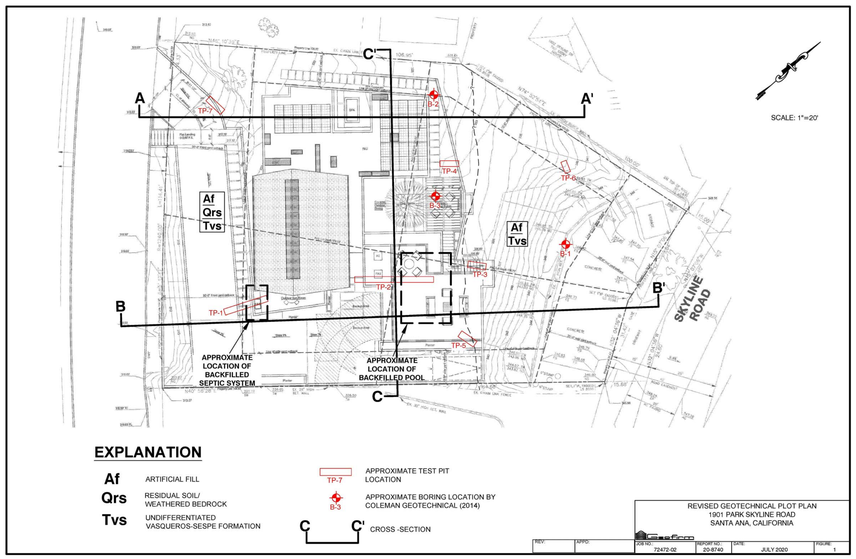
Erik R. Hilde, P.G., E.G. 2387
Associate Engineering Geologist

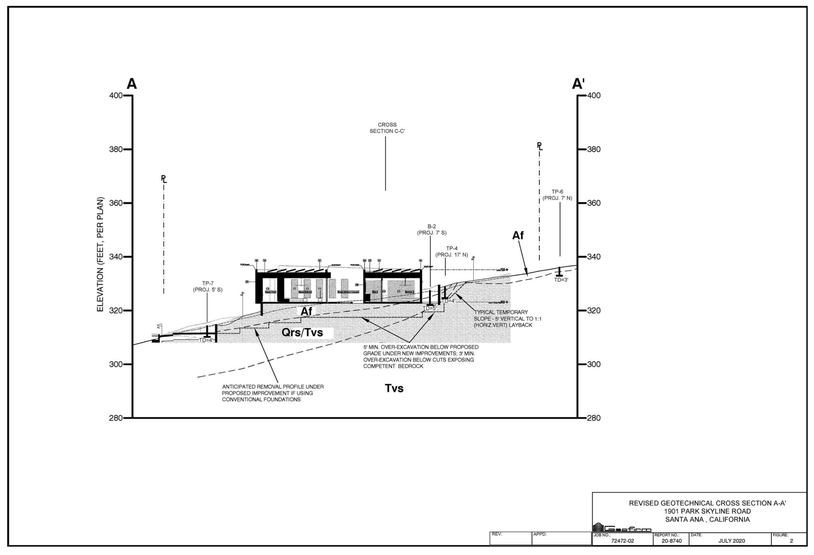
Zi Wang, R.C.E. 80199
Senior Engineer
Date Signed: 7 / 14 / 2020

ERH/ZW: np

Distribution: Addressee via email

Attachments: Figure 1 - Revised Geotechnical Plot Plan
Figure 2 - Revised Geotechnical Cross Section A-A'
Figure 3 - Revised Geotechnical Cross Section B-B'
Figure 4 - Revised Geotechnical Cross Section C-C'





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LICENSED ARCHITECT
ANDERS LASATER
C-30374
REGISTERED 01 31 2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

A 12/10/2020 County PC rev 1
B 03/26/2020 County PC rev 2
C
D
E

Issued

1 10/30/2020 - Orange County
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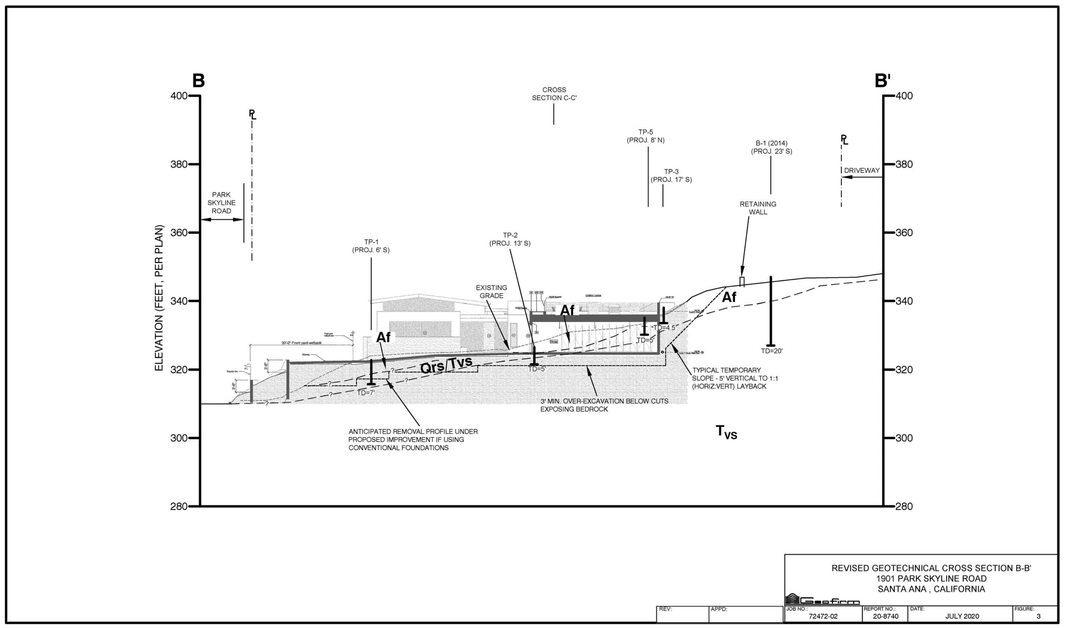
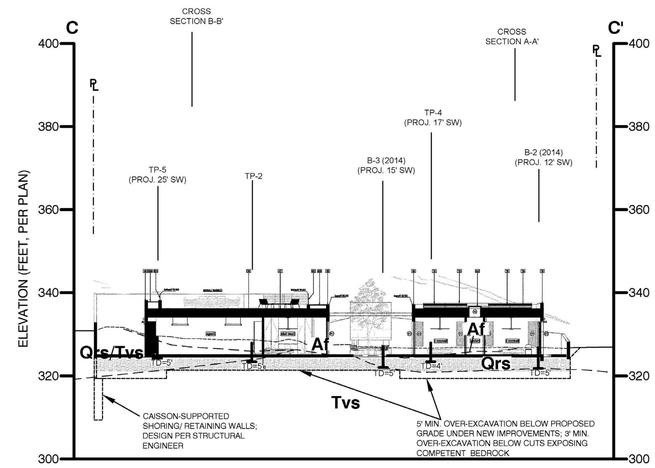
Soil Report - Recommendation

A0.7



REVISED GEOTECHNICAL CROSS SECTION B-B'
1901 PARK SKYLINE ROAD
SANTA ANA , CALIFORNIA

REV:	APP'D:	JOB NO.:	REPORT NO.:	DATE:	FIGURE:
		72472-02	20-8740	JULY 2020	3



REVISED GEOTECHNICAL CROSS SECTION C-C'
1901 PARK SKYLINE ROAD
SANTA ANA , CALIFORNIA

REV:	APP'D:	JOB NO.:	REPORT NO.:	DATE:	FIGURE:
		72472-02	20-8740	JULY 2020	4

ANDERS LASATER ARCHITECTS

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384 FOREST AVENUE, SUITE 12
LAGUNA BEACH, CA 92651
949 497 1827

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LICENSED ARCHITECT
ANDERS LASATER
C-30374
REN. 01 31 2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

- A. 12/10/2020 County PC rev 1
- B. 03/26/2020 County PC rev 2
- C.
- D.
- E.

Issued

- 1. 10/30/2020 - Orange County
- 2.
- 3.
- 4.
- 5.

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Soil Report - Recommendation

A0.8

Side Yard Setback Calculation

Average Site Width : 121.83'
10% of side width: 121.83' x 10% = 12.183'
Side yard setback : 12' - 2.196" at each side

Keynotes

3	Existing driveway to remain
4	Existing storage to remain
5	Existing stair to remodel
19	Existing retaining walls to remain
20	Portion of existing wall that is to remain unchanged may cross the property line. General Contractor to verify location of wall as it relates to the property line and, if possible, remove that portion of the wall that extends beyond the property line. Contractor to obtain a writtern permission from the adjacent property owner before doing any work that is not in the 1901 Park Skyline Road property.
21	Existing wall on neighbor property to be protected while in constrcion by General Contractor

1 Existing Site Plan
1/8" = 1'-0"

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LAGUNA BEACH, CA 92651

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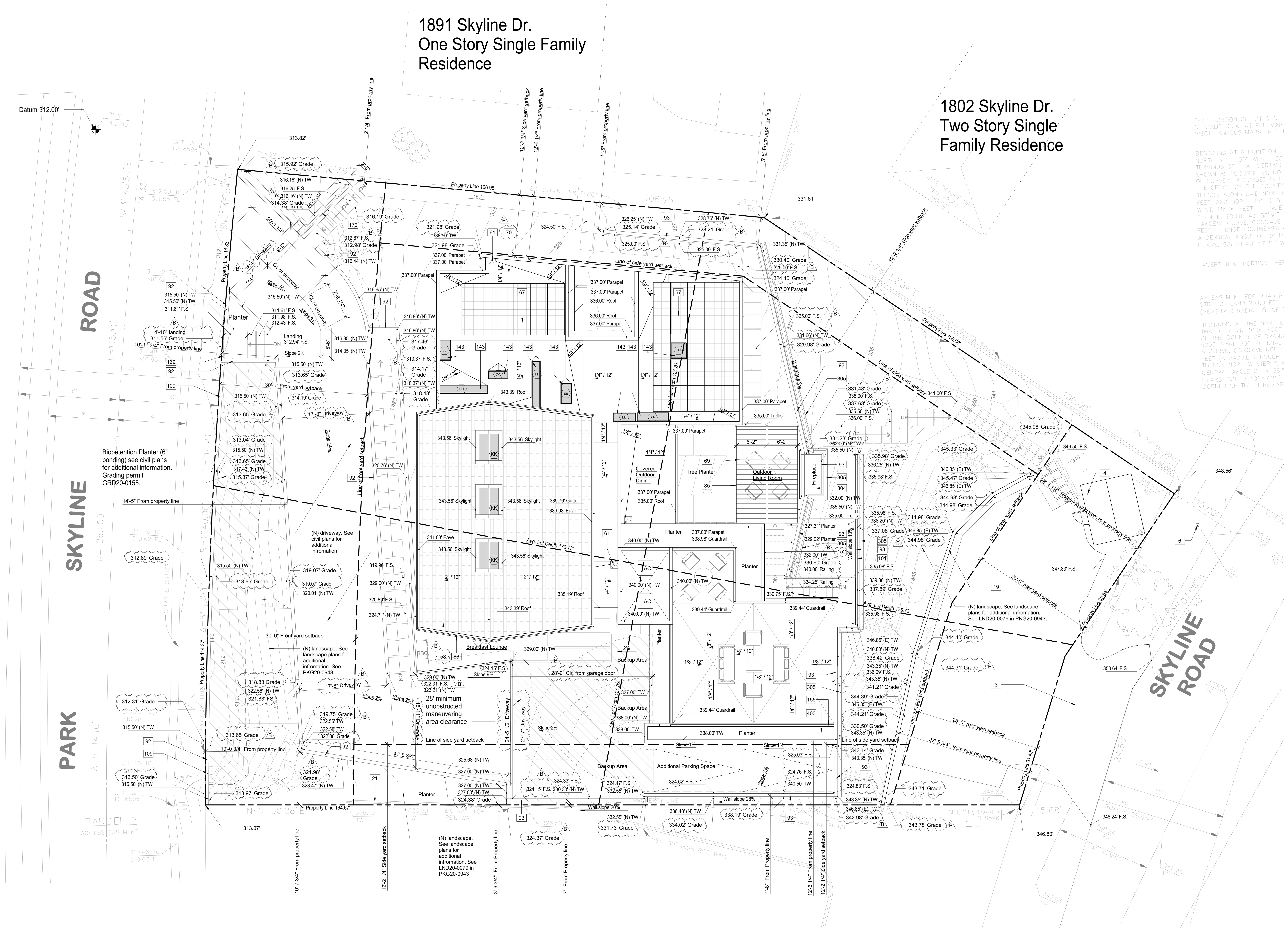
Existing Site Plan

A1.0

Side Yard Setback Calculation

Average Site Width : 121.83'
10% of side width: 121.83' x 10% = 12.183'
Side yard setback : 12' - 2.196" at each side



1 New Site Plan
1/8" = 1'-0"

magnetic north
project north

Keynotes

3	Existing driveway to remain
4	Existing storage to remain
6	Existing power pole
19	Existing retaining walls to remain
21	Existing wall on neightbor property to be protected while in constrction by General Contractor
58	Composition shingles roof from GAF Timberline Cool Series "Antique Slate" with 0.26 solar reflectance and 0.91 thermal emittance on all the sloped roof area. Provide min. R-30 + R-5 insulation @ all roofs except the roof above the garage. See Title 24 report T24-1 to T24-2 for more information.
61	Roof drain with overflow per specs
66	Roof gutter painted dark bronze to match roof fascia. Gutter recess into the roof fascia.
67	Potential solar panels. Provide SC325 or sim. solar panels by SolarCity.
69	(N) 2x fire retardent treated wood trellis painted dark bronze
70	Roofing at flat areas to be TPO roofing system from GAF EverGuard ExtremeÂ® TPO (Energy Gray) with 0.66 solar reflectance and 0.89 thermal emittance Ductings will be below the structural framing where occurs. Install roofing per manufacturer requirements and specifications.
85	(N) metal frame painted dark bronze. Shop metalized and primed prior to erection. See structural drawings for more structural information.
92	(N) retaining wall not to exceed 3'-6" above grade within front yard setback
93	New retaining wall & foundation design per structural plans. See structural drawings for more information.
101	7/8" Dark smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
109	Retaining wall also act as a fence
143	(N) Velux skylight w/ non-reflective glass and automatic sun shade (typ.) UL Listing E82681. See Title 24 report for additional information. See manufacturer specification A6.13 for more information
152	Steel handrail @ 36" above FF, metalized & painted dark bronze. Provide 1.5" dia. top rail with 3/8" dia. solid stock parallel railings @ 4" O.C. max. Contractor to provide shop drawings to architect prior to order and installation.
155	Steel guardrail @ 42" above F.S., metalized & painted dark bronze. Contractor to provide shop drawings to architect prior to order and installation.
169	Gate for pedestrian entry not to exceed 3'6" above grade
170	Gate for vehicles entry not to exceed 3'6" above grade
304	Ortal 170 gas only fireplace. ANSI Z21.88/CSA 2.33-2018 See fireplace reports and specification on sheet A6.12 for more information. Any installed gas fireplace shall be a direct vent-sealed combustion type.[CGC 4.503.1]
305	V-Ditch, see civil engineering plan for more information.
400	Landscape planters - see landscape plan for addtional information

Site Plan Notes

1. For additional information on grading and drainage, see civil engineering plans and sewer realignment plans prepared by:
   Civilscapes Engineering, Inc.
   28052 Camino Capistrano, Suite 213
   Laguna Niguel, CA 92677
   9494648115
   will@civilscapes.com
2. See all landscape & hardscape improvement plans prepared by:
   M.D. Wilkes Design and Counsulting
   690 Thalia St.
   Laguna beach, CA 92651
   wilkesdrb@hotmail.com
   949 637 1050
3. For additional information on existing site conditions and elevations, see site survey plans prepared by:
   G & G Engineering, Inc.
   Andrew Grechuta
   1251 N. Manassero St., Ste. 402
   Anaheim, CA 92807
   714 970 7220
   info@mygng.com
4. The ground plane elevations, where indicated on this architectural site plan are for general site plan are for general reference only. For detailed elevation and drainage information refer to the grading and drainage plan prepared by civil engineering. The grading and drainage plan supersedes the architectural site plan.
5. The discharge of pollutants to any storm drainage system is prohibited. No solid waste, petroleum byproducts, soil particulate, construction waste materials, or wastewater generated on construction sites or by construction activities shall be placed, conveyed or discharged into the street, gutter or storm drain system.
6. Contractor to verify existing roof height, roof slope, and plate height. Notify architect of any discrepencies. New roof to match existing.
7. Slope all flatwork within 5' of structure 2% away from structure. All flatwork to have min 1/2% slope.
8. Lot shall be graded to drain surface water away from foundation walls. The grade shall fall a minimum of 6" within the first 10' where applicable.
9. New utilities and communication lines to be under grounded to the nearest existing utility location
10. See Roof Plan for specific information related to roof configuration, slope, material, etc.
11. Contractor shall notify adjacent property owners by certified mail 10 days prior to starting the shoring or excavation work.
12. Skylights, where occur, shall be installed per manufacturer recommendations and specifications.
17. Outdoor barbeques and grills to comply with the following:
   a) All exterior flame producing devices, structures or equipment shall be gas burning only.
   b) Such devices, structures or equipment shall not be used for the disposal of rubbish, trash or combustible materials.
   c) Such devices, structures or equipment shall be located per the manufactures recommendations relating to the separation from any combustible structure.
   d) Properties shall not be permitted to have such devices, structures or equipment within 10' of all non-fire-resistive vegetation or undeveloped wildland.

PLANNING INFORMATION

Zone:
125-E4-20000 "Small Estates"

Lot Area:
20,095 SF

APN:
502-071-12

Legal Description:
PARCEL 1:

THAT PORTION OF LOT C OF TRACT NO. 61, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 10, PAGE 5 MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTHEASTERLY LINE OF SAID LOT C, NORTH 32°12'30" WEST, 128.05 FEET FROM THE SOUTHEASTERLY TERMINUS OF THAT CERTAIN COURSE ON SAID NORTHEASTERLY LINE SHOWN AS "COURSE 51, NORTH 32°12'30" WEST 152.65 MEAS." ON A MAP OF SURVEY; RECORDED IN BOOK 23 PAGE 50, RECORD OF SURVEY, IN THE OFFICE OF THE COUNTY RECORDER OF SAID ORANGE COUNTY; THENCE ALONG SAID NORTHEASTERLY LINE, NORTH 32°12'30" WEST, 24.60 FEET, AND NORTH 15°16'15" WEST, 37.40 FEET; THENCE, SOUTH 74°43'45" WEST, 115.00 FEET; THENCE, SOUTH 46°01'30" WEST, 127.36 FEET; THENCE, SOUTH 43°58'30" EAST, 15.46 FEET TO THE BEGINNING OF A TANGENT CURVE, CONCAVE NORTHEASTERLY HAVING A RADIUS OF 1260.00 FEET; THENCE SOUTHEASTERLY, 115.14 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF, 5°14'09" TO A POINT TO WHICH A RADIAL LINE BEARS, SOUTH 40°47'21" WEST; THENCE NORTH 40°47'21" EAST, 200.84 FEET TO THE POINT OF BEGINNING.

EXCEPT THAT PORTION THEREOF INCLUDED WITHIN THE RIGHT OF WAY OF SKYLINE DRIVE.

PARCEL 2:

AN EASEMENT FOR ROAD PURPOSES AND UTILITY PURPOSES OVER A STRIP OF LAND 20.00 FEET IN WIDTH LYING 20.00 FEET NORTHEASTERLY (MEASURED RADIALLY), OF THE FOLLOWING DESCRIBED LINE:

BEGINNING AT THE NORTHEASTERLY TERMINUS OF THE CENTER LINE OF THAT CERTAIN 40.00 FOOT WIDE STRIP OF LAND DESCRIBED IN THE DEAD OF THE COUNTY OF ORANGE, RECORDED DECEMBER 8, 1959 IN BOOK 5005, PAGE 300, OFFICIAL RECORDS, SAID POINT BEING ON THE ARC OF A CURVE, CONCAVE NORTHEASTERLY, AND HAVING A RADIUS OF 1260.00 FEET (A RADIAL THROUGH SAID POINT BEARS SOUTH 37° 03'30" WEST); THENCE NORTHWESTERLY, 80.22 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 3°38'51" TO A POINT THROUGH WHICH A RADIAL BEARS, SOUTH 40°47'21" WEST, SAID POINT BEING THE MOST SOUTHERLY CORNER OF THE HEREIN ABOVE DESCRIBED PARCEL I.

Legend:

(box)	Area of flat roof
(box)	Area of new roof
(box)	Solar Panel

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LICENSED ARCHITECT
E. ANDERS LASATER
C-30374
REN. 01/ 31/ 2023
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

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New Site Plan

A1.1

ATTACHMENT 1

OCFA Fire Master Plan Notes (1-1-17)

All of the notes listed in the INSPECTION REQUIREMENTS and GENERAL REQUIREMENTS sections shall be placed, verbatim, on the plan under the heading "FIRE AUTHORITY NOTES." Include individual notes, as applicable, from the PROJECT-SPECIFIC REQUIREMENTS section.

INSPECTION REQUIREMENTS

1. OCFA site inspections are required for this project. Please schedule all field inspections at least 48 hours in advance. Inspections canceled after 1 p.m. on the day before the scheduled date will be subject to a re-inspection fee. Call OCFA Inspection Scheduling at (714) 573-6150.
2. A lumber drop inspection shall be performed prior to bringing combustible materials (or combustible fixtures and finishes for structures of non-combustible construction). All-weather access roads capable of supporting 94,000 lbs., topped with asphalt, concrete, or equivalent shall be in place and hydrants operational at time of lumber drop inspection.
3. For projects with fuel modification, a vegetation clearance inspection is required prior to a lumber drop inspection. Use the fuel modification plan service request number to schedule the vegetation clearance inspection.
4. Phased installation of fire access roads requires additional inspections not covered by the fees paid at plan submittal. Contact Inspection Scheduling to arrange for additional inspections that may be needed and any fees that may be due.
5. An original approved, signed, wet-stamped OCFA fire master plan shall be available on-site at time of inspection.
6. Access roads and hydrants shall be maintained and remain clear of obstructions at all times during and after construction. Areas where parking is not permitted shall be clearly identified at all times. Obstruction of fire lanes and hydrants may result in cancellation or suspension of inspections.
7. Temporary fuel tanks of 60 or more gallons shall be reviewed, inspected, and permitted by the OCFA prior to use.
8. The project address shall be clearly posted and visible from the public road during construction.
9. All gates in construction fencing shall be equipped with either a lock or breakaway padlock.
10. Buildings of four or more stories shall be provided with stairs and a standpipe before reaching 40 feet in height.

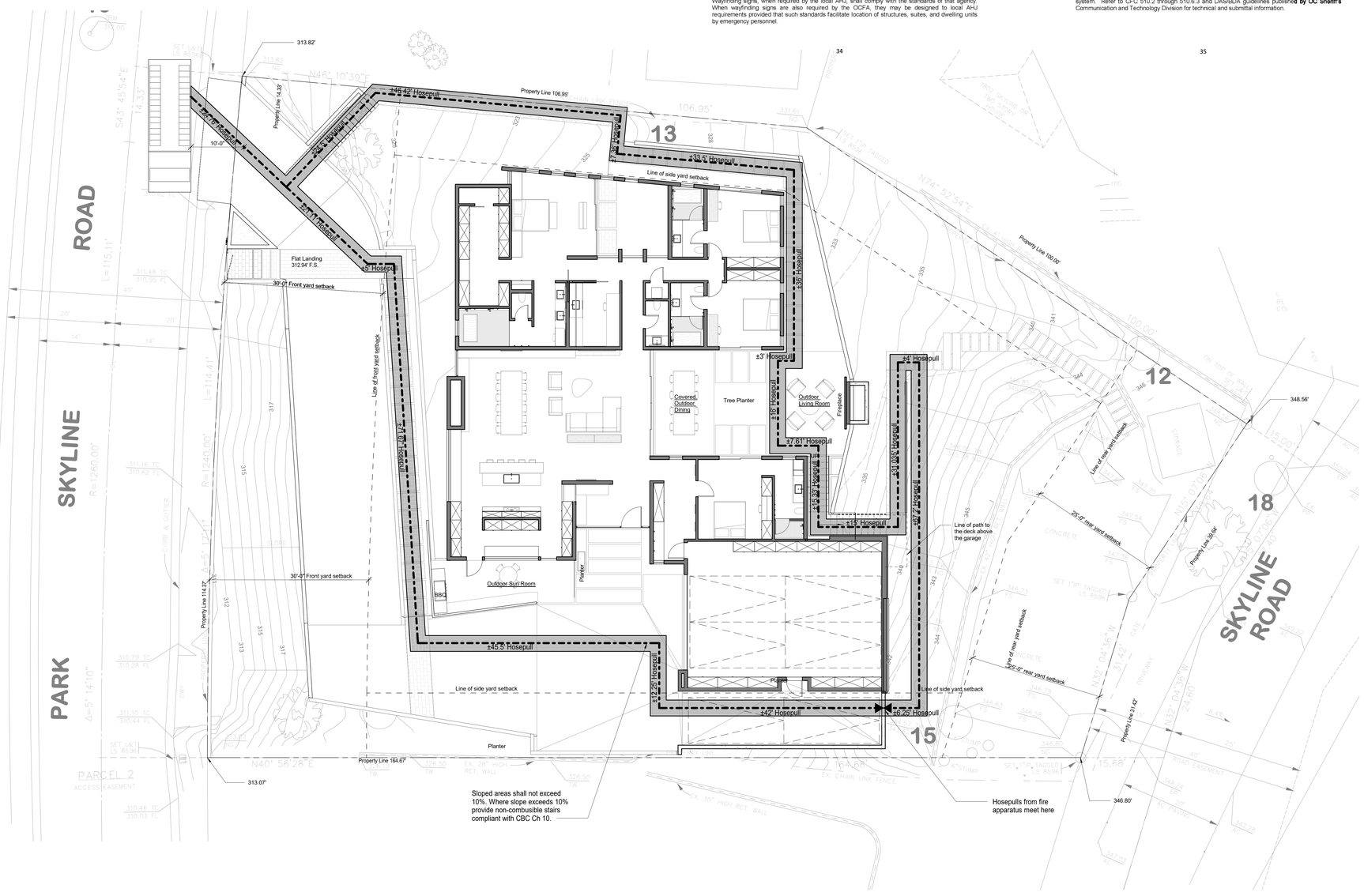
GENERAL REQUIREMENTS

11. Fire lane widths shall be measured from top face of the curb to top face of the curb for fire lanes with standard curbs and gutters and from flow-line to flow-line for fire lanes with modified curb designs (e.g., rolled, ramped, etc.). The developer is responsible to verify that all approved public works or grading department street improvement plans or precise grading plans conform to the minimum street width measurements per the approved OCFA fire master plan and standards identified in OCFA Guideline B-09 for all portions of the fire access roads.
12. Permanent, temporary, and phased emergency access roads shall be designed and maintained to support an imposed load of 94,000 lbs. and surfaced to provide all-weather driving capabilities.
13. Fire lane signs and red curbs shall meet the specifications shown in OCFA Guideline B-09 and shall be installed as described therein. Additional fire lane markings may be required at the time of inspection depending on field conditions.
14. **All fire hydrants shall have a "Blue Reflective Pavement Marker" indicating their location per the** OCFA standard. On private property markers are to be maintained in good condition by the property owner.
15. Address numbers shall be located and be of a color and size so as to be plainly visible and legible from the roadway from which the building is addressed in accordance with OCFA Guideline B-09. Wayfinding signs, when required by the local AHJ, shall comply with the standards of that agency. When wayfinding signs are also required by the OCFA, they may be designed to local AHJ requirements provided that such standards facilitate location of structures, suites, and dwelling units by emergency personnel.

16. Access gates shall be approved prior to installation and shall be in compliance with Chapter 5 of the CFC and OCFA guidelines.
17. Approved access walkways shall be provided to all required openings and all rescue windows.
18. Vegetation shall be selected and maintained in such a manner as to allow immediate access to all hydrants, valves, fire department connections, pull stations, extinguishers, sprinkler risers, alarm control panels, rescue windows, and other devices or areas used for firefighting purposes. Vegetation or building features shall not obstruct address numbers or inhibit the functioning of alarm bells, horns, or strobes.
19. Dumpsters and trash containers larger than 1.5 cubic yards shall not be stored in buildings or placed within 5 feet of combustible walls, openings or combustible roof eave lines unless protected by an approved sprinkler system.
20. Any future modification to the approved Fire Master Plan or approved site plan, including but not limited to road width, grade, speed humps, turning radii, gates or other obstructions, shall require review, inspection, and approval by the OCFA.
21. Approval of this plan shall not be construed as approval of any information or project conditions other than those items and requirements identified in OCFA Guideline B-09 and related portions of the 2016 CFC and CBC. This project may be subject to additional requirements not stated herein upon examination of actual site and project conditions or disclosure of additional information.

PROJECT-SPECIFIC REQUIREMENTS (Include only those notes that are applicable to the project as designed; some notes may need to be modified to address specific project conditions)

22. An underground piping plan is required for the installation of an automatic fire sprinkler system or for a private fire hydrant system. A separate plan submittal is required.
23. An architectural plan is required to be submitted to the OCFA for review and approval for projects containing A, C, E, F, H, I, L, and R-4 occupancies. A plan may also be required for R-1 and R-2 occupancies over two stories or those utilizing sprinklers or fire walls to increase the maximum building size allowed—see OCFA Info Bulletin 02-13.
24. A chemical classification and hazardous materials compliance plan shall be approved by the OCFA prior to any hazardous materials being stored or used on site. A separate plan submittal is required.
25. Buildings used for high-piled storage shall comply with CFC requirements. A separate plan submittal is required if materials will be stored higher than 12 feet for lower-hazard commodities, or higher than six feet for high-hazard commodities such as plastics, rubber, flammable/combustible liquids, tires, carpet, etc.
26. An automatic fire sprinkler system shall be installed in accordance with applicable codes and local ordinances, amendments, and guidelines. Sprinkler systems, other than those listed in CFC 903.4, shall be monitored by an approved central station. Separate plan submittals for the sprinkler and monitoring systems are required.
27. Buildings containing industrial refrigeration systems shall comply with CFC requirements. A separate plan submittal is required if refrigerant quantities exceed thresholds.
28. A fire alarm system shall be installed in accordance with applicable codes and local ordinances, amendments, and guidelines. A separate plan submittal is required.
29. Structures located in a Fire Hazard Severity Zone or Wildland-Urban Interface area are subject to the construction requirements prescribed in Chapter 7A of the 2016 CBC and/or Section 337 of the 2016 CRC. Construction materials/methods are reviewed and inspected by the Building Department.
30. One or more structures shown on this plan are located adjacent to a fuel modification area. Changes to the fuel modification zone landscaping, new structures, or addition/alteration to existing structures requires review and approval by the OCFA.
31. Projects located in State Responsibility Areas and in Local Responsibility Area VHFHSZ shall also comply with all applicable requirements from Title 14, Div. 1.5, Ch. 7, SubCh. 2 "**SRA** Fire Safe Regulations" and Guideline B-09a.
32. Structures meeting the criteria in CFC 510.1 shall be provided with an emergency responder radio system. Refer to CFC 510.2 through 510.6.3 and DAS/BDA guidelines publish**ed by OC Sheriff's** Communication and Technology Division for technical and submittal information.



1 Fire Access Plan
1/8" = 1'-0"

magnetic north
project north

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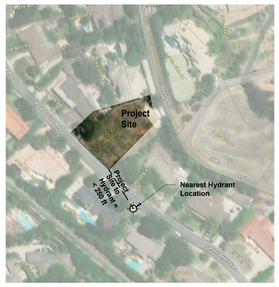
384 FOREST AVENUE, SUITE 12

LAGUNA BEACH, CA 92651

949 497 1827

Keynotes

Hydrant Location Map



Fire Access Plan Notes

1. A separate (deferred) submittal for fire sprinklers is required. System design must comply with the 2019 CFC and 2019 NFPA 13d standard. Plans must be designed and installed by a qualified Fire Protection Contractor. Plans shall be submitted to and approved by the OCFA, with permit issued and appropriate inspections conducted.

2. All exterior fire places and fire pits must be gas fired ONLY. No solid fuel is allowed per the OCFA municipal code. Fire places and fire pits must be a minimum of 10' from combustible vegetation.

3. Maintain jobsite safety during constructino as per Chapter 33 of 2019 California Fire Code.

4. Complete firefighter access around the building is required. See this sheet for details. This is subject to final fire inspection and required approval prior to occupancy.

5. Address numbers must be placed on the exterior facing the street addressed to. Minimum size of numbers is 4", and they must contrast with the background.

6. For Fire Department inspections, call (714) 573 6150 at least 2 to 5 days in advance to schedule.The following information will be needed when calling in for inspetion:

- OCFA Service Request Number for the plan that the inspection is based on
- A contact name and number for the person who will be meeting the inspector at the job site
- The building or suite number that will be included in the inspection if the plan covers more than one building
- The scope of the inspection if it will not be the entire scope of the project shown on the approved plan
- The number of devices that will be inspected: for sprinkler plans, the number of sprinkler heads; for alarm plans, the number of pull stations, smoke detectors, and/or strobes
- If scheduling a reinspection because of a cancellation, failed inspection, or phased inspection, have a credit card available to pay the reinspection fee.
- Final fire sprinkler inspections for plan types PR430 and PR435 will no longer require the contractor to be present during the inspection provided approved plans and job card are on site in a location readily accessible to the inspector. For all other plans types, the installing contractor or knowledgeable representative shall be present.
- If you need to cancel an inspection, you must notify Inspection Scheduling at 714-573-6150 no later than 1 p.m. on an OCFA business day prior to your scheduled inspection.

7. Fire apparatus road shall have an unobstructed width of 20 feet and an unobstructed vertical clearance of 13'-6".

8. Fuel Mod and/ or Fire apparatus access roads shall be provided prior to start of construction and/ or lumber deliveries. CFC 504.1
- Fuel Mod NOT required for this project

9. Access to building openings and roof openings required by the 2019 CFC shall be accessible for emergency access, provide a 3 foot all weather access around structure, maximum slope shall not exceed 10% without stairs. CFC 504.1

10. Sloped areas in excess of 10% shall have non-combustible stairs compliant with requirements outlined in CBC chapter 10.

11. Fire flow requirements shall be determined by 2019 CFC Appendix B and comply with specific flow to be completed by water district.

12. Fire hydrant systems and spacing shall comply with 2019 CFC Appendix C to be completed by water district. Maximum distance from frontage to hydrant 250 ". CFC 508.5

13. Farthest point of building shall not be > 150 feet from fire aparatus access road. CFC 503.1.1

14. Approved signs or other approved notices shall be provided for fire apparatus access roads to prohibit the obstruction thereof.

15. Not shelter in place. Evacuate if threatened or requested to.

16. Fire apparatus access roads shall be designed to support the imposed loads of fire apparatus (74,000 lbs) and shall be surfaced to provide all weather driving capabilities per CFC 503.2.

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Fire Access Plan

A1.2

1 Main Floor Plan
1/4" = 1'-0"

Keynotes

81	Provide 5/8" type "X" gyp. bd. over 2x furring at garage retaining walls.
82	Fire retardant treated wood siding - verify color & finish with architect
88	Decorated wall/ wood wall
91	Exterior wall with R-21 wall insulation per T-24 Energy Report see T24-1 to T24-2 for more information.
93	New retaining wall & foundation design per structural plans. See structural drawings for more information.
95	Garage shall be separated from the dwelling unit by a vertical wall from the slab through the attic to the roof sheathing with 1 layer of 5/8" Type "X" gypsum board on the garage side - min. (Table R302.6)
98	Interior wall with R-19 wall insulation per T-24 Energy Report see T24-1 to T24-2 for more information.
100	7/8" Light smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
101	7/8" Dark smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
131	Garage door shall be 1 3/8" solid core or min 20 minute fire rated door and self-closing and self latching in sprinkler and non-sprinklered dwellings.
152	Steel handrail @ 36" above FF, metalized & painted dark bronze. Provide 1.5" dia. top rail with 3/8" dia. solid stock parallel railings @ 4" O.C. max. Contractor to provide shop drawings to architect prior to order and installation.
196	Provide power for lighted mirror. See lighting plan for more information.
220	FAU - duct path will go within the roof package
304	Ortal 170 gas only fireplace. ANSI Z21.88/CSA 2.33-2018 See fireplace reports and specification on sheet A6.12 for more information. Any installed gas fireplace shall be a direct vent-sealed combustion type.[CGC 4.503.1]
323	Any installed gas fireplace shall be a direct vent-sealed combustion type.[CGC 4.503.1] Fireplace shall be gas burning, direct vent with sealed combustion chamer. See the fireplace ANSI report and fireplace specification on A6.12. See seperate permit submittal for outdoor gas only fireplace.
336	Linear shower Drain
337	Curbless shower
339	Shower bar with hand held/ Shower head per owner see plumbing notes on A7.1 for additional information.
341	Pony wall
344	Mirror
345	Barn door with Mirror for safe room
500	Downdraft hood

FLOOR PLAN NOTES

1. See Dimension Floor Plans for wall layout dimensions.
2. See Door and Window schedules on A4.1, A4.2 and Title 24 energy report for additional door and window information.
3. See detail 1/A6.6 for additional concrete slab waterproofing information.
4. Provide shadow base detail @ all walls per detail 4/A6.6.
5. Provide screed 2" above FS. Follow angle of steps where occurs. See detail 3/A6.6 for additional information.
6. Provide min. 5/8" drywall at ceiling between garage and habitable space per table R302.6.
7. See Soil Report Recommendations on A0.7 and A0.8 in this plan set and see full soil report in a separate attachment for additional information.

Floor Legend

- Stone Floor
- Concrete Floor
- Tile Floor
- Gravel
- Planter Soil
- 28' minimum unobstructed maneuvering area clearance
- Backup areas for automobile from the garage

Wall Legend

- New low wall/ Wall below
- New 2x4 wall. Framing per structural & Insulation per T-24 Energy Report.
- New 2x6 wall. Framing per structural & Insulation per T-24 Energy Report.
- New furring wall. Framing per structural & Insulation per T-24 Energy Report.
- New retaining wall . Framing per structural.
- 1Hour fire rated wall. Framing per structural & Insulation per T-24 Energy Report.

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ANDERS LASATER
C-50374
REN. 01.31.2020
STATE OF CALIFORNIA

Wong Residence

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Santa Ana, CA 92705

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Main Floor Plan

A2.1

1 Main Floor Dimension Plan

1/4" = 1'-0"

magnetic north

project north

Note: All dimensions are dimensioned to finish materials u.n.o.

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C-30374
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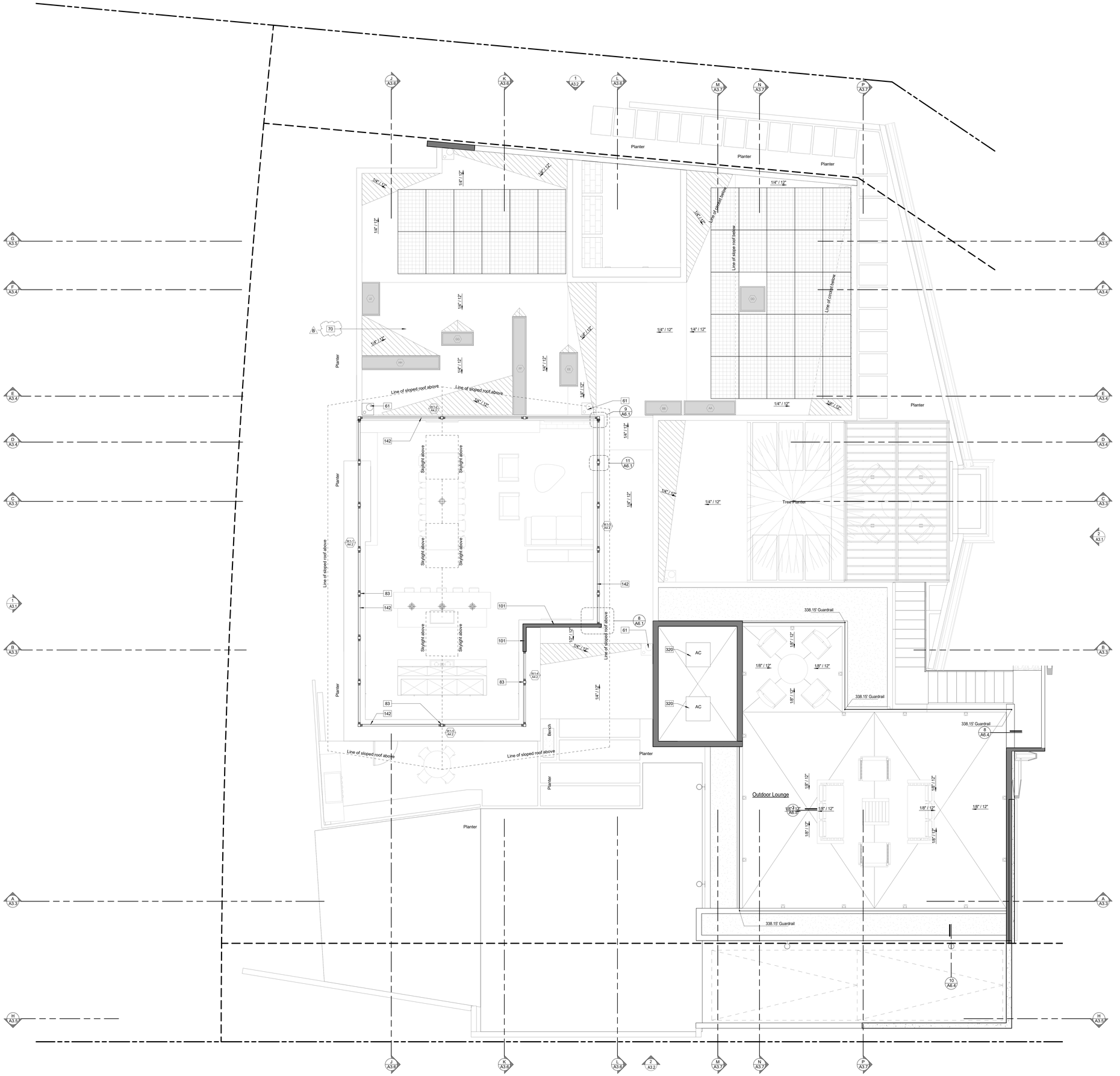
Main Floor Dimension Plan

A2.2



1 Clerestory Windows Plan

1/4" = 1'-0"

Keynotes

61	Roof drain with overflow per specs
83	Column per structural plans. Columns to be metalized, primed and painted dark bronze
101	7/8" Dark smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
142	Clerestory windows
320	AC compressors with 3'-6" high AC enclosure screen on a 3" min. concrete base pad - AC compressors to have 2 forms of sound attenuation; (1) Base isolator and (2) sound attenuation blanket. Means for disconnecting the electrical supply to the air-conditioning appliance shall be provided within sight of and not over 50 feet from the air conditioner. [CMC 903.7]

FLOOR PLAN NOTES

1. See Dimension Floor Plans for wall layout dimensions.
2. See Door and Window schedules on A4.1, A4.2 and Title 24 energy report for additional door and window information.
3. See detail 1/A6.6 for additional concrete slab waterproofing information.
4. Provide shadow base detail @ all walls per detail 4/A6.6.
5. Provide screed 2" above FS. Follow angle of steps where occurs. See detail 3/A6.6 for additional information.
6. Provide min. 5/8" drywall at ceiling between garage and habitable space per table R302.6.
7. See Soil Report Recommendations on A0.7 and A0.8 in this plan set and see full soil report in a separate attachment for additional information.

Floor Legend

- Stone Floor
- Concrete Floor
- Tile Floor
- Gravel
- Planter Soil
- 28' minimum unobstructed maneuvering area clearance
- Backup areas for automobile from the garage

Wall Legend

- New low wall/ Wall below
- New 2x4 wall. Framing per structural & Insulation per T-24 Energy Report.
- New 2x6 wall. Framing per structural & Insulation per T-24 Energy Report.
- New furring wall. Framing per structural & Insulation per T-24 Energy Report.
- New retaining wall . Framing per structural.
- 1Hour fire rated wall. Framing per structural & Insulation per T-24 Energy Report.

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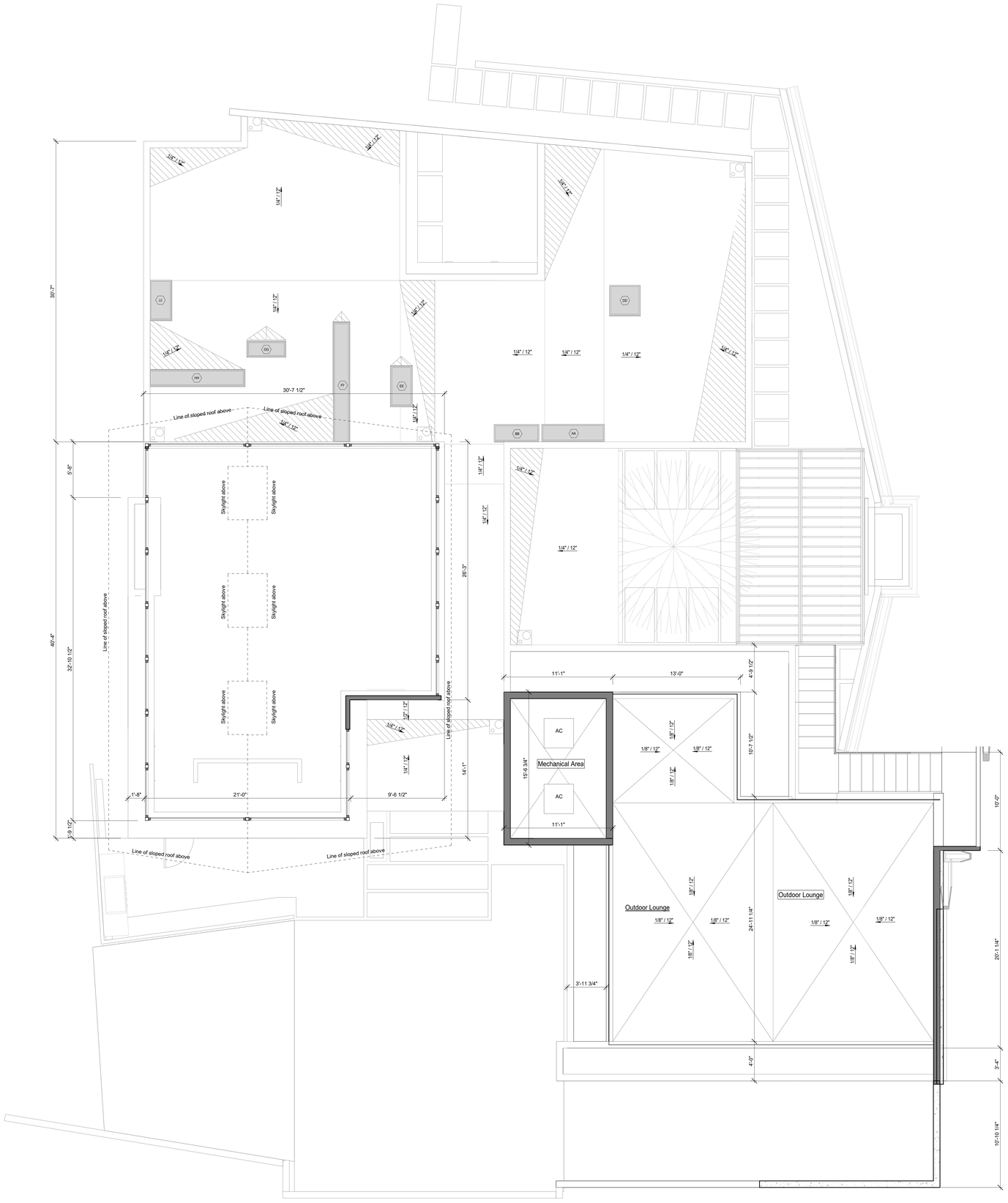
Clerestory Windows Plan

A2.3



1 Clerestory Windows Dimension Plan
1/4" = 1'-0"

Note: All dimensions are dimensioned to finish materials u.n.o.

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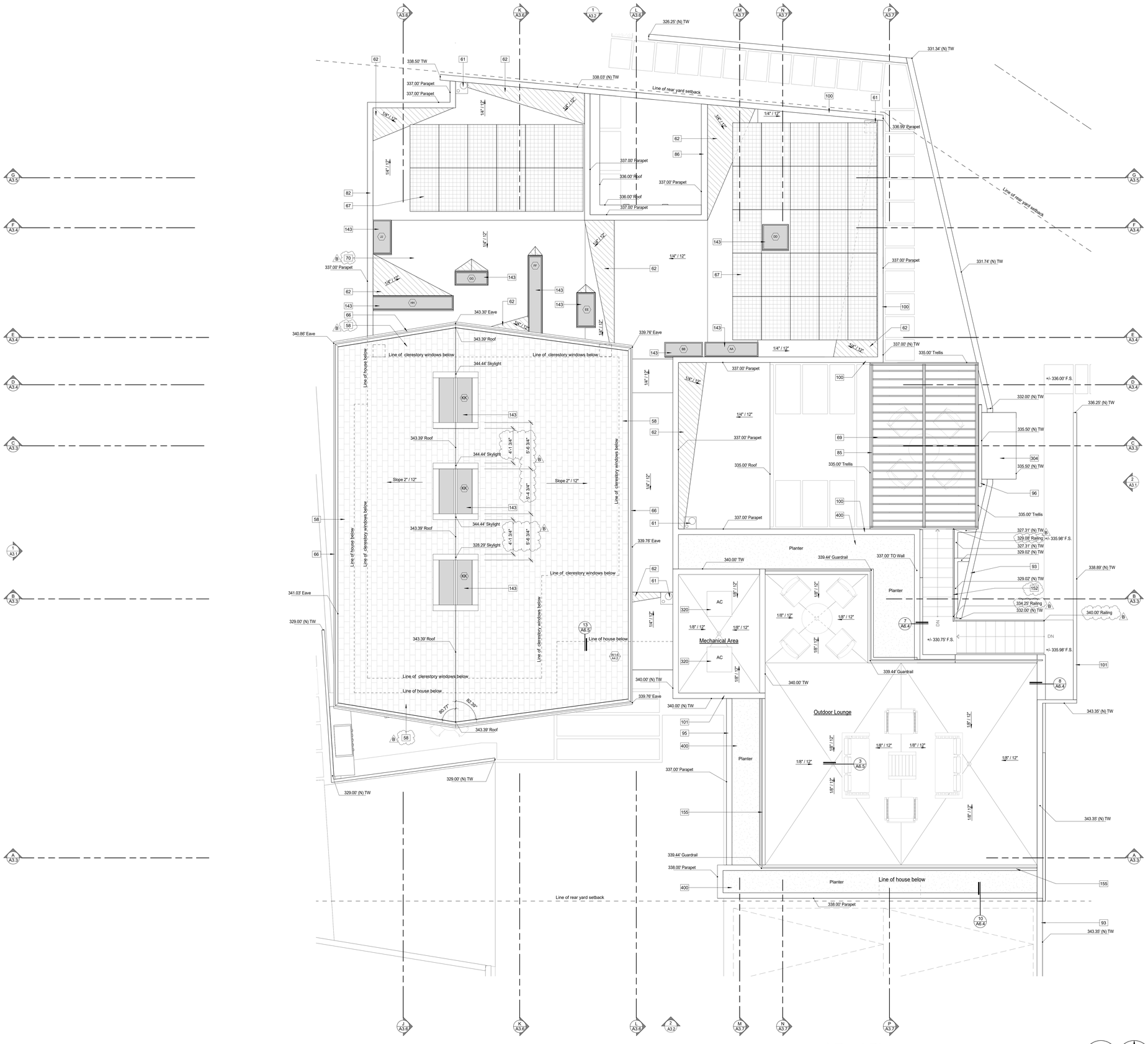
Clerestory Windows Dimension Plan

A2.4



1 Roof Plan
1/4" = 1'-0"

Keynotes

58	Composition shingles roof from GAF Timberline Cool Series "Antique Slate" with 0.26 solar reflectance and 0.91 thermal emittance on all the sloped roof area. Provide min. R-30 + R-5 insulation @ all roofs except the roof above the garage. See Title 24 report T24-1 to T24-2 for more information.
61	Roof drain with overflow per specs
62	Cricket - slope to drain 1/4"/ft min.
66	Roof gutter painted dark bronze to match roof fascia. Gutter recess into the roof fascia.
67	Potential solar panels. Provide SC325 or sim. solar panels by SolarCity.
69	(N) 2x fire retardant treated wood trellis painted dark bronze
70	Roofing at flat areas to be TPO roofing system from GAF EverGuard Extreme&® TPO (Energy Gray) with 0.66 solar reflectance and 0.89 thermal emittance Ductings will be below the structural framing where occurs. Install roofing per manufacturer requirements and specifications.
82	Fire retardant treated wood siding - verify color & finish with architect
85	(N) metal frame painted dark bronze. Shop metalized and primed prior to erection. See structural drawings for more structural information.
86	Parapet
93	New retaining wall & foundation design per structural plans. See structural drawings for more information.
95	Garage shall be separated from the dwelling unit by a vertical wall from the slab through the attic to the roof sheathing with 1 layer of 5/8" Type "X" gypsum board on the garage side - min. (Table R302.6)
96	Stone wall
100	7/8" Light smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
101	7/8" Dark smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
143	(N) Velux skylight w/ non-reflective glass and automatic sun shade (typ.) UL Listing E82581. See Title 24 report for additional information. See manufacturer specification A6.13 for more information
152	Steel handrail @ 36" above FF, metalized & painted dark bronze. Provide 1.5" dia. top rail with 3/8" dia. solid stock parallel railings @ 4" O.C. max. Contractor to provide shop drawings to architect prior to order and installation.
155	Steel guardrail @ 42" above F.S., metalized & painted dark bronze. Contractor to provide shop drawings to architect prior to order and installation.
304	Ortal 170 gas only fireplace. ANSI Z21.88/CSA 2.33-2018 See fireplace reports and specification on sheet A6.12 for more information. Any installed gas fireplace shall be a direct vent-sealed combustion type.[CGC 4.503.1]
320	AC compressors with 3'-6" high AC enclosure screen on a 3" min. concrete base pad - AC compressors to have 2 forms of sound attenuation; (1) Base isolator and (2) sound attenuation blanket. Means for disconnecting the electrical supply to the air-conditioning appliance shall be provided within sight of and not over 50 feet from the air conditioner. [CMC 903.7]
400	Landscape planters - see landscape plan for addtional information

ROOF PLAN NOTES

1. Composition shingles roof from GAF Timberline Cool Series "Antique Slate" with 0.26 solar reflectance and 0.91 thermal emittance on all the sloped roof area. Provide min. R-30 + R-5 insulation @ all roofs except the roof above the garage. See Title 24 report T24-1 to T24-2 for more information.

2. Roofing at flat areas to be TPO roofing system from GAF EverGuard Extreme® TPO (Energy Gray) with 0.66 solar reflectance and 0.89 thermal emittance Ductings will be below the structural framing where occurs. Install roofing per manufacturer requirements and specifications.

Roof Legend:

- Slate Roof
- Solar-Panels
- Flat Roof
- Circket - slope to drain 1/4"/ft min.
- Planter Soil

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ANDERS LASATER
C-30374
REGISTERED
STATE OF CALIFORNIA

Wong Residence

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1901 Park Skyline Road,
Santa Ana, CA 92705

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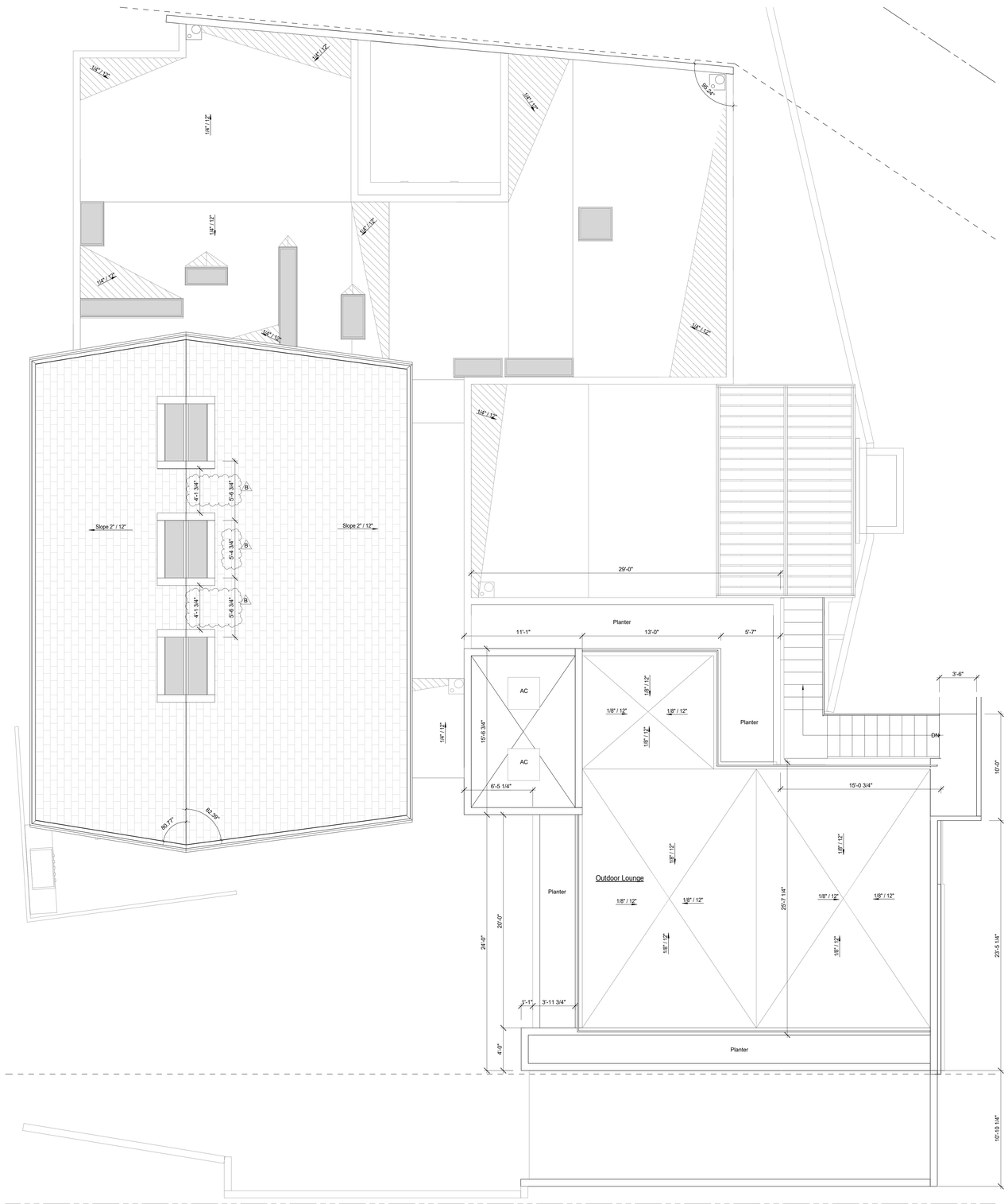
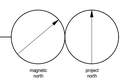
Roof Plan

A2.5



1 Roof Dimension Plan

1/4" = 1'-0"



ROOF PLAN NOTES

1. Composition shingles roof from GAF Timberline Cool Series "Antique Slate" with 0.26 solar reflectance and 0.91 thermal emittance on all the sloped roof area. Provide min. R-30 + R-5 insulation @ all roofs except the roof above the garage. See Title 24 report T24-1 to T24-2 for more information.

2. Roofing at flat areas to be TPO roofing system from GAF EverGuard Extreme® TPO (Energy Gray) with 0.66 solar reflectance and 0.89 thermal emittance Ductings will be below the structural framing where occurs. Install roofing per manufacturer requirements and specifications.

Roof Legend:

- Slate Roof
- Solar-Panels
- Flat Roof
- Circket - slope to drain 1/4"/ft min.
- Planter Soil

Note: All dimensions are dimensioned to finish materials u.n.o.

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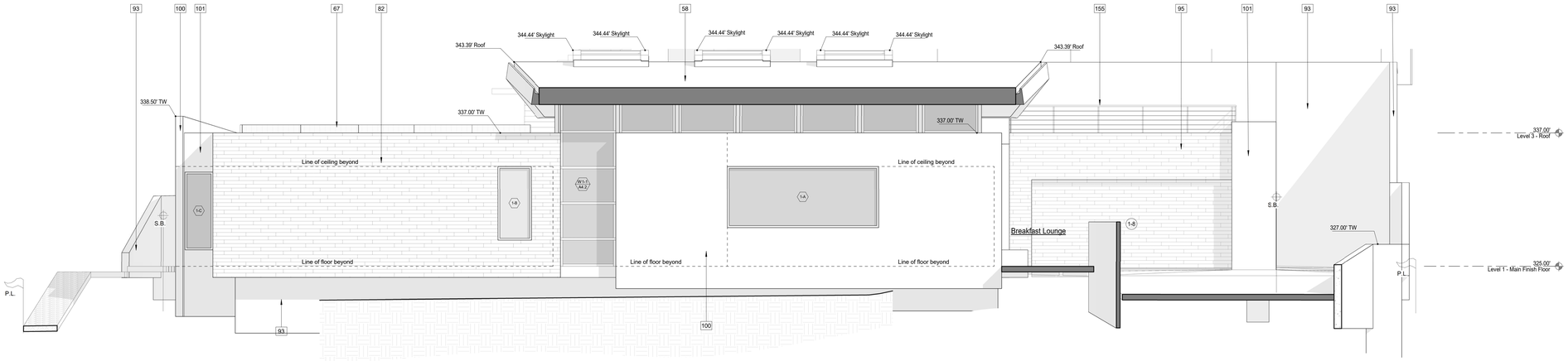
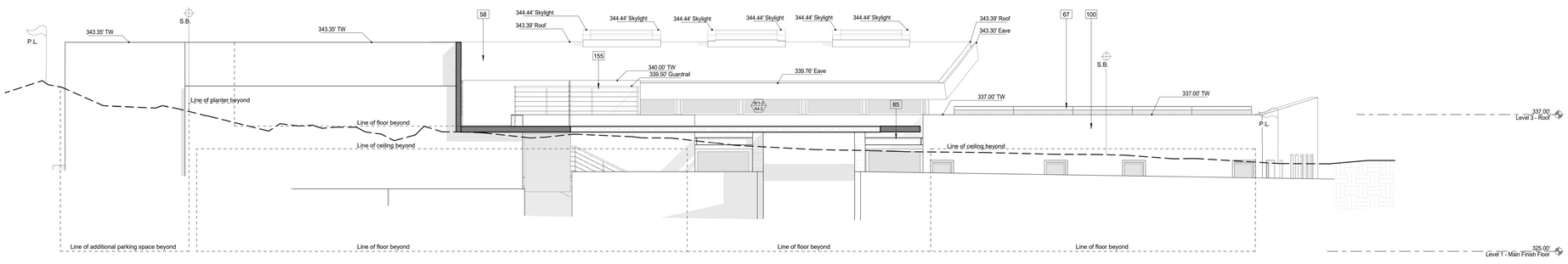
Roof Dimension Plan

A2.6



1 West Elevation

1/4" = 1'-0"



2 East Elevation

1/4" = 1'-0"

Keynotes

58	Composition shingles roof from GAF Timberline Cool Series "Antique Slate" with 0.26 solar reflectance and 0.91 thermal emittance on all the sloped roof area. Provide min. R-30 + R-5 insulation @ all roofs except the roof above the garage. See Title 24 report T24-1 to T24-2 for more information.
67	Potential solar panels. Provide SC325 or sim. solar panels by SolarCity.
82	Fire retardant treated wood siding - verify color & finish with architect
85	(N) metal frame painted dark bronze. Shop metalized and primed prior to erection. See structural drawings for more structural information.
93	New retaining wall & foundation design per structural plans. See structural drawings for more information.
95	Garage shall be separated from the dwelling unit by a vertical wall from the slab through the attic to the roof sheathing with 1 layer of 5/8" Type "X" gypsum board on the garage side - min. (Table R302.6)
100	7/8" Light smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
101	7/8" Dark smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
155	Steel guardrail @ 42" above F.S., metalized & painted dark bronze. Contractor to provide shop drawings to architect prior to order and installation.

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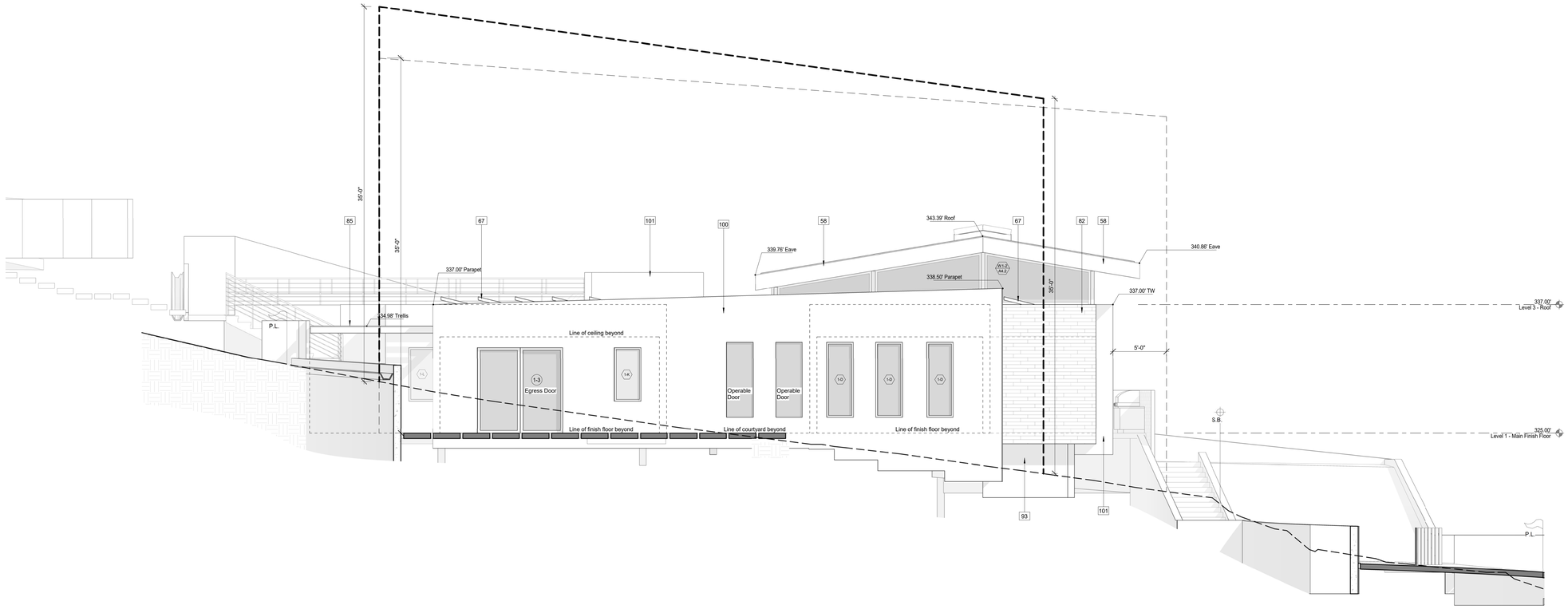
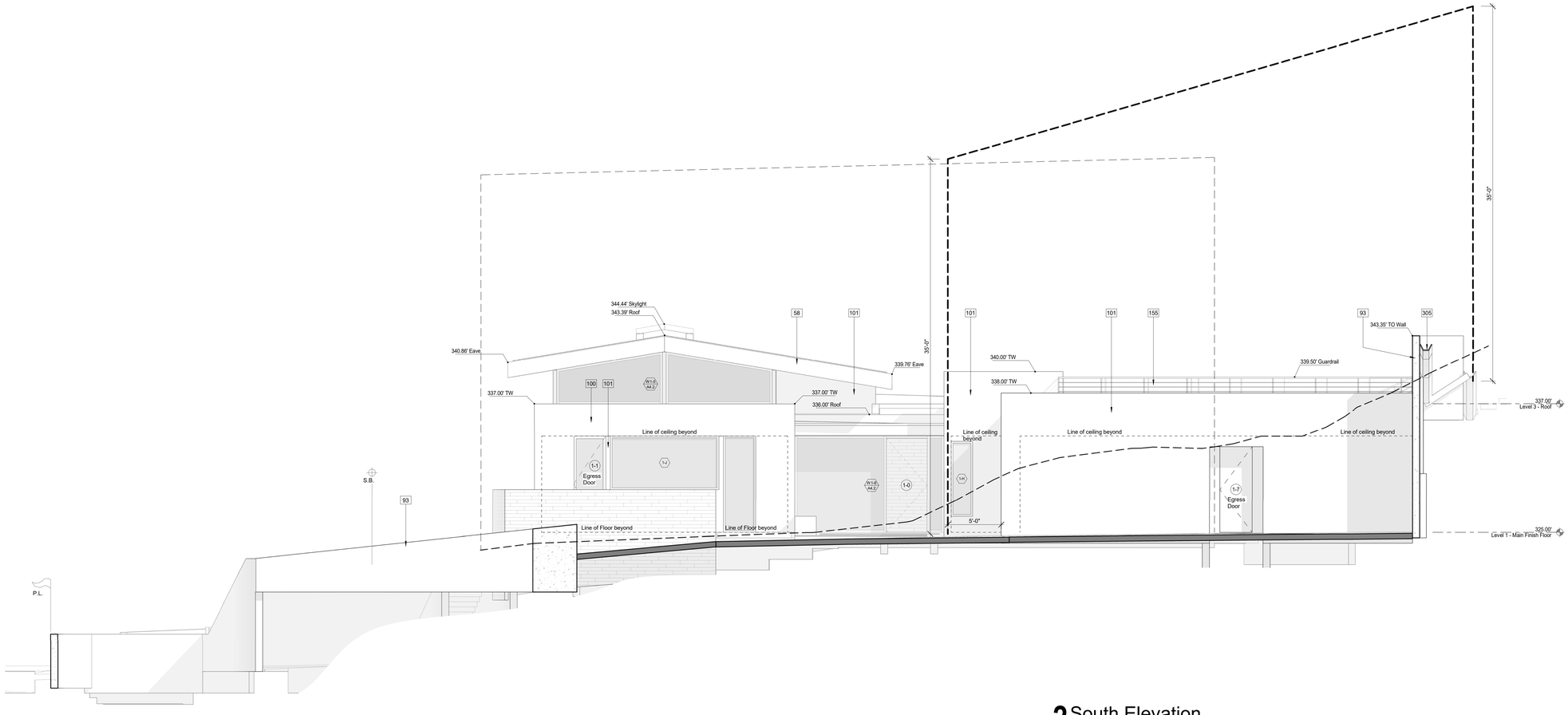
West + East Elevations

A3.1



1 North Elevation

1/4" = 1'-0"



2 South Elevation

1/4" = 1'-0"

Keynotes

58	Composition shingles roof from GAF Timberline Cool Series "Antique Slate" with 0.26 solar reflectance and 0.91 thermal emittance on all the sloped roof area. Provide min. R-30 + R-5 insulation @ all roofs except the roof above the garage. See Title 24 report T24-1 to T24-2 for more information.
67	Potential solar panels. Provide SC325 or sim. solar panels by SolarCity.
82	Fire retardant treated wood siding - verify color & finish with architect
85	(N) metal frame painted dark bronze. Shop metalized and primed prior to erection. See structural drawings for more structural information.
93	New retaining wall & foundation design per structural plans. See structural drawings for more information.
100	7/8" Light smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
101	7/8" Dark smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
155	Steel guardrail @ 42" above F.S., metalized & painted dark bronze. Contractor to provide shop drawings to architect prior to order and installation.
305	V-Ditch, see civil engineering plan for more information.

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LICENSED ARCHITECT
ANDERS LASATER
C-30374
REN. 01 31 2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

- A. 12/10/2020 County PC rev 1
- B. 03/26/2020 County PC rev 2
- C.
- D.
- E.

Issued

- 1. 10/30/2020 - Orange County
- 2.
- 3.
- 4.
- 5.

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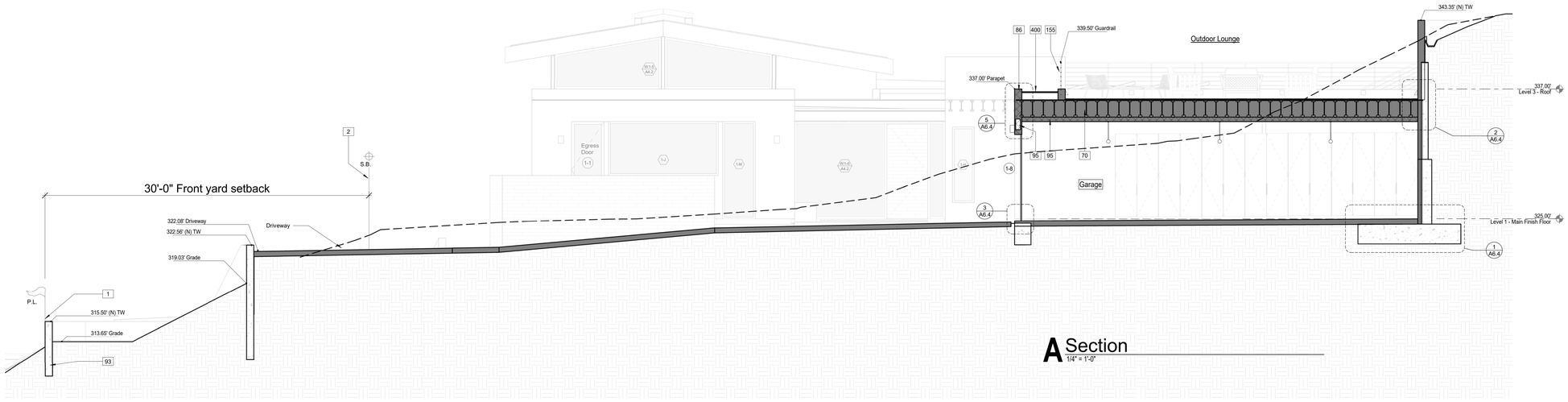
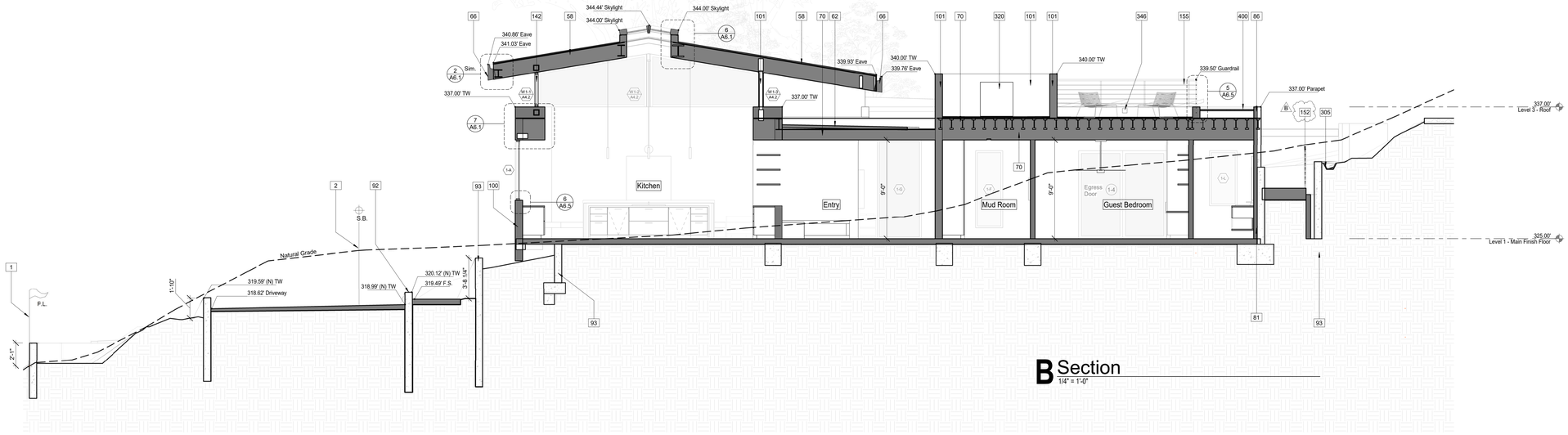
North + South Elevations

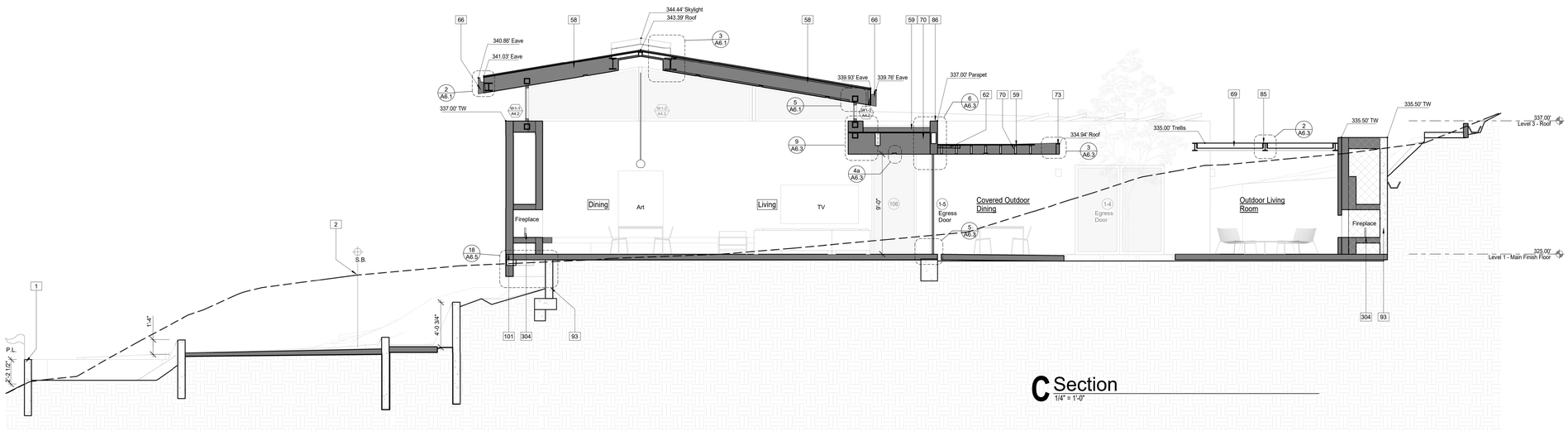
A3.2



A Section
1/4" = 1'-0"



B Section
1/4" = 1'-0"



C Section
1/4" = 1'-0"

Keynotes

1	Property Line
2	Setback line - see site plan A1.1 for setback dimensions
58	Composition shingles roof from GAF Timberline Cool Series "Antique Slate" with 0.26 solar reflectance and 0.91 thermal emittance on all the sloped roof area. Provide min. R-30 + R-5 insulation @ all roofs except the roof above the garage. See Title 24 report T24-1 to T24-2 for more information.
59	Roof will be framed flat with rippers and plywood above for drainage slope.
62	Cricket - slope to drain 1/4"/ft min.
66	Roof gutter painted dark bronze to match roof fascia. Gutter recess into the roof fascia.
69	(N) 2x fire retardent treated wood trellis painted dark bronze
70	Roofing at flat areas to be TPO roofing system from GAF EverGuard ExtremeA6 TPO (Energy Gray) with 0.66 solar reflectance and 0.89 thermal emittance Ductings will be below the structural framing where occurs. Install roofing per manufacturer requirements and specifications.
73	Structure framing per structure engineer
81	Provide 5/8" type "X" gyp. bd. over 2x furring at garage retaining walls.
85	(N) metal frame painted dark bronze. Shop metalized and primed prior to erection. See structural drawings for more structural information.
86	Parapet
92	(N) retaining wall not to exceed 3'-6" above grade within front yard setback
93	New retaining wall & foundation design per structural plans. See structural drawings for more information.
95	Garage shall be separated from the dwelling unit by a vertical wall from the slab through the attic to the roof sheathing with 1 layer of 5/8" Type "X" gypsum board on the garage side - min. (Table R302.6)
100	7/8" Light smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
101	7/8" Dark smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
142	Clerestory windows
152	Steel handrail @ 36" above FF, metalized & painted dark bronze. Provide 1.5" dia. top rail with 3/8" dia. solid stock parallel railings @ 4" O.C. max. Contractor to provide shop drawings to architect prior to order and installation.
155	Steel guardrail @ 42" above F.S., metalized & painted dark bronze. Contractor to provide shop drawings to architect prior to order and installation.
304	Ortal 170 gas only fireplace. ANSI Z21.88/CSA 2.33-2018 See fireplace reports and specification on sheet A6.12 for more information. Any installed gas fireplace shall be a direct vent-sealed combustion type.[CGC 4.503.1]
305	V-Ditch, see civil engineering plan for more information.
320	AC compressors with 3'-6" high AC enclosure screen on a 3" min. concrete base pad - AC compressors to have 2 forms of sound attenuation: (1) Base isolator and (2) sound attenuation blanket. Means for disconnecting the electrical supply to the air-conditioning appliance shall be provided within sight of and not over 50 feet from the air conditioner. [CMC 903.7]
346	Step light
400	Landscape planters - see landscape plan for addtional information

Wall Legend

- New 2x4 wall. Framing per structural & Insulation per T-24 Energy Report.
- New 2x6 wall. Framing per structural & Insulation per T-24 Energy Report.
- New furring wall. Framing per structural & Insulation per T-24 Energy Report.
- New retaining wall & foundation. Framing per structural.
- 1Hour fire rated wall. Framing per structural & Insulation per T-24 Energy Report.

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384 FOREST AVENUE, SUITE 12

LAGUNA BEACH, CA 92651

949 497 1827

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LICENSED ARCHITECT
ANDERS LASATER
C-30374
REN. 01.31.2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

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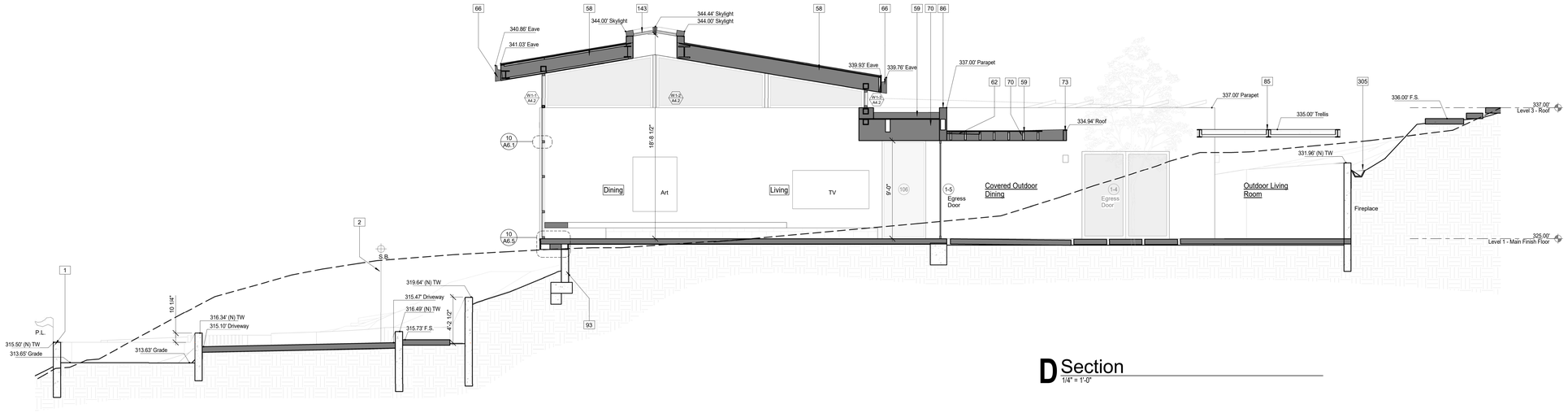
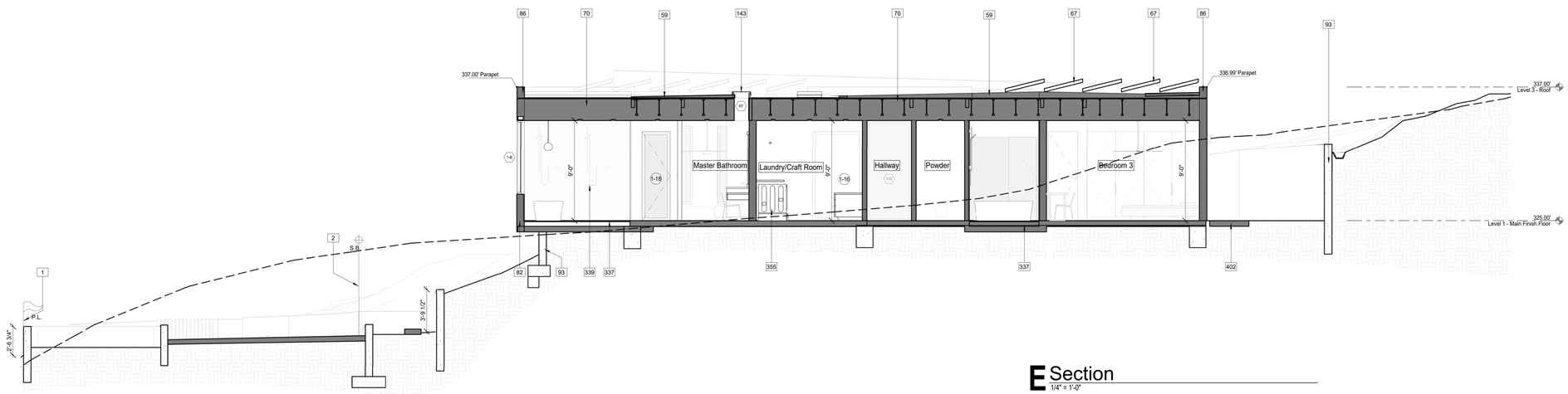
Section A+B+C

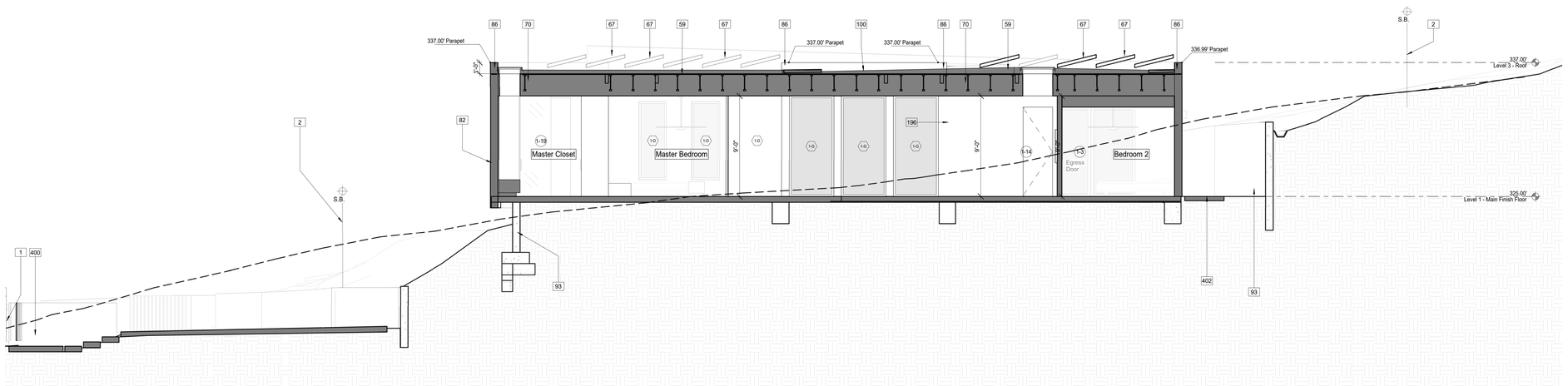
A3.3



D Section
1/4" = 1'-0"



E Section
1/4" = 1'-0"



F Section
1/4" = 1'-0"

Keynotes

1	Property Line
2	Setback line - see site plan A1.1 for setback dimensions
58	Composition shingles roof from GAF Timberline Cool Series "Antique Slate" with 0.26 solar reflectance and 0.91 thermal emittance on all the sloped roof area. Provide min. R-30 + R-5 insulation @ all roofs except the roof above the garage. See Title 24 report T24-1 to T24-2 for more information.
59	Roof will be framed flat with rippers and plywood above for drainage slope.
62	Cricket - slope to drain 1/4"/ft min.
66	Roof gutter painted dark bronze to match roof fascia. Gutter recess into the roof fascia.
67	Potential solar panels. Provide SC325 or sim. solar panels by SolarCity.
70	Roofing at flat areas to be TPO roofing system from GAF EverGuard ExtremeA® TPO (Energy Gray) with 0.66 solar reflectance and 0.89 thermal emittance Ductings will be below the structural framing where occurs. Install roofing per manufacturer requirements and specifications.
73	Structure framing per structure engineer
82	Fire retardant treated wood siding - verify color & finish with architect
85	(N) metal frame painted dark bronze. Shop metalized and primed prior to erection. See structural drawings for more structural information.
86	Parapet
93	New retaining wall & foundation design per structural plans. See structural drawings for more information.
100	7/8" Light smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
143	(N) Velux skylight w/ non-reflective glass and automatic sun shade (typ.) UL Listing E82681. See Title 24 report for additional information. See manufacturer specification A6.13 for more information
196	Provide power for lighted mirror. See lighting plan for more information.
305	V-Ditch, see civil engineering plan for more information.
337	Curbless shower
339	Shower bar with hand held/ Shower head per owner see plumbing notes on A7.1 for additional information.
355	Washer & dryer
400	Landscape planters - see landscape plan for addtional information
402	Concrete stepping pads

Wall Legend

- New 2x4 wall. Framing per structural & Insulation per T-24 Energy Report.
- New 2x6 wall. Framing per structural & Insulation per T-24 Energy Report.
- New furring wall. Framing per structural & Insulation per T-24 Energy Report.
- New retaining wall & foundation. Framing per structural.
- 1Hour fire rated wall. Framing per structural & Insulation per T-24 Energy Report.

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ANDERS LASATER
C-30374
REN. 01 31 2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
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Santa Ana, CA 92705

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- 1 10/30/2020 - Orange County
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- 5

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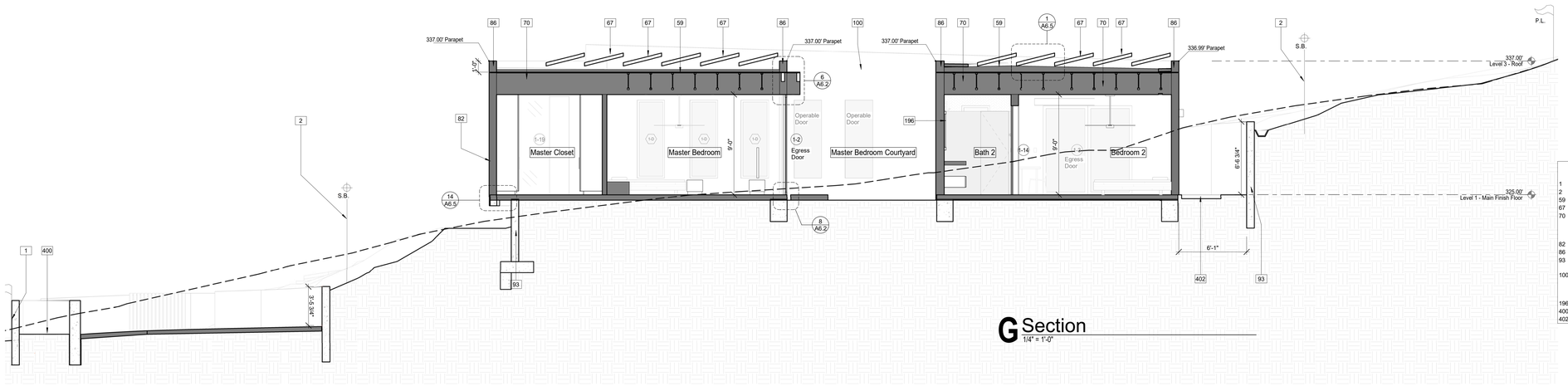
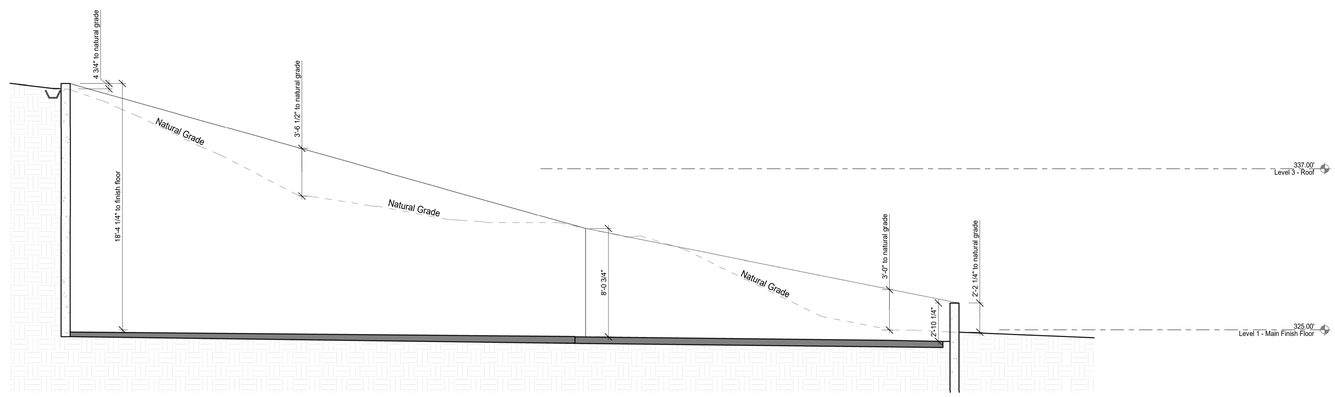
Section D+E+F

A3.4



G Section
1/4" = 1'-0"



H Section H
1/4" = 1'-0"

Keynotes

1	Property Line
2	Setback line - see site plan A1.1 for setback dimensions
59	Roof will be framed flat with rippers and plywood above for drainage slope.
67	Potential solar panels. Provide SC325 or sim. solar panels by SolarCity.
70	Roofing at flat areas to be TPO roofing system from GAF EverGuard ExtremeA® TPO (Energy Gray) with 0.66 solar reflectance and 0.89 thermal emittance Ductings will be below the structural framing where occurs. Install roofing per manufacturer requirements and specifications.
82	Fire retardant treated wood siding - verify color & finish with architect
86	Parapet
93	New retaining wall & foundation design per structural plans. See structural drawings for more information.
100	7/8" Light smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
196	Provide power for lighted mirror. See lighting plan for more information.
400	Landscape planters - see landscape plan for additional information
402	Concrete stepping pads

Wall Legend

- New 2x4 wall. Framing per structural & Insulation per T-24 Energy Report.
- New 2x6 wall. Framing per structural & Insulation per T-24 Energy Report.
- New furring wall. Framing per structural & Insulation per T-24 Energy Report.
- New retaining wall & foundation. Framing per structural.
- 1Hour fire rated wall. Framing per structural & Insulation per T-24 Energy Report.

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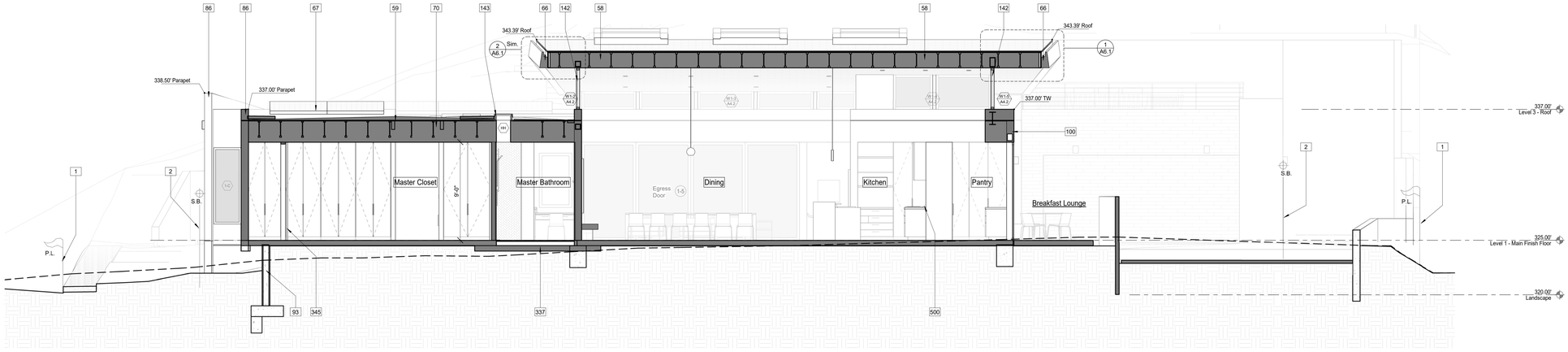
Sections G+H

A3.5



J Section
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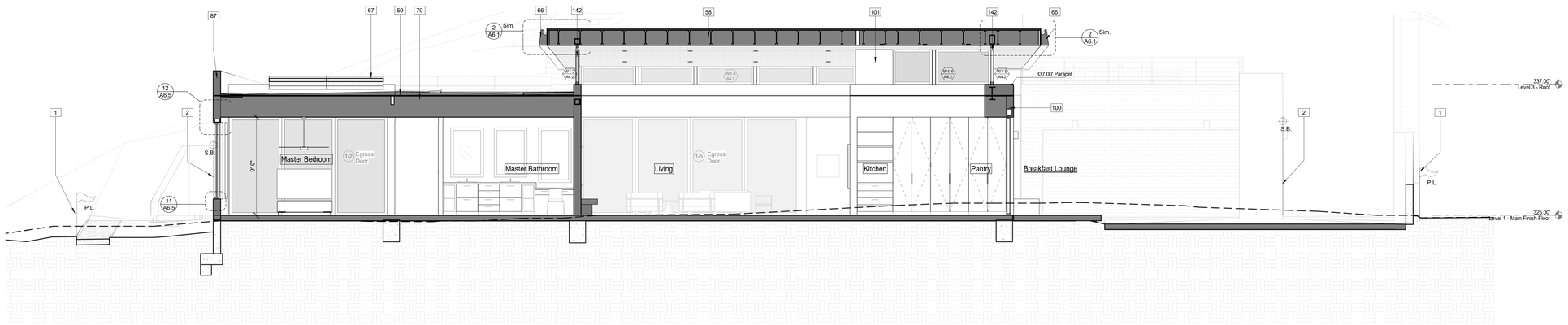
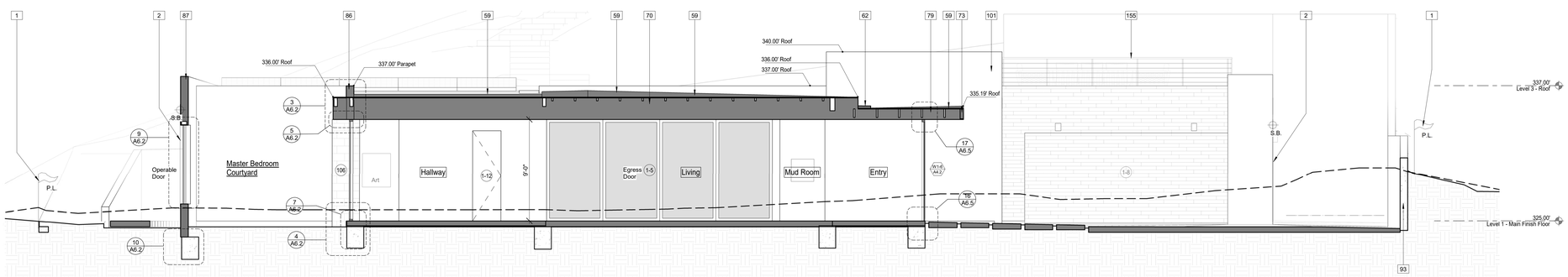


K Section
1/4" = 1'-0"



L Section
1/4" = 1'-0"

Keynotes

1	Property Line
2	Setback line - see site plan A1.1 for setback dimensions
58	Composition shingles roof from GAF Timberline Cool Series "Antique Slate" with 0.26 solar reflectance and 0.91 thermal emittance on all the sloped roof area. Provide min. R-30 + R-5 insulation @ all roofs except the roof above the garage. See Title 24 report T24-1 to T24-2 for more information.
59	Roof will be framed flat with rippers and plywood above for drainage slope.
62	Cricket - slope to drain 1/4"/ft min.
66	Roof gutter painted dark bronze to match roof fascia. Gutter recess into the roof fascia.
67	Potential solar panels. Provide SC325 or sim. solar panels by SolarCity.
70	Roofing at flat areas to be TPO roofing system from GAF EverGuard ExtremeA® TPO (Energy Gray) with 0.66 solar reflectance and 0.89 thermal emittance Ductings will be below the structural framing where occurs. Install roofing per manufacturer requirements and specifications.
73	Structure framing per structure engineer
79	Provide min. R-30 insulation @ all roofs except the roof above the garage. Provide a minimum of 2 inches of closed cell foam spray insulation to achieve unvented roof assembly. See Title 24 report T24-1 to T24-3 for more information.
86	Parapet
87	Sloped parapet/wall
93	New retaining wall & foundation design per structural plans. See structural drawings for more information.
100	7/8" Light smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
101	7/8" Dark smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
142	Clerestory windows
143	(N) Velux skylight w/ non-reflective glass and automatic sun shade (typ.) UL Listing E82681. See Title 24 report for additional information. See manufacturer specification A6.13 for more information
155	Steel guardrail @ 42" above F.S., metalized & painted dark bronze. Contractor to provide shop drawings to architect prior to order and installation.
337	Curbless shower
345	Barn door with Mirror for safe room
500	Downdraft hood

Wall Legend

- New 2x4 wall. Framing per structural & Insulation per T-24 Energy Report.
- New 2x6 wall. Framing per structural & Insulation per T-24 Energy Report.
- New furring wall. Framing per structural & Insulation per T-24 Energy Report.
- New retaining wall & foundation. Framing per structural.
- 1Hour fire rated wall. Framing per structural & Insulation per T-24 Energy Report.

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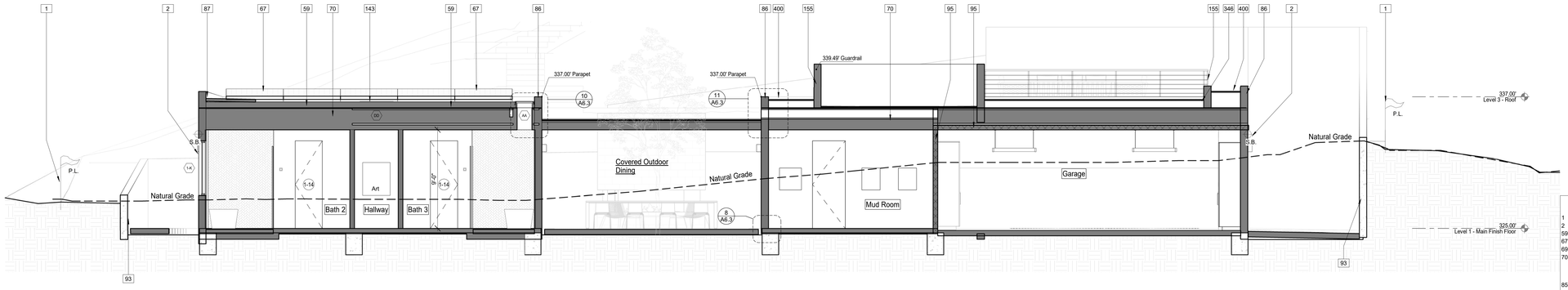
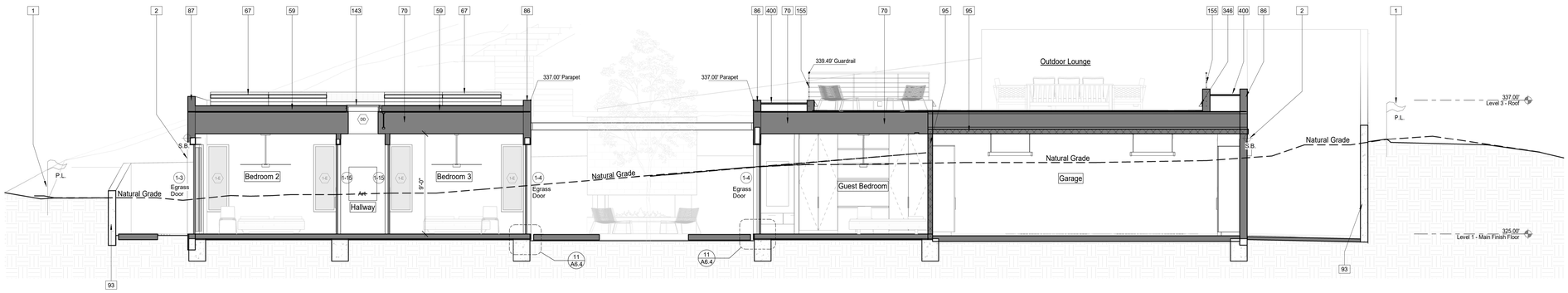
Section J+K+L

A3.6



M Section
1/4" = 1'-0"



N Section
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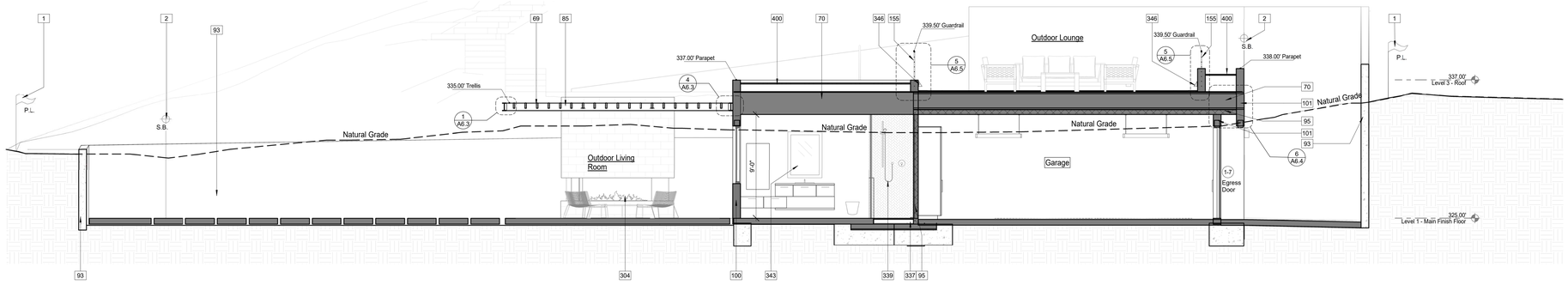

P Section
1/4" = 1'-0"

Keynotes

1	Property Line
2	Setback line - see site plan A1.1 for setback dimensions
59	Roof will be framed flat with rippers and plywood above for drainage slope.
67	Potential solar panels. Provide SC325 or sim. solar panels by SolarCity.
69	(N) 2x fire retardent treated wood trellis painted dark bronze
70	Roofing at flat areas to be TPO roofing system from GAF EverGuard ExtremeA® TPO (Energy Gray) with 0.66 solar reflectance and 0.89 thermal emittance Ductings will be below the structural framing where occurs. Install roofing per manufacturer requirements and specifications.
85	(N) metal frame painted dark bronze. Shop metalized and primed prior to erection. See structural drawings for more structural information.
86	Parapet
87	Sloped parapet/wall
93	New retaining wall & foundation design per structural plans. See structural drawings for more information.
95	Garage shall be separated from the dwelling unit by a vertical wall from the slab through the attic to the roof sheathing with 1 layer of 5/8" Type "X" gypsum board on the garage side - min. (Table R302.6)
100	7/8" Light smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
101	7/8" Dark smooth troweled Stucco w/ fiber mesh o/ expanded metal lath o/ 2 layers Grade "D" building paper. Verify stucco control joint locations and color with owner and architect. Contractor to provide 1'x1' color sample for owner and architect for approval prior to order and install.
143	(N) Velux skylight w/ non-reflective glass and automatic sun shade (typ.) UL Listing E82681. See Title 24 report for additional information. See manufacturer specification A6.13 for more information
155	Steel guardrail @ 42" above F.S., metalized & painted dark bronze. Contractor to provide shop drawings to architect prior to order and installation.
304	Ortal 170 gas only fireplace. ANSI Z21.88/CSA 2.33-2018 See fireplace reports and specification on sheet A6.12 for more information. Any installed gas fireplace shall be a direct vent-sealed combustion type.[CGC 4.503.1]
337	Curbless shower
339	Shower bar with hand held/ Shower head per owner see plumbing notes on A7.1 for additional information.
343	Lighted Mirror
346	Step light
400	Landscape planters - see landscape plan for addtional information

Wall Legend

- New 2x4 wall. Framing per structural & Insulation per T-24 Energy Report.
- New 2x6 wall. Framing per structural & Insulation per T-24 Energy Report.
- New furring wall. Framing per structural & Insulation per T-24 Energy Report.
- New retaining wall & foundation. Framing per structural.
- 1Hour fire rated wall. Framing per structural & Insulation per T-24 Energy Report.

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LICENSED ARCHITECT ANDERS LASATER C-30374 REN. 01 31 2020 STATE OF CALIFORNIA

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New Single Family Residence (#001-2019)
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- 2.
- 3.
- 4.
- 5.

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Sections M+N+P

A3.7

Door and Window Notes

ALL GLAZING IN NEW DOORS AND WINDOWS TO BE DUAL PANE W/ AT LEAST ONE PANE TEMPERED

1 The contractor is to field verify all door, window, skylight and fixture rough-ins prior to ordering.

2 All glass and glazing to conform to Chapter 24 CBC.

3 All glazing to be low-e unless otherwise noted.

4 All new glazing to be installed with certifying label attached showing u-value.

5 All exterior doors to be weather stripped.

6 All glazing in shower and tub enclosures and within five feet of tub or shower floor shall be tempered or laminated safety glass.

7 Safety glazing as described in CBC Section 2406 shall be provided in all hazardous locations as defined in CBC 2406.4, and specifically as follows:

Glazing in all ingress and egress doors
Glazing in both fixed and sliding panels of sliding door assemblies
Glazing in all swinging doors (except jalousies)
Glazing in doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers and in any building wall enclosing these compartments where the bottom exposed edge of glazing is less than 60 inches above a standing surface.
Glazing in an individual fixed or operable panel adjacent to a door where the nearest exposed edge of the glazing is within a 24-inch arc of either vertical edge of the door in a closed position and where the bottom exposed edge of glazing is less than 60 inches above the walking surface.

Provide safety glazing at all glass handrail locations.

8 Each pane of safety glazing installed in hazardous locations shall be identified (acid etched, sand blasted, ceramic fired, etc) by a manufacturer's designation, the manufacturer or installer and the safety glazing standard which it complies. Multipane assemblies shall be identified per CRC R308.1.

9 All glazing to be tinted to match (e) building unless noted otherwise.
Double glazed windows to have (1) panel tinted to face exterior and (1) panel clear glass to face interior. Verify color with architect and provide sample prior to ordering and installation.

10 Provide shop drawings including details and wind load calculations for all field assembled (storefront) window and door/window assemblies 30 days prior to installation for review and approval by architect. Shop drawings not produced by manufacturer must be reviewed and approved by manufacturer as meeting with manufacturer specifications and design intent.

11 Exterior doors and windows shall conform with Building Security Code as adopted by local jurisdictions.

12 Openings in attics, floors or other enclosed areas shall be covered with corrosion resistant wire mesh not greater than 1/4" in any dimension except where such openings are equiped with sash and doors.

13 Contractor shall ensure the use of all materials, methods and inspections required to obtain manufacturers warranty on all new doors, windows, skylights, translucent panel assemblies, and glazing assemblies.

14 Operable portion of emergency escape and rescue openings to have:
- Minimum 24" clear height
- Minimum 20" clear width
- Minimum net clear opening of 5.7 S.F. (5.0 S.F. for ground floor)
- Maximum 44" sill height
- Shall conform with Section 1029 CBC
- Window control opening device shall not reduce the required net clear opening area of the window R312.2.2
- Shall open directly into a public way, or to a yard or court that opens to a public way. Yard or court must comply with the definition, "An open space, unobstructed from the ground to the sky".

15 All fire door assemblies with a minimum rating of 20 minutes to be:
NFPA 252 or UL 10C listed, provided smoke seals, UL 1784 listed and installed per NFPA 105

16 All glazing in new doors and windows to be dual pane except at but joint conditions.

17 All fenestrations must have temporary and permanent labels. Temporary labels are to remain on windows until final inspections has been completed.

18 All new windows and doors to be dark bronze metal frame w/ wood interior, unless noted otherwise.

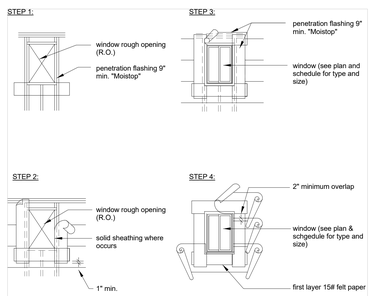
19 Glazing frames made of vinyl materials shall have welded corners and metal reinforcement in the interlock area.

20 All exterior doors to comply with one of the following: (CBC 708A.3, CRC R337.8.3)
a) Noncombustible or ignition-resistant material,
b) Constructed of solid core wood and with the following requirementsL
c) Stiles and rails shall not be less than 1 3/8 inches thick.
c) Raised panels shall not be less than 1 1/4 inches thick, except for the exterior perimeter of the raised panel that may taper to a tongue not less than 3/8 inch thick.
e) 20 minute fire-resistance rating (listed and approved assembly).

21 Handles, pulls, latches, locks, and other operable parts on doors and gates that are in a path of travel shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. Force required to activate such parts shall be 5 pounds' maximum. (11B-309.4). Operable parts of such hardware shall be 34" minimum and 44" maximum above the finish floor or ground (11B-404.2.7).

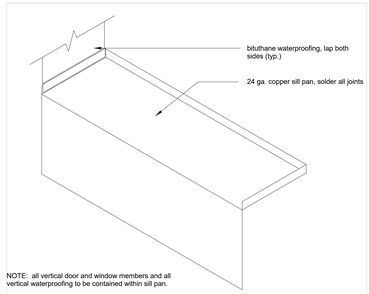
22 Swinging door and gate surfaces within 10: of the finish floor shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/19" of the same plane as the other. (11B-404.2.10).

23 Maximum force to for pushing or pulling open, exterior or interior hinged doors with closer and sliding or folding doors, shall not exceed five pounds. Minimum allowable opening force, for fire doors, not to exceed 15 pounds. (11B-404.2.9).



Typical Window Penetration 2

SCALE: 1 1/2" = 1'-0"



NOTE: all vertical door and window members and all vertical waterproofing to be contained within sill pan.

Sill Pan Door & Window 1

SCALE: 1 1/2" = 1'-0"

Door Schedule

- See Door and Window Notes #7 on A4.1 for the safety glazing as described in CBC Section 2406 shall be provided in all hazardous locations as defined in CBC 2406.4.
- See Door schedule's, window schedule's, window wall schedule's remarks for the safety glazing on A4.1.
- See Elevations A3.1, A3.2 and Section A+B for the location of the safety glazing.

NOTE:
THE DIMENSIONS INDICATED ON THIS SCHEDULE ARE THE INTENDED ROUGHT OPENING DIMENSIONS. HOWEVER, IT IS THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO VERIFY ALL DIMENSIONS IN THE FRAMING STAGE PRIOR TO ORDERING WINDOWS AND DOORS. ALL EXTERIOR DOORS SHALL BE NONCOMBUSTIBLE OR IGNITION-RESISTANT MATERIAL SEE TYIPAL DOOR AND WINDOW PENETRATION ASSEMBLY AND DOOR AND WINDOW SILL DETAIL FOR ALL DOOR AND WINDOW INSTALLATIONS HEREIN.

Symbol	Width	Height	Door Material	U-factor	SHGC	Glazing	Rating	Door Finish	Frame Finish	Quantity	Swing	Tempered	Exterior / interior	Remarks
1-0	3' - 10"	8'-9 1/2"	Wood	0.5						1		No	Exterior	Entry Wood door
1-1	3' - 0"	9'-0"	Glass	.33	.23					1		Yes	Interior	Egress Door, Bug screen
1-2	14' - 6"	9'-0"	Glass	.33	.23					1		Yes	Exterior	Egress Door
1-3	8' - 0"	8'-0"	Glass	.33	.23					1		Yes	Exterior	Egress Door, Bug screen
1-4	8' - 0"	8'-0"	Glass	.33	.23					2		Yes	Exterior	Egress Door, Bug screen
1-5	10' - 0"	9'-0"	Glass	.33	.23					2		Yes	Exterior	Egress Door, Bug screen
1-7	3' - 0"	8'-0"	Wood	0.5						1			Exterior	Garage side door/ Egress door
1-8	18' - 0"	8'-0"	Wood	0.5						1			Exterior	Garage Door
1-10	3' - 0"	8'-0"	Wood	0.5						1			Interior	1 hour fire rated interior door
1-11	3' - 0"	8'-0"	Wood							1			Interior	Guest bedroom door
1-12	2' - 6"	8'-0"	Glass & Wood							1			Interior	Powder room door
1-13	2' - 6"	8'-0"	Wood							1			Interior	Mech Door
1-14	2' - 6"	8'-0"	Glass & Wood							2			Interior	Bathroom 2 & 3 doors
1-15	2' - 8"	8'-0"	Wood							2			Interior	Bedroom 2 & 3 Doors
1-16	4' - 6"	8'-0"	Glass & Wood							1			Interior	Laundry/ Craft Room Door
1-17	4' - 0"	9'-0"	Wood							1			Interior	Master bedroom door
1-18	2' - 6"	8'-0"	Glass & Wood							1			Interior	Master bath toilet door. Maybe opaque door
1-19	3' - 6"	8'-10"	Glass & Wood							1			Interior	Door with Mirror.

Window Schedule

See Door and Window Notes #7 on A4.1 for the safety glazing as described in CBC Section 2406 shall be provided in all hazardous locations as defined in CBC 2406.4.

NOTE:
ALL NEW WINDOWS TO MATCH LOOK AND FINISH OF EXISTING UNLESS NOTED OTHERWISE.
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All Storefront Type Windows:
U-factor = 0.32
SHGC = 0.28

Symbol	Width	Height	Egress Requirements	U-Factor	SHGC	Glazing	Configuration	Exterior Frame Material	Interior Frame Material	Tempered	Remarks
1-A	13' - 7"	5' - 6"	No	.31	.24	D	Operable			Yes	Bug Screen
1-B	3' - 0"	6' - 8"	No	.31	.24	D	Operable			Yes	Bug Screen
1-C	2' - 6"	7' - 0"	No	.31	.24	D	Operable			Yes	Bug Screen
1-D	2' - 6"	7' - 0"	No	.31	.24	D	Operable			Yes	Bug Screen
1-E	2' - 0"	6' - 0"	No	.31	.24	D	Operable			Yes	Bug Screen
1-F	2' - 6"	7' - 0"	No	.31	.24	D	Operable			Yes	Bug Screen
1-G	4' - 0"	9' - 0"	No	.31	.24	D	Operable			Yes	Bug Screen
1-H	2' - 0"	7' - 0"	No	.31	.24	D	Operable			Yes	Bug Screen
1-J	10' - 2"	5' - 0"	No	.31	.24	D	Operable			Yes	Bug Screen
1-K	2' - 6"	5' - 0"	No	.31	.24	D	Operable			Yes	Bug Screen
1-L	2' - 6"	5' - 0"	No	.31	.24	D	Operable			Yes	Bug Screen
1-M	3' - 0"	9' - 0"	No	.31	.24	D	Operable			Yes	Bug Screen

Window Wall Schedule - See A4.2-A4.3

See Door and Window Notes #7 on A4.1 for the safety glazing as described in CBC Section 2406 shall be provided in all hazardous locations as defined in CBC 2406.4.

NOTE:
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All Storefront Type Windows:
U-factor = 0.32
SHGC = 0.28

Symbol	Sheet	Egress Requirements	U-Factor	SHGC	Glazing	Exterior Frame Material	Interior Frame Material	Tempered	Remarks
W1-1	A4.2	NO	0.31	0.24	D			YES	Bug Screen
W1-2	A4.2	NO	0.31	0.24	D			YES	Bug Screen
W1-3	A4.2	NO	0.31	0.24	D			YES	Bug Screen
W1-4	A4.2	NO	0.31	0.24	D			YES	Bug Screen
W1-5	A4.2	NO	0.31	0.24	D			YES	Bug Screen
W1-6	A4.2	NO	0.31	0.24	D			YES	Bug Screen

Skylight Schedule

NOTE:
SKYLIGHTS TO BE PROVIDED BY VELUX. ALL NEW SKYLIGHTS IN THE CITY OF LAGUNA BEACH TO BE EQUIPPED WITH AUTOMATED NIGHT SHADES.

Type Mark	Width	Height	Type Comments	Tempered	Count	Glazing	Frame Finish	U-Factor	SHGC	Remarks
AA	6'-4"	1'-8"	Operable	Yes	1	D	P	0.48	0.27	
BB	4'-6"	1'-8"	Operable	Yes	1	D	P	0.48	0.27	
DD	3'-0"	3'-0"	Operable	Yes	1	D	P	0.48	0.27	
EE	4'-0"	2'-1"	Operable	Yes	1	D	P	0.48	0.27	
FF	1'-7"	12'-2"	Operable	Yes	1	D	P	0.48	0.27	
GG	3'-10"	1'-6"	Operable	Yes	1	D	P	0.48	0.27	
HH	9'-8"	1'-7"	Operable	Yes	1	D	P	0.48	0.27	
JJ	4'-0"	2'-2"	Operable	Yes	1	D	P	0.48	0.27	
KK	4'-0"	5'-3 3/4"	Operable	Yes	3	D	P	0.48	0.27	

Door and Window Abbreviations

Egress:
R - Required
NR - Not Required

Glazing:
D - Dual

Swing Type:
OH - Overhead
SW - Swing
SL - Slide
PC - Pocket

General:
TBD - To Be Determined

ANDERS LASATER ARCHITECTS

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384 FOREST AVENUE, SUITE 12
LAGUNA BEACH, CA 92651
949 497 1827

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C-30374
REN 03 31 2020
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- B 03/26/2020 County PC rev 2
- C
- D
- E

Issued
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- 3
- 4
- 5

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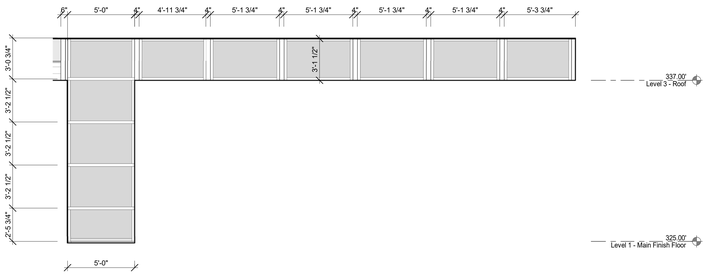
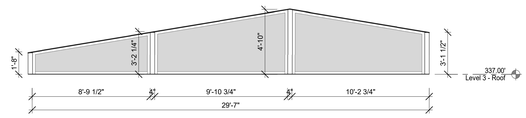
Door And Window Schedule/Notes

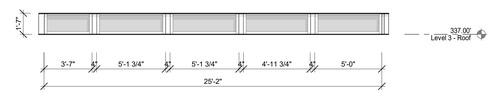
A4.1



1 W1-1
1/4" = 1'-0"

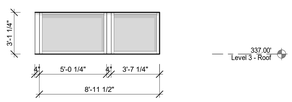


2 W1-2
1/4" = 1'-0"

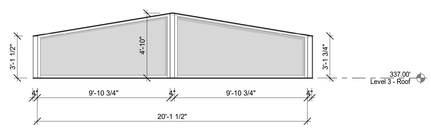


3 W1-3
1/4" = 1'-0"

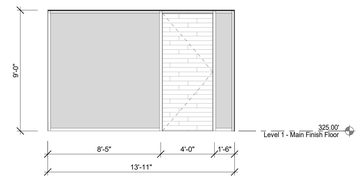
See Door and Window Notes #7 on A4.1 for the safety glazing.



4 W1-4
1/4" = 1'-0"



5 W1-5
1/4" = 1'-0"



6 W1-6
1/4" = 1'-0"

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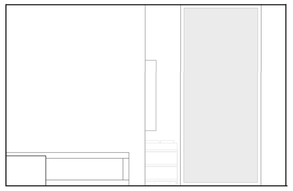
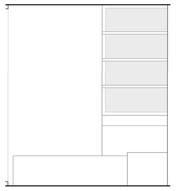
Window Elevations

A4.2

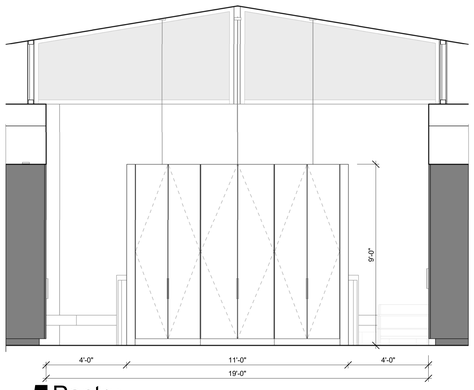




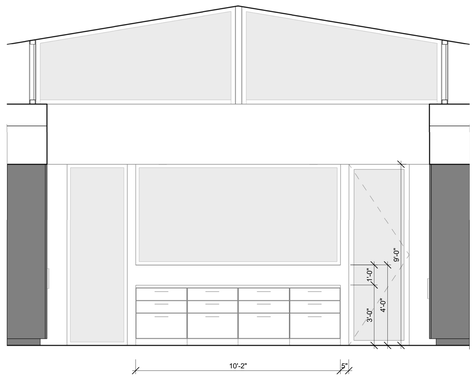
2 Entry
3/8" = 1'-0"

3 Entry
3/8" = 1'-0"

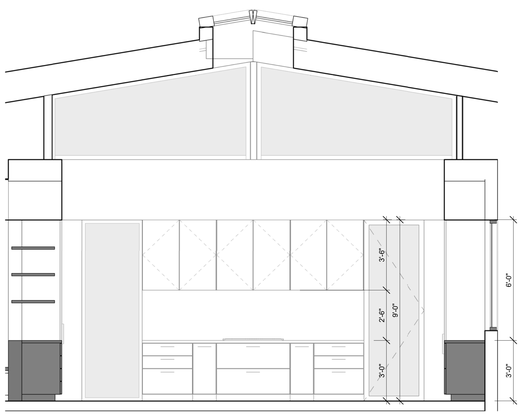
4 Entry
3/8" = 1'-0"



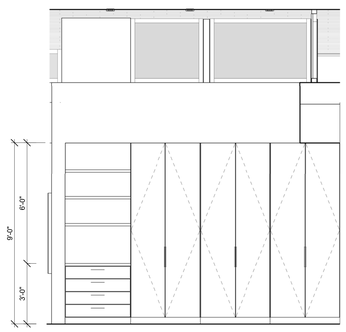
5 Pantry
3/8" = 1'-0"



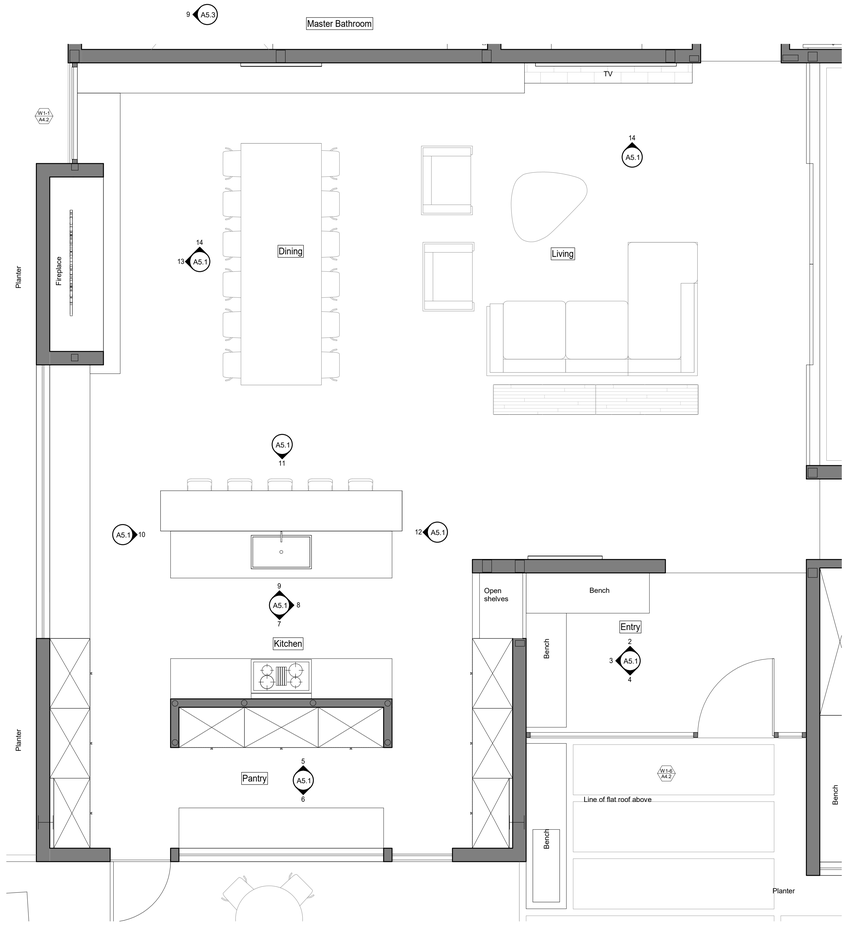
6 Pantry
3/8" = 1'-0"



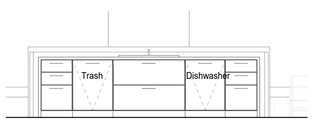
7 Kitchen
3/8" = 1'-0"



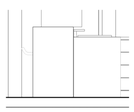
8 Kitchen/ Pantry
3/8" = 1'-0"



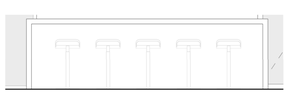
1 House Floor Plan
3/8" = 1'-0"



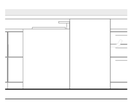
9 Kitchen Island
3/8" = 1'-0"



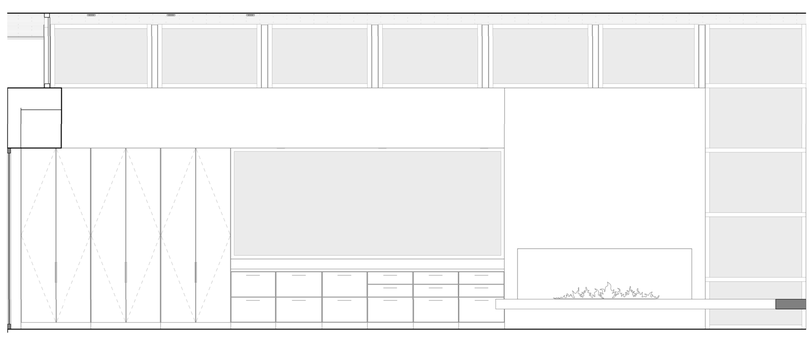
10 Kitchen Island
3/8" = 1'-0"



11 Kitchen Island
3/8" = 1'-0"



12 Kitchen Island
3/8" = 1'-0"



13 Pantry/Kitchen/Dining
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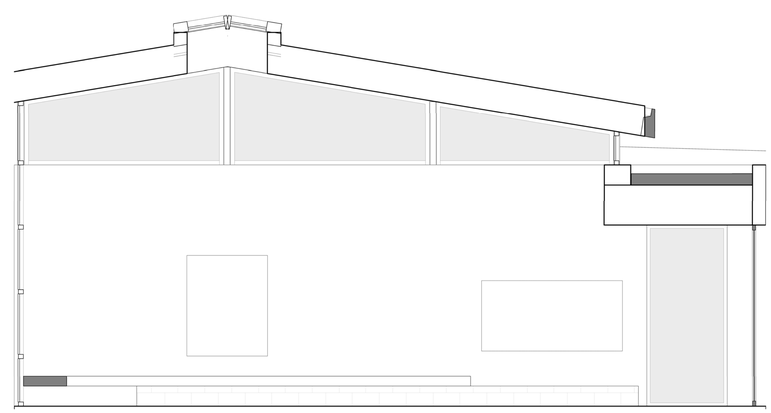

14 Dining/Living
3/8" = 1'-0"

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384 FOREST AVENUE, SUITE 12

LAGUNA BEACH, CA 92651

949 497 1827

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LICENSED ARCHITECT
ANDERS LASATER
C-30374
REN 03 31 2020
STATE OF CALIFORNIA

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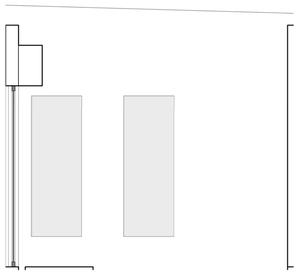
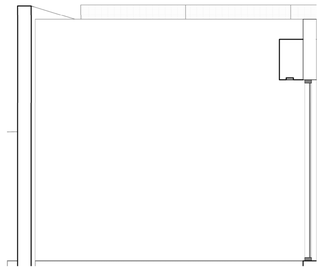
Interior Elevations

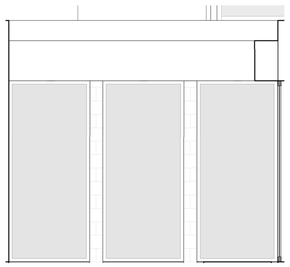
A5.1



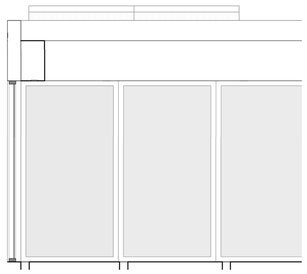
2 Master Bedroom Courtyard
3/8" = 1'-0"



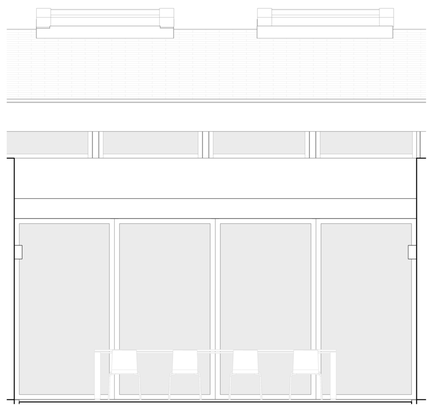
3 Master Bedroom Courtyard
3/8" = 1'-0"



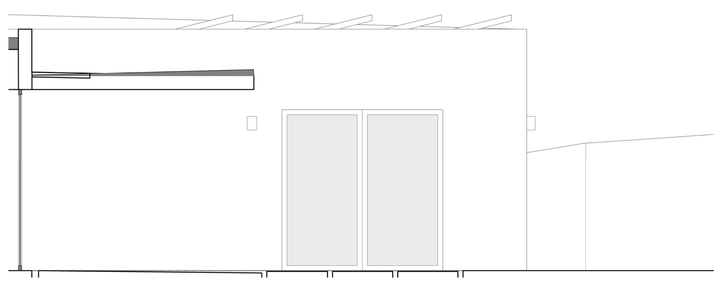
4 Master Bedroom Courtyard
3/8" = 1'-0"



5 Master Bedroom Courtyard
3/8" = 1'-0"

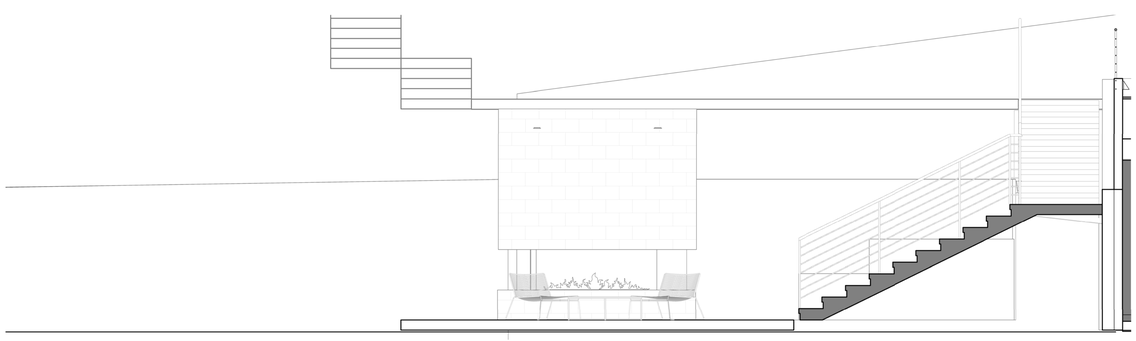


6 Main Courtyard
3/8" = 1'-0"

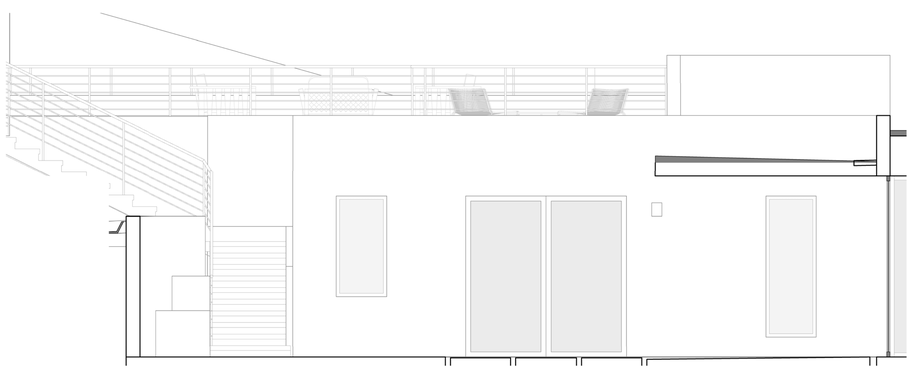


7 Main Courtyard
3/8" = 1'-0"

1 House Floor Plan
3/8" = 1'-0"



8 Main Courtyard
3/8" = 1'-0"



9 Main Courtyard
3/8" = 1'-0"

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384 FOREST AVENUE, SUITE 12

LAGUNA BEACH, CA 92651

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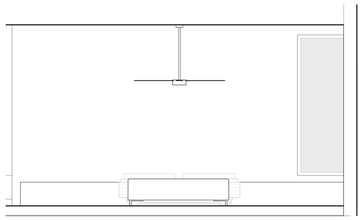
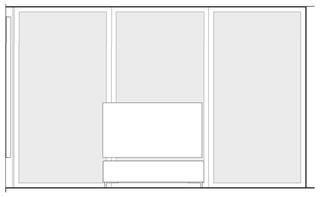
Interior Elevations

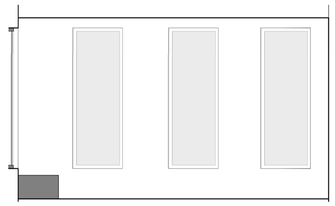
A5.2



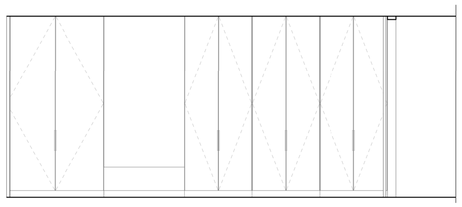
2 Master Bedroom
3/8" = 1'-0"



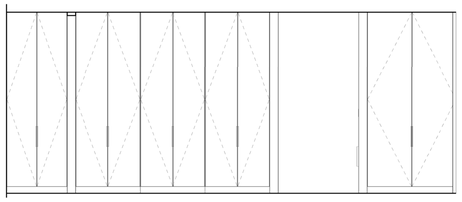
3 Master Bedroom
3/8" = 1'-0"



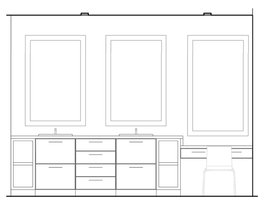
4 Master Bedroom
3/8" = 1'-0"



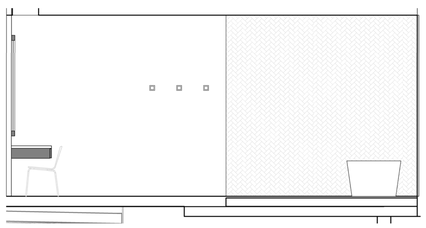
5 Master Closet
3/8" = 1'-0"



6 Master Closet
3/8" = 1'-0"

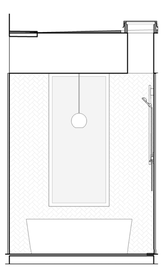


7 Master Vanity
3/8" = 1'-0"

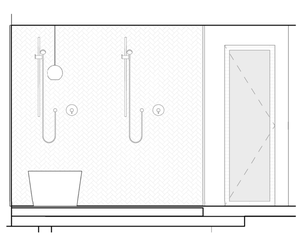


8 Master Bathroom Shower
3/8" = 1'-0"

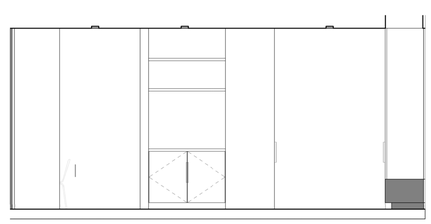
1 House Floor Plan
3/8" = 1'-0"



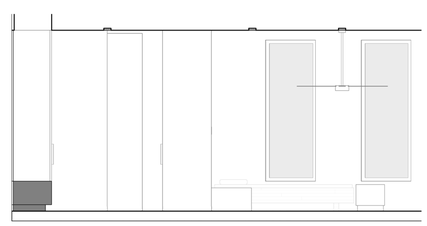
9 Master Bathroom Shower
3/8" = 1'-0"



10 Master Bathroom Shower
3/8" = 1'-0"



11 Master Hallway
3/8" = 1'-0"



12 Master Hallway
3/8" = 1'-0"

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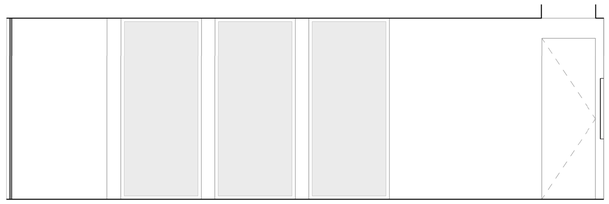
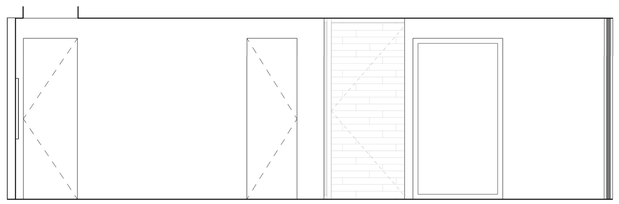
Interior Elevations

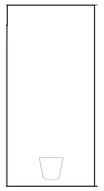
A5.3



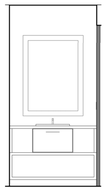
2 Hallway
3/8" = 1'-0"



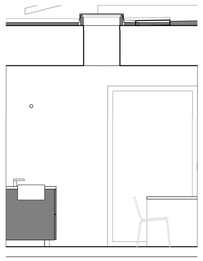
3 Hallway
3/8" = 1'-0"



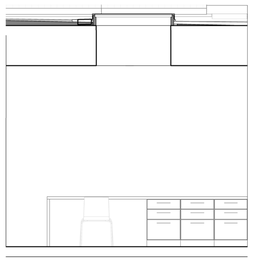
4 Powder Room
3/8" = 1'-0"



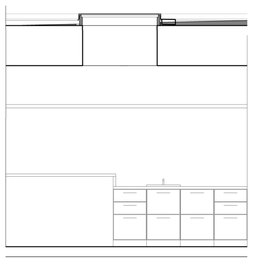
5 Powder Room
3/8" = 1'-0"



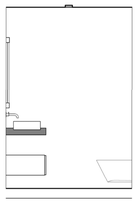
6 Laundry/Craft Room
3/8" = 1'-0"



7 Laundry/Craft Room
3/8" = 1'-0"



8 Laundry/Craft Room
3/8" = 1'-0"



9 Bathroom 3
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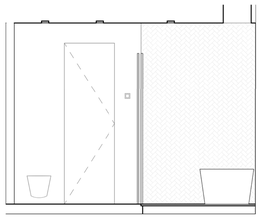

10 Bathroom 3
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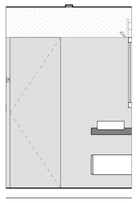
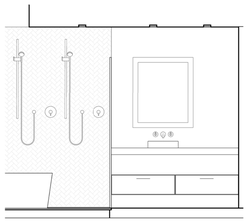
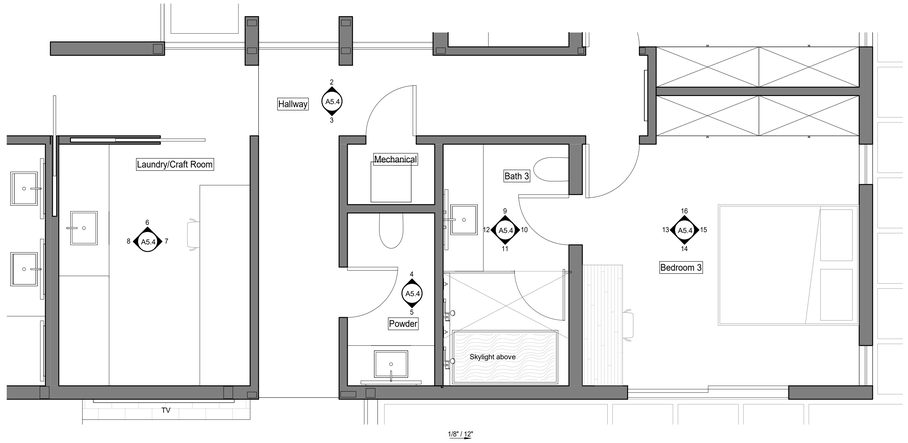


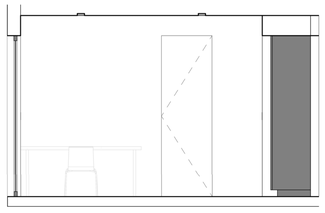
11 Bathroom 3
3/8" = 1'-0"



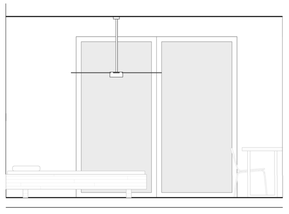
12 Bathroom 3
3/8" = 1'-0"



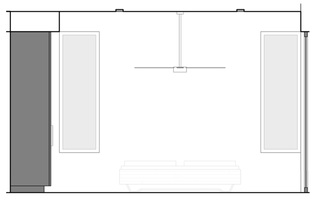
1 House Floor Plan
3/8" = 1'-0"



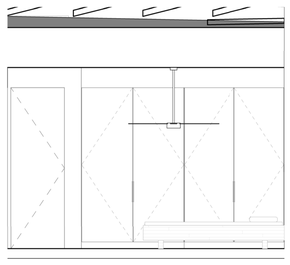
13 Bedroom 3
3/8" = 1'-0"



14 Bedroom 3
3/8" = 1'-0"



15 Bedroom 3
3/8" = 1'-0"



16 Bedroom 3
3/8" = 1'-0"

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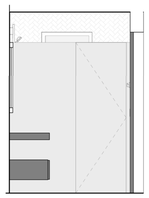
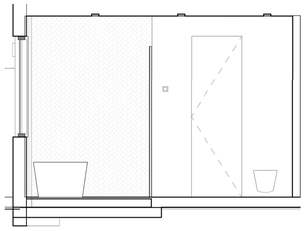
Interior Elevations

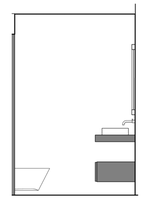
A5.4



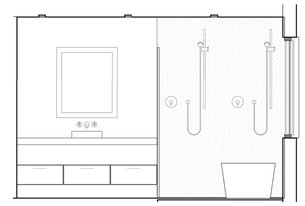
2 Bathroom 2
3/8" = 1'-0"



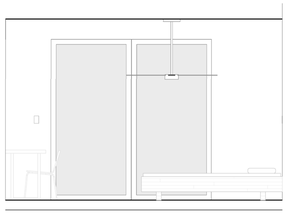
3 Bathroom 2
3/8" = 1'-0"



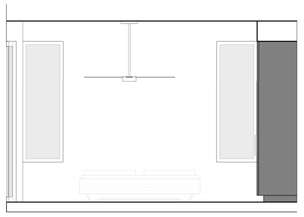
4 Bathroom 2
3/8" = 1'-0"



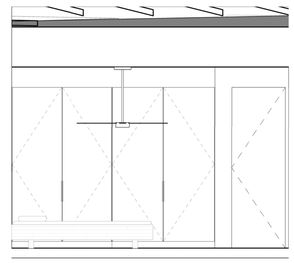
5 Bathroom 2
3/8" = 1'-0"



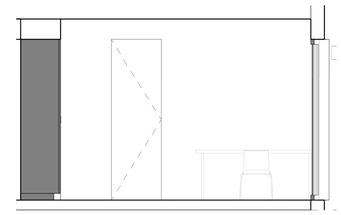
6 Bedroom 2
3/8" = 1'-0"



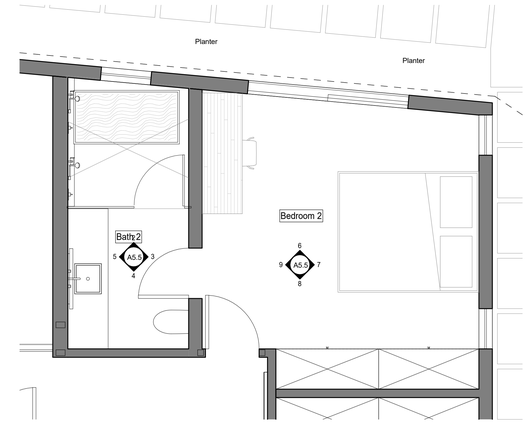
7 Bedroom 2
3/8" = 1'-0"



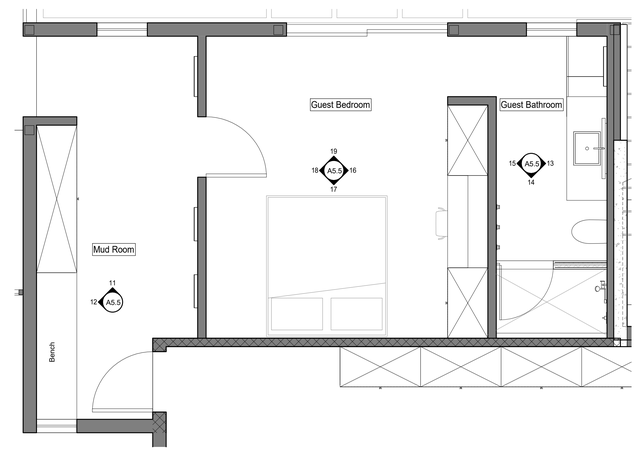
8 Bedroom 2
3/8" = 1'-0"



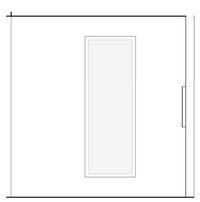
9 Bedroom 2
3/8" = 1'-0"



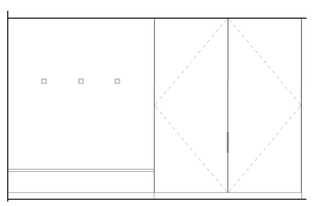
1 House Floor Plan
3/8" = 1'-0"



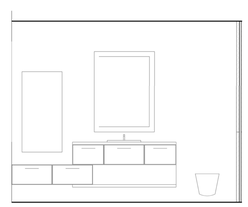
10 House Floor Plan
3/8" = 1'-0"



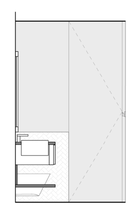
11 Mud Room
3/8" = 1'-0"



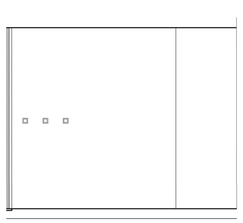
12 Mud Room
3/8" = 1'-0"



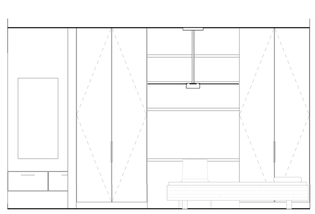
13 Guest Bathroom
3/8" = 1'-0"



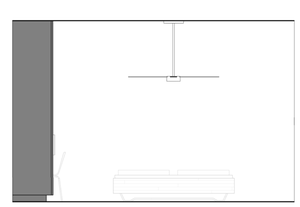
14 Guest Bathroom
3/8" = 1'-0"



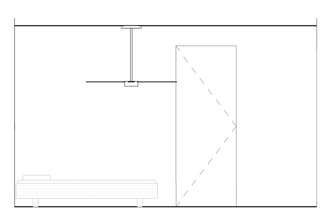
15 Guest Bathroom
3/8" = 1'-0"



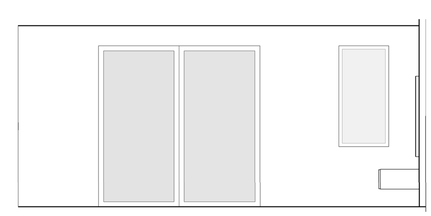
16 Guest Bedroom
3/8" = 1'-0"



17 Guest Bedroom
3/8" = 1'-0"



18 Guest Bedroom
3/8" = 1'-0"



19 Guest Bedroom
3/8" = 1'-0"

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384 FOREST AVENUE, SUITE 12

LAGUNA BEACH, CA 92651

949 497 1827

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LICENSED ARCHITECT
ANDERS LASATER
C-30374
REN 03 31 2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

A. 12/10/2020 County PC rev 1
B. 03/26/2020 County PC rev 2
C.
D.
E.

Issued

1. 10/30/2020 - Orange County
2.
3.
4.
5.

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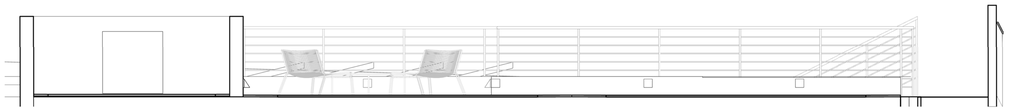
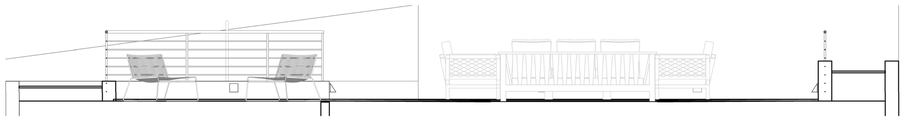
Interior Elevations

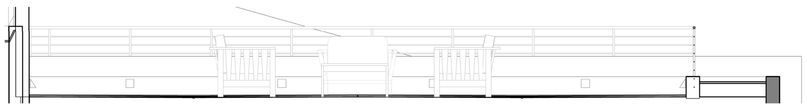
A5.5



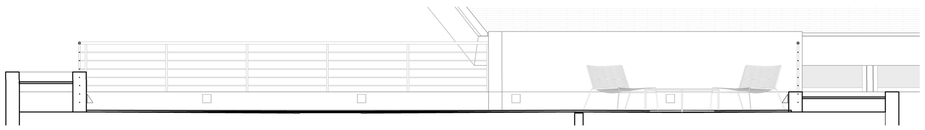
2 Deck above garage
3/8" = 1'-0"



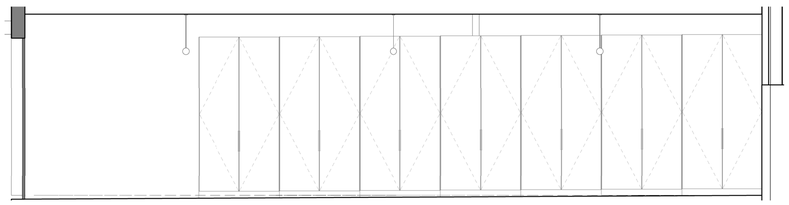
3 Deck above garage
3/8" = 1'-0"



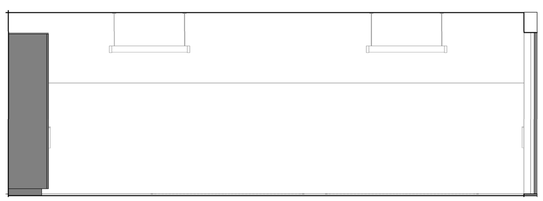
4 Deck above garage
3/8" = 1'-0"



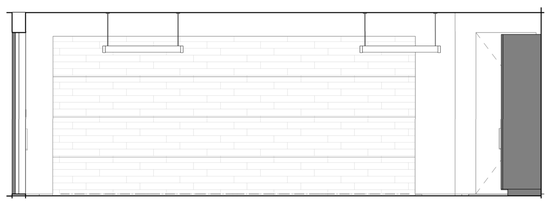
5 Deck above garage
3/8" = 1'-0"



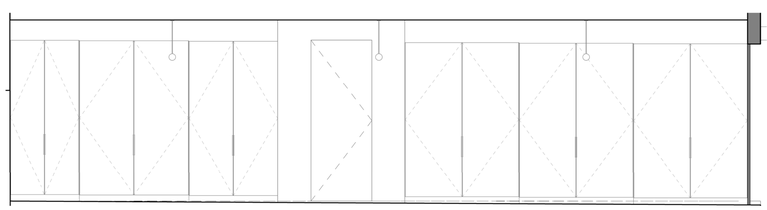
7 Garage
3/8" = 1'-0"



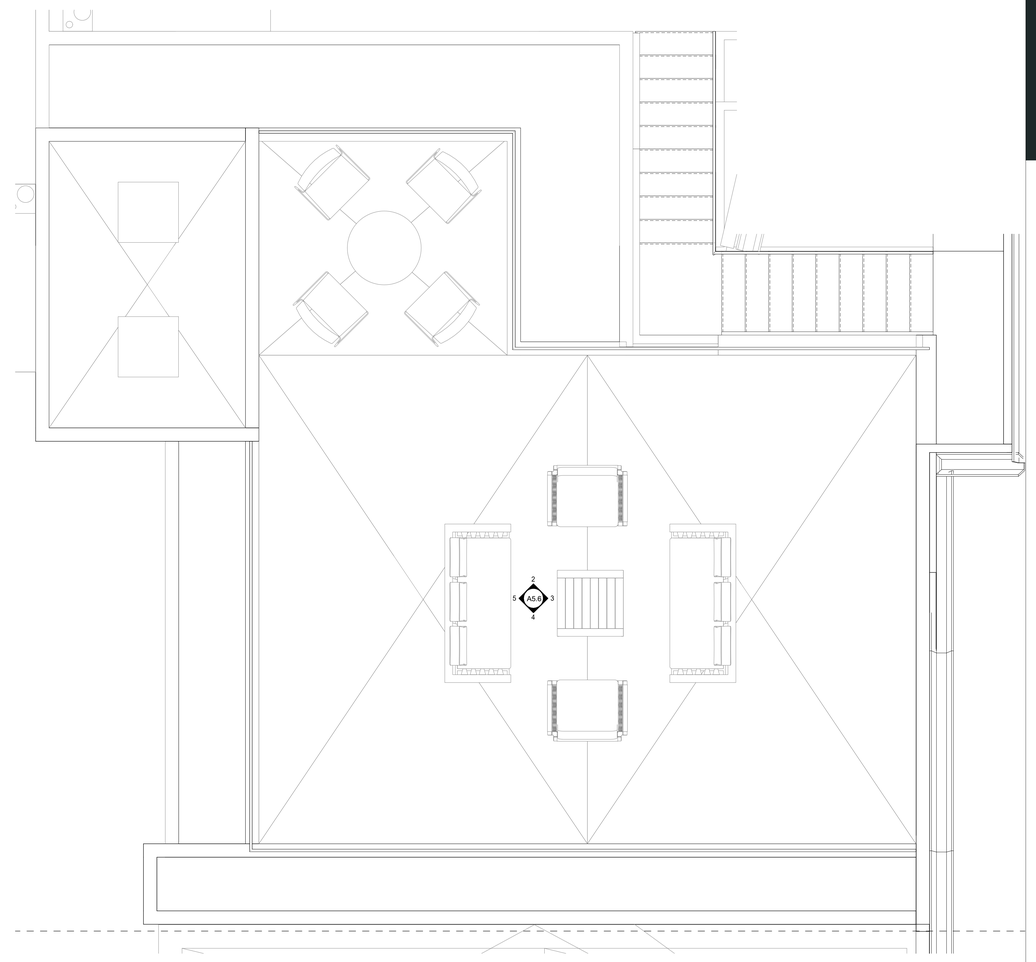
8 Garage
3/8" = 1'-0"



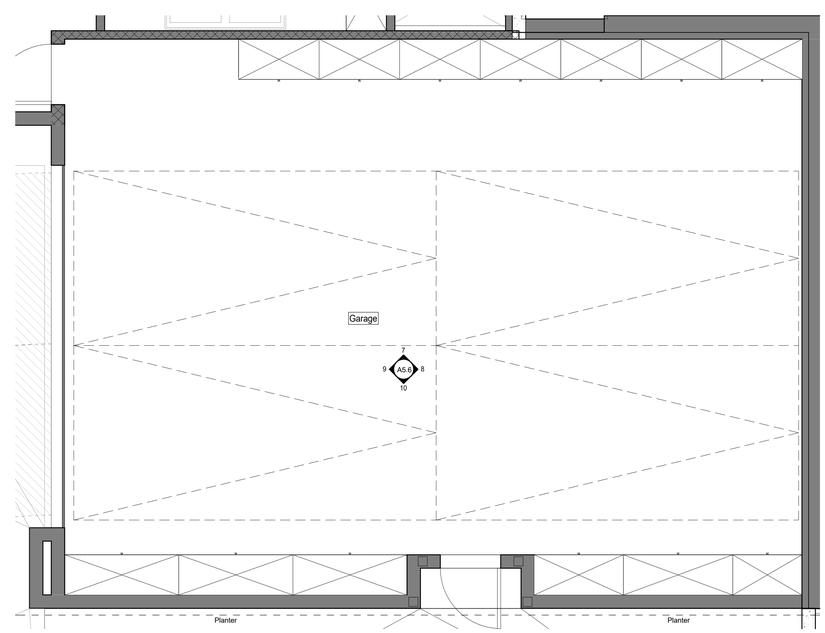
9 Garage
3/8" = 1'-0"



10 Garage
3/8" = 1'-0"



1 Roof Plan
3/8" = 1'-0"



6 House Floor Plan
3/8" = 1'-0"

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384 FOREST AVENUE, SUITE 12

LAGUNA BEACH, CA 92651

949 497 1827

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ANDERS LASATER
C-30374
REN 03 31 2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

A. 12/10/2020 County PC rev 1
B. 03/26/2020 County PC rev 2
C.
D.
E.

Issued

1. 10/30/2020 - Orange County
2.
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4.
5.

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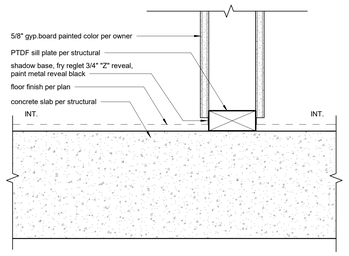
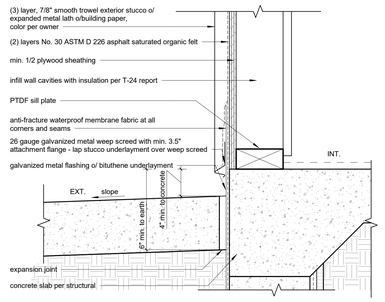
Interior Elevations

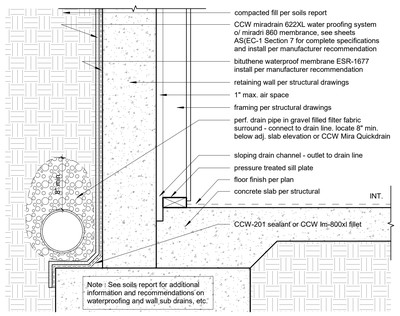
A5.6



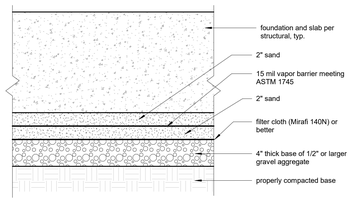
4 Shadow Base
3" = 1'-0"



3 Weep Screed
3" = 1'-0"



2 Retaining Wall Drainage
1 1/2" = 1'-0"



1 Slab Waterproofing
1 1/2" = 1'-0"

"NOTE: These architectural details are intended to convey the overall design intent and the minimum required waterproofing, drainage, flashing, and finish requirements only. General Contractor to follow all product manufacturer installation recommendations and installation details. Any discrepancies found between these details and the product manufacturer installation recommendations shall be brought to the attention of the Architect immediately, and prior to any installation."

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384 FOREST AVENUE, SUITE 12

LAGUNA BEACH, CA 92651

949 497 1827

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C-30374
Exp. 03 31 2020
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- D.
- E.

Issued

- 1 10/30/2020 - Orange County
- 2
- 3
- 4
- 5

Printed 7/9/2021 11:43:01 AM

Architectural Details

A6.6

Certificate of Compliance

Certificate: 2358468 **Master Contract:** 251419 (251419)

Project: 70186010 **Date Issued:** 2018-06-05

Issued to: Ortal Ltd
14 Haharash St.
Hod Hasharon, 45240
ISRAEL
Attention: Tal Gross

Certification: ANSI Z21.88/CSA 2.33-2018

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Issued by: Parker Burrola
Parker Burrola

PRODUCTS
CLASS - C290104 - DOMESTIC HEATERS (GAS)-Vented Fireplace
CLASS - C290184 - DOMESTIC HEATERS (GAS)-Vented Fireplace-Certified to U.S. Standards

For Use With Natural and Propane Gas

Direct Vent Gas Fireplace Heater

Model Number	Single Burner Maximum Input Rating NG	Single Burner Maximum Input Rating Propane	Dual Burner Maximum Input Rating NG	Dual Burner Maximum Input Rating Propane
Clear - 40/RS/LS/TS/Tunnel	23,670	21,000	---	---
Clear - 4070H /RS/LS/TS/Tunnel	23,670	21,000	---	---
Clear - 4090H /RS/LS/TS/Tunnel	23,670	21,000	---	---
Stand alone 40TS	23,670	21,000	---	---
Small Square	23,670	21,000	---	---
Classic Corner	23,670	21,000	---	---
Classic Modern	23,670	21,000	---	---

Certificate: 2358468 **Master Contract:** 251419

Project: 70186010 **Date Issued:** 2018-06-05

Clear - 75/RS/LS/TS	29,100	22,118	33,029	28,500
Stand Alone 75/TS	29,100	22,118	33,029	28,500
Space Creator 75	29,100	22,118	33,029	28,500
Minimal – 75	29,100	22,118	33,029	28,500
Clear 75x65/Tunnel	29,100	22,118	33,029	28,500
Clear 75x65H /Tunnel	29,100	22,118	33,029	28,500
Stand Alone 75x65 Curve/Tunnel	29,100	22,118	33,029	28,500
Clear - 60x80/Tunnel	29,100	22,118	33,029	28,500
Minimal – 60x80/Tunnel	29,100	22,118	33,029	28,500
Classic F 70/80	29,100	22,118	33,029	28,500
4 Glass Island	29,100	22,118	33,029	28,500
Clear - 80/RS/LS/TS	29,100	22,118	33,029	28,500
Clear - 8070H/RS/LS/TS	29,100	22,118	33,029	28,500
Clear - 75H/RS/LS/TS	29,100	22,118	33,029	28,500
Traditional 90	29,100	22,118	33,029	28,500
Traditional 110	29,100	22,118	33,029	28,500
Clear 90 RS/LS/TS/Tunnel (B70)	33,127	19,591	36,154	35,260
Clear 90H RS/LS/TS/Tunnel (B70)	33,127	19,591	36,154	35,260
Clear - 110/RS/LS/TS/Tunnel	37,167	28,500	42,185	33,400
Stand Alone 110 /TS	37,167	28,500	42,185	33,400
Minimal – 110/Tunnel	37,167	28,500	42,185	33,400
Island 130	37,167	28,500	42,185	33,400
Minimal – 130/Tunnel	37,167	28,500	42,185	33,400
Clear – 110H RS/LS/TS/Tunnel	37,167	28,500	42,185	33,400
Clear 130H RS/LS/TS	37,167	28,500	42,185	33,400
Clear - 130/RS/LS/TS/Tunnel/Top	37,167	28,500	42,185	33,400
Space Creator 120 / Mini / Midi	37,167	28,500	42,185	33,400
Space Creator 120H	37,167	28,500	42,185	33,400
Clear 140 RS/LS/TS/Tunnel	43,715	36,850	49,616	37,400
Clear – 150/H/RS/LS/TS/Tunnel	43,715	36,850	49,616	37,400
Space Creator 150	43,715	36,850	49,616	37,400
Space Creator 150H	43,715	36,850	49,616	37,400
Stand Alone 150	43,715	36,850	49,616	37,400
Clear 150H-RS/LS/TS/Tunnel	43,715	36,850	49,616	37,400
Clear 150H-RS/LS/TS/Tunnel	43,715	36,850	49,616	37,400
Clear - 170/RS/LS/TS/Tunnel	43,715	36,850	49,616	37,400
Clear 170H-RS/LS/TS/Tunnel	43,715	36,850	49,616	37,400
160 Burner				
Clear – 200/H/RS/LS/TS/Tunnel	51,277	36,659	58,200	37,500
Space Creator 200	51,277	36,659	58,200	37,500
Space Creator 200H	51,277	36,659	58,200	37,500

Certificate: 2358468 **Master Contract:** 251419

Project: 70186010 **Date Issued:** 2018-06-05

Clear - 250/RS/LS/TS/Tunnel	51,277	36,659	58,200	37,500
Clear – 250H RS/LS/TS/Tunnel	51,277	36,659	58,200	37,500
180 Burner				
Clear –200 RS/LS/TS/Tunnel/DG	52,700			
Clear-200H RS/LS/TS/Tunnel	52,700			
Space Creator 200	52,700			
Space Creator 200H	52.700			
Clear -250/RS/LS/TS/Tunnel/DG	52,700			
Clear – 250H RS/LS/TS/Tunnel	52,700			

* - ALTITUDE: N = 0 to 2,000; feet above sea level.
Note: For elevations above 2000 Ft., this appliance shall be de-rated 4% for each 1000 Ft. above sea level.

	Single Burner Minimum Input Rating NG	Single Burner Minimum Input Rating Propane	Dual Burner Minimum Input Rating NG	Dual Burner Minimum Input Rating Propane
Clear - 40/RS/LS/TS/Tunnel	10,419	12,841	---	---
Clear - 4070H /RS/LS/TS/Tunnel	10,419	12,841	---	---
Clear - 4090H /RS/LS/TS/Tunnel	10,419	12,841	---	---
Stand alone 40TS	10,419	12,841	---	---
Small Square	10,419	12,841	---	---
Classic Corner	10,419	12,841	---	---
Classic Modern	10,419	12,841	---	---
Clear - 75/RS/LS/TS	16,147	13,811	18,327	17,796
Stand Alone 75/TS	16,147	13,811	18,327	17,796
Space Creator 75	16,147	13,811	18,327	17,796
Minimal – 75	16,147	13,811	18,327	17,796
Clear 75x65/Tunnel	16,147	13,811	18,327	17,796
Clear 75x65H /Tunnel	16,147	13,811	18,327	17,796
Stand Alone 75x65 Curve/Tunnel	16,147	13,811	18,327	17,796
Clear - 60x80/Tunnel	16,147	13,811	18,327	17,796
Minimal – 60x80/Tunnel	16,147	13,811	18,327	17,796
Classic F 70/80	16,147	13,811	18,327	17,796
4 Glass Island	16,147	13,811	18,327	17,796
Clear - 80/RS/LS/TS	16,147	13,811	18,327	17,796
Clear - 8070H/RS/LS/TS	16,147	13,811	18,327	17,796
Clear - 75H/RS/LS/TS	16,147	13,811	18,327	17,796
Traditional 90	16,147	13,811	18,327	17,796
Traditional 110	16,147	13,811	18,327	17,796
Clear 90 RS/LS/TS/Tunnel	14,461	14,104	14,461	14,104
Clear 90H RS/LS/TS/Tunnel	14,461	14,104	14,461	14,104

Certificate: 2358468 **Master Contract:** 251419

Project: 70186010 **Date Issued:** 2018-06-05

Clear - 110/RS/LS/TS/Tunnel	22,800	22,900	28,878	26,837
Stand Alone 110 /TS	22,800	22,900	28,878	26,837
Minimal 110 /Tunnel	22,800	22,900	28,878	26,837
Island 130	22,800	22,900	28,878	26,837
Minimal 130 /Tunnel	22,800	22,900	28,878	26,837
Clear – 110H RS/LS/TS/Tunnel	22,800	22,900	28,878	26,837
Clear 130H RS/LS/TS	22,800	22,900	28,878	26,837
Clear - 130/RS/LS/TS/Tunnel/Top	22,800	22,900	28,878	26,837
Space Creator 120 / Mini / Midi	22,800	22,900	28,878	26,837
Space Creator 120H	22,800	22,900	28,878	26,837
Clear 140 RS/LS/TS/Tunnel	23,300	27,100	28,878	27,467
Clear – 150/H/RS/LS/TS/Tunnel	23,300	27,100	28,878	27,467
Space Creator 150	23,300	27,100	28,878	27,467
Space Creator 150H	23,300	27,100	28,878	27,467
Stand Alone 150	23,300	27,100	28,878	27,467
Clear 150H-RS/LS/TS/Tunnel	23,300	27,100	28,878	27,467
Clear - 170/RS/LS/TS/Tunnel	23,300	27,100	28,878	27,467
Clear 170H-RS/LS/TS/Tunnel	23,300	27,100	28,878	27,467
160 Burner				
Clear – 200/H/RS/LS/TS/Tunnel	27,467	26,400	27,454	37,500
Space Creator 200	27,467	26,400	27,454	37,500
Space Creator 200H	27,467	26,400	27,454	37,500
Clear - 250/RS/LS/TS/Tunnel	27,467	26,400	27,454	37,500
Clear – 250H RS/LS/TS/Tunnel	27,467	26,400	27,454	37,500
180 Burner				
Clear – 200/H/RS/LS/TS/Tunnel	21,700			
Space Creator 200	21,700			
Space Creator 200H	21,700			
Clear - 250/RS/LS/TS/Tunnel	21,700			
Clear – 250H RS/LS/TS/Tunnel	21,700			

APPLICABLE REQUIREMENTS

ANSI Z21.88-2016/CSA 2.33-2016 - Vented Gas Fireplace Heaters
EEV P4.1-02, P4.1-09 Testing Method for Annual Fireplaces Efficiency

Supplement to Certificate of Compliance

Certificate: 2358468 **Master Contract:** 251419 (251419)

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

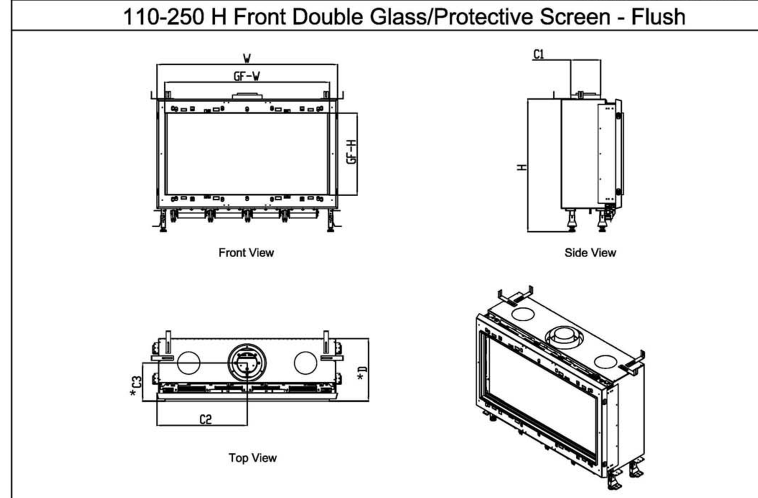
Product Certification History

Project	Date	Description
70186010	2018-06-05	Add models Clear (130,150,250)H High Glass models tested in project 70145247. Finalizing certification after receiving all documentation. Update to ANSI Z21.88/CSA 2.33-2016 per gas notice 400.
70031531	2015-08-21	Updated Gas Fireplaces to Gas Notice 329 to ANSI Z21.88/CSA 2.33-2014
2758663	2014-11-21	Tested glass barriers to Gas Fireplaces requirement to (Gas Notices 294 & 329). Updated report to ANSI Z21.88/CSA 2.33-2014 and added Class Nos. 8805-05 P4.1-02 Testing Method for Annual Fireplace Efficiency.
2605464	2013-09-25	Add alternate model nos. 4 Glass Island, Clear-250, 350, 400-RS,LS,TS, Tunnel and Power Vent System-Dura Vent and added gas components.
2503686	2012-04-25	Corrected Factory Inspection Report.
2440619	2011-08-11	Efficiency Testing CSA P.4.1-02 for Canadian Certification.
2395268	2011-02-15	Address corrected to Cetificate of Compliance.
2358468	2011-01-14	Original Certification

ORTAL
YOUR LIFE. YOUR FIRE

Manufacturer Update - Fireplace Legs Modification
Manufacturer Effective Date: March 20th 2018
Serial Number Forward #15275

110-250 H Front Double Glass/Protective Screen - Flush



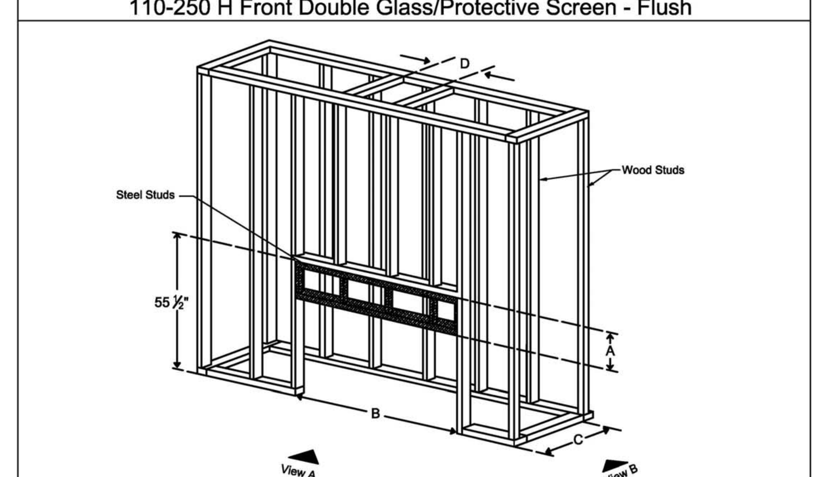
Model	(H) Height	(W) Width	(D) Depth	C1	C2	C3	Glass Opening (GF) Front	Glass Opening (GS) Side
~~110 H~~	~~35 7/8"~~	~~47 7/8"~~	~~16 9/16"~~	~~7 7/8"~~	~~23 15/16"~~	~~10"~~	~~43 5/8" W X 21 5/8" H~~	—
~~130 H~~	~~35 7/8"~~	~~54 9/16"~~	~~16 9/16"~~	~~7 7/8"~~	~~27 5/16"~~	~~10"~~	~~50 5/16" W X 21 5/8" H~~	—
~~150 H~~	~~35 7/8"~~	~~64 7/16"~~	~~16 9/16"~~	~~7 7/8"~~	~~32 3/16"~~	~~10"~~	~~60 3/16" W X 21 5/8" H~~	—
170 H	35 7/8"	72 5/16"	16 9/16"	7 7/8"	36 1/8"	10"	68" W X 21 5/8" H	—
~~200 H~~	~~35 7/8"~~	~~81 3/4"~~	~~16 9/16"~~	~~7 7/8"~~	~~40 7/8"~~	~~10"~~	~~77 1/2" W X 21 5/8" H~~	—
~~250 H~~	~~35 7/8"~~	~~100 3/8"~~	~~16 9/16"~~	~~7 7/8"~~	~~49 13/16"~~	~~10"~~	~~96 1/4" W X 21 5/8" H~~	—

* Dimensions includes 1/2" lip (for drywall)
Note : 1. Drawings are not to Scale
2. All dimensions in inches
3. The dimensions are both for Double Glass and Protective Screen

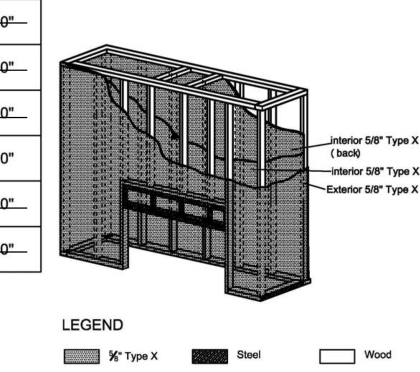
ORTAL
YOUR LIFE. YOUR FIRE

Manufacturer Update - Fireplace Legs Modification
Manufacturer Effective Date: March 20th 2018
Serial Number Forward #15275

110-250 H Front Double Glass/Protective Screen - Flush



Model	A	B	C	D
~~110 H~~	~~19 1/2"~~	~~53 1/8"~~	~~18 11/16"~~	~~10"~~
~~130 H~~	~~19 1/2"~~	~~59 13/16"~~	~~18 11/16"~~	~~10"~~
~~150 H~~	~~19 1/2"~~	~~69 11/16"~~	~~18 11/16"~~	~~10"~~
170 H	19 1/2"	77 9/16"	18 11/16"	10"
~~200 H~~	~~19 1/2"~~	~~87"~~	~~18 11/16"~~	~~10"~~
~~250 H~~	~~19 1/2"~~	~~105 5/8"~~	~~18 11/16"~~	~~10"~~



Note : 1. Drawings are not to Scale
2. All dimensions in inches
3. The dimensions are both for Double Glass and Protective Screen

ORTAL
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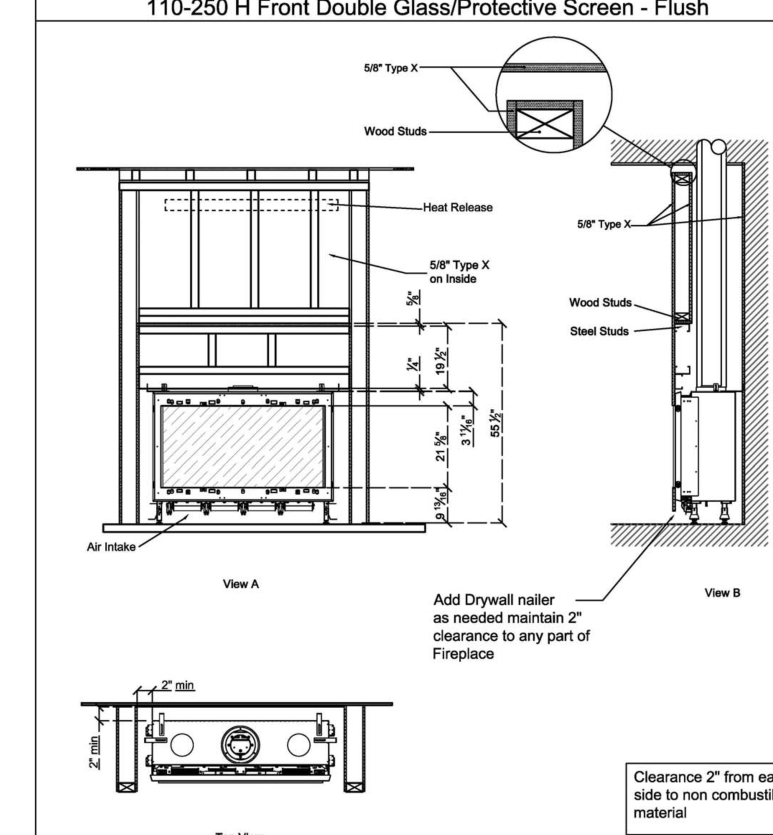
Manufacturer Update - Fireplace Legs Modification
Manufacturer Effective Date: March 20th 2018
Serial Number Forward #15275

110-250 H Front Double Glass/Protective Screen - Flush



Note : 1. Drawings are not to Scale
2. All dimensions in inches
3. The dimensions are both for Double Glass and Protective Screen

Clearance 2" from each side to non combustible material

The valve can be moved 36" - 40" from the center of the fireplace in any direction

TECHNICAL INFORMATION

SUBJECT	DETAILS	
TYPE OF GAS	Natural Gas (NG) or Propane (LPG)	
VENT	4/6" or 5/8" Direct Vent	
HEAT BARRIER	Screen (standard) or Double Glass (optional)	
INTERIOR DESIGN MEDIA	Wood Style	Log Set with Embers: Charred Oak Clay Logs Split Oak Ceramic Fiber Logs Driftwood Logs Mixed Long and Short Branches with Embers
	Ceramic Fiber Stones	Colors: Grey or White
		Size: Large or Small
	Polished Ceramic Glass	Colors: Amber, Black, Blue and Clear
	General Note	Leave 20% of burner and grill uncovered by media
WEIGHT	Clear 40H70	206 lbs.
	Clear 60x80	319 lbs.
	Clear 75x65	358 lbs.
	Clear 75	378 lbs.
	Clear 110	383 lbs.
	Clear 110H	440 lbs.
	Clear 130	375 lbs.
	Clear 130H	450 lbs.
	Clear 150	590 lbs.
	Clear 150H	767 lbs.

SUBJECT	DETAILS	
WEIGHT	Clear 200	534 lbs.
	Clear 200H	580 lbs.
	Clear 250	621 lbs.
	Clear 250H	807 lbs.
STANDARD	Safety	ANSI Z21.88/CSA 2.33-2014
	Efficiency	ANSI P.4.1-09
OPERATION	Mertik Maxitrol Remote Control (full automatic, wall control unit is optional), electronic ignition	
ELECTRICAL REQUIREMENTS	All models are provided with an AC adapter which requires a 110 volts 20-amp outlet. Double Glass and Power Vent features require an additional 2nd and 3rd outlet.	

Product Specifications

The fireplace has been certified for use with either Natural Gas (NG) or Liquefied Petroleum (LPG).

All Ortal fireplaces operate with a direct vent, balanced flue venting system. A direct vent gas fireplace is room-sealed by a glass front. The flue uses natural ventilation to pull air in from and release exhaust gases to the outside. Refer to manual for clearance distances. Installation is recommended in living spaces such as bedrooms, living rooms, etc.

The fireplace must be properly connected to a venting system.
The fireplace must be installed according to Ortal USA requirements in addition to any local codes that may apply. If none existent, then the current CSA installation code must be followed:

- USA, ANSI Z223.1/NFPA 54
- Canada, CSA B149

ANDERS LASATER ARCHITECTS
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384 FOREST AVENUE, SUITE 12
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949 497 1827

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Written dimensions shall take preference over scaled dimensions and shall be verified in the field. Any discrepancy or error shall be brought to the attention of the Architect prior to the commencement of any work.

LICENSED ARCHITECT
E. ANDERS LASATER
C-30374
REN. 01/31/2023
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

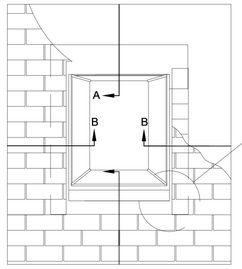
Revisions
A 12/10/2020 County PC rev 1
B 03/26/2020 County PC rev 2
C
D
E

Issued
1 10/30/2020 - Orange County
2
3
4
5

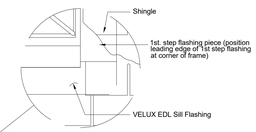
Printed 7/9/2021 11:43:11 AM

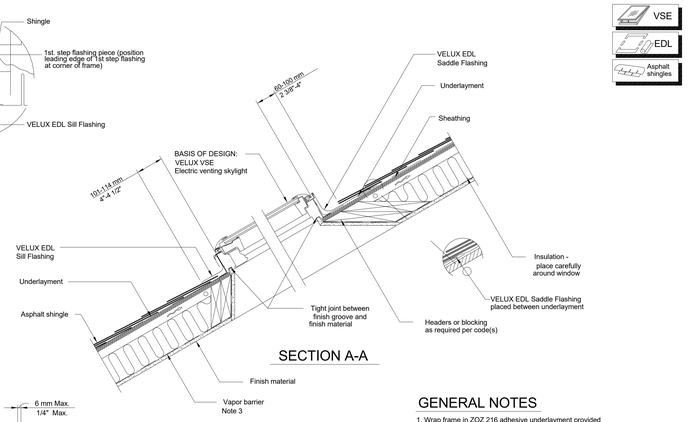
Firepalce Reports & Specifications

A6.12



ELEVATION

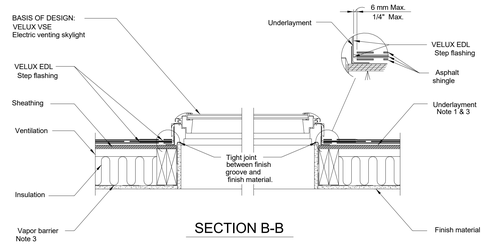




SECTION A-A

GENERAL NOTES

1. Wrap frame in ZOZ 216 adhesive underlayment provided with VELUX flashing.
2. Underlayment to be folded up against all sides of frame.
3. Vapor barrier should be used to avoid moisture.



SECTION B-B

This drawing is an instrument of service and is provided for informational use only.

© 2010 VELUX GROUP

VELUX	VELUX 1418 Evans Pond Road Greenwood, SC 29649 1-800-88-VELUX www.VELUXUSA.com		Name	Date
Sky-Product Management		Drawn by	JDH	Apr 10
		Checked by	WQ, JL	Apr 10
VSE-Residential/Commercial Roof Section (Cathedral Ceiling with Asphalt Shingles)		Drawing No.	VSE-02-1208	

® VELUX is a registered trademark

Velux VCE electric or Manual Venting Curb Mounted Skylight
UL Listing: E82681

(PROVIDED DIRECTLY BY THE MANUFATURER. INSTALL PER MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS.)

WINDOW & DOOR MANUFACTURERS ASSOCIATION WDMA

Hallmark® Certificate of Conformance and License (CCL)

AMS, INC. Administrative Management Systems, Inc.

VELUX America Inc.
PO Box 5001
Greenwood, SC 29648-5001

Mfr ID: 426
For more Information visit www.amscert.com
Website:
TEL: 864-941-4828

Product No.	Product Name	Standard	Rating	Wide	High	Test Report #	CertDate	ExpDate
426-H-672-17	FS + M08 (or smaller) + [2004 or 2008 or 2099 94]	101/I.S.2/A440-11	SKG-PG105-Size tested 775x1397mm (+30.5x55in); Positive Design Pressure (DP) 16,758Pa (350psf)	775mm	1397mm	NCTL-110-16098-1	8/1/2013	9/25/2021
426-H-672-18	FS + M08 (or smaller) + [2004 or 2008 or 2099 94]	101/I.S.2/A440-08	Class CW-PG60-Size tested 775x1397mm (30.5x55in)-Type SKG; Positive Design Pressure (DP) 10,798Pa (225psf)	775mm	1397mm	NCTL-110-16098-1	8/1/2013	9/25/2021
426-H-672-19	FS + M08 (or smaller) + [2004 or 2008 or 2099 94]	CSA A440 S1-09	DP: +10,790/-3830 Pa (+225/-80 psf); Water Penetration Resist. Test Pressure = 720Pa (15.04psf); Can. Air Infil/Exfil. Level = Fixed	775mm	1397mm	NCTL-110-16098-1	1/1/2014	9/25/2021

WDMA HEREBY CERTIFIES that the aforesaid Company ("Licensee"), at its participating manufacturing plant(s), is licensed to use the WDMA Registered Hallmark on product lines that have been manufactured in accordance with the standards. It is further certified that the plant(s), facilities, quality control procedures, methods, and processes of Licensee have been inspected by WDMA, and are subject to regular follow-up inspection and test. It is further certified that samples of the product set forth above were tested and found to comply with the standards.

By: *John McFee, VP of Certification Programs, WDMA Hallmark*

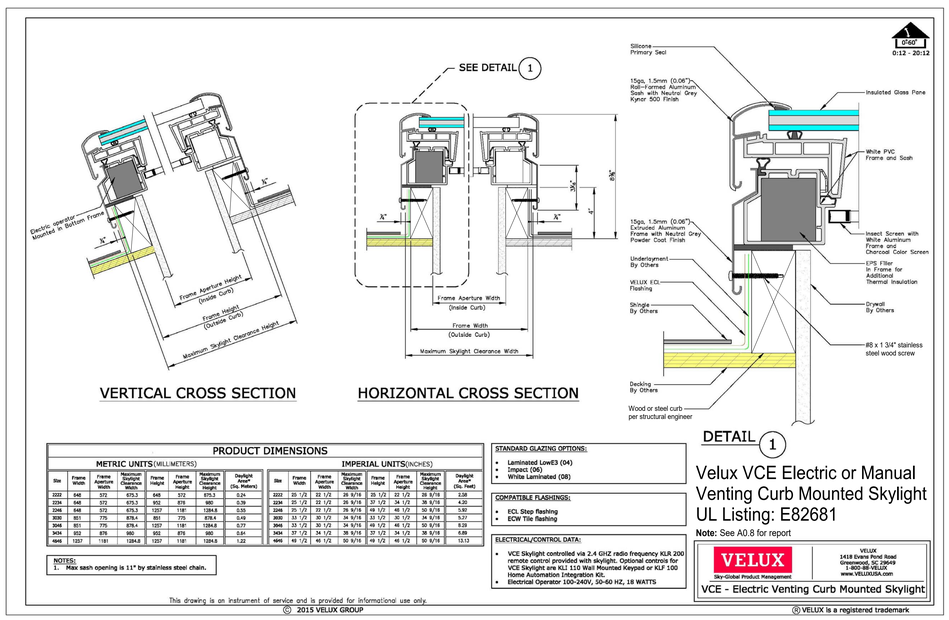
By: *Rhonda Schotz, Authorized Representative, AMS*

Program Sponsor:
Window and Door Manufacturers Assoc
330 N. Wabash Avenue, Suite 2000
Chicago, IL 60611
TEL (312)673-4828 www.wdma.com

Program Administrator:
Administrative Management Systems, Inc.
PO Box 730, 100 West Main
Sackets Harbor, NY 13685
TEL (315)646-2234 staff@amscert.com

WD-20 10/14/09 *Friday, June 12, 2015* *Page 1*

Velux Skylight Product Report



VERTICAL CROSS SECTION

HORIZONTAL CROSS SECTION

DETAIL 1

Velux VCE Electric or Manual Venting Curb Mounted Skylight
UL Listing: E82681

Note: See A0.8 for report

PRODUCT DIMENSIONS

METRIC UNITS (MILLIMETERS)								IMPERIAL UNITS (INCHES)							
Size	Frame Width	Frame Aperture Width	Rough/ Daylight Opening Width	Frame Height	Frame Aperture Height	Rough/ Daylight Opening Height	Daylight Area* (Sq. Meters)	Size	Frame Width	Frame Aperture Width	Rough/ Daylight Opening Width	Frame Height	Frame Aperture Height	Rough/ Daylight Opening Height	Daylight Area* (Sq. Feet)
2022	648	572	675.3	648	572	675.3	0.24	2022	25 1/2	22 1/2	26 9/16	25 1/2	22 1/2	26 9/16	2.58
2234	648	572	675.3	952	876	980	0.39	2234	25 1/2	22 1/2	26 9/16	37 1/2	34 1/2	38 9/16	4.20
2246	648	572	675.3	1257	1181	1284.8	0.55	2246	25 1/2	22 1/2	26 9/16	49 1/2	46 1/2	50 9/16	5.93
3030	851	775	878.4	851	775	878.4	0.49	3030	33 1/2	30 1/2	34 9/16	33 1/2	30 1/2	34 9/16	5.27
3046	851	775	878.4	1257	1181	1284.8	0.77	3046	33 1/2	30 1/2	34 9/16	49 1/2	46 1/2	50 9/16	8.29
3434	952	876	980	952	876	980	0.84	3434	37 1/2	34 1/2	38 9/16	37 1/2	34 1/2	38 9/16	9.08
4646	1257	1181	1284.8	1257	1181	1284.8	1.22	4646	49 1/2	46 1/2	50 9/16	49 1/2	46 1/2	50 9/16	13.13

NOTES:
1. **Max sash opening is 11" by stainless steel chain.**

STANDARD GLAZING OPTIONS:
- **Laminated LowE3 (04)**
- **Impact (06)**
- **White Laminated (08)**

COMPATIBLE FLASHINGS:
- **ECL Step flashing**
- **ECW Tile flashing**

ELECTRICAL/CONTROL DATA:
- **VCE Skylight controlled via 2.4 GHZ radio frequency KLR 200 remote control provided with skylight. Optional controls for VCE Skylight are KLI 110 Wall Mounted Keypad or KLF 100 Home Automation Integration Kit.**
- **Electrical Operator 100-240V, 50-60 HZ, 18 WATTS**

VELUX	VELUX 1418 Evans Pond Road Greenwood, SC 29649 1-800-88-VELUX www.VELUXUSA.com
Sky-Global Product Management	VCE - Electric Venting Curb Mounted Skylight

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Velux Skylight Specification

"NOTE: These architectural details are intended to convey the overall design intent and the minimum required waterproofing, drainage, flashing, and finish requirements only. General Contractor to follow all product manufacturer installation recommendations and installation details. Any discrepancies found between these details and the product manufacturer installation recommendations shall be brought to the attention of the Architect immediately, and prior to any installation."

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384 FOREST AVENUE, SUITE 12

LAGUNA BEACH, CA 92651

949 497 1827

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LICENSED ARCHITECT ANDERS LASATER C-30374 REGISTERED 01 31 2020 STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

- A. 12/10/2020 County PC rev 1
- B. 03/26/2020 County PC rev 2
- C.
- D.
- E.

Issued

- 1. 10/30/2020 - Orange County
- 2.
- 3.
- 4.
- 5.

Printed 7/9/2021 11:43:13 AM

Skylight Report & Specifications

A6.13

ES ICC EVALUATION SERVICE

ICC-ES Evaluation Report

ESR-2298

Reissued May 2019
Revised November 21, 2019
This report is subject to renewal May 2020.

www.icc-es.org | (800) 423-6587 | (562) 699-0543 *A Subsidiary of the International Code Council®*

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 57 00—Coated Foam Roofing

REPORT HOLDER:

BASF CORPORATION

EVALUATION SUBJECT:

BASF CORPORATION COATED FOAM PLASTIC ROOF COVERINGS: FE348® SERIES, ELASTOSPRAY® 81000 SERIES AND SKYTITE® SERIES

ADDITIONAL LISTEES:

GAF

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2018, 2015, 2012 and 2009 *International Building Code®* (IBC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)†

†The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Physical properties
- Fire classification
- Wind resistance
- Impact resistance
- Elimination of thermal barrier (roofing)

2.0 USES

The coated foam plastic roof coverings described in this report are used in construction of classified roof assemblies, as noted in Tables 1 and 2. The roof covering systems recognized in this report may be used on buildings of any type of construction.

3.0 DESCRIPTION

3.1 General:

BASF Corporation FE348® Series coated foam plastic roof coverings consist of liquid-applied coatings over FE348-2.5, FE348-2.8 or FE348-3.0 spray-applied polyurethane foam plastic insulations.

BASF Corporation ELASTOSPRAY® 81000 Series coated foam plastic roof coverings consist of liquid-applied coatings over ELASTOSPRAY 81255, 81285 or 81305 spray-applied polyurethane foam plastic insulations.

BASF Corporation SKYTITE® Series coated foam plastic roof coverings consist of liquid-applied coatings over SKYTITE® 2.5, SKYTITE® 2.8 or SKYTITE® 3.0 spray-applied polyurethane foam plastic insulations.

3.2 Spray Polyurethane Foam Plastic Insulation:

3.2.1 General: BASF Corporation FE348-2.5, FE348-2.8 and FE348-3.0, ELASTOSPRAY 81255, 81285 and 81305 and SKYTITE® 2.5, SKYTITE® 2.8 and SKYTITE® 3.0 are two-component, spray-applied, foam plastic insulations complying with ASTM C1029–Type III, and are produced in densities of 2.5, 2.8 and 3.0 pcf (40.0, 44.8 and 48.0 kg/m³), respectively. The foam plastic ingredients (Component A and Component B) are available in 55-gallon (208 L) drums and have a shelf life of nine months for Component A and three months for Component B when stored at temperatures between 50°F and 80°F (10°C and 26.7°C).

3.2.2 Surface-burning Characteristics: The foam plastic insulations have a flame-spread rating of 75 or less when tested in accordance with ASTM E84 or UL 723 at a maximum thickness of 2.0 inches (51 mm).

3.3 Coatings:

3.3.1 General: The coatings recognized in this report for use in the BASF Corporation roofing systems are GAF Diathon® roof coating and BASF FECoat 1000 acrylic roof coating.

3.3.2 GAF Diathon® Roof Coating (alternatively named United Coatings™ Diathon® Roof Coating): Diathon® coating is a single-component, liquid-applied, 100 percent acrylic elastomeric coating, produced by GAF. It is supplied in 5-gallon (19 L) pails and 55-gallon (208 L) drums and has a shelf life of 24 months when stored at temperatures between 50°F and 80°F (10°C and 26.7°C). The Diathon® coating complies with ASTM D6083.

3.3.3 BASF FECoat 1000 Acrylic Roof Coating: BASF FECoat 1000 coating is a single-component, liquid-applied, 100 percent acrylic elastomeric coating. It is supplied in 5-gallon (19 L) pails and 55-gallon (208 L) drums and has a shelf life of 24 months when stored at temperatures between 50°F and 80°F (10°C and 26.7°C). The BASF FECoat 1000 coating complies with ASTM D6083.

3.3.4 Polyglass USA, LLC PolyBrite 70 Acrylic Roof Coating: PolyBrite 70 is a 100 percent acrylic elastomeric coating complying with ASTM D6083 and is recognized in ESR-4038. The coating is supplied in 4.75-gallon (18 L)

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pails and has a shelf life of eighteen months when stored in factory-sealed containers at temperatures no less than 35°F (1.8°C) and no greater than 120°F (49°C).

3.3.5 Polyglass USA, LLC PolyBrite 71-HS Acrylic Roof Coating: PolyBrite 71-HS is a 100 percent acrylic elastomeric coating that complies with ASTM D6083 and is recognized in ESR-4038. The coating is supplied in 4.75-gallon (18.0 L) pails, 50-gallon (189.3 L) drums and 275-gallon (1,041 L) totes, and has a shelf life of 18 months when stored in factory-sealed containers at temperatures no less than 35°F (1.8°C) and no greater than 120°F (49°C).

3.3.6 KM Coatings Manufacturing KM Acryl 15: KM Acryl 15 is a 100 percent acrylic elastomeric coating complying with ASTM D6083 and is recognized in ESR-4038. The coating is supplied in 5-gallon (18.9 L) pails, 55-gallon (208 L) drums, and 220-gallon (832.8 L) totes, and has a shelf life of eighteen months when stored in factory-sealed containers at temperatures no less than 35°F (1.8°C) and no greater than 120°F (49°C).

3.3.7 KM Coatings Manufacturing KM Acryl 40 HS: KM Acryl 40 HS is a 100 percent acrylic elastomeric coating that complies with ASTM D6083 and is recognized in ESR-4038. The coating is supplied in 5-gallon (18.9 L) pails, 55-gallon (208 L) drums, and 220-gallon (832.8 L) totes, and has a shelf life of 18 months when stored in factory-sealed containers at temperatures no less than 35°F (1.8°C) and no greater than 120°F (49°C).

3.4 Impact and Foot Traffic Resistance:

The coated foam plastic roof coverings described in this report comply with the Resistance to Foot Traffic Test in Section 4.6 of FM 4470.

4.0 INSTALLATION

4.1 Preparation of Substrates:

The substrates to be covered must be free of all grease, oil, loose particles, moisture, and other foreign materials. Areas not receiving a foam plastic insulation application must be masked off or otherwise protected from overspray. The application of primers, when used, must be in accordance with the spray foam roofing manufacturer's installation instructions.

4.2 Roof Deck Substrates:

4.2.1 Combustible Substrates: Combustible substrates must be minimum 15/32-inch-thick (11.9 mm), code-complying, exterior-grade or Exposure 1 plywood (US DOC PS1). All plywood edges must be supported in accordance with the requirements set forth in IBC Section 2603.4.1.5.

4.2.2 Noncombustible Substrates:

4.2.2.1 Cementitious Substrates: Structural concrete substrates must have a minimum compressive strength of 2500 psi (17,237 kPa). Cementitious decks must be thoroughly cured and must be subjected to specialized treatment, such as wire brushing or commercial sandblasting, or must be chemically cleaned to ensure adequate bonding.

4.2.2.2 Metal Substrates: Minimum No. 22 gage galvanized steel [0.030 inch (0.76 mm)] deck. Metal decks must be cleaned of any adhesion inhibitors, and gaps in end or sidelaps must be sealed with an approved sealant.

4.3 Roof Slope:

The polyurethane foam plastic insulation must be spray-applied to form roof slopes that have a minimum slope of 1/4:12 (2 percent) and a maximum roof slope as specified in Tables 1 and 2.

4.4 Foam Plastic Insulation Application:

The polyurethane foam plastic insulations described in Section 3.2 are applied at a 1:1 ratio by volume of the A and B components to one of the substrates described in Section 4.2, using foam-spraying equipment and processing parameters recommended by BASF Corporation. Application of the foam plastic insulation must be performed when the following conditions are met:

- Substrate temperature is at least 50°F (10°C);
- Ambient temperature is at least 50°F (10°C);
- Relative Humidity is below 85% RH;
- Dew point is more than 5°F (2.8°C) above or below the ambient temperature;
- Wind speed is equal to or less than 15 miles per hour (24.1 km/h). Wind barriers are needed when the wind speed is greater than 15 miles per hour (24.1 km/h).

When conditions are outside the parameters noted above, consult BASF Corporation for additional guidance prior to installation.

The foam plastic insulation must not be applied to wet or damp substrates, or when dew, condensation, precipitation, or freezing temperatures are expected prior to completion of the foam and coating application.

Foam plastic is applied in maximum 2-inch-thick (51 mm) passes, to reach the desired thickness as noted in Tables 1 and 2. The total finished thickness must be achieved within the same day. The finished surface of the foam must be smooth and free of voids, pinholes and crevices.

4.5 Application of Coating:

The foam plastic insulation surface must be dry and free of all damaged foam, dirt and foreign material before application of the coating. If the insulation surface is damaged to the point where cracks, voids or large depressions appear, additional insulation must be applied to create a satisfactory surface. After the insulation has developed sufficient strength to support foot traffic, but within 72 hours, the coating must be brush-, roller-, or spray-applied at the application rates noted in Table 1. The ambient temperature must be at least 50°F (10°C) during coating application, and above 32°F (0°C) for the 24-hour period after application. The coating must not be applied when dew, condensation, precipitation or freezing temperatures are anticipated prior to completion of the coating application. The application of primers, when used, must be in accordance with the spray foam roofing manufacturer's installation instructions.

4.6 Thermal Barrier:

The classified roof assemblies noted in Tables 1 and 2, containing BASF Corporation FE348-2.5, FE348-2.8 and FE348-3.0, ELASTOSPRAY 81255, 81285 and 81305 and SKYTITE® 2.5, SKYTITE® 2.8 and SKYTITE® 3.0 foam plastic insulation are recognized for use without a thermal barrier based on testing in accordance with UL 1256, as set forth in IBC Section 2603.4.1.5.

4.7 Fire Classification:

4.7.1 New Construction: Roof covering systems, as noted in Tables 1 and 2, when installed in accordance with this report, are Class A, Class B or Class C roof coverings in accordance with ASTM E108 or UL 790.

4.7.2 Reroofing: Prior to installation of new roof coverings, inspection in accordance with 2018 and 2015 IBC Section 1511 or 2012, 2009 and 2006 IBC Section 1510, and approval from the code official having jurisdiction, are

required. Installation must be over uninsulated systems only.

4.8 Wind Resistance:

The allowable wind uplift pressures for the coated foam plastic roof coverings are noted in Table 3.

5.0 CONDITIONS OF USE

The BASF Corporation FE348® Series, ELASTOSPRAY® 81000 Series and SKYTITE® Series coated foam plastic roof coverings described in this report comply with, or are suitable alternatives to what is specified in, the code indicated in Section 1.0 of this report, subject to the following conditions:

5.1 Installation and application of the coated foam plastic roof coverings must comply with the code, the report holder's published installation instructions, and this report. If there are any conflicts between the report holder's installation instructions and this report, this report governs.

5.2 The spray-applied foam roofing insulation must be applied by installers trained or approved by BASF Corporation or trained by the Spray Polyurethane Foam Alliance.

5.3 Where moderate or heavy foot traffic occurs for maintenance of equipment, or is otherwise necessary, the roof covering must be adequately protected to prevent damage or wearing of the surface.

5.4 Foam plastic insulation must be separated from the interior of the building by an approved thermal barrier in accordance with IBC Section 2603.4, except as noted in Section 4.6.

5.5 The allowable wind uplift pressures listed in Table 3 are for the roof covering only. The deck and supporting structure to which the roof covering is attached must be designed to withstand the applicable wind pressures determined in accordance with ASCE 7.

5.6 Flashing must be installed at wall and roof intersections, at gutters and around roof openings, as required by IBC Section 1503.2.

5.7 The evaluation of the foam plastic insulation as a vapor retarder is outside the scope of this report.

5.8 The BASF polyurethane foam plastic insulation components are manufactured in Houston, Texas, under a quality control program with inspections by ICC-ES. The BASF and GAF roof coatings are manufactured in Phoenix, Arizona, under quality control programs with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Spray-Applied Foam Plastic Insulation (AC377), dated April 2016 (editorially revised April 2018).

6.2 Reports of tests on GAF Diathon® and BASF FECoat 1000 in accordance with ASTM D6083.

6.3 Reports of resistance to foot traffic testing in accordance with Section 4.6 of FM 4470.

6.4 Reports of tests in accordance with ASTM E108 (UL 790).

6.5 Reports of tests in accordance with ASTM E84 (UL 723)

6.6 Reports of tests in accordance with UL 1256.

7.0 IDENTIFICATION

7.1 Each container of polyurethane foam plastic insulation bears a label with the BASF Corporation, name and address; the product name (FE348® or ELASTOSPRAY® 81000 or SKYTITE®); the component type [A (FE800A or ELASTOSPRAY 8000A or SKYTITE 8000A and/or Isocyanate) or B (FE348 or ELASTOSPRAY 81000 or SKYTITE and/or Resin)]; the density (Component B only); the flame-spread index; the evaluation report number (ESR-2298), the shelf life; and the date of manufacture.

Each container of Diathon® acrylic roof coating is labeled with the GAF name, the product name (Diathon®), the date of manufacture, the shelf life, and the evaluation report number (ESR-2298).

Each container of FECoat 1000 acrylic roof coating is labeled with the BASF Corporation, name; the product name (FECoat 1000); the date of manufacture; the shelf life; and the evaluation report number (ESR-2298).

Each container of PolyBrite acrylic roof coating is labeled with the Polyglass U.S.A., Inc. name; the product name (PolyBrite 70, PolyBrite 71-HS); the date of manufacture; the shelf life; and the evaluation report number (ESR-4038).

Each container of KM Acryl Elastomeric Roof Coatings is labeled with the KM Coatings Manufacturing name; the product name (KM Acryl 15, KM Acryl 40 HS); the date of manufacture; the shelf life; and the evaluation report number (ESR-4038).

7.2 The report holder's contact information is the following:

BASF CORPORATION
1703 CROSSPOINT AVENUE
HOUSTON, TEXAS 77054
(888) 900-FOAM (3626)
www.spf.basf.com

7.3 The additional listee's contact information is the following:

GAF
2810 SOUTH 18TH PLACE
PHOENIX, ARIZONA 85034

TABLE 1—FIRE CLASSIFICATION—COATED FOAM ROOF ASSEMBLIES

SYSTEM NO.	FIRE CLASSIFICATION	ROOF DECK SUBSTRATE[1,2,3]	MAXIMUM ROOF SLOPE	SPRAY-APPLIEDFOAM PLASTIC INSULATION[4,5]		COATING		TOP SURFACING
				Designation	Thickness (inches)	Designation	Application Rate	
1F	A	Non-combustible	1½:12	FE348-2.5, 2.8 and 3.0 or ELASTOSPRAY 81255, 81285 and 81305 or SKYTITE 2.5, SKYTITE 2.8 or SKYTITE 3.0	1 to 2	Diathon® or FECoat 1000	Two coats at 1½ gallons per 100 ft² each	No. 11 granules, 30 pounds per 100 ft² (Optional)
2F	A	Non-combustible	3:12		1 to 4			No. 11 granules, 30 pounds per 100 ft²
3F	B	Combustible	½:12		1 (Minimum)			No. 11 granules, 30 pounds per 100 ft² (Optional)
4F	A	Non-combustible	2:12		1 to 4			—
5F	A	Non-Combustible	1:12	FE348-2.5, 2.8 and 3.0 or ELASTOSPRAY 81255, 81275, 81285 and 81305 or SKYTITE 2.5, SKYTITE 2.8 or SKYTITE 3.0	1 to 2	PolyBrite 70, PolyBrite 71-HS, KM Acryl 15 or KM Acryl 40 HS	Two coats at 1½ gallons per 100 ft² per coat	No. 11 granules, 30 to 50 pounds per 100 ft² (Optional)
6F	A	Combustible	¾:12		1 to 2	PolyBrite 71-HS or KM Acryl 40 HS	Two coats at 1½ gallons per 100 ft² per coat	No. 11 granules, 30 pounds per 100 ft² (Optional)

For **SI:** 1 inch = 25.4 mm; 1 gallon per 100 square feet = 0.41 L/m²; 1 gallon = 3.785 L; 1 ft² = 0.0929 m².

[1]Roof deck must be either minimum 15/32-inch-thick (11.9 mm) plywood, minimum No. 22 gage galvanized steel [0.030 inch (76 mm)] or concrete with a minimum compressive strength of 2500 psi as specified in Section 4.2.
[2]Noncombustible deck classifications are applicable for use over combustible decks (min. 15/32-inch-thick plywood) when minimum 1/4-inch-thick G-P Gypsum Corporation DensDeck® Roof Board is used directly over the combustible deck with all joints staggered a minimum of 6 inches from plywood joints.
[3]Unless otherwise noted, noncombustible substrates include concrete and steel decks as described in Section 4.2.2 of this report.
[4]All foam plastic insulation must be UL classified foam plastic, and must be limited to the maximum thickness specified for the applicable system. Any foam plastic insulation, where used, must bear the label of an approved agency indicating that the foam plastic has a flame-spread index of not more than 75 when tested at the maximum thickness intended for use in accordance with ASTM E84 (UL723), subject to the approval of the code official.
[5]Foam plastic insulation must be separated from the interior of the building by an approved thermal barrier in accordance with IBC Section 2303.4.1.5, except as described in Section 4.6 of this report.

TABLE 2—FIRE CLASSIFICATION—COATED FOAM OVER EXISTING ROOF ASSEMBLIES[4]

SYSTEM NO.	FIRE CLASSIFICATION[1]	EXISTING SYSTEM AND ROOF DECK SUBSTRATE[2]	MAXIMUM ROOF SLOPE	SPRAY-APPLIED FOAM PLASTIC INSULATION[5,6]		COATING		TOP SURFACING
				Designation	Thickness (inches)	Designation	Application Rate	
A1	Class A, B or C	BUR[3] over 15/32-inch-thick plywood with minimum ¼" G-P Gypsum Corp. DensDeck® Roof Board	¾:12	FE348-2.5, 2.8 and 3.0 or ELASTOSPRAY 81255, 81275, 81285 and 81305 or SKYTITE 2.5, SKYTITE 2.8 or SKYTITE 3.0	2	PolyBrite 71HS or KM Acryl 40 HS	Two coats at 1½ gallons per 100 ft² per coat	No. 11 granules, 30 pounds per 100 ft²
A2	Class A, B or C	BUR[3] over Non-combustible	¾:12		2	PolyBrite 71HS or KM Acryl 40 HS	Two coats at 1½ gallons per 100 ft² per coat	No. 11 granules, 30 pounds per 100 ft²

For **SI:** 1 inch = 25.4 mm; 1 gallon per 100 square feet = 0.41 L/m²; 1 gallon = 3.785 L; 1 ft² = 0.0929 m².

[1]Classification remains the same as the existing UL classified, code-complying, uninsulated, smooth-surfaced built-up roof (BUR) roof covering system. Loose gravel may be removed.
[2]Roof deck substrate beneath the existing built-up roof (BUR) must be either minimum 15/32-inch-thick (11.9 mm) plywood, minimum No. 22 gage galvanized steel [0.030 inch (76 mm)] or concrete with a minimum compressive strength of 2500 psi as specified in Section 4.2.
[3]BUR – the existing system must be an existing code-complying UL classified (Class A, B or C), uninsulated, built-up roof (BUR) covering system.
[4]When these systems are used for reroofing or recovering, installation must be in accordance with Section 4.7.2 of this report, and 2018 and 2015 IBC Section 1511 [2012 and 2009 IBC Section 1510], as applicable.
[5]All foam plastic insulation must be UL classified foam plastic, and must be limited to the maximum thickness specified for the applicable system. Any foam plastic insulation, where used, must bear the label of an approved agency indicating that the foam plastic has a flame-spread index of not more than 75 when tested at the maximum thickness intended for use in accordance with ASTM E84 (UL723), subject to the approval of the code official.
[6]Foam plastic insulation must be separated from the interior of the building by an approved thermal barrier in accordance with IBC Section 2303.4.1.5, except as described in Section 4.6 of this report.

TABLE 3—WIND RESISTANCE—COATED FOAM ROOF COVERINGS[1]

SYSTEM NO.	ALLOWABLE WIND UPLIFT (psf)	SUBSTRATE	FOAM PLASTIC INSULATION	
			DESIGNATION	THICKNESS (inches)
1W	187	Structural concrete	FE348-2.5, 2.8 and 3.0 or ELASTOSPRAY 81255, 81285 and 81305 or SKYTITE® 2.5, SKYTITE® 2.8 or SKYTITE® 3.0	2 (Minimum)
2W	105	Steel deck	FE348-2.5, 2.8 and 3.0 or ELASTOSPRAY 81255, 81285 and 81305 or SKYTITE® 2.5, SKYTITE® 2.8 or SKYTITE® 3.0	1 (Minimum - above top of deck)

For **SI:** 1 inch = 25.4 mm; 1 psf = 4.882 kg/m².

[1]Coating must be one of the following:
(a) GAF Diathon® applied in two coats at 1½ gallons per 100 ft² per coat.
(b) BASF FECoat 1000 applied in two coats at 1½ gallons per 100 ft² per coat.
(c) Polyglass U.S.A., Inc. PolyBrite 70 applied in two coats at 1½ gallons per 100 ft² per coat.
(d) Polyglass U.S.A., Inc. PolyBrite 71-HS applied in two coats at 1½ gallons per 100 ft² per coat.
(e) KM Coatings Manufacturing KM Acryl 15 applied in two coats at 1½ gallons per 100 ft² per coat.
(f) KM Coatings Manufacturing KM Acryl 40 HS applied in two coats at 1½ gallons per 100 ft² per coat.

Hydrop Stop Reports

ANDERS LASATER **ARCHITECTS**

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384 FOREST AVENUE, SUITE 12
LAGUNA BEACH, CA 92651
949 497 1827

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Written dimensions shall take preference over scaled dimensions and shall be verified in the field. Any discrepancy or error shall be brought to the attention of the Architect prior to the commencement of any work.

LICENSED ARCHITECT
E. ANDERS LASATER
C-30374
REN. 01/31/2023
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

A 12/10/2020 County PC rev 1
B 03/26/2020 County PC rev 2
C
D
E

Issued

1 10/30/2020 - Orange County
2
3
4
5

Printed 7/9/2021 11:43:15 AM

Hydrop Stop Reports

A6.14

VERSADJUST Adjustable Pedestals

Strength and Superior Functionality

January 2018

VERSADJUST Adjustable Pedestals

- Integral base leveling to correct for sloped substrates
- Each center-loaded pedestal supports 1250 pounds
- Quick-clip extenders to reach heights fast - up to 36 inches
- Pedestal bracing system for additional stability and heights over 24 inches
- Fast and easy installation - promotes labor savings
- Screw-to-adjust pedestals ensure perfectly level decks
- Impervious to water, mold, and freeze/thaw cycles
- Unique patented design
- Made in the U.S.A.

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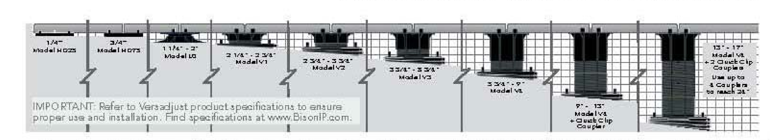
Specifications

- Supports 1250 lbf (5.56 kN) FS:3 per pedestal
- Select 1/8 or 3/16 inch (3.175 or 4.5 mm) tab size for pedestals
- Integrated base levelers accomodate 0 to ½ inch per foot slope (0-4%)
- Adjustable system height range is 2 ¼ to 36 inches (57.15 to 914.4 mm)
- Bison Brace System required for 24 to 36 inches (609.6 to 914.4 mm)
- Accessories available for heights from 1/8 to 2 ¼ inches (3.175 to 57.15 mm)
- Contains 20% post-industrial recycled material
- Impervious to water, mold, and freeze/thaw cycles
- Made in the U.S.A.

	Model No.	Description	Range	Notes
Pedestals	V1-18 V1-316	Adjustable Pedestal	2 1/4" - 2 3/4" (57.15 – 69.85 mm)	--
Pedestals	V2-18 V2-316	Adjustable Pedestal	2 3/4" - 3 3/4" (69.85 – 95.25 mm)	--
Pedestals	V3-18 V3-316	Adjustable Pedestal	3 3/4" - 5 3/4" (95.25 - 146.05 mm)	--
Pedestals	V4-18 V4-316	Adjustable Pedestal	5 3/4" – 9" (146.05 - 228.6 mm)	--
	VC2	Quick Clip Extender	Adds up to 4" (101.6 mm) each	Insert VC2 into V4 base or another VC2 to reach up to 36" (914.4 mm)
Tabs	VT18 VT316	Spacer Tab	1/8" (3.175 mm) wide 3/16" (4.5 mm) wide	Select 1/8" (3.175 mm) or 3/16" (4.5 mm) Tab Size
	VT18 VT316	Ultra Low Height Pedestal	1/8" (3.175 mm)	--
	HD25-18 HD25-316 HD50-18 HD50-316 HD75-18 HD75-316	Fixed Height Stackable Pedestals	1/4" (6.35 mm) 1/2" (12.7 mm) 3/4" (19.05 mm)	Stack up to 4
	LO-18 LO-316	Low Height Adjustable Pedestal	1 1/4" - 2" (31.75 - 51 mm)	Supports 750 lbf (3.34 kN) FS:3 per Pedestal
Accessories	B11	Rubber Flexible Shim	1/16" (1.588 mm)	--
Accessories	PS1	Plastic Rigid Shim	1/8" (3.175 mm)	--
Accessories	LD4	Base Leveler	Adds 1/4" (6.35 mm) to Pedestal height Stack up to 4 total to base of Pedestals	Maximum of 1" per foot slope (8%)
Accessories	FS-1	Wood Tile Fastening Kit*	Secures Bison Wood Tiles to Bison Adjustable Pedestals	
Accessories	JT	Joist Top	Adds 3/16" (4.5 mm) in height	Works with 2x and 4x lumber on Adjustable Pedestals
Accessories	FIB	Floating Insulation Base	12" x 12" x 11/16" (304.8 x 304.8 x 17.463 mm) For use over roofing systems with 20-40 psi (137.895 - 275.79 kPa) bearing capacity	
Accessories	FFB	Floating Foundation Base	12" x 12" x 1/4" (304.8 x 304.8 x 6.35 mm) For use under Pedestals on grade (soil)	

*US #8,302,356 Patent and Patents Pending. Copyright 2018 United Construction Products, Inc. All Rights Reserved.



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Fax 303-825-5988

May 2015

VERSADJUST Specification

Versadjust V Series Specification
SECTION 07760 DECK PEDESTALS

The Versadjust, adjustable V-Series line reaches heights from 2 ¼ inches to 36 inches, has a 1250 pound weight bearing capacity FS:3 and contains built in slope compensation from 0 – one half inch per foot slope. Precise spacer tabs allow for deck drainage, and the screw-to-adjust height setting assures a perfectly straight and level deck. Quick Clip Coupler© (patent pending) increases the speed and efficiency installing pedestals at heights over 9 inches. Accessories are available to compensate for additional slope and accommodate heights from 1/8 inch to 2 ¼ inches. Use Versadjust Pedestals with Bison Brace System for Excess Height Installations from 24"-36" in height or for installations requiring additional stability. The Bison Versadjust pedestal has a broad footprint that provides stability, is impervious to freeze thaw cycles, and offers a range of heights suited to almost any application. Made in the USA.

PART 1 GENERAL

1.1 SECTION INCLUDES
*** NOTE TO SPECIFIER ** Delete items below not required for project.*

Adjustable Deck Pedestals.

1.2 RELATED SECTIONS
*** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.*
Section 04220 - Concrete Unit Masonry.
Section 04400 - Stone Assemblies.
Section 04410 - Dry-Placed Stone.
Section 06150 - Wood Decking.
Section 06500 - Structural Plastic Decking.
Section 06730 - Composite Decking.
Section 07500 - Membrane Roofing.
Section 07720 - Roof Walkways.
Section 07760 - Roof Pavers.
Section 09690 - Access Flooring.
Section 02780 - Unit Pavers.

1.3 REFERENCES
*** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.*
ASTM D 1238-04 – Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer.
ASTM D 792-00 – Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
ASTM D 638-03 – Standard Test Method for Tensile Properties of Plastics
ASTM D 256-06 – Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
ASTM D 648-06 – Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.

1.4 SUBMITTALS
Submit under provisions of Section 01300.

Product Data: Manufacturer's data sheets on each product to be used, including:
A. Preparation instructions and recommendations.
B. Storage and handling requirements and recommendations.
C. Installation methods.
D. Shop Drawings: Submit shop drawings detailing the installation methods. Coordinate placement with locations noted on the Contract Drawings.

1.5 QUALITY ASSURANCE
A. Manufacturer Qualifications:
1. All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten (10) years experience.
B. Installer Qualifications:
1. The deck support system installer must have a minimum of two (2) years proven construction experience, be capable of estimating and building from blueprint plans and details, determine elevations, and properly handle materials. All Work must comply with the Bison installation application procedures for deck support work specified herein.

** NOTE TO SPECIFIER ** Retain the next paragraph only if the Pedestal system is installed over a roofing or waterproofing membrane. Delete if not required.

C. Special Considerations
1. The contractor assumes the responsibility for and must take into consideration the structural capability and adequacy of the structure to carry the dead and live load weight(s) involved, and that the density of any insulation is satisfactory to resist crushing and damaging the waterproofing membrane.

** NOTE TO SPECIFIER ** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship
1. Finish areas designated by Architect.
2. Do not proceed with remaining work until workmanship is approved by Architect. *.(if applicable)*
3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING
A. Deliver and store Bison Deck Supports and system components with labels intact and legible.
B. Inspect all delivered materials to insure they are undamaged and in good condition.
C. Store and dispose of solvent-based materials such as construction adhesive, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 PROJECT CONDITIONS
A. There are no pedestal installation temperature restriction guidelines other than the practical considerations of working in any unsafe condition or inclement weather.
B. Deck supports specified are to be for used with pedestrian traffic only.
C. Perimeter Walls and Containment
D. Pedestrian decks must be restrained by perimeter blocking or walls on all sides. Lateral movement greater than 1/8" is unacceptable and will be subject to rejection.
E. It is recommended that the deck surfacing tiles or pavers sit above the waterproofing integral flashing and or counter flashing. In situations where the perimeter of the deck comes into contact with the flashing material, protective wall covering should be specified if deemed necessary by specifier.
F. Heavy Roof Top Features. Flat bottom features such as planters, heavy benches, water features, hot tubs, etc. always require individual support that is in addition to the deck pedestal system.
1. A minimum of one additional pedestal support must be installed for every 500 lbs. (or portion thereof) of static loading. These additional support pedestals must be installed directly under the decking and evenly spaced immediately below the feature locations. One additional pedestal must be placed under corner of any rectangular feature.
2. When installing Bison Cubes, additional support may be needed under the center and corners of the cubes depending on the size and anticipated weight loads.
3. Features supported by legs or feet are not advised or considered unacceptable because of the consequences of point loading.
4. Any feature that creates vibration must be provided for in special consultation and written agreement with Bison. Cell phone towers, heavy planters and other similar features require their own separate curb designed by an architect or engineer.
G. All decks shall be designed to not exceed the design capacity of the pedestal.
H. The substrate immediately below the pedestals shall provide positive drainage.
I. In the case of decks over roofing substrates, roof systems must meet local building code and be in accordance with the NRCA recommended good construction practices. Only roofing manufacturer approved systems shall be used.
J. For applications over roofing and waterproofing membranes Bison Innovative Products recommends that a 12" x 12" piece of the same type of membrane be installed as a separate protection slip sheet underneath each pedestal.

** NOTE TO SPECIFIER ** Retain the next paragraph only if the Pedestal system is installed over a roofing or waterproofing membrane. Delete if not required.

K. Decks over roofing and waterproofing
L. Bison Pedestal Installation: Bison pedestals must be installed on surfaces with a minimum 40 psi bearing capacity.
M. Bison Pedestal Installation: Bison pedestals must be supported by a surface that provides a minimum
N. 40 psi bearing capacity. There are alternate ways to accomplish the non- invasive and required support.
O. Roof top applications : Two basic types of roof systems are commonly found in the US and Canada for retrofit and new roofing. Roof systems that specify insulation below the waterproofing layer, and roof systems that have extruded insulation above the waterproofing membrane.
1. Roof Type 1 – Common Insulation installed below Roof Membranes.
a. Currently the most typical and common roofing systems specify roofing membranes be installed over common rigid insulation boards that are typically manufactured from poly-isocyanurate, perlite, or wood fiber-board materials. These typical systems incorporate 20 psi density insulations that need additional support to create an adequate bearing surface. That is typically accomplished in one of three ways.
1) Incorporate one of the thin Cap Bearing Protective Layer Insulation specifications that call for a very thin protective layer to be installed on top of the common 20 psi insulation. Such a cap type insulation product is commonly formed as a thin dense low-foamed isocyanurate layer, and provides the necessary pedestal support.
2) Bison Model FIB Pedestal Base: Install an enlarged base that supports the pedestal to distribute the anticipated loaded weight of a pedestal over an enlarged area. Bison manufacturers the Floating Insulation Base (Model FIB) for this purpose. Model FIB is specifically designed to be directly installed over Type 1 roof systems that incorporate 20 psi common insulation boards.
3) Insulation above the Membrane: Install a 1.5" thick (min.) layer of dense, closed cell 40 psi (min.) extruded cell poly-styrene insulation board above the common roofing system that has buried insulation to provide support for the pedestal system.
2. Roof Type 2 – Closed Cell Insulation Protecting Roof Membrane Systems.
a. Inverted Roof Membrane Systems that incorporate 40 + psi density closed cell extruded poly-styrene insulation on top of the roofing membrane are the second type. The dense extruded polystyrene is capable of bearing Bison pedestal weights. Before the ballast rock is installed, deck system pedestals can be installed directly on the insulation. Varying densities and thicknesses of extruded polystyrene are commonly used, and substantial ballasting is required.
b. Bison pedestals can be installed directly on top of gravel removed 40 psi, or greater, extruded closed cell polystyrene insulation with 1.5" thickness or greater.
P. Decks on Grade:

1. Any substrate soil that is to receive pedestals shall be adequately compacted and have positive drainage slope. A "walkway gravel" base (ie: ¼" Minus (breeze) should be installed and compacted at Bison Deck Support locations.
2. Bison Floating Foundation Bases (FFB) must be used beneath all on-grade Bison Deck Support decks. Level the surface and install directly on grade as a base.
3. A wall or perimeter containment on all open sides is required. Install structural perimeter containment that restrains the entire decking system.

1.8 WARRANTY
A. At project closeout and upon request, Bison Deck Supports can provide to the Owner or Owners Representative, an executed copy of the manufacturer's standard document outlining the terms, conditions and limitations of their limited warranty against manufacturing defect for a period of three (3) years.
The Contractor warrants that his work will remain free from defects of labor and materials used in conjunction with his work in accordance with the General Conditions for this project or a minimum of three (3) years.
It is the responsibility of the Contractor installing the product listed in this section to coordinate warranty requirements with any related sections or adjacent Work. Notify the Architect immediately of any potential lapses or limitations in warranty coverage.
For use with pedestrian traffic only – Never use Bison Deck Supports to support decks that have wheeled, motorized or equipment traffic.
Decks should be restrained on all sides and not have lateral movement in excess of 1/8".

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. Acceptable Manufacturer: Bison Innovative Products; 2395 West 4th Avenue, Denver, CO 80223. Toll Free 800-333-4234. Phone 303-892-0400. Fax 303-825-5988. Email: Sales@BisonIP.com. Web: www.BisonIP.com.

** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

B. Substitutions: Not permitted.
C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 APPLICATIONS/SCOPE
Furnish and install a complete adjustable deck support system with a maximum cavity height of up to:
A. Versadjust Pedestals maximum cavity height 24 inches (610 mm).
B. Versadjust Pedestals with Bison Brace System for excess height installations in the range of 24-36 inches.
C. Deck supports are not designed for supporting decks that carry vehicular traffic or equipment including but not limited to snow removal equipment, ATV's, forklifts, or any motorized vehicles.

Consult the Manufacturer and the Project Engineer regarding the following:
D. When spacer tab condition or design requires spacing between decking tiles or concrete pavers other than the standard spacing required by the manufacturer.
E. When considering use for other than a raised decks (e.g. interior floors, stairs, etc.).
F. When the required pedestal height exceeds the safe limits as determined by the Manufacturer.
G. When pedestal load capacity exceeds the maximum listed.
H. When anticipating installation of any items with excess weight on top of the deck.
I. When using Bison Deck Supports pedestals on grade (soil).
J. When greater pedestal load capacity is required.

2.3 VERSADJUST DECK PEDESTALS — Typical Height Range 2 ¼" -36 inches, Weight Bearing 1250 lbs/pedestal FS:3
V-Series Pedestals Made in the USA

Adjustable Pedestals:
*** NOTE TO SPECIFIER ** Select Required size(s) from the next seven options.*
A. Model: V1 – 18 — 2¼" – 2 ¾" (57mm – 70mm) with 1/8 inch tab
B. Model: V1 – 316 — 2¼" – 2 ¾" (57mm – 70mm) with 3/16 inch tab
C. Model: V2 - 18 — 2¾" - 3¾" (70mm – 95mm) with 1/8 inch tab
D. Model: V2 - 316 — 2¾" - 3¾" (70mm – 95mm) with 3/16 inch tab
E. Model: V3 – 18 — 3¾" - 5¾" (95mm – 146mm) with 1/8 inch tab
F. Model: V3 – 316 — 3¾" - 5¾" (95mm – 146mm) with 3/16 inch tab
G. Model: V4 – 18 — 5¾" - 9" (146mm – 229mm) with 1/8 inch tab
H. Model: V4 – 316 — 5¾" - 9" (146mm – 229mm) with 3/16 inch tab
I. Model: VC2– — Coupler adds between 0" to 4" inches (0mm-102mm)
J. Model: V4 + VC2 — 9 inches to 13 inches (229mm – 330mm).
K. Model: V4 + VC2 + VC2 — 13 inches to 17 inches (330mm - 432mm)
L. Model: V4 + VC2 + VC2 + VC2 — 17 inches to 21 inches (432mm - 533mm)
M. Model: V4 + VC2 + VC2 + VC2 + VC2 — 21 inches to MAXIMUM HEIGHT 24 inches (533mm - 610mm)
N. If over 24" use Couplers in conjunction with Bison Brace system. Base Model: Includes 2 adjusting base leveler disks
1. Diameter: 8" inches (203 mm) diameter x 3/16 inch (4.75mm) top wall thickness.
2. Bearing Surface Area: 50.24 square inches (1276 sq. mm)
3. Six (6) - 1/4 inch (6mm) diameter holes for drainage and / or mechanical attachment.
4. Top Unit: 5/32" inch (4mm) thick plate with a 42.39" square inch (736.6 sq. mm.) bearing surface area.
5. Spacer Tabs uniform spacing between pavers:
6. VT18 1/8 inch (3.175 mm) tab thickness.
7. VT316 3/16 inch (4.5mm) tab thickness.
8. Load Capacity: Maximum 1250 lbs (567 kg) per pedestal with a Safety Factor of 3 (FS:3).
9. Material: Mineral Filled High Density Copolymer Polypropylene. Bison #B-PP-2025
a. Contains 20% Post-industrial recycled material.

*** NOTE TO SPECIFIER ** Delete the next paragraph if Low Height Pedestal Supports are not required. Retain only model(s) specified from the available options.*

Low Height Pedestal Supports: (Note: NO slope compensation is included with these models)
O. Model: Fixed Height VT18 or VT316 1/8 inch (3.175mm) tall,
1. Integral Spacer Tabs: Specify 1/8 inch or 3/16 inch
2. Material: Mineral Filled High Density Copolymer Polypropylene. Bison #B-PP-2025
a. Contains 20% Post-industrial recycled material.
3. Bearing Surface 17.75 square inches.

P. Model: HD25-18 — Stackable (4 Max) 1/4 inch (6.4mm) tall, with integral 1/8" Spacer Tabs
Q. Model: HD25-316 — Stackable (4 Max) 1/4 inch (6.4mm) tall, with integral 3/16" Spacer Tabs
R. Model: HD50-18 — Stackable (4 Max) 1/2 inch (13mm) tall, with 1/8" integral Spacer Tabs
S. Model: HD50-316 — Stackable (4 Max) 1/2 inch (13mm) tall, with 3/16" integral Spacer Tabs
T. Model: HD75-18 — Stackable (4 Max) 3/4 inch (19mm) tall, with 1/8" integral Spacer Tabs
U. Model: HD75-316 — Stackable (4 Max) 3/4 inch (19mm) tall, with 3/16" integral Spacer Tabs
1. Material: Mineral Filled High Density Copolymer Polypropylene. Bison #B-PP-2025
a. Contains 20% Post-industrial recycled material.
2. Bearing Surface Area: 37.68" sq inches (9032 sq mm).

V. Model: Adjustable LO: 1 1/4 inches to 2 inches (32mm - 51mm).
1. Rotating Base:
a. Size: 7 7/8 inch (200mm) diameter x 3/16 inch (4.75mm) top wall thickness.
b. Bearing Surface Area: 48 square inches (310 sq. cm.).
c. Four (4) - 1/4 inch (6mm) diameter holes for drainage and / or mechanical attachment.
W. Top Unit: 5/32 inch (4mm) thick plate with a 29 square inch (187 sq. cm.) bearing surface area
1. Material: Mineral Filled High Density Copolymer Polypropylene. Bison #B-PP-2025
a. Contains 20% Post-industrial recycled material.

** NOTE TO SPECIFIER ** Delete the next paragraph if Leveler Disks are not required. Retain only model(s) specified from the two available options.

Base Leveler Disks:
X. Model: LD4 - Placed beneath pedestals to compensate for slopes up to 1 inch per foot.

1. Slope: 1/4 inch per foot each. Two additional LD4 units may be added.
2. V Series Pedestals include two (2) Model VB Integral Base Leveler Disks.
3. All other pedestals may stack up to four LD4's under one pedestal for up to 1 inch of slope compensation.
4. Dimensions: Center point thickness 3/8 inch (9.5mm).
5. Material: Mineral Filled High Density Copolymer Polypropylene. Bison #B-PP-2025
6. Contains 20% Post-industrial recycled material.

** NOTE TO SPECIFIER ** Delete the next paragraph if Shims are not required. Retain only model(s) specified from the two available options.

Shims:
Y. Model: B11 Flexible Shim 1/16 inch
1. Use no more than 4 shims. If using only 1/4 segment, adhere it to the pedestal with construction adhesive.
2. Material: (1.5mm) Sanaprene.
Z. Model: PS1 Rigid Poly Shims 1/8 inch (3.175mm
1. Use no more than 2 shims. If using only 1/4 segment, adhere it to the pedestal with construction adhesive.
2. Material: Mineral Filled High Density Copolymer Polypropylene. Bison #B-PP-2025
3. Contains 20% Post-industrial recycled material
AA. Model: BB-Wedge
1. Spacing Wedge
2. Material: Mineral Filled High Density Copolymer Polypropylene. Bison #B-PP-2025
3. Contains 20% Post-industrial recycled material.
4.
*** NOTE TO SPECIFIER ** Delete the next paragraph if Base Pads are not required. Retain only model(s) specified from the available options.*
Base Pads:
BB. Model FFB: Pedestal base pad for on grade use, provides a large 12 inch by 12 inch x ¼ inch (305mm x 305mm x 6 mm) base bearing surface for on grade installations.
CC. Model FIB: Pedestal base pad for use on roofing and waterproofing installations over low density insulation, provides a large 12 inch by 12 inch x 11/16 inches (305mm x 305mm x 17.5mm) base bearing surface.
1. Material: Mineral Filled High Density Copolymer Polypropylene. Bison #B-PP-2025 — FIB also contains galvanized metal pad.
2. Contains 20% Post-industrial recycled material.
Joist Top:
DD. Model JT: Pedestal Accessory to construct joist and plank decks. Accommodates 2 x and 4 by joists.
1. Adds 3/16" (4.5mm) in height. Creates a base bearing surface for joist installation.
2. Material: Polypropylene

Bison Brace System:
Required for Installations 24"-36" in height or for applications requiring additional stability.

*** NOTE TO SPECIFIER ** Select Required size(s) from the next seven options.*
EE. Model: BB-C – Bison Brace Collar, Fits Model V3 & V4 only
FF. Model: BB-S – Short Brace Kit
1. For 16"-22"wide Deck Tiles
2. Kit contains 2 each 8" long brace pieces, Screw & Nut
GG. Model: BB-L Long Brace Kit
1. For 22"-36" wide Deck Tiles
2. Kit contains 2 each 16" long brace pieces, Screw & Nut
HH. Model: BB-Pegs
1. Individual pegs to be inserted into Versadjust Pedestal Base
II. Model: BB-P
1. Pegs pre-inserted into Versadjust Pedestal Base at the factory
2. Add to any Versadjust Pedestal Model – for example specify: V4 + BB-P
3. Material: Mineral Filled High Density Copolymer Polypropylene. Bison #B-PP-2025
4. Contains 20% Post-industrial recycled material.
*** NOTE TO SPECIFIER ** Delete the next paragraph if Bison Wood Tiles and Fastening Kit are not required. Retain only model(s) specified from the available options.*

2.4 BISON WOOD TILES:
Weight Bearing Capacity 1,250 lbs./ per tile FS:3
A. Model:WT-IPE-24RIBBED Ipê Wood Tile
1. Dimensions: 23 7/8" x 23 7/8" x 1.69"nominal
2. Weight per tile: 24 lbs Weight per square foot: 6 lbs.
3. Fire Rating: Class A – meets & exceeds ASTM E108-07a Spread of Flame Test
4. Color: Brown Note: Tiles are a natural product and have variations in color and grain.
5. Surface: Ribbed
B. Model:WT-IPE-24SMOOTH Ipê Wood Tile
1. Dimensions: 23 7/8" x 23 7/8" x 1.69"nominal
2. Weight per tile: 24 lbs Weight per square foot: 6 lbs.
3. Fire Rating: Class A – meets & exceeds ASTM E108-07a Spread of Flame Test
4. Color: Brown Note: Tiles are a natural product and have variations in color and grain.
5. Surface: Smooth
C. Model:WT-IPE-48 Ipê Wood Tile
1. Dimensions: 47 7/8" x 23 7/8" x 1.69" nominal
2. Weight per tile: 48 lbs Weight per square foot: 6 lbs.
3. Fire Rating: Class A – meets & exceeds ASTM E108-07a Spread of Flame Test
4. Color: Brown (Note: Tiles are a natural product and have variations in color and grain.)
5. Surface: Ribbed, Smooth by Special Order
D. Model: WT-FSC-MAS -24 Massaranduba Wood Tile (FSC Certified SCS-COC-002585)
1. Dimensions: 23 7/8" x 23 7/8" x 1.69" nominal
2. Weight per tile: 24 lbs Weight per square foot: 6 lbs..
3. Fire Rating: Class A – meets & exceeds ASTM E108-07a Spread of Flame Test
4. Color: Reddish Brown (Note: Tiles are a natural product and have variations in color and grain.)
5. Surface: Ribbed
E. Model: WT-FSC-IPE -24 Ipê Wood Tile (FSC Certified SCS-COC-002585)
1. Dimensions: 23 7/8" x 23 7/8" x 1.69" nominal
2. Weight per tile: 25 lbs Weight per square foot: 6.25 lbs.
3. Fire Rating: Class A – meets & exceeds ASTM E108-07a Spread of Flame Test
4. Color: Reddish Brown (Note: Tiles are a natural product and have variations in color and grain.)
5. Surface: Smooth
F. Model: FS-1 Fastening Kit for Bison Wood Tile Wood Tile Fastening Kit:
1. Model: FS1 Fastening Kit REQUIRED for use with Bison Pedestals and Bison Wood Tiles ONLY.
2. Fastens Wood tiles to the pedestals without penetrating or damaging wood.
3. Material: Mineral Filled High Density Copolymer Polypropylene. Bison #B-PP-2025 — FIB also contains galvanized metal pad.
4. Contains 20% Post-industrial recycled material.
5. FS1 Screw

G. Care & Maintenance of Wood Tiles:
1. Bison Wood Tiles are a natural material and can absorb or loose moisture in different climates.
2. Wood Characteristics: Bison Wood Tiles are made of Ipê and Massanduba hardwoods which contain a rich variety of graining and coloration and are exceptionally dense and resistant to insects. The natural shading, coloration and graining variations add to the architectural character and overall visual appeal of the finished product.
3. Storage: Keep product out of direct sunlight until it is ready to be installed. Wood tiles should not be stored tightly wrapped in plastic. Bison wood tiles will adjust to the climate where they are installed and may have or develop some slight cracking or checking.
4. General Safety Precautions when working with Bison Wood Tiles: Wear safety glasses with side shields when handling, cutting, sanding, or grinding this material. Use a face shield for processes that may generate excessive dusts and splinters. Wear puncture resistant work gloves, such as leather when handling. Respirators must be worn if the ambient concentration of airborne contaminants exceeds prescribed exposure limits. Dust masks may be worn to avoid the inhalation of nuisance dust. Dust masks are not adequate protection in environments above the occupational exposure limit. Cutting, Grinding, or Sanding should be done outdoors or in a well-ventilated area. Refer to product MSDS for more information.

5. Cutting: Carbide or diamond tipped blades are highly recommended. Bison wood tiles have a very high density and a slower feed rate is recommended when cutting tiles. In order to minimize checking (small cracks) the installer must seal any cut ends with Anchorseal® or other equivalent product. Apply sealer with a foam brush to the cut ends only, being very careful to not get any on the top surface of the wood. Reassembly: To reassemble tiles after cutting, the installer must pre-drill holes from the bottom, using a carbide drill bit designed to extract stock during drilling. Exercise caution to not drill through the top surface. In addition, use only stainless steel screws which are durable and provide maximum fastening power.
6. Fastening: Bison strongly recommends the use of Bison Deck Supports and the FS1 Fastening Kit* (*patent pending) when installing Bison Wood Tiles. The Bison pedestal/wood tile system installs quickly and securely and allows for removal later if required. The FS1 Fastening Kit, available exclusively from Bison, fastens wood tiles to the pedestals without penetrating or damaging the wood.
7. Cleaning & Sealing: If desired, Bison Wood Tiles can be periodically cleaned and sealed. Wood stabilizers or sealants can help mitigate the loss of moisture on the top of the boards and minimize checking and splitting. The installer can lightly wax the ends of the wood if desired. *Note: small checks and splits are normal and a natural part of the wood.* The following manufacturers offer cleaning and sealing products specifically designed for use with exotic hardwoods: Cabots, Penofin, Messmers. *Important: Bison Innovative Products recommends that you test any cleaners or sealants in an inconspicuous area first before applying them to the installed deck.*
8. Sanding: If you plan to seal your deck and desire a more uniform appearance, a light sanding is highly recommended. Use 80 grit sandpaper to lightly sand the wood tiles and thus reduce the appearance of any minor marks, scratches or surface imperfections. After sanding, sweep the tiles and use water to rinse away any remaining dust and allow to dry thoroughly before applying sealer. Exercise caution when sanding wood with the scuff resistant surface. *Important: Always test any product you apply in an inconspicuous place to make sure it performs as you expect.* Maintaining Tile Color: To better maintain the rich coloration of the tiles, you can apply a penetrating oil finish with UV blocker. These products offer UV protection as well as mold and mildew protection. Before applying any finish, first clean and remove any residue from the wood tile as described above. After your initial coat is applied, an annual maintenance coat will help keep the coloration vibrant for years to come. *Important: Always test any product you apply in an inconspicuous place to make sure it performs as you expect.*
9. Natural Aging: Left to weather naturally and, depending on climatic conditions, Bison wood tiles will develop a silvery-gray patina. If you prefer this look, Bison recommends that a coat of wood stabilizer be applied after installation. Some products provide UV protection, allowing your wood tiles to acclimate more uniformly as weather and environmental conditions season the deck. Note: each board has unique characteristics and will weather at different rates. The amount of direct and indirect sunlight, temperature, humidity, moisture and other local conditions will factor into the time and shading of the deck.
10. Periodic Cleaning: Commercial Cleaning Products: Bison recommends using a deck cleaning product which safely cleans the wood and also kills mold spores. The deck tiles are ready to re-seal once they are cleaned. *Important: Always test any product you apply in an inconspicuous place to make sure it performs as you expect.*
11. Pressure Washing: You may also use a pressure washer to remove built-up dirt, mold or mildew from your wood tiles. Caution: use the lowest PSI for the species of wood you are cleaning. A maximum of 1200 PSI is suggested for Bison Wood Tiles. Bison also recommends using a professional deck cleaning contractor. *Important: Test an inconspicuous area first and be careful to use the wand in even strokes to avoid lap marks.*

2.5 EXAMINATION
A. Do not begin installation until substrates have been properly prepared.
B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
C. Verify all elevations, required pedestal heights and deck dimensions before commencing work.

2.6 PREPARATION
A. Establish accurate lines, levels and pattern.
B. The substrate surface that will receive the deck supports must be well compacted (on grade) and structurally capable of carrying the dead and live loads anticipated.
C. The substrate must be clean and free of projections and debris that could impair the performance of the pedestals or the total deck system.
** NOTE TO SPECIFIER ** Delete the next paragraph if Pedestals are not installed in conjunction with roof systems.
** NOTE TO SPECIFIER ** Retain the next paragraph only if an IRMA (PRMA) configuration is specified.
D. Decks over roofing and waterproofing: verify that installation conforms to section 1.7H of this specification.
E. Decks on Grade: verify that installation conforms to section 1.7I of this specification.
F. Installation requirements vary for each individual project site. Deck materials used, pattern, grid layout, starting point, and finished elevation should be shown on plan view shop drawings which have been prepared and approved by the designer, installing contractor and/or owner.
G. Once a starting point and the finished elevation of the deck surface have been determined, the support system elevation (finished elevation minus deck material thickness) is established and marked around the perimeter using a transit "torpedo" water level or laser leveling device.
H. Precise measurements should be taken and deck area should be accurately defined. Mark off and square all outside edges with control lines (chalk lines or spray paint). Install two (2) lines that are perpendicular to each other across the deck area. Continue to mark a grid of lines in both directions marking the location of each pedestal. To assure a square layout, use the control lines as references to periodically check the layout during installation.

2.7 INSTALLATION
A. Install in accordance with manufacturer's instructions.
B. If required, place a Floating Insulation Base (FIB) board or Floating Foundation Base (FFB) in the location on the grid of each pedestal.

C. Next, a deck support must be placed where each measured grid line meets the perimeter. Remove two (2) spacer tabs in line with one another on top of each deck support placed around the perimeter. Remove all four (4) spacer tabs at corners.
D. Adjust each deck support to a "top of pedestal" elevation marked around the perimeter. Normally the deck support is positioned as close to the perimeter as possible, with the two remaining spacer tabs aligned with the grid line. Using the "top of pedestal" elevation marked on the perimeter, stretch a mason's line along and slightly ahead of the second row of deck supports. A laser leveling device may also be used for this purpose.
E. On larger decks, it is recommended that pedestals be pre-sorted and pre-set to the proper elevation and placed in position prior to the installation of pavers or tiles.
F. As the deck supports located along the grid lines are loaded with pavers or tiles, fine vertical adjustment can be made by rotating the base or bottom of the deck support. Clockwise rotation of the pedestal base will raise the bearing surface and the deck. Counter-clockwise rotation will lower the top bearing surface.
G. Bison pedestals have built in height limit indicator 'bumps'. When pedestal is fully extended, height limit indicator "bumps" will be felt and heard, indicating the maximum height of the pedestal. Do not extend pedestal beyond the height limit indicators. Do not exceed maximum height listed on pedestal, use the next size pedestal. A VC2 coupler must be added to the V4 model to achieve greater heights. Always maintain adequate thread engagement. Never over extend any pedestal.
H. Slight irregularities in decking panel thickness can be compensated for by using one to two shim segments. Place on top of the pedestal, under the corner(s) of the decking tile or paver. Use no more than two (2) shims on top of the pedestal and always adhere 1/4 wedges with construction adhesive.
I. Stackable Fixed Height Pedestals: Complete deck and grid layout as instructed above. Stack no more than four (4) fixed height pedestals together and place in lieu of adjustable pedestals where needed. Spacer tabs can be removed to accommodate perimeter and corner support locations.
J. V Series Slope Compensation:
1. The V Series has integrated base leveler disks that compensate for up to ½ inch per foot slope. Additional slope compensation can be added by placing two additional LD4 disks under the pedestal base to compensate for up to 1 inch per foot of slope.
2. Place the thickest edge of the disk (located on the edge by a small finger tab) at the down slope side of the deck support, one disk compensates for 1/4 inch per foot of slope. Using two to four disks, rotate one in relation to the other to create a level deck support.
3. Shims may be used in multiples, whole or segmented, and placed under the base to level the deck support.
4. Under a pedestal: All shims under a pedestal must be adhered to each other or the pedestal (NOT to the roofing membrane) with construction adhesive. Shim no more than 1/8 inch (3mm) beneath each pedestal.
5. On top of a pedestal: Use no more than 2 shims.
6. Versadjust Series Pedestal Bracing with Bison Brace
7. Excess Height: Required for added Stability for Installations 24"-36" in height
8. For Installations requiring additional stability.
9. One level of Bison Brace Collars must be installed at the mid-point height of the pedestal column. Once the standard height is established (i.e. 18" for 36" overall height) that same level of Collar placement must be maintained. NOTE: Final adjustment for top of deck height must be made prior to setting the standard height for the Brace Collars.
10. BB – S — Short Bison Brace
11. Install around the outside perimeter of a walk deck where pedestals are installed where less than the typical 24" spacing occurs and shorter arms are required.
12. BB – L — Long Bison Brace
13. Install in the interior area of a walk deck where pedestals and 23 - 7/8" x 23 – 7/8" surfacing panels are installed providing uniform 24" spacing.
14. Install Bison Braces by placing the two-hole brace ends over the self-locking pegs on Collar or base, fit brace arms together making sure all brace teeth are firmly interlocked and secure with Screw and Wing Nut. Braces should be installed as tightly as possible to create a rigid bracing system between each vertical pedestal column.
15. Two Bison Brace arms extend outward from each corner pedestal in perpendicular rows. This results in a series of braces attached to Collars (BB – C) in each horizontal direction from one side of the deck to the other and from one end to the other.
16. Once the horizontal perpendicular run(s) of Bison Braces are properly installed at the correct height(s), the deck surfacing panels may be installed as the decking system progresses.

2.8 DECK SUPPORT PLACEMENT AND FINAL ADJUSTMENT
A. Deck supports and the deck surface panels must be placed as the manufacturer directs in these written instructions. Use of labor saving devices, such as paver lifters, is encouraged, especially on large jobs.
B. Pedestals are designed to be rotated for final slight adjustment when pedestals are fully loaded. Deck supports should be leveled in each succeeding row as the installation proceeds. Final height adjustment or maintenance is easily made by simply rotating the base in a clockwise or counter-clockwise direction to raise or lower the deck surface material.
C. Additional sections of shims may be used and should be available for regular maintenance. Shims may be used in multiples, whole or segmented, and placed under the base or on top the pedestal to level the deck support.
D. On top of pedestal: Use construction adhesive to adhere sections of shims. Construction adhesive is not required when using whole shims on top of a pedestal.
E. Beneath a pedestal: Use a small amount of construction adhesive to adhere sections of shims and/or whole shims to each other or to the pedestal. Unless specified to do so, DO NOT use construction adhesive to adhere pedestal or shims to insulation, roofing or waterproofing membrane.

2.9 PERIMETER CONTAINMENT
A. Any area of a deck that is not restrained by a parapet or foundation wall must be 'boxed-in' and contained. The deck panels will move if all sides are not adequately restrained. Perimeter containment located at the outside of the deck must be installed to provide restraint. No movement should be allowed at the perimeter of the deck system greater than 1/8" .

2.10 FIELD QUALITY CONTROL
A. Inspect often during installation to assure that grid spacer lines are being maintained in a straight and consistent pattern and that deck panels or pavers are level and not rocking.
B. Confirm that deck pedestal height does not exceed the specified height for the V Series:
C. 24 inches (610mm) maximum pedestal height unless using the Bison Brace System.
D. Unless otherwise specified in writing to allow for expansion, inspect to assure that all paver spacing between tiles and at perimeter containment does not exceed a 1/8" . Particular attention should be made to assure that all pedestrian entry or access points to the deck are level and that the deck surface tiles are not randomly raised or uneven creating a tripping or safety hazard.

2.11 PROTECTION

A. Protect installed products until completion of project.
B. Touch-up, repair or replace damaged products before Substantial Completion.

2.12 IMMEDIATELY FOLLOWING INSTALLATION
A. The Owner, or the Owner's Agent, shall carefully inspect the deck system to be positive that:
1. The new deck system is adequately blocked on all sides to contain the surface decking and related components.
2. There is no more than 1/8" spacing between any deck panels and at all sides of the deck perimeter.
3. There is no ballasting rock used to fill in any perimeter voids.
4. There is no 'rocking' of deck panels as foot traffic is applied to the surface decking.
5. All required spacer tabs are in place and visible.

2.13 ROUTINE MAINTENANCE AND CARE
A. Installer and/or Architect has a duty to instruct the deck owner about performing routine maintenance of the deck. Check for rocking pavers and adjust or shim immediately. Substrates can settle and pedestals may have to be readjusted. Failure to do so can cause a tripping hazard. Periodically check spacer tabs and immediately replace broken tabs to limit deck movement. Make sure the edge restraint stays intact and structurally sound.

END OF SECTION

	Model No.	Description	Height Range	Max Height
	V1-18 V1-316	Adjustable Pedestal* (Select 1/8" or 3/16" Tab Size)	2 1/4" - 2 3/4"	2 3/4"
	V2-18 V2-316	Adjustable Pedestal* (Select 1/8" or 3/16" Tab Size)	2 3/4" - 3 3/4"	3 3/4"
	V3-18 V3-316	Adjustable Pedestal* (Select 1/8" or 3/16" Tab Size)	3 3/4" - 5 3/4"	5 3/4"
	V4-18 V4-316	Adjustable Pedestal* (Select 1/8" or 3/16" Tab Size)	5 3/4" - 9"	9"
	VC2	Quick Clip Coupler	Insert VC2 into V4 Base or other VC2s Adds 4" each	Utilize up to 4 VC2's to reach 24" Must use Bison Brace for 24"-36" in height
Tabs	VT18 VT316	Tab	1/8" wide 3/16" wide	
	VT18 VT316	Use for Ultra Low Support (Select 1/8" or 3/16" Tab Size)	1/8"	1/8"
	HD25-18 HD25-316 HD50-18 HD50-316 HD75-18 HD75-316	Fixed Height Stackable Pedestals (Select 1/8" or 3/16" Tab Size)	1/4" 1/2" 3/4"	Stack up to 4
	LO-18 LO-316	Low Height Adjustable Pedestal (Select 1/8" or 3/16" Tab Size)	1 1/4" - 2"	2"
Accessories	B11	Flexible Shim	1/16"	1/16"
Accessories	PS1	Rigid Shim	1/8"	1/8"
Accessories	LD4	Base Leveler	1/4"-1" per foot slope Add up to 2 more with Versadjust	3/8" center thickness
Accessories	FS1	Wood Tile Fastening Kit	Secure Bison Wood Tiles to pedestal system.	
Accessories	BB Wedge	Bison Wedge Spacers	adds 3/16" in width nominal	
Accessories	JT	Joist Top (Works with 2"x and 4"x Lumber)	adds 3/16" in height	
Accessories	FIB	Floating Insulation Base	12" x 12" x 11/16" For use over roofing systems with less than 40 psi bearing capacity	
Accessories	FFB	Floating Foundation Base	12" x 12" x 1/4" For use on grade (soil) under each pedestal.	

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NOTE: These architectural details are intended to convey the overall design intent and the minimum required waterproofing, drainage, flashing, and finish requirements only. General Contractor to follow all product manufacturer installation recommendations and installation details. Any discrepancies found between these details and the product manufacturer installation recommendations shall be brought to the attention of the Architect immediately, and prior to any installation.

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E. ANDERS LASATER
C-30374
REN. 01/31/2023
STATE OF CALIFORNIA

Wong Residence

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Revisions
- A 12/10/2020 County PC rev 1
- B 03/26/2020 County PC rev 2
- C
- D
- E

Issued
- 1 10/30/2020 - Orange County
- 2
- 3
- 4
- 5

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Bison Deck Pedestals

A6.15

Electrical Notes

1. See electrical drawings (E sheets) for additional notes and Specifications.

2. Prior to start of any work, the contractor shall notify Underground Service Alert of Southern California at telephone #1-800-422-4133

3. Contractor shall verify on project site, all existing utility locations and coordinate all work with the utility companies and associated trades.

4. All work shall comply with the California Electric Code (CEC) 2016 edition.

5. All equipment clearances and installation guidelines shall be directed by the manufacturers manuals and specifications.

6. Convenience outlets in bathrooms, kitchen countertops and within 6'-0" of the kitchen sink, outdoors, and in garages and basements, (other than for laundry and similar equipment) shall be ground fault interceptors (GFI) protected. Per NEC article 250-81.

7. Electrical system ground to be provided. Per NEC article 250-81.

8. Provide high efficacy lighting in kitchen areas per CAC. T-24 2-5352 (j).

9. Dwelling to be wired for cable television per local city policy.

10. Not used.

11. Rec. Outlet locations will comply w/ NEC article 210-52(a)

12. Bathroom receptacle outlets shall be supplied by a minimum of one 20-ampere branch circuit. Such circuits shall have no other outlets. This circuit may serve more than one bathroom. NEC art. 210-52(d).

13. That ground-fault circuit-interrupter protection complies with NEC art. 210-8, which reads as follows:

14. All 125-volt, single-phase, 15- and 20- ampere receptacles installed in bathrooms, garages, basements, outdoors, kitchen counters and at wet bar sinks.

15. Electrical outlets in bedrooms to be on ARC_FAULT interrupter

16. For grounding at service entry provide 1.#6 cu - 3/4" conduit per 2016 CEC 250-50a & UFER ground 250-50c grounding. Connection to interior water pipe shall be made within the first 5 feet of the water pipe entrance to the building.

17. Carbon Monoxide Alarm requirements. Single- and multiple-station carbon monoxide alarms shall be listed as complying with the requirements of UL 2034. Carbon monoxide detectors shall be listed as complying with the requirements of UL 2075. Carbon monoxide alarms and carbon monoxide detectors shall be installed in accordance with this code, the current edition of NFPA 720 "Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment" and the manufacturer's installation instructions. Other carbon monoxide alarm and detection devices as recognized in NFPA 720 are also acceptable.

Carbon monoxide alarms required by Sections R315.1 and R315.2 of the California Residential Code shall be installed in the following locations:
1. Outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedrooms(s).
2. On every level of a dwelling unit including basements.

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 alarms in the individual unit

18. Smoke detection and notification. All smoke alarms shall be listed in accordance with UL 217 and installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72. Systems and components shall be California State Fire Marshal listed and approved in accordance with California Code of Regulations, Title 19, Division 1 for the purpose for which they are installed.

Smoke alarms shall be installed in the following locations:
1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story fo the dwelling, including basements and habitable attics by 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.

When more than one smoke alarm is required to be installed within an individual dwelling unit the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

19. Carbon monoxide alarms combined with smoke alarms shall comply with both sections R314 and Section R315, all applicable standards, and requirements for listing and approval by the office of the State Fire Marshal, for smoke alarms.

20. All added or replaced lighting in a residential building shall be high efficacy (except Kitchen lighting), or depending on the location of the lighting , be controlled by a dimmer switch or a manual on vacancy sensor.

21. Unless noted otherwise, height of outlets and switches shall be as follows:
A. Single Outlets: CL of box @ 4" abv. finish floor - install box horizontal
B. Switches: CL of trim @ 45" abv. finish floor
C. Outlets for appliances and equipment shall be located as recommended by manufacturer. Coordinate outlet and switch locations with other trades.
D. All single outlets to be installed horizontally. Verify configuration of 4x outlets w/ architect prior to installation.

22. Contractor shall verify power requirements of all appliances shown and provide outlets and/ or connections as recommended by manufacturers.

23. Light fixtures in tub or shower enclosures or other wet/ damp locations shall be labeled "Suitable for damp locations." CED 410-4(a)

24. All new light fixtures recessed into insulated ceilings shall be certified as airtight. In addition to having an electronic ballast and be approved for zero-clearance insulation cover (I.C.) by U.L. or other testing rating laboratories recognized by the International Code Council. B

25. All electrical outlets in the kitchens to be both AFCI and GFCI.

26. All electrical outlets within reach shall be tamper resistant per CEC Section 406.12, specify on plans.

27. All exterior outlets shall be W.P. GFCI and have bobble cover per CEC Section 406.3.

Mechanical Notes

1. Provide R-8 insulation at all ducts per T-24

2. Prior to start of any work, the contractor shall notify Underground Service Alert of Southern California at telephone #1-800-422-4133

3. Contractors shall verify on project site all existing conditions and coordinate all work associated trades, and utility companies.

4. All work shall comply with California Mechanical Code (CMC) 2016 edition.

5. All equipment clearances and installation guidelines shall be directed by the manufacturers manuals and specifications.

6. Gas vents and non-combustible piping, in walls passing through three floors or less shall be effectively fire stopped at each floor or ceiling per 2016 CBC.

7. Provide mechanical ventilation capable of five air changes per hour in bathrooms, laundry rooms, water closet compartment and similar rooms if operable windows are not provided which have an area of not less than 1/20th of the gross floor area of such rooms Per IMC Section 403.

8. The point of discharge for mechanical exhaust systems connected directly to the outside shall be at least 3'-0" from any opening which allows air entry into occupied portions of the building per CMC 504.5.

9. Ductless fans cannot be used in bathrooms if a tub or shower is present.

10. Provide dryer vent to outside of dwelling per current CBC.

11. Ventilation under floor where occurs to be either an approved mechanical means or by openings into the under-floor walls. Such openings shall have a net area of not less than (1) square foot for 150 square feet of under-floor area. Openings to be located as close to corners as possible and shall provide cross ventilation. The required area of such openings shall be equally distributed along the length of at least two opposite sides and the openings to be covered with corrosion resistant mesh with the openings to be 1/4" in dimension. See IBC Section 1203.

12. Duct openings and other related air distribution components openings shall be covered during construction per CGBS Section 4.504.1

13. Adhesives sealants and caulks shall be compliant w/ VOC and other toxic compound limits per CGBS Section 4.504
A. Paint, stains and other coatings shall be compliant with VOC limits
B. Aerosol paints and coatings shall be compliant with product weighted MIR limits for ROC and other toxic compounds.
C. Documentation shall be provided to verify compliant VOC limit finish materials have been used
D. Carpet and carpet systems shall be compliant with VOC limits
E. 50% of the floor area recieving resiliant floorings shall comply with VOC emission limits defined in the Collaborative for High Performance Schools (CHPS) low-emitting materials list or be certified under Resilient Floor Covering Institute (RFCI) FloorScore Program
F. Particleboard, medium density fiberboard (MDF), and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards.

14. Bathroom exhaust fans which exhaust directly from bathrooms shall comply with CGBS Section 4.506 and shall include the following:
A. Be Energy Star compliant.
B. Unless functioning as a component of a while house ventilation system fans must be controlled by a humidistat which shall be readily accessible. Humidistat controls shall be capable of adjustment between a relative humidity of 50% to 80%.

15. Clothes dryer moister exhaust duct minimum 4" diameter to the outside, equipped with a back-draft damper. Duct length is limited to 14' with 2 elbows. Other lengths or sizes as permitted or required by the manufacturer's installation instructions and approved by the building official. (Submit a request for modifications) CMC 504.3.2.2.

16. Provide local exhaust ventilation at all rooms containing bathtubs, showers, spas and similar bathing fixtures with a minimum rate of 50cfm. Ducting size and length to meet or exceed ASHRAE standard 62.2 and maximum sound rating of 3 Sone for intermittent operation.

17. Provide kitchen local exhaust ventilation. A minimum rate of 100cfm is required, ducting size and lengths to meet the minimum requirements of ASHRA standard 62.2 and maximum sound rating or 3 Sone for intermittent operation.

18. For new construction and additions greater than 1,000 SF , provide a whole-building mechanical ventilation system via continuously running exhaust air fan in accordance with ASHRAE 62.2.

Fan Ventilation Rate Method (ASHRAE Section 4.1.1):
a. minimum required fan flow rate, Qfan (cfm) = 1 cfm per 100 SF of floor area + 7.5 cfm per occupant
b. number of occupants = number of bedrooms + 1

Total Ventilation Rate Method (ASHRAE Section 4.1.2):
a. minimum required Mechanical Ventilation Rate, Qfan (cfm) = Qtot - Qinf
b. total required ventilation rate, Qtot (cfm) = 3 cfm per 100 SF of floor area + 7.5 cfm per occupant
c. number of occupants = number of bedrooms + 1
d. effective annual average infiltration rate, Qinf (cfm), determined in accordance with ASHRAE Std 62.2 equation 4.6a.

Whole-building ventilation shall be provided by exhaust air, supply air or combined exhaust and supply air system. Natural ventilation through doors/ windows or continuous operation of central forced air system air handlers used in central fan integrated ventilation systems are not a permissible methods of providing whole-building ventilation. BEES 150(o), Exc. 5 to 150.2(a) & ASHRAE Std. 62.2

Plumbing Notes

1. not used

2. prior to start of any work, the contractor shall notify underground service alert of southern california at telephone #1-800-422-4133

3. contractors shall verify on project site all existing conditions and coordinate all work associated trades, and utility companies.

4. all work shall comply with calif. plumbing code (cpc) 2016 edition.

5. all equipment clearances and installation guidelines shall be directed by the manufacturers manuals and specifications.

6. future solar lines shall be insulated when in unconditioned space per california title 24.

7. new water supply piping supply shall be minimum of one inch diameter.

8. gas vents and non-combustable piping, in walls passing through three floors or less shall be effectively fire stopped at each floor or ceiling per 2016 cbc.

9. backwater valves to serve waste lines serving fixtures below grade at point where the building sewer leaves property at street. do not place backwater valve on branches of waste line served by ejector pump to be used whenever any fixture is below the sewer manhole in the street. per 2016 cpc.

10. new water closets and associated flushometer valves shall use no more than 1.28 gallons of water per flush and shall meet performance standards established by the american national standards institute a112.19.2. h & s code, sec 17921.3(b)

11. in shower and tub combos, control valves must be pressure balanced or thermostatic mixing valves per 2016 cpc.

12. existing sewer lateral to be changed and a clean-out installed at the property line to comply with the city standard if the area of structural remodel and addition is greater that 50% of the existing area.
exception: sewer lateral does not have to be replaced if inspeaded using a camera devide and certified by a public inspection agency to be in good condition to the satisfaction of the utilities department (ed burt 949 718 3402)

13. maximum flow rates - see calgreen checklist on A0.4 for additional info:

water closets:	1.28 gpf/ flush
showerheads:	1.8 gpm @ 80 psi - single and combined if multiple
lavatory faucets	1.2 gpm @ 80 psi
kitchen faucets	1.5 gpm @ 60 psi

14. water heaters: water heaters shall be placed out of the path of vehicular traffic or provided a protective post or partition (cpc 508.14.2). temperature and pressure relief valves to be installed per manufacturer recommendation, hard pipe plumbed to outside, directed to the ground and terminated from 6"-24" above finish grade. all lines shall be insulated if the system includes a recirculating pump. a secondary drain pan w/ a 3/4" minimum drain line to the outside shall be provided when the water heater is located above habitable space. contractor shall verify that existing gas supply lines provide adequate btu input for any retrofit water heater systems and notify architect and owner prior to installation.

15. four (4) or more water closets (toilets) require a 4" soils / waste line per cpc table 7-5.

16. all showers and tub-shower combination valves shall be equipped with a means to limit the maximum setting of the valve to 120 degrees F. (CPC 408.3.1)

Legends

Mechanical Legend

- Linear Vent (W = Wall , FL = Floor , CL = Ceiling , TK = Toekick , R/A = Return Air)
- Area of potential mechanical soffit
- Proposed duct path below , size per mechanical contractor
- Proposed duct path above , size per mechanical contractor

Notes:
1. Mechanical system to be design-built by general contractor.
2. Verify all register locations with architect in field prior to installation
3. See Title 24 energy report herein for additional information
4. Hot Water: high efficiency condensing gas tankless, ef=0.95 (2 units)
5. HVAC: high efficiency split system, gas furnace 93 AFUE; cooling 16 SEER
6. HERS Credits:
   A. Duct leakage testing
   B. Quality Insulation Inspection
   C. Refrigerant charge verification
7. Mechanical Ventilation: 74 cfm min.

Power Legend

$	Dimmer switch, toggle, single pold, white (V = Vacancy sensor, D = Dimmer, M = Auto Off Motion Sensor, 3 = 3 way, 4 = 4 way)
	New receptable, duplex, 110V, White (E) = Existing , w/ USB = with USB , A.S. = Air switch , WP = Waterproof , GFI = Ground fault interruptor, receptacle outlets in bedrooms shall be protected by an arcfault circuit interrupter(s). Walls 2 feet or wider shall have an outlet . Outlets shall he spaced no more than 12 feet apart, and a maximum of 6 feet from end of walls or opening per 2004 CEC.
	Receptacle, duplex, 220V, white, half hot and half switched
	Receptacle, duplex, 100V, flush floor installation with brass cover (exact location determined by owner and architect)
220V	Receptacle, single 220V duplex, individual circuit
EV	Electric vehicle charging station
J	Junction box for owner provided fixture (max. wattage = 300W)
DATA	Phone jack/ Data/ Network connection/ computer line
TV	Power and cable for TV as required. Verify height above F.F.
G	Gas stub-out
HB	Hose bib in recessed box U.N.O provide non-removable antisiphon valves at all hoses
G.E.	"Grafik Eye" electrical system control center by Luton
	Push button
	Gas key, turn-off
GD	Garage door opener

Note:
1. All power and lighting outlets in family rooms, dining room, living room, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, hallways and similar areas are to be protected by a "combination AFCI breaker." Kitchens, bathrooms, and basements are exempt from this requirement.
2. Provide power for automatic shades at all windows
3. All outlets to be by "Legrand".

Lighting Legend

NOTE: All light fixtures to be high efficacy, u.n.o.

$	Dimmer switch, toggle, single pold, white (V = Vacancy sensor, D = Dimmer, M = Auto Off Motion Sensor, 3 = 3 way, 4 = 4 way, A.S. = Air Switch)
DS	Door activated switch
T	Thermostat Location
	Combination smoke / carbon monoxide dector, ceiling mount - hard wired with batt. back up Note: Detectors shall sound an alarm of 120 DB audible in all sleeping areas
TV	TV Location - provide power and cable / data as required
	Lighting fixture, ceiling mounted flush
	Lighting fixture, ceiling mounted flush, with recessed eyeball spot
	Lighting fixture, ceiling mounted flush, with baffle
	Ceiling Pendant - see A7.1 for additional info
	Wall mounted electrical fixture - see A7.1 for additional info
	Mechnical ventilation fan with minimum rate of 100cfm - see Metchnical notes 14, 16, 17 on sheet A7.1 for additional requirements and electrical plans for location
	Lighted Mirror
	LED shop light
	Recessed step light
	LED Strip cove lighting

Note:
1. Provide lighting control system at kitchen, living room and master bedroom.
2. All branch circuits that supply 125 volt, single phase, 15 and 20 ampere outlets installed in dwelling units shall be protected by an arc-fault circuit interrupter per CEC 210.12
3. All receptables shall be listed temper-resistant receptables
4. All switches to be by "Legrand"

B

Note:

- This reflective ceiling plan is for reference only. See MEP plans provided by Riverside Engineering for more information.
- Mechanical plans from M-0.1 to M-4.1.
- Electrical plans from E0.1 to E4.0.
- Plumbing plans from P-0.1 to P5.1.

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C-30374
REGISTERED
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
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Revisions

A. 12/10/2020 County PC rev 1
B. 03/26/2020 County PC rev 2
C.
D.
E.

Issued

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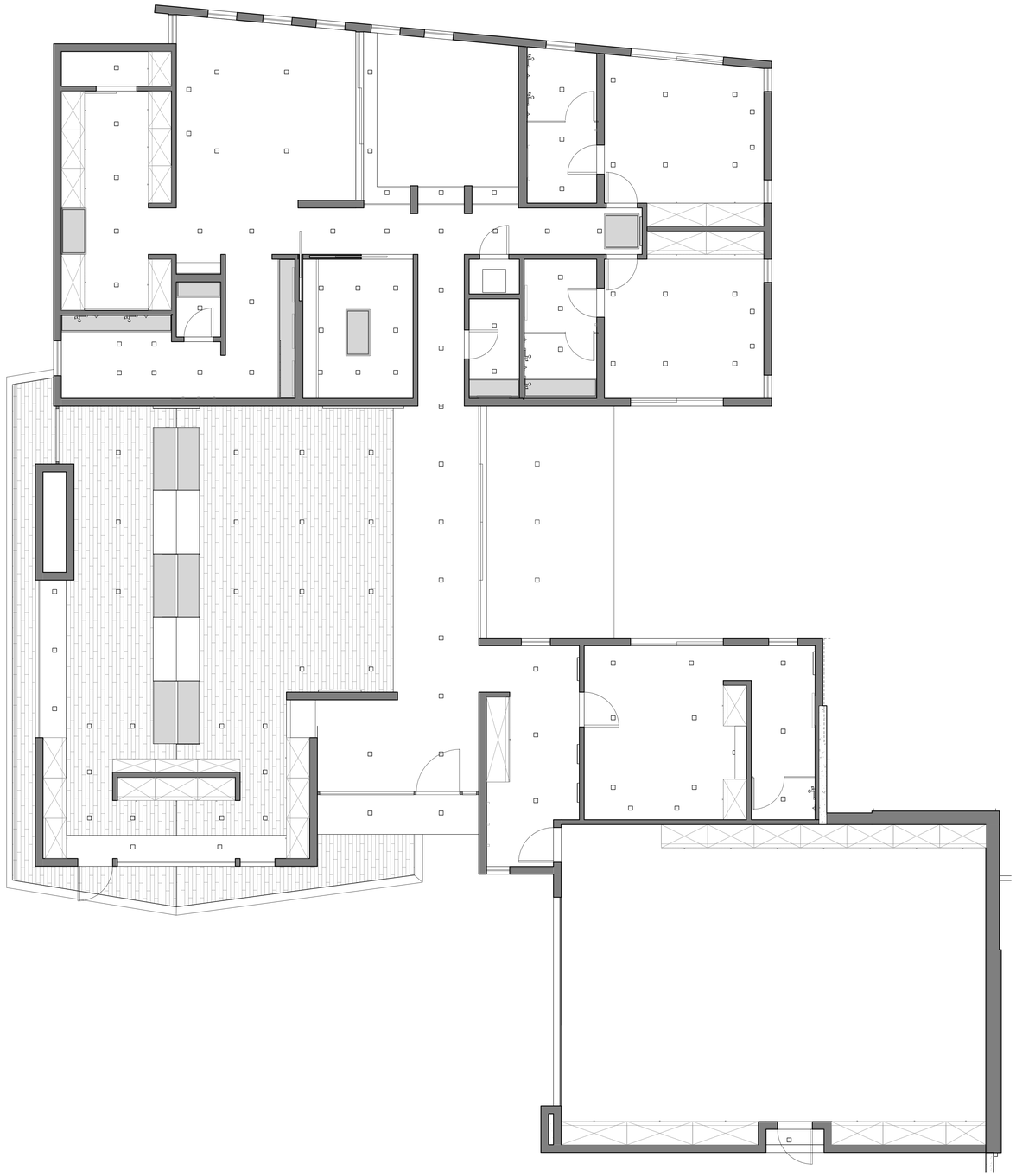
Electrical Legend, Fixture Schedule & MEP Notes

A7.1



Note: This reflective ceiling plan is for reference only. See MEP plans provided by Riverside Engineering for more information.

Ceiling Legend

- Wood Ceiling
- Stucco Ceiling
- Glass Surface

Wall Legend

- New low wall/ Wall below
- New 2x4 wall. Framing per structural & Insulation per T-24 Energy Report.
- New 2x6 wall. Framing per structural & Insulation per T-24 Energy Report.
- New furring wall. Framing per structural & Insulation per T-24 Energy Report.
- New retaining wall . Framing per structural.
- 1Hour fire rated wall. Framing per structural & Insulation per T-24 Energy Report.

1 Main Floor Reflected Ceiling Plan
1/4" = 1'-0"

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Main Floor Reflected Ceiling Plan

A7.2

1 Main Floor Area Calculation

1/4" = 1'-0"

Area Schedule (Mechanical)	
Name	Area
Mechanical	16 SF
Grand total	16 SF

Area Schedule (Outdoor)	
Name	Area
Master Bedroom Courtyard	196 SF
Outdoor Courtyard	735 SF
Outdoor Sunroom	248 SF
Grand total	1,179 SF

Area Schedule (Living Area)	
Name	Area
Living Area	3,709 SF
	3,709 SF
Grand total	3,709 SF

Area Schedule (Garage)	
Name	Area
Garage	1,102 SF
Grand total	1,102 SF

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384 FOREST AVENUE, SUITE 12

LAGUNA BEACH, CA 92651

949 497 1827

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LICENSED ARCHITECT
ANDERS LASATER
C-30374
REN 03 31 2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

- A. 12/10/2020 County PC rev 1
- B. 03/26/2020 County PC rev 2
- C.
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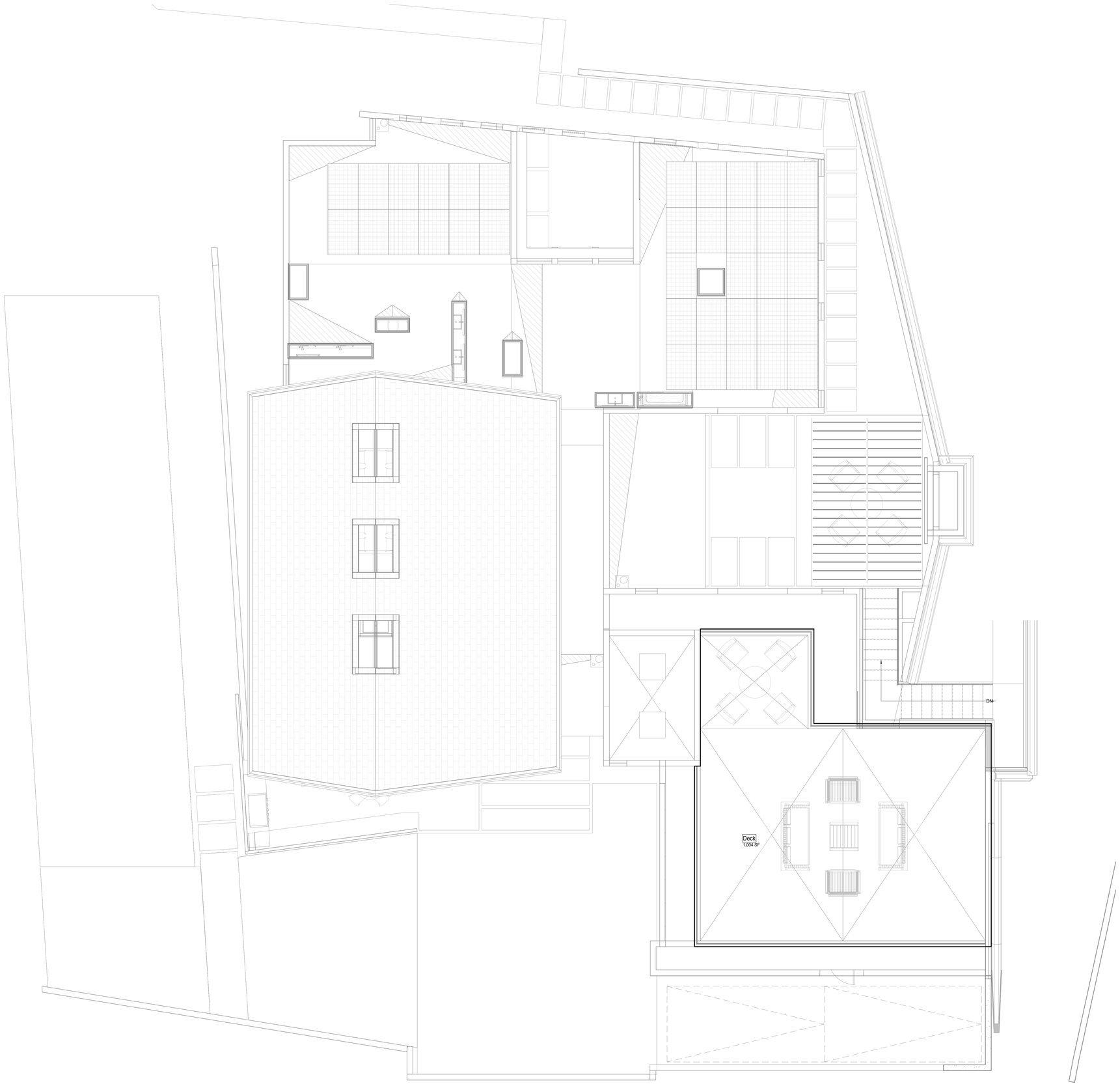
Main Floor Area Calculations

AC 1



1 Roof Area Calculation
1/4" = 1'-0"

Area Schedule (Deck)	
Name	Area
Deck	1,004 SF
Grand total	1,004 SF

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Roof Area Calculations

AC 2

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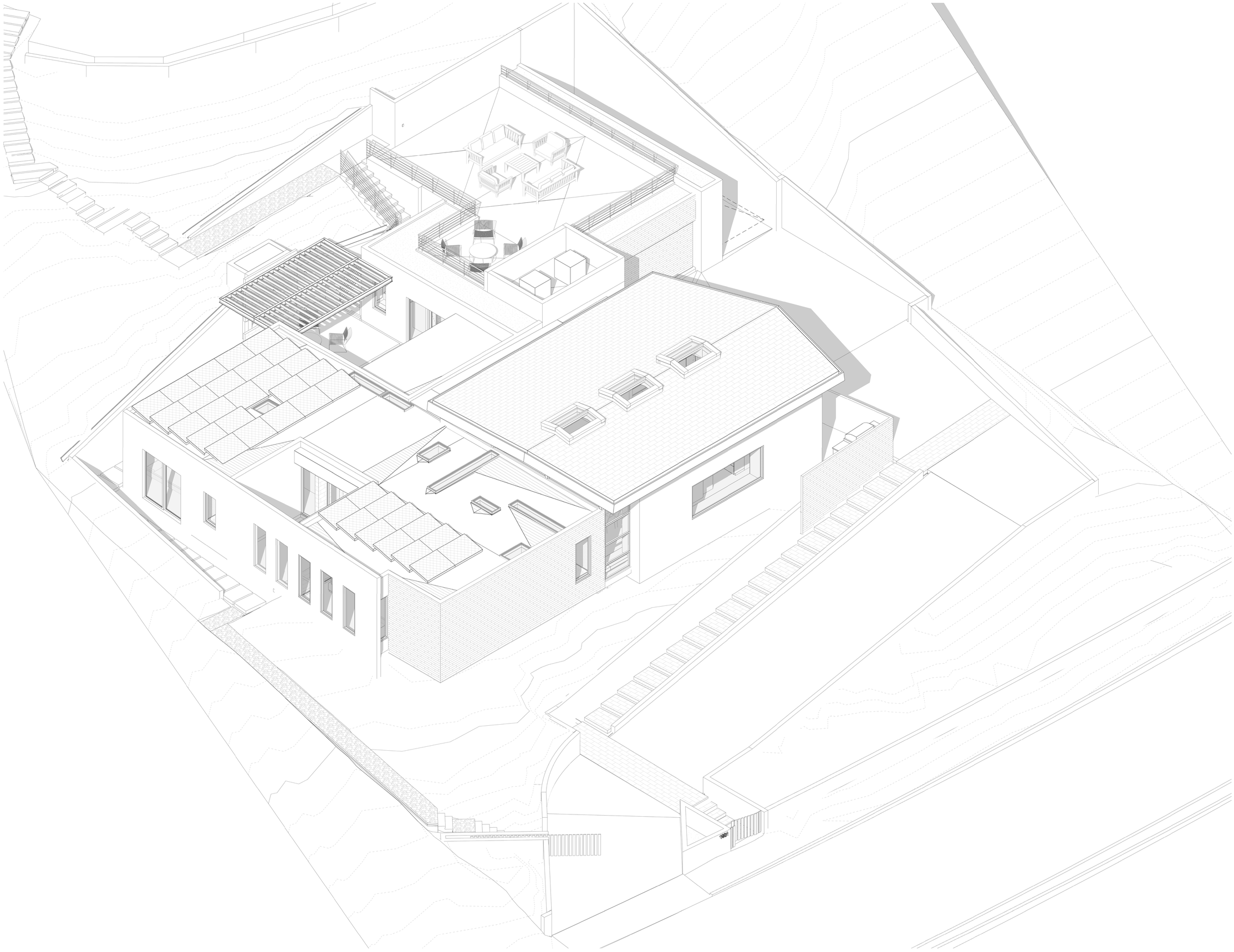
Topographic Survey

C-1



1 3D View

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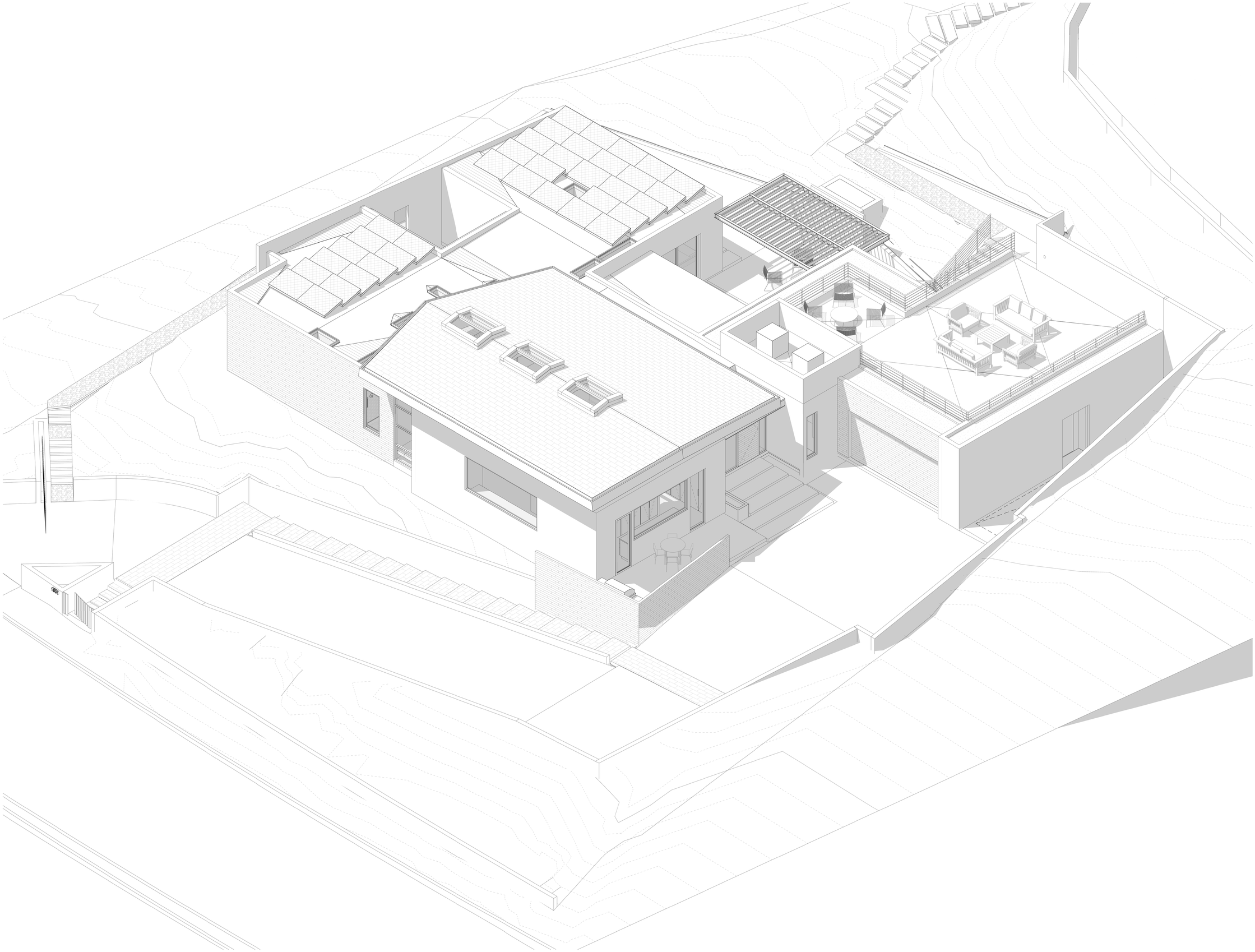
3D View

R 1.1



1 3D View

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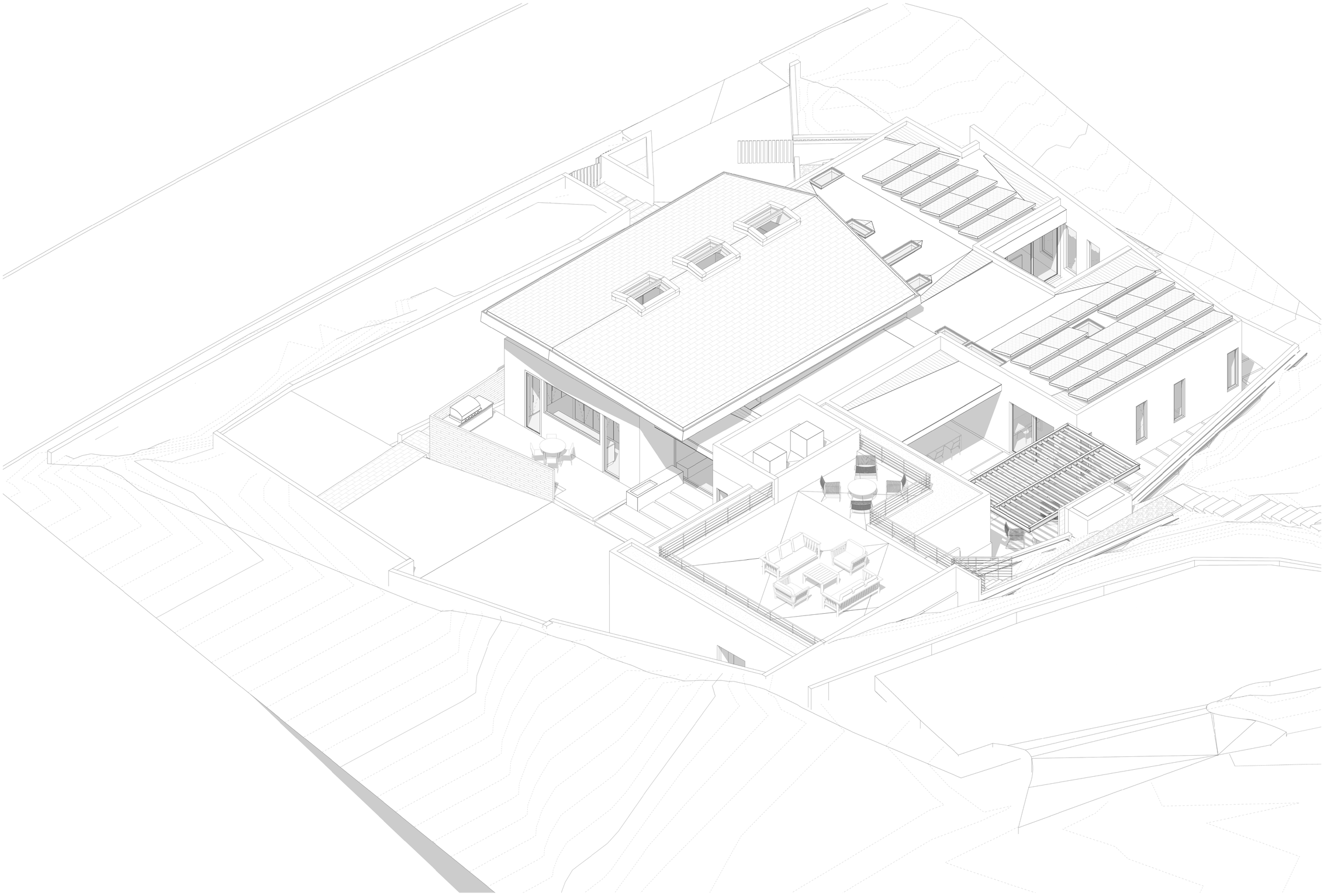
3D View

R 1.2



1 3D View

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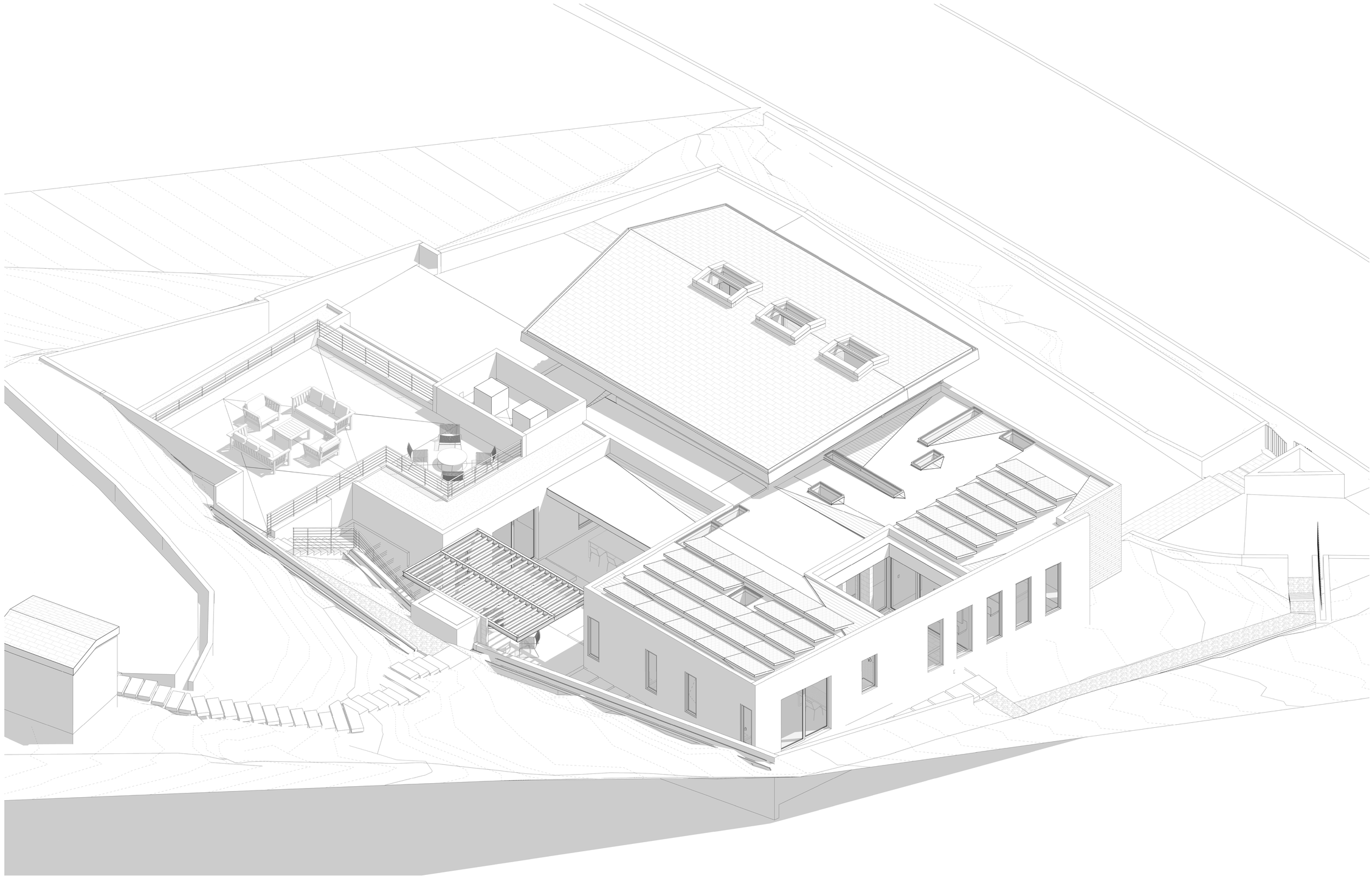
3D View

R 1.3



1 3D View

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3D View

R 1.4

GENERAL INFORMATION					
01	Project Name	Wong Residence 334			
02	Run Title	Title 24 Analysis			
03	Project Location	1901 Park Skyline Rd			
04	City	Santa Ana	05	Standards Version	2019
06	Zip code	92705	07	Software Version	EnergyPro 8.2
08	Climate Zone	8	09	Front Orientation (deg/ Cardinal)	135
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	NewConstruction	13	Number of Bedrooms	4
14	Addition Cond. Floor Area (ft^2)	0	15	Number of Stories	1
16	Existing Cond. Floor Area (ft^2)	n/a	17	Fenestration Average U-factor	0.33
18	Total Cond. Floor Area (ft^2)	3752	19	Glazing Percentage (%)	42.06%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Is Natural Gas Available?	Yes			

COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	This building incorporates one or more Special Features shown below

ENERGY DESIGN RATING				
	Energy Design Ratings		Compliance Margins	
	Efficiency[1] (EDR)	Total[2] (EDR)	Efficiency[3] (EDR)	Total[2] (EDR)
Standard Design	43.8	20.4		
Proposed Design	43.8	14.1	0	6.3
RESULT: [5] COMPLIES				

1: Efficiency EDR includes improvements to the building envelope and more efficient equipment
2: Total EDR includes efficiency and demand response measures such as photovoltaic (PV) systems and batteries
3: Building complies when efficiency and total compliance margins are greater than or equal to zero

- Standard Design PV Capacity: 3.56 kWdc
- PV System resized to 3.56 kWdc (a factor of 3.5641) to achieve 'Standard Design PV' PV scaling

ENERGY USE SUMMARY				
Energy Use (kTDV/ft^2-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	11.27	9.26	1.94	17.3
Space Cooling	4.43	11.77	-7.34	-165.7
IAQ Ventilation	6.24	6.24	0	0
Water Heating	7.04	6.22	0.82	11.6
Self Utilization/Flexibility Credit	n/a	-4.63	4.63	n/a
Compliance Energy Total	**28.91**	**28.86**	**0.05**	**0.2**

REQUIRED PV SYSTEMS - SIMPLIFIED

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
3.56	NA	Standard	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	100

ENERGY DESIGN RATING BATTERY INPUTS

01	02	03	04	05	06
Control	Capacity (kWh)	Charging Efficiency	Rate (kW)Rate (kW)	Discharging Efficiency	Rate (kW)Rate (kW)
Basic	13.5	0.95	n/a	0.95	n/a

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- Battery System: 13.5 kWh (Self Utilization Credit taken)
- Indoor air quality, balanced fan
- Cool roof
- Window overhangs and/or fins
- Non-standard duct location (any location other than attic)

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry.

Building-level Verifications:
- Quality insulation installation (QII)
- Indoor air quality ventilation
- Kitchen range hood

Cooling System Verifications:
- Minimum Airflow
- Verified EER
- Verified SEER
- Verified Refrigerant Charge
- Fan Efficacy Watts/CFM

Heating System Verifications:
- Verified HSPF
- Verified heat pump rated heating capacity

HVAC Distribution System Verifications:
- Duct leakage testing
- Verified low-leakage ducts in conditioned space must meet maximum 25 cfm leakage to outside (RA3.1.4.3.8)

Domestic Hot Water System Verifications:
- -- None --

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft^2)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Wong Residence 334	3752	1	4	3	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft^2)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
North Bedrooms	Conditioned	Ducted 3t HPSystem1	2252	9	DHW Sys 1	N/A
Vaulted areas	Conditioned	Ducted 4t HP System2	1000	15.3	DHW Sys 1	N/A
Guest Zone	Conditioned	Guest system 2t3	500	9	DHW Sys 1	N/A

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window and Door Area (ft2)	Tilt (deg)
Master west wall	North Bedrooms	R-21 Wall	225	Left	342	38	90
Master north Wall	North Bedrooms	R-21 Wall	315	Back	234	54	90
Master courtyard wall	North Bedrooms	R-21 Wall	45	Right	144	131	90
Master courtyard hall wal	North Bedrooms	R-21 Wall	315	Back	138	108	90
Master courtyard bath wal	North Bedrooms	R-21 Wall	225	Left	144	0	90
BR2 wall	North Bedrooms	R-21 Wall	315	Back	189	60.5	90
Bedroom NE wall	North Bedrooms	R-21 Wall	45	Right	275	48	90
BR3 courtyard wall	North Bedrooms	R-21 Wall	135	Front	221	64	90
Entry left wall	Vaulted areas	R-21 Wall	225	Left	59	0	90
Kitchen south wall	Vaulted areas	R-21 Wall	135	Front	352	171	90

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window and Door Area (ft2)	Tilt (deg)
Dining west wall	Vaulted areas	R-21 Wall	225	Left	485	244.99	90
Clerestory wall living	Vaulted areas	R-21 Wall	45	Right	50	37	90
Clerestory wall kitchen	Vaulted areas	R-21 Wall	45	Right	36	28	90
Clerestory wall dining	Vaulted areas	R-21 Wall	315	Back	90	86	90
Outdoor dining wall	Vaulted areas	R-21 Wall	45	Right	180.1	180	90
Entry wall	Vaulted areas	R-21 Wall	135	Front	125	85.0466	90
Entry right wall	Vaulted areas	R-21 Wall	225	Left	36	0	90
Guest courtyard wall	Guest Zone	R-21 Wall	315	Back	261	99.0075	90
Guest stair wall	Guest Zone	R-21 Wall	45	Right	149	0	90
Mud front wall	Guest Zone	R-21 Wall	135	Front	36	14	90
Entry right wall 2	Guest Zone	R-21 Wall	225	Left	36	0	90
Wall to vaulted areas	North Bedrooms>>Vaulted areas	R-0 Wall1	n/a	n/a	380	0	n/a
Wall to garage	Guest Zone>>__Garage__	R-19 Wall	n/a	n/a	248	24	n/a
Wall to vaulted areas 2	Guest Zone>>Vaulted areas	R-0 Wall1	n/a	n/a	160	0	n/a
Garage stair wall	__Garage__	R-0 Wall	315	Back	126	0	90
Garage frontwall	__Garage__	R-0 Wall	225	Left	261	148	90
Garage planter wall	__Garage__	R-0 Wall	135	Front	330	24	90
Garage rear wall	__Garage__	R-0 Wall	45	Right	261	0	90

OPAQUE SURFACES - CATHEDRAL CEILINGS

01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Area (ft^2)	Skylight Area (ft^2)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof
Roof bedroom	North Bedrooms	R-30+R-5 Cool Roof No Att	0	n/a	2252	85.7	0	0.66	0.89	Yes
Roof vaulted	Vaulted areas	R-30+R-5 Shingle Roof No	0	n/a	1000	77	2	0.26	0.91	Yes
Roof	Guest Zone	R-30+R-5 Cool Roof No Att	0	n/a	500	0	0	0.66	0.89	Yes
Garage Roof	__Garage__	R-0 Garage Roof No Attic	0	n/a	1102	0	0	0.1	0.85	No

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
W1-B	Window	Master west wall	Left	225			1	20	0.31	NFRC	0.24	NFRC	Bug Screen
W1-C	Window	Master west wall	Left	225			1	18	0.31	NFRC	0.24	NFRC	Bug Screen
Window 1-Dx3	Window	Master north Wall	Back	315			1	54	0.31	NFRC	0.24	NFRC	Bug Screen
D1-2	Window	Master courtyard wall	Right	45			1	131	0.33	NFRC	0.23	NFRC	Bug Screen
W1-Ox3	Window	Master courtyard hall wal	Back	315			1	108	0.31	NFRC	0.24	NFRC	Bug Screen
Door 1-3	Window	BR2 wall	Back	315			1	48	0.33	NFRC	0.23	NFRC	Bug Screen
Window 1-K	Window	BR2 wall	Back	315			1	12.5	0.31	NFRC	0.24	NFRC	Bug Screen
Window 1-Ex4	Window	Bedroom NE wall	Right	45			1	48	0.31	NFRC	0.24	NFRC	Bug Screen
Door 1-4	Window	BR3 courtyard wall	Front	135	8	8	1	64	0.33	NFRC	0.23	NFRC	Bug Screen
Door 1-1	Window	Kitchen south wall	Front	135	3	9	1	27	0.33	NFRC	0.23	NFRC	Bug Screen
W1-5	Window	Kitchen south wall	Front	135			1	66	0.31	NFRC	0.24	NFRC	Bug Screen
Window 1-J	Window	Kitchen south wall	Front	135	10.2	5	1	51	0.31	NFRC	0.24	NFRC	Bug Screen
Window 1-M	Window	Kitchen south wall	Front	135	3	9	1	27	0.31	NFRC	0.24	NFRC	Bug Screen

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window 1-A	Window	Dining west wall	Left	225	15	6	0	81.99	0.31	NFRC	0.24	NFRC	Bug Screen
W1-1	Window	Dining west wall	Left	225			1	163	0.31	NFRC	0.24	NFRC	Bug Screen
W1-3	Window	Clerestory wall living	Right	45			1	37	0.31	NFRC	0.24	NFRC	Bug Screen
W1-4	Window	Clerestory wall kitchen	Right	45			1	28	0.31	NFRC	0.24	NFRC	Bug Screen
W1-2	Window	Clerestory wall dining	Back	315			1	86	0.31	NFRC	0.24	NFRC	Bug Screen
Door 1-5x2	Window	Outdoor dining wall	Right	45	20	9	1	180	0.33	NFRC	0.23	NFRC	Bug Screen
W1-6	Window	Entry wall	Front	135	10.7	9	0	56.05	0.31	NFRC	0.24	NFRC	Bug Screen
Door 1-4 2	Window	Guest courtyard wall	Back	315	8	8	1	64	0.33	NFRC	0.23	NFRC	Bug Screen
Window 1-F	Window	Guest courtyard wall	Back	315	2.5	7	1	18.01	0.31	NFRC	0.24	NFRC	Bug Screen
Window 1-L	Window	Guest courtyard wall	Back	315	2.5	5	1	13	0.31	NFRC	0.24	NFRC	Bug Screen
Window 1-H	Window	Mud front wall	Front	135			1	18	0.31	NFRC	0.24	NFRC	Bug Screen
Skylight AA	Skylight	Roof bedroom		0			1	11	0.48	NFRC	0.27	NFRC	None
Skylight BB	Skylight	Roof bedroom		0			1	7.5	0.48	NFRC	0.27	NFRC	None
Skylight DD	Skylight	Roof bedroom		0			1	9	0.48	NFRC	0.27	NFRC	None
Skylight EE	Skylight	Roof bedroom		0			1	8.2	0.48	NFRC	0.27	NFRC	None
Skylight FF	Skylight	Roof bedroom		0			1	19	0.48	NFRC	0.27	NFRC	None
Skylight GG	Skylight	Roof bedroom		0			1	6.2	0.48	NFRC	0.27	NFRC	None
Skylight HH	Skylight	Roof bedroom		0			1	16	0.48	NFRC	0.27	NFRC	None
Skylight JJ	Skylight	Roof bedroom		0			1	8.8	0.48	NFRC	0.27	NFRC	None
Skylight KKx3	Skylight	Roof vaulted		0			1	77	0.48	NFRC	0.27	NFRC	None

OPAQUE DOORS

01	02	03	04
Name	Side of Building	Area (ft^2)	U-factor
Door 1-0	Entry wall	29	0.5

OPAQUE DOORS

01	02	03	04
Name	Side of Building	Area (ft^2)	U-factor
Door 1-10	Wall to garage	24	0.5
Garage doors	Garage frontwall	148	0.5
Door 1-7	Garage planter wall	24	0.5

OVERHANGS AND FINS

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Window	Overhang					Left Fin				Right Fin			
	Depth	Dist Up	Left Extent	Right Extent	Flap Ht.	Depth	Top Up	Dist L	Bot Up	Depth	Top Up	Dist R	Bot Up
Door 1-4	8	0.1	8	8	0	0	0	0	0	0	0	0	0
Door 1-1	4	0.1	4	4	0	0	0	0	0	0	0	0	0
Window 1-J	4	0.1	4	4	0	0	0	0	0	0	0	0	0
Window 1-M	4	0.1	4	4	0	0	0	0	0	0	0	0	0
Window 1-A	4	0.1	4	4	0	0	0	0	0	0	0	0	0
Door 1-5x2	10	0.1	10	10	0	0	0	0	0	0	0	0	0
W1-6	2	0.1	2	2	0	0	0	0	0	0	0	0	0
Door 1-4 2	6	0.1	6	6	0	0	0	0	0	0	0	0	0
Window 1-F	6	0.1	6	6	0	0	0	0	0	0	0	0	0
Window 1-L	6	0.1	6	6	0	0	0	0	0	0	0	0	0

SLAB FLOORS

01	02	03	04	05	06	07	08
Name	Zone	Area (ft^2)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Slab-on-Grade	North Bedrooms	2252	260	none	0	80%	No
Slab-on-Grade 2	Vaulted areas	1000	70	none	0	80%	No
Slab-on-Grade 3	Guest Zone	500	65	none	0	80%	No
Slab-on-Grade 4	__Garage__	1102	102	none	0	0%	No

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-0 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.361	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Exterior Finish: 3 Coat Stucco
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / R-4	0.051	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Sheathing / Insulation: R-4 Sheathing Exterior Finish: 3 Coat Stucco
R-0 Garage Roof No Attic	Cathedral Ceilings	Wood Framed Ceiling	2x4 @ 16 in. O. C.	R-0	None / None	0.484	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4 Inside Finish: Gypsum Board

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-30+R-5 Cool Roof No Att	Cathedral Ceilings	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-30	None / R-5	0.03	Roofing: Light Roof (Asphalt Shingle) Above Deck Insulation: R-5 Sheathing Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x12 Inside Finish: Gypsum Board
R-30+R-5 Shingle Roof No	Cathedral Ceilings	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-30	None / R-5	0.03	Roofing: Light Roof (Asphalt Shingle) Above Deck Insulation: R-5 Sheathing Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x12 Inside Finish: Gypsum Board
R-0 Wall1	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
R-19 Wall	Interior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-19	None / None	0.069	Inside Finish: Gypsum Board Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6 Other Side Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50
Required	Not Required	Not Required	n/a

ANDERS LASATER ARCHITECTS

ANDERSLASATERARCHITECTS.COM
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949 497 1827

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Written dimensions shall take preference over scaled dimensions and shall be verified in the field. Any discrepancy or error shall be brought to the attention of the Architect prior to the commencement of any work.

LICENSED ARCHITECT
ANDERS LASATER
C-30374
REGISTERED 12-31-2020
STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions

A. 12/10/2020 County PC rev 1
B. 03/26/2020 County PC rev 2
C.
D.
E.

Issued

1. 10/30/2020 - Orange County
2.
3.
4.
5.

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Title 24 Report

T24-1

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E
Project Name: Wong Residence 334 **Calculation Date/Time:** 2021-07-07T06:40:09-07:00 **(Page 11 of 16)**
Calculation Description: Title 24 Analysis **Input File Name:** Wong Residence 2021 edition revised 070621.ribd19x

WATER HEATING SYSTEMS

01	02	03	04	05	06	07
Name	System Type	Distribution Type	Water Heater Name (#)	Solar Heating System	Compact Distribution	HERS Verification
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Energy Factor or Efficiency	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	NEEA Heat Pump Brand or Model	Tank Location or Ambient Condition
DHW Heater 1	Gas	Consumer Instantaneous	1	0	0.95-UEF	200000-Btu/Hr	0	n/a	n/a	n/a	n/a

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07	08
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Central DHW Distribution	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count
Ducted 3t HPSystem1	Heat pump heating cooling	Heat Pump System 1	Heat Pump System 1	HVAC Fan 1	Air Distribution System 1	Setback	New	NA	1	1

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E
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SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count
Ducted 4t HP System2	Heat pump heating cooling	Heat Pump System 2	Heat Pump System 2	HVAC Fan 2	Air Distribution System 2	Setback	New	NA	1	1
Guest system 2t3	Heat pump heating cooling	Heat Pump System 3	Heat Pump System 3	HVAC Fan 3	Air Distribution System 3	Setback	New	NA	1	1

HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Number of Units	Heating HSPF/COP	Heating Cap 47	Heating Cap 17	Cooling SEER	Cooling EER/CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	Central split HP	1	11.6	36000	23000	16	11.7	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump
Heat Pump System 2	Central split HP	1	11	54000	40000	16.5	11.7	Not Zonal	Single Speed	Heat Pump System 2-hers-htpump
Heat Pump System 3	Central split HP	1	11.2	28000	18000	18	12.5	Not Zonal	Single Speed	Heat Pump System 3-hers-htpump

HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER	Verified SEER	Verified Refrigerant Charge	Verified HSPF	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Required	350	Not Required	Required	Yes	Yes	Yes	Yes
Heat Pump System 2-hers-htpump	Required	350	Not Required	Required	Yes	Yes	Yes	Yes

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HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER	Verified SEER	Verified Refrigerant Charge	Verified HSPF	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 3-hers-htpump	Required	350	Required	Required	Yes	Yes	Yes	Yes

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
			Duct Ins. R-value		Duct Location		Surface Area				
Name	Type	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification
Air Distribution System 1	Verified low-leakage ducts in conditioned space	Non-Verified	R-4.2	R-4.2	Conditioned Zone	Conditioned Zone	n/a	n/a	No Bypass Duct	Sealed and Tested	Air Distribution System 1-hers-dist
Air Distribution System 2	Verified low-leakage ducts in conditioned space	Non-Verified	R-4.2	R-4.2	Conditioned Zone	Conditioned Zone	n/a	n/a	No Bypass Duct	Sealed and Tested	Air Distribution System 2-hers-dist
Air Distribution System 3	Verified low-leakage ducts in conditioned space	Non-Verified	R-4.2	R-4.2	Conditioned Zone	Conditioned Zone	n/a	n/a	No Bypass Duct	Sealed and Tested	Air Distribution System 3-hers-dist

HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Air Distribution System 1-hers-dist	Yes	See RA3.1.4.3.8	Required	Not Required	Not Required	Credit not taken	Not Required	Yes

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E
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HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Air Distribution System 2-hers-dist	Yes	See RA3.1.4.3.8	Required	Not Required	Not Required	Credit not taken	Not Required	Yes
Air Distribution System 3-hers-dist	Yes	See RA3.1.4.3.8	Required	Not Required	Not Required	Credit not taken	Not Required	Yes

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.45	HVAC Fan 1-hers-fan
HVAC Fan 2	HVAC Fan	0.45	HVAC Fan 2-hers-fan
HVAC Fan 3	HVAC Fan	0.4	HVAC Fan 3-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.45
HVAC Fan 2-hers-fan	Required	0.45
HVAC Fan 3-hers-fan	Required	0.4

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E
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IAQ (INDOOR AIR QUALITY) FANS

01	02	03	04	05	06
Dwelling Unit	IAQ CFM	IAQ Watts/CFM	IAQ Fan Type	IAQ Recovery Effectiveness (%)	IAQ Recovery Effectiveness - SREIAQ Recovery Effectiveness - SRE
SFam IAQVentRpt 1-1	150	0.666667	Balanced HRV	75	n/a

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E
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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Nicholas Brown	Documentation Author Signature:
Company: Build Smart Group	Signature Date: 2021-07-07 06:43:07
Address: 400 Los Altos Ave	CEA/ HERS Certification Identification (If applicable): CEA # R19-15-30001
City/State/Zip: Long Beach, CA 90814	Phone: 714-984-3397

CABEC California Association of Building Energy Consultants CERTIFIED ENERGY ANALYST

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name: Anders Lasater	Responsible Designer Signature: Anders Lasater
Company: Anders Lasater Architects	Date Signed: 2021-07-07 09:37:35
Address: 384 Forest Avenue #12	License: C-30374
City/State/Zip: Laguna Beach, CA 92651	Phone: 949-497-1827

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2016 Low-Rise Residential Mandatory Measures Summary

*NOTE: Low-rise residential buildings subject to the Energy Standards must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. *Exceptions may apply.*
(Original 08/2016)

Building Envelope Measures:	
§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 cfm/ft² or less when tested per NFRC-400 or ASTM E283 or AAMA/WDMA/CSA 101/I.S.2/A440-2011.*
§ 110.6(a)5:	**Labeling.** Fenestration products must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from TABLES 110.6-A and 110.6-B for compliance and must be caulked and/or weatherstripped.*
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation specified or installed must meet Standards for Insulating Material.
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** A radiant barrier must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Ceiling and Rafter Roof Insulation.** Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.*
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or U-factor of 0.074 or less). Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102, equivalent to an installed value of R-13 in a wood framed assembly.*
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3%; have a water vapor permeance no greater than 2.0 perm/inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In Climate Zones 1-16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In Climate Zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.*
Fireplaces, Decorative Gas Appliances, and Gas Log Measures:	
§ 150.0(e)1A:	**Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)1B:	**Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.*
§ 150.0(e)1C:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*
§ 150.0(e)2:	**Pilot Light.** Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited.
Space Conditioning, Water Heating, and Plumbing System Measures:	
§ 110.0-§ 110.3:	**Certification.** Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the Energy Commission.*
§ 110.2(a):	**HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in TABLE 110.2-A through TABLE 110.2-K.*
§ 110.2(b):	**Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.*
§ 110.2(c):	**Thermostats.** All unitary heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*
§ 110.3(c)5:	**Water Heating Recirculation Loops Serving Multiple Dwelling Units.** Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)5.
§ 110.3(c)7:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBTU/hr (2 kW) must have isolation valves with hose bibbs or other fittings on both cold water and hot water lines of water heating systems to allow for water tank flushing when the valves are closed.
§ 110.5:	**Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt); and pool and spa heaters.*
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; SMACNA Residential Comfort System Installation Standards Manual; or ACCA Manual J using design conditions specified in § 150.0(h)2.

2016 Low-Rise Residential Mandatory Measures Summary

§ 150.0(m)13:	**Duct System Sizing and Air Filter Grille Sizing.** Space conditioning systems that use forced air ducts to supply cooling to an occupiable space must have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum. The space conditioning system must also demonstrate airflow ≥ 350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy ≤ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.3. This applies to both single zone central forced air systems and every zone for zonally controlled central forced air systems.*
§150.0(o):	**Ventilation for Indoor Air Quality.** All dwelling units must meet the requirements of ASHRAE Standard 62.2. Neither window operation nor continuous operation of central forced air system air handlers used in central fan integrated ventilation systems are permissible methods of providing whole-building ventilation.
§ 150.0(o)1A:	**Field Verification and Diagnostic Testing.** Whole-building ventilation airflow must be confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.7.
Pool and Spa Systems and Equipment Measures:	
§ 110.4(a):	**Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating.*
§ 110.4(b)1:	**Piping.** Any pool or spa heating equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	**Covers.** Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	**Directional inlets and time switches for pools.** Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	**Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	**Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.*
Lighting Measures:	
§ 110.9:	**Lighting Controls and Components.** All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*
§ 110.9(e):	**JA8 High Efficacy Light Sources.** To qualify as a JA8 high efficacy light source for compliance with § 150.0(k), a residential light source must be certified to the Energy Commission according to Reference Joint Appendix JA8.
§ 150.0(k)1A:	**Luminaire Efficacy.** All installed luminaires must be high efficacy in accordance with TABLE 150.0-A.
§ 150.0(k)1B:	**Blank Electrical Boxes.** The number of electrical boxes that are more than 5 feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C. A JA8-2016-E light source rated for elevated temperature must be installed by final inspection in all recessed downlight luminaires in ceilings.
§ 150.0(k)1D:	**Electronic Ballasts.** Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.
§ 150.0(k)1E:	**Night Lights.** Permanently installed night lights and night lights integral to installed luminaires or exhaust fans must be rated to consume no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with § 130.0(c). Night lights do not need to be controlled by vacancy sensors.
§ 150.0(k)1F:	**Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).*
§ 150.0(k)1G:	**Screw based luminaires.** Screw based luminaires must not be recessed downlight luminaires in ceilings and must contain lamps that comply with Reference Joint Appendix JA8. Installed lamps must be marked with "JA8-2016" or "JA8-2016-E" as specified in Reference Joint Appendix JA8.*
§ 150.0(k)1H:	**Enclosed Luminaires.** Light sources installed in enclosed luminaires must be JA8 compliant and must be marked with "JA8-2016-E."
§ 150.0(k)2A:	**Interior Switches and Controls.** All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	**Interior Switches and Controls.** Exhaust fans must be switched separately from lighting systems.*
§ 150.0(k)2C:	**Interior Switches and Controls.** Luminaires must be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF.
§ 150.0(k)2D:	**Interior Switches and Controls.** Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)2E:	**Interior Switches and Controls.** No control must bypass a dimmer or vacancy sensor function if the control is installed to comply with § 150.0(k).
§ 150.0(k)2F:	**Interior Switches and Controls.** Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.0(k)2G:	**Interior Switches and Controls.** An energy management control system (EMCS) may be used to comply with dimmer requirements if it: functions as a dimmer according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.5(f); and meets all other requirements in § 150.0(k)2.
§ 150.0(k)2H:	**Interior Switches and Controls.** An EMCS may be used to comply with vacancy sensor requirements in § 150.0(k) if it meets all of the following: it functions as a vacancy sensor according to § 110.9; the Installation Certificate requirements of § 130.4; the EMCS requirements of § 130.5(f); and all other requirements in § 150.0(k)2.
§ 150.0(k)2I:	**Interior Switches and Controls.** A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2.

2016 Low-Rise Residential Mandatory Measures Summary

§ 150.0(h)3A:	**Clearances.** Installed air conditioner and heat pump outdoor condensing units must have a clearance of at least 5 feet from the outlet of any dryer vent.
§ 150.0(h)3B:	**Liquid Line Drier.** Installed air conditioner and heat pump systems must be equipped with liquid line filter driers if required, as specified by manufacturer's instructions.
§ 150.0(j)1:	**Storage Tank Insulation.** Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(j)2A:	**Water piping and cooling system line insulation.** For domestic hot water system piping, whether buried or unburied, all of the following must be insulated according to the requirements of TABLE 120.3-A: the first 5 feet of hot and cold water pipes from the storage tank; all piping with a nominal diameter of 3/4 inch or larger; all piping associated with a domestic hot water recirculation system regardless of the pipe diameter; piping from the heating source to storage tank or between tanks; piping buried below grade; and all hot water pipes from the heating source to kitchen fixtures.*
§ 150.0(j)2B:	**Water piping and cooling system line insulation.** All domestic hot water pipes that are buried below grade must be installed in a water proof and non-crushable casing or sleeve.*
§ 150.0(j)2C:	**Water piping and cooling system line insulation.** Pipe for cooling system lines must be insulated as specified in § 150.0(j)2A. Distribution piping for steam and hydronic heating systems or hot water systems must meet the requirements in TABLE 120.3-A.*
§ 150.0(j)3:	**Insulation Protection.** Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.
§ 150.0(j)3A:	**Insulation Protection.** Insulation exposed to weather must be installed with a cover suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. The cover must be water retardant and provide shielding from solar radiation that can cause degradation of the material.
§ 150.0(j)3B:	**Insulation Protection.** Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must have a Class I or Class II vapor retarder.
§ 150.0(n)1:	**Gas or Propane Systems.** Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: a 120V electrical receptacle within 3 feet of the water heater; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than 2 inches higher than the base of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu/hr.
§ 150.0(n)2:	**Recirculating Loops.** Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 150.0(n)3:	**Solar Water-heating Systems.** Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a listing agency that is approved by the Executive Director.
Ducts and Fans Measures:	
§ 110.8(d)3:	**Ducts.** Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	**CMC Compliance.** All air-distribution system ducts and plenums must be installed, sealed, and insulated to meet the requirements of CMC §§ 601.0, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6.0 (or higher if required by CMC § 605.0) or a minimum installed level of R-4.2 when entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh or tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause reductions in the cross-sectional area of the ducts.*
§ 150.0(m)2:	**Factory-Fabricated Duct Systems.** Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	**Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	**Backdraft Dampers.** All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers.
§ 150.0(m)8:	**Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	**Protection of Insulation.** Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner core flex duct must have a non-porous layer between the inner core and outer vapor barrier.
§ 150.0(m)11:	**Duct System Sealing and Leakage Test.** When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)11and Reference Residential Appendix RA3.
§ 150.0(m)12:	**Air Filtration.** Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporative coolers, must be provided with air filter devices that meet the design, installation, efficiency, pressure drop, and labeling requirements of § 150.0(m)12.

2016 Low-Rise Residential Mandatory Measures Summary

§ 150.0(k)2J:	**Interior Switches and Controls.** In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by a vacancy sensor.
§ 150.0(k)2K:	**Interior Switches and Controls.** Dimmers or vacancy sensors must control all luminaires required to have light sources compliant with Reference Joint Appendix JA8, except luminaires in closets less than 70 square feet and luminaires in hallways.*
§ 150.0(k)2L:	**Interior Switches and Controls.** Undercabinet lighting must be switched separately from other lighting systems.
§ 150.0(k)3A:	**Residential Outdoor Lighting.** For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirement in item § 150.0(k)3Ai (ON and OFF switch) and the requirements in either item § 150.0(k)3Aii (photocell and motion sensor) or item § 150.0(k)3Aiii (photo control and automatic time switch control, astronomical time clock, or EMCS).
§ 150.0(k)3B:	**Residential Outdoor Lighting.** For low-rise multifamily residential buildings, outdoor lighting for private patios, entrances, balconies, and porches; and outdoor lighting for residential parking lots and residential carports with less than eight vehicles per site must comply with either § 150.0(k)3A or with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3C:	**Residential Outdoor Lighting.** For low-rise residential buildings with four or more dwelling units, outdoor lighting not regulated by § 150.0(k)3B or § 150.0(k)3D must comply with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3D:	**Residential Outdoor Lighting.** Outdoor lighting for residential parking lots and residential carports with a total of eight or more vehicles per site must comply with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0.
§ 150.0(k)4:	**Internally illuminated address signs.** Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).
§ 150.0(k)5:	**Residential Garages for Eight or More Vehicles.** Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
§ 150.0(k)6A:	**Interior Common Areas of Low-rise Multi-Family Residential Buildings.** In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be high efficacy luminaires and controlled by an occupant sensor.
§ 150.0(k)6B:	**Interior Common Areas of Low-rise Multi-Family Residential Buildings.** In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting in that building must: i. Comply with the applicable requirements in §§ 110.9, 130.0, 130.1, 140.6 and 141.0; and ii. Lighting installed in corridors and stairwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all designed paths of ingress and egress.
Solar Ready Buildings:	
§ 110.10(a)1:	**Single Family Residences.** Single family residences located in subdivisions with ten or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete by the enforcement agency must comply with the requirements of § 110.10(b) through § 110.10(e).
§ 110.10(a)2:	**Low-rise Multi-family Buildings.** Low-rise multi-family buildings must comply with the requirements of § 110.10(b) through § 110.10(d).
§ 110.10(b)1:	**Minimum Area.** The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other Parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area.*
§ 110.10(b)2:	**Orientation.** All sections of the solar zone located on steep-sloped roofs must be oriented between 110 degrees and 270 degrees of true north.
§ 110.10(b)3A:	**Shading.** The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.*
§ 110.10(b)3B:	**Shading.** Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.*
§ 110.10(b)4:	**Structural Design Loads on Construction Documents.** For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	**Interconnection Pathways.** The construction documents must indicate: a location for inverters and metering equipment and a pathway for routing of conduit from the solar zone to the point of interconnection with the electrical service (for single family residences the point of interconnection will be the main service panel); and a pathway for routing of plumbing from the solar zone to the water-heating system.
§ 110.10(d):	**Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.
§ 110.10(e)1:	**Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	**Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be: positioned at the opposite (load) end from the input feeder location or main circuit location; and permanently marked as "For Future Solar Electric".

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LICENSED ARCHITECT E. ANDERS LASATER C-30374 REN. 01/31/2023 STATE OF CALIFORNIA

Wong Residence

New Single Family Residence (#001-2019)
1901 Park Skyline Road,
Santa Ana, CA 92705

Revisions
A 12/10/2020 County PC rev 1
B 03/26/2020 County PC rev 2
C
D
E

Issued
1 10/30/2020 - Orange County
2
3
4
5

Printed 7/9/2021 11:45:37 AM

Title 24 Report

T24-2

Attachment 7

MEETING MINUTES

North Tustin Advisory Committee (NTAC)
Wednesday, August 18, 2021 – 1:30pm PDT via virtual meeting

1:33pm: Brian Kurnow, County of Orange, started the online meeting and explained the process to all attendees including public comment.

I. CALL TO ORDER / FLAG SALUTE

Mike Fioravanti called the virtual meeting to order at 1:34PM. No flag salute due to online forum.

- *NTAC members in attendance*: David Feldberg, Mike Fioravanti (Secretary), Dessa Schroeder, Pat Welch. Quorum was met with four (4) members.
- *County of Orange attendees*: Brian Kurnow, Bellinda Erikson

II. APPROVAL OF THE MINUTES FROM PREVIOUS MEETING

David Feldberg made a motion to approve the minutes from the July 2021 meeting. Pat Welch second the motion and the committee then voted (all in favor) to approve the minutes.

III. COMMITTEE BUSINESS - None

IV. OLD BUSINESS – None

V. NEW BUSINESS

Project: Planning Application – PA20-0175 (Wong Residence)

Owner: Mike and Evelyn Wong

Agent: Anders Lasater

Location: 1901 Park Skyline Road, North Tustin

Proposal: Request approval of a Use Permit for over height walls to a maximum height of 18 feet within the side setback.

Mike Fioravanti explained the purpose and agenda for the today's meeting so that meeting attendees know the process and the role of NTAC. Mike was leading the meeting due to the absence of Peter Schneider, NTAC Chair.

PRESENTATION FROM APPLICANT

Michael (Mike) and Evelyn Wong, property owners were present along with Anders Lasater, AIA President of Anders Lasater Architects, Inc.

Anders Lasater gave a high-level overview of the project:

- New single-family residence to be built on an undeveloped lot.
- The attached garage is cut into the hill and needs an 18' side wall, at it's peak, and then slopes down to the street with the height reduced to align with the slope (lower height as it's closer to the street).
- A planter is located on the outside wall of the garage and an attached retaining wall is 18' exposed at the back of a parking space (outside of the garage).
- It slopes quickly down to zero at the ground level (street) from the garage maximum height.

Architectural plans and photos were shared online during the presentation.

Mike Wong shared "*the wall follows the contour of the hill so from the neighbor's perspective it's a three- or four-foot wall*".

NTAC Committee Questions:

A few questions were asked during the presentation (above) for clarification on the design plans shared online.

Pat Welch asked how many neighbors would have visibility to the wall. Evelyn Wong confirmed it's just the one neighbor next door.

Mike Fioravanti asked if the neighbor adjacent to this property has been contacted about the proposed project. Mike Wong confirmed that "Patricia" (last name not clear), who lives at 1911 Park Skyline, is aware of the wall and that it would not impact her view. He further stated she said "…*whatever you're building is better than what's been there for a number of years --- which is nothing*". He added that she was "*very positive*" about having a home on the vacant lot.

Dessa Schroeder asked for clarification on how the slope will be handled. Evelyn Wong shared a tree line is between the property line with the other neighbor so the wall will have limited view. An online photo was shared to confirm.

Evelyn Wong shared that a concrete pad at the top of the property will remain. It was used as an RV lot by the previous owner.

Dessa Schroeder inquired about the neighbor conversations. Mike Wong confirmed the conversation (noted above) with Patricia S. and her view would not change. Mike Wong said multiple conversation have also taken place with "*John and Beth*" that live on the opposite side of the property. He said the couple shared it was "*very beautiful*" in regard to the design plans.

Pat Welch noted that the 18' wall height is 3x the normal wall height and asked if there were any other options considered. Mike Wong said the required setback of 35' on the front property line forced the house to be pushed into the grade of the hill which then created the need for the 18' wall off the garage. Anders Lasater said the house will sit in the middle of the pad along with a long driveway. The elevation rises from the street

to the grade in the back of the property which is why the garage is cut into the hill and the need for an 18' wall. There wasn't any other option due to the steep grade and this was the best solution for the garage.

No other questions from the committee.

PUBLIC COMMENT

No public comment.

COMMITTEE DISCUSSION

Mike Fioravanti clarified the NTAC process at this point in the meeting…

Pat Welch said all of his questions were answered including the 18' wall height. Mike Fioravanti agreed that the wall height issue was addressed.

David Feldberg was good with the explanation and the support of the neighbors.

David Feldberg made a motion to approve the Use Permit application as outlined in PA20-0175. Pat Welch second the motion.

Roll call vote was taken:

David Feldberg (yea), Mike Fioravanti (yea), Dessa Schroder (yea), Pat Welch (yea)
4 = yea
0 = nay
Motion approved.

VI. PUBLIC COMMENT (OTHER ITEMS) - NONE

VII. ADJOURNMENT

Pat Welch made a motion to adjourn the meeting, Dessa Schroder second. All agreed and meeting was closed at 2:12pm

Meeting notes compiled by Mike Fioravanti (Secretary)
22 August 2021