

MEMORANDUM

Planning Department



Date: August 22, 2024
To: Zoning Administrator
From: Randy Baez, Associate Planner

Subject: **NEW DETACHED ACCESSORY DWELLING UNIT (P-MS24-0044)** – Minor Site Development Permit to develop a detached 1,360 square-foot, two-story Accessory Dwelling Unit (ADU) structure, up to 20 feet in height, comprised of one ADU on each floor (two ADUs total), located at 1119 Shirley Rd. The subject property is currently developed with a four-unit, 2,992 square-foot apartment complex, within the R-3 (Multi-Family High Residential). This Project is categorically exempt from environmental review under the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15303 (New Construction or Conversion of Small Structures).

Location: 1119 Shirley Dr. (APN: 8803028)

Zoning/GP: Multi-Family High Residential (R-3) / High Density Residential (HDR)

Application:

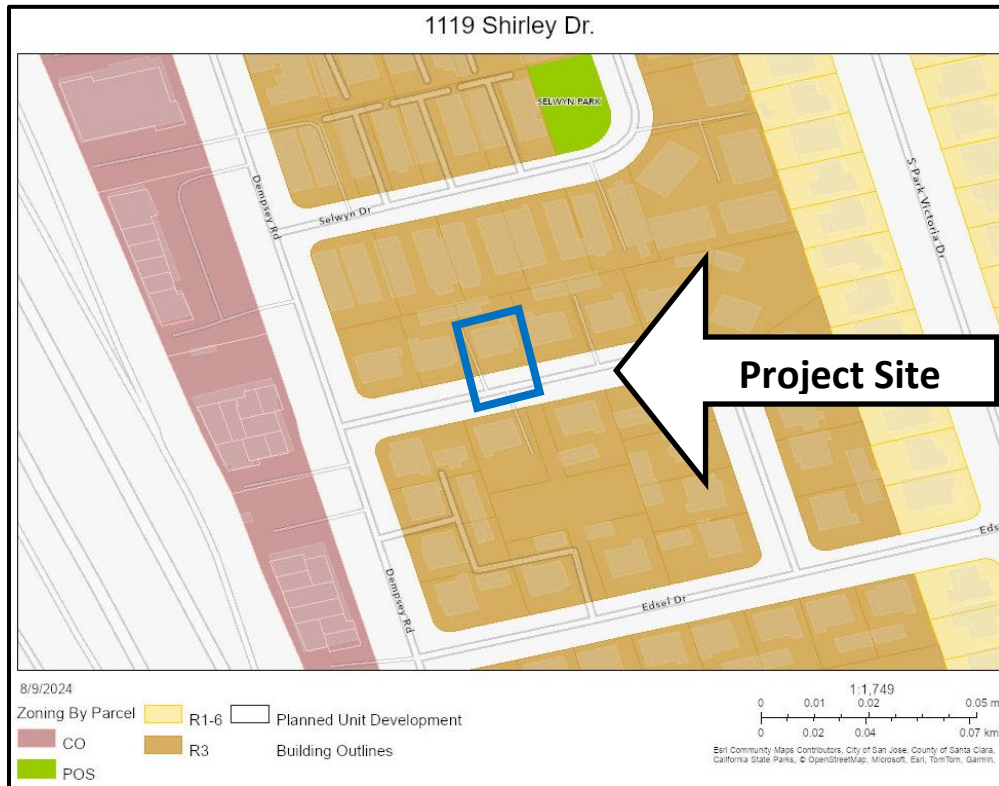
On March 4, 2024, Daniel Vargas (on behalf of the property owner) submitted a Minor Site Development (MSD) Permit application to develop a two-story, 1,360 square-foot detached Accessory Dwelling Unit (ADU), up to 20 feet in height, within the rear yard of the 0.2-acre site. Minor improvements are proposed for the existing 2,992 square-foot multi-family structure at this time including façade improvements.

The proposed 2-story structure consists of two ADUs, one on each floor, with identical floor plans. Each floor will feature 680 square feet of living area including a kitchen, living room, two bedrooms, and two bathrooms. Per Milpitas Municipal Code (MMC) Table XI-10-57.03(E)(3)(d), ADUs on a lot developed with a multi-family dwelling over 18 feet in height are subject to approval from the Zoning Administrator through an MSD Permit.

The Project site is surrounded by residential uses to the north, south, east, and west, as demonstrated in Map 1: Project Zoning and Map 2: Aerial View.



Map 1: Project Zoning



Map 2: Aerial View



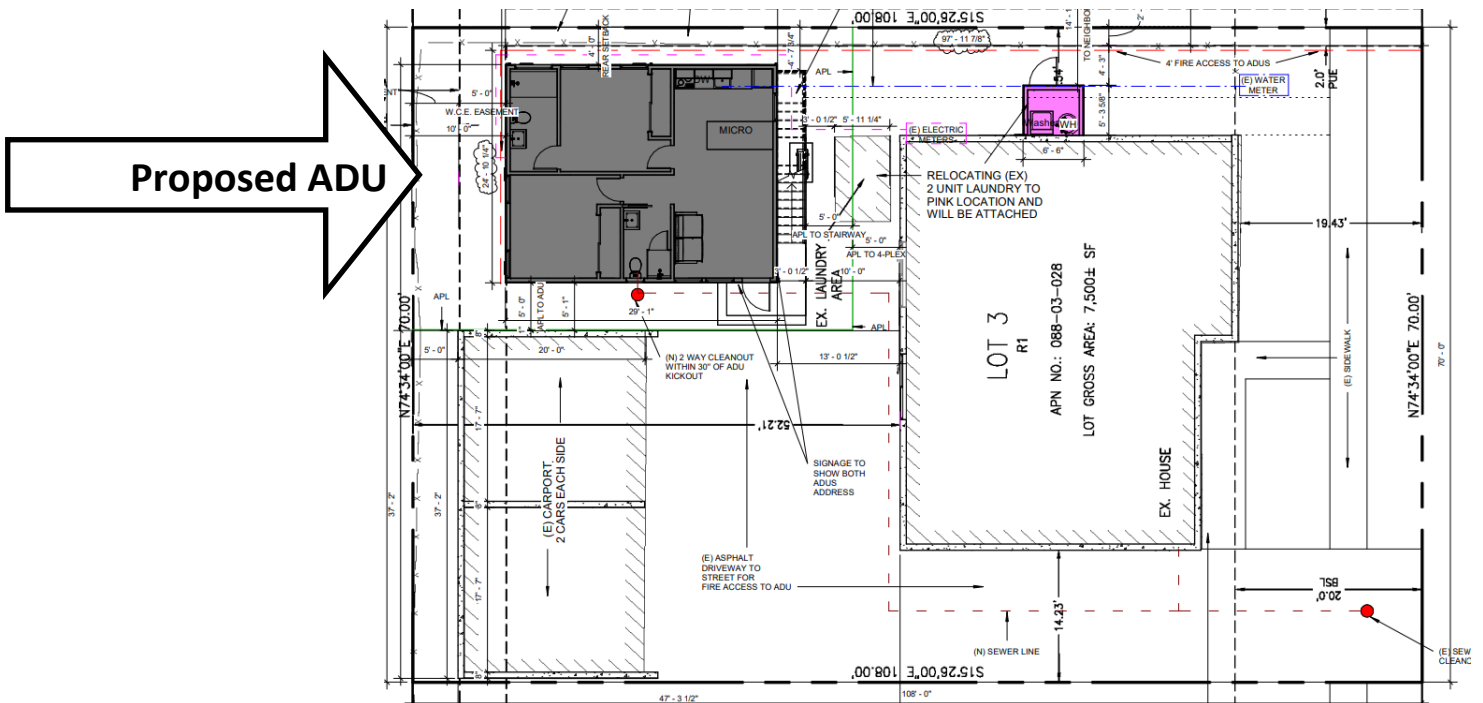
Table 1: Surrounding Zoning and Land Uses

	General Plan	Zone	Uses
Subject Site	High Density Residential (HDR)	Multi-Family High Residential (R-3)	Multi-Family Residential
North	High Density Residential (HDR)	Multi-Family High Residential (R-3)	Multi-Family Residential
South	High Density Residential (HDR)	Multi-Family High Residential (R-3)	Multi-Family Residential
East	High Density Residential (HDR)	Multi-Family High Residential (R-3)	Multi-Family Residential
West	High Density Residential (HDR)	Multi-Family High Residential (R-3)	Multi-Family Residential

Project Details

The 1,360 square-foot detached Accessory Dwelling Unit (ADU) structure is proposed in the northeast corner of the property. The ADU structure will feature two identical floors of 680 square feet of living area each. No parking spaces would be required for the ADU due to the subject site’s proximity to transit (within ½ mile to a bus stop), and minor façade improvements are proposed for the main dwelling. *Figure 1: Site Plan* shows the location of the proposed enclosure.

Figure 1: Site Plan



Analysis

The project site is in the Multi-Family High Residential (R-3) Zoning District and complies with most of the development standards of MMC Sec. XI-10-13.08 (ADU Regulations) as shown in *Table 2*. Detached ADUs proposed on multi-family residential lots can be up to 18 feet in height with limited review. The proposed two-story, two ADU project has a total living area of 1,360 square feet and will be up to 20 feet in height, which requires Zoning Administrator review per MMC Sec. XI-10-13.08(I).

Table 2: Detached ADU Development Standards

Standards	Required/Maximum	Proposed	Complies
Front Setback	20 feet	Approximately 68 feet	Yes
Side Yard Setback	4 feet	4 feet	Yes
Rear Yard Setback	4 feet	10 feet	Yes
Setback to Dwellings	6 feet	13 feet	Yes
Building Height	18*	20 feet	No**
Building Size	800 each	680 square feet each	Yes
*	Per MMC Sec. XI-10-13.08-E(3)(d): A detached ADU created on a lot with an existing or proposed multifamily dwelling that has more than one story above grade shall not exceed 18 feet in height.		
**	Requires Zoning Administrator approval		

Colors and Materials

The proposed ADU will feature a combination of gray plaster and siding exterior, with a flat membrane roof to limit the building height. The existing multi-family structure will be repainted to match the proposed ADU. The existing multi-family dwelling, along with others within the vicinity, are currently two-story structures, which is consistent with the proposed detached two-story ADU. In order to preserve the privacy of the property and neighboring properties, frosted glass windows will be installed on the second story. *Figure 2* shows the proposed floor plan, and *Figure 3* shows a rendering of the proposed elevations.

Figure 2: 1st and 2nd Floor Plans

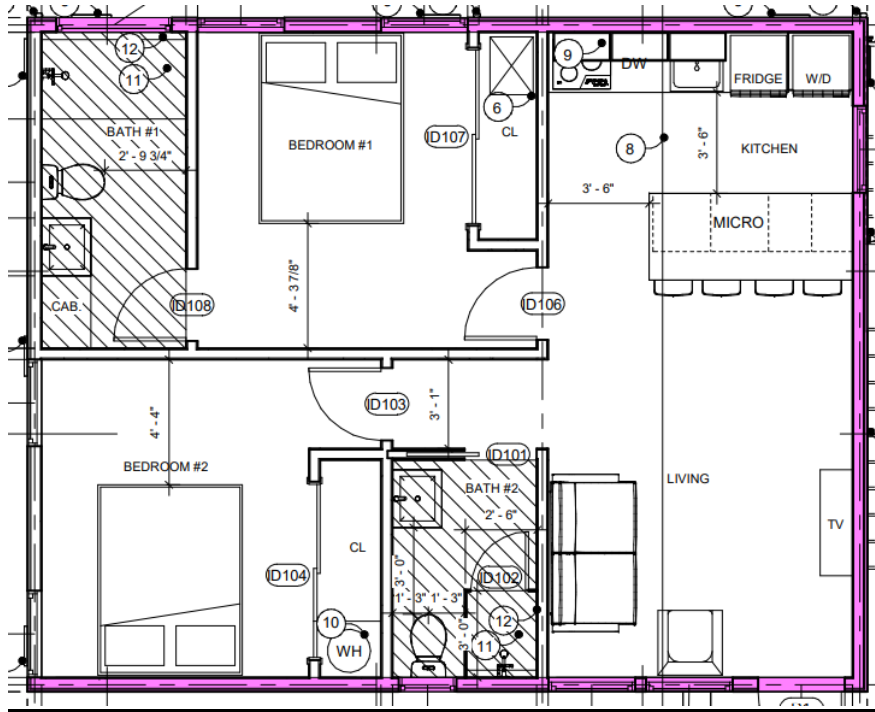


Figure 3: 3D Rendering



Parking

Pursuant to MMC Section XI-10-13.08(F)(7), since the subject site is located within one-half mile walking distance of public transit, no additional parking is required for the ADUs. Although minor facade alterations are proposed for the main multi-family dwelling at this time, the scope of work will not require additional parking. The property currently has a four-car carport and a shared driveway for a total of 4 parking spaces. The site will remain legal non-conforming with MMC Sec. XI-10-53 (parking standards), which requires 1.5 parking spaces per 1-bedroom unit, for a total of 6 parking spaces.

Zoning Conformance

As proposed, the project and associated use are consistent with the purpose and intent of the Multi-Family High Density Residential (R-3) zoning district, which is intended to “*to stabilize and protect the residential characteristics of the District and to promote, insofar as compatible with the intensity of land use, a suitable environment for family life,*” per MMC Sec. XI-10-4.01.

Findings for Approval:

In accordance with Section XI-10-57.03(G) of the Milpitas Municipal Code, the Zoning Administrator may consider and approve a Minor Site Development if the required findings can be made. Findings shall identify the rationale behind the decision to take a certain action and are analyzed below:

1. *The development recognizes and respects the nature of the neighborhood and site, development patterns, materials used, and the expectations of those who will see and use the building;*

The project is minimally visible to vehicles and pedestrians from the public right-of-way. The ADU structure has a proposed building height of 20 feet, which is below the maximum height allowed within the R-3 Zoning District. The two-story ADU is designed to be consistent with the main dwelling and other nearby residential structures. The ADU structure will be painted a gray-colored finish to match the new colors of the existing main dwelling.

2. *The development assures that modifications satisfy functional requirements, and are screened with appropriate compatible materials; and*

The proposed two-story ADU structure was designed with a unit on each floor to maximize space and functionality. A 20-foot height limit is proposed as it was not feasible to fit two floors within an 18-foot height limit. The ADU structure will complement the character of the neighborhood as its building materials will improve the area by including high-quality materials. Furthermore, the project would not require additional parking spaces, so the subject site would not exacerbate the non-conforming parking requirements.

3. *The development assures that the modifications will not interfere with the privacy, quiet enjoyment or view of the surrounding properties.*

The proposed two-story (ADU) structure is located within the rear yard of the site, but will provide glazed/frosted windows on the second floor of the structure to not interfere with the privacy of the surrounding properties.

California Environmental Quality Act (CEQA):

The project is categorically exempt from further environmental review under the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15303 (Construction or Conversion of Small Structures). As proposed, the project is less than 10,000 square feet, located within an area where all public services and facilities are available to allow for maximum development permissible in the General Plan and in an area that is not environmentally sensitive.

Recommendation:

STAFF RECOMMENDS THAT the Zoning Administrator approve P-MS24-0044 to allow the development of a 1,360 square-foot, two story Accessory Dwelling Unit (ADU) structure, up to 20 feet in height, comprised of one ADU on each floor (two ADUs total), within the rear yard of an existing 2,992 square-foot residential building on an 0.2-acre site in the R-3 Multi-Family High Density Residential Zoning District located at 1119 Shirley Drive, subject to the findings outlined in this report and the attached Conditions of Approval.

Attachments:

- A. Conditions of Approval*
- B. Project Plans*

CONDITIONS OF APPROVAL:

1. General Compliance. The applicant, including all successors in interest (collectively "Permittee") shall comply with each and every condition set forth in this Permit. This **Minor Site Development Permit No. MS24-0044** ("Permit") shall have no force or effect and no building permit shall be issued unless and until all things required by the below-enumerated precedent conditions have been performed or caused to be performed. **(P)**
2. Effective Date. Unless there is a timely appeal filed in accordance with the Milpitas Zoning Code, the date of approval of this Permit is the date on which the decision-making body approved this Permit. **(P)**
3. Acceptance of Permit. Should Permittee fail to file a timely appeal within twelve (12) calendar days of the date of approval of this Permit, inaction by Permittee shall be deemed to constitute each of the following: **(P)**
 - i. Acceptance of this Permit by Permittee; and
 - ii. Agreement by the Permittee to be bound by, comply with, and to do all things required of or by Permittee pursuant to all of the terms, obligations, and conditions of this Permit.
4. Permit Expiration. Pursuant to Section XI-10-64-06 of the Milpitas Zoning Code, this Permit shall become null and void if the activity permitted by this Permit is not commenced within two (2) years from the date of approval, or for a project submitted with a tentative map, within the time limits of the approved tentative map. Pursuant to Section XI-10-64.06(B) of the Milpitas Zoning Code, an activity permitted by this Permit shall be deemed to have commenced when the project: **(P)**
 - i. Completes a foundation associated with the project; or
 - ii. Dedicates any land or easement as required from the zoning action; or
 - iii. Complies with all legal requirements necessary to commence the use, or obtains an occupancy permit, whichever is sooner.
5. Time Extension. Pursuant to Section XI-10-64.07 of the Milpitas Zoning Code, unless otherwise provided by State law, Permittee shall have the right to request a one-time extension of the Permit if the request is made in writing to the Planning Department prior to the expiration date of the approval. **(P)**
6. Notice. Pursuant to California Government Code Section 66020, any protest filed in court relating to the imposition of fees, dedication, reservations, or other exactions to be imposed on the development project shall be filed within ninety (90) days after the date of the approval of this Permit. This provision serves as notice from the local agency to the Permittee that the ninety (90) day period in which the applicant may file a protest has begun under California Government Code Section 66020(d)(1). **(CA)**

7. Cost and Approval. Permittee shall fully complete and satisfy each and every condition set forth in this Permit and any other condition applicable to the project to the sole satisfaction of the City. Additionally, Permittee shall be solely responsible and liable for the cost to satisfy each and every condition. Permittee shall pay all required fees and charges to the City at the rate in effect at time of building permit issuance, or, the rate in effect when the fees and charges are due and paid in full to the City. There is no vesting of any fees or charges with the approval of this Permit. **(P)**
8. Conditions. Each and every condition set forth in this Exhibit shall apply to the project and continue to apply to the project so long as the Permittee is operating the project under the permits and approvals in this Permit. **(P)**
9. Compliance with Laws. The construction, use, and all related activity authorized under this Permit shall comply with all applicable local, state, and federal laws, rules, regulations, guidelines, requirements, and policies. **(CA/P)**
10. Previous Approvals. Permittee shall abide and continue to comply with all previous City approvals, permits, or requirements relating to the subject property, unless explicitly superseded or revised by this Permit. **(P)**
11. Indemnification. To the fullest extent permitted by law, Permittee shall indemnify, defend with counsel of the City's choosing, and hold harmless City, its City Council, its boards and commissions, officials, officers, employees, and agents from and against any and all claims, demands, obligations, damages, actions, causes of action, suits, losses, judgments, fines, penalties, liabilities, costs and expenses (including without limitation, attorney's fees, disbursements and court costs) of every kind and nature whatsoever which may arise from or in any manner relate (directly or indirectly) to (i) City's approval of the project, including but not limited to, the approval of the discretionary permits, maps under the Subdivision Map Act, and/or the City's related determinations or actions under the California Environmental Quality Act, and (ii) Permittee's construction, operation, use, or related activity under this Permit. This indemnification shall include, but not be limited to, damages awarded against the City, if any, costs of suit, attorneys' fees, and other expenses incurred in connection with such claim, action, causes of action, suit or proceeding whether incurred by applicant, City, and/or the parties initiating or bringing such proceeding. Permittee shall indemnify the City for all of City's costs, attorneys' fees, and damages which City incurs in enforcing the indemnification provisions set forth in this condition. **(CA)**
12. Written Response to Conditions. The Permittee shall provide a written response to the Conditions of Approval indicating how each condition has been addressed with the building permit application submittal. **(ALL)**
13. Revocation, Suspension, Modification. This Permit may be suspended, revoked, or modified in accordance with Section XI-10-63.06 of the Milpitas Zoning Code. **(P)**

- 14. Severability. If any term, provision, or condition of this Permit is held to be illegal or unenforceable by the Court, such term, provision, or condition shall be severed and shall be inoperative, and the remainder of this Permit shall remain operative, binding, and fully enforceable. **(CA)**

- 15. Permittee shall develop the approved project in conformance with the approved plans (date stamped June 25, 2024), approved by the Zoning Administrator in accordance with these Conditions of Approval. **(P)**

Any deviation from the approved site plan, elevations, materials, colors, landscape plan, or other approved submittal shall require that, prior to the issuance of building permits, the Permittee shall submit modified plans and any other applicable materials as required by the City for review and obtain the approval of the Planning Director or Designee. If the Planning Director or designee determines that the deviation is significant, the owner or designee shall be required to apply for review and obtain approval of the Zoning Administrator or City Council, as applicable, in accordance with the Milpitas Zoning Code. **(P)**

- 16. Building Department. The permittee shall comply with the requirements of the Building, Safety and Housing Department. Building construction plans must be submitted for review and approval before construction is to commence. All applicable California Code of Regulations Title 24 and Milpitas Municipal Code requirements at the time of building permit application must be met in advance of any building permit approvals or related construction. **(B)**

- 17. Land Development Department The project/development shall comply with the requirements of the Engineering Division. Changes to the site plan shall be reviewed and approved by the Engineering Division. **(LD)**

FIRE DEPARTMENT CONDITIONS

The plans approved by the Planning Department process are not building plans and have not been reviewed nor approved for conformance to the California Building Code (CBC), California Fire Code (CFC) and the Milpitas Municipal Code (MMC). Do not consider this set of plans as final building plans approved by the Fire Department. Building plans must be submitted for review and approval before construction is to commence. The following notes are a general list of the applicable code requirements (2016) and are provided to assist with the building permit process. Please note that these are not all inclusive. All applicable Building, Fire and Municipal Code requirements must be met in advance of any building permit approvals or related construction.

- 18. Electronic documents. The fire code official may require electronic base documents for all construction documents and operational permits. The fire code official shall designate the software base format for the electronic documents. CFC Section 106.1.1, added by MMC Section V-300-2.28, and CFC Section 106.1.1

19. Premises identification. New and existing buildings shall have approved address numbers. Address numbers shall be illuminated and located where they are clearly visible from the street. CFC Section 505.

20. Fire Department Access. Building and facilities. Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of 2022 CFC 503.1.1 and shall extend to within 150 feet of all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.

- a. Provide a site plan and show the dimension in the normal route of fire hose from fire apparatus access road to all portion of the exterior wall of the main building. Verify if future ADU meets this requirement.

21. Required water supply (hydrants that meet the minimum City Engineering Division Design Standards). An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction. CFC Section 507.1. Provide a report showing a minimum fire flow of 1000 gpm at minimum 20 psi residual pressure based on the Type V-B sprinklered with a total fire area of 1,963 square feet. 2022 CFC B105.1. Fire flow can be requested at MilpitasWorks@milpitas.gov

- a. Provide the following notes on the cover sheet: AUTOMATIC FIRE SPRINKLERS
 - i. An approved automatic fire sprinkler system (NFPA 13 minimum) shall be provided for the home (living space, attached to the home, etc.). California Fire Code Section 903.2.8 Automatic Fire Sprinkler System is used to comply with the requirements for unprotected openings and opening percentage to an exterior wall in buildings equipped throughout with automatic fire sprinkler system in accordance with 2022 CBC/CFC Section 903.3.1.1. California Building Code Section 705.8
 - ii. FIRE DEPARTMENT PERMIT – REQUIRED. The Milpitas Fire Department shall approve new installation and/or modifications to existing fire protection, alarm or monitoring system(s), public and private hydrants. A separate submittal is required to the Milpitas Fire Department, for review and approval, prior to the commencement of any work. CFC Section 901.2
 - iii. WATER SUPPLY SERVICE TO THE HOME. The water supply service to the home may need upgrading to service the automatic fire sprinkler system. All new water services shall be done as required by the City of Milpitas Engineering Division.

22. Required access. Exterior doors and openings required by the California Fire Code, or the California Building Code shall be maintained readily accessible

emergency access by the fire department. An approved access walkway leading from the fire apparatus access roads to exterior openings shall be provided where required by the fire code official. 2022 CFC 504.1. Provide a 48 inches wide pathway around the exterior opening and to the future ADU.

23. Walkway. A paved walkway shall be provided from the front public sidewalk to the front door of the new dwelling unit. The sidewalk shall be 48 inches in width minimum. The walkway shall be maintained clear and unobstructed at all times.
24. Sprinkler system supervision and alarms, and monitoring. Valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures and waterflow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit in conformance to the CA Fire Code Section 903.4.
25. Monitoring. Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an approved supervising station or, when approved by the fire code official, shall sound an audible signal at a constantly attended location.
26. Automatic Fire Sprinkler System Riser Location. The fire sprinkler system riser shall not be located within electrical rooms or storage closets and shall be provided with clear access and working clearance. The fire sprinkler system riser location shall be approved by the fire code official.
27. R Occupancy – Smoke Alarm. Single- and multiple-station smoke alarms. Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with Sections 907.2.11.1 through 907.2.11.7 and NFPA 72.
 - a. Exception: For Group R occupancies. A fire alarm system with smoke detectors located in accordance with this section may be installed in lieu of smoke alarms. Upon actuation of the detector, only those notification appliances in the dwelling unit or guest room where the detector is actuated shall activate. [Ref.: CFC 907.2.10]
28. Emergency Escape and Rescue. Emergency escape and rescue shall be provided in addition to the means of egress in Group R occupancies. Basement and sleeping rooms below the fourth story above grade plan shall have not fewer than one emergency escape and rescue opening in accordance with 2022 CBC/CFC Section 1031. Such openings shall open directly into the public way or to a yard or court that opens to a public way.

(P) = Planning

(PO) = Police

(F) = Fire Prevention

(B) = Building

(LD) = Land Development
(CA) = City Attorney

Jay Lee, AICP
Planning Director

Date: _____

PROJECT INFORMATION APN: 08803028

PROJECT ADDRESS: 1119 SHIRLEY DR, MILPITAS, CA 95035

BUILDING ZONING: R3S
 BUILDING OCCUPANCY GROUP: Multi-family (2-4 unit)
 TYPE OF CONSTRUCTION: VB
 YEAR BUILT: 1963
 NUMBER OF DWELLING UNITS: 4
 STORIES: 2
 COVERED PARKING SPACES: 4
 UNCOVERED PARKING SPACES: STREET PARKING
 LOT SIZE: 7,271 SQ. FT.

FLOOR AREA BREAKDOWN

EXISTING FLOOR AREA
 (E) ONE TWO-STORY MULTIFAMILY RESIDENTIAL BUILDING 2,992 SQ.FT.
 TOTAL EXISTING FLOOR AREA = 2,992 SQ.FT.

PROPOSED ADDITION
 2 ADU 680 SQ.FT.
 TOTAL PROPOSED FLOOR AREA = 1,360 SQ. FT.

(E) LOT COVERAGE 745 + 1,579 = 2,324 SQ. FT. = 31%

(N) LOT COVERAGE 745 + 1,516 + 678 + 65 = 3,004 SQ. FT. = 41%

FLOOR AREA RATIO: 2,992 + 1,360 = 4,352 SQ. FT. / 7,271 = .59%

SCOPE OF WORK:

2 NEW ACCESSORY DWELING UNITS : 2BR/2BA

APPLICABLE CODES:
 1. ALL WORK DESCRIBED HEREIN SHALL COMPLY WITH THE LATEST BUILDING CONSTRUCTION CODES AS ADOPTED OR AMENDED BY THE STATE OF CALIFORNIA AND THE CITY OF MILPITAS.

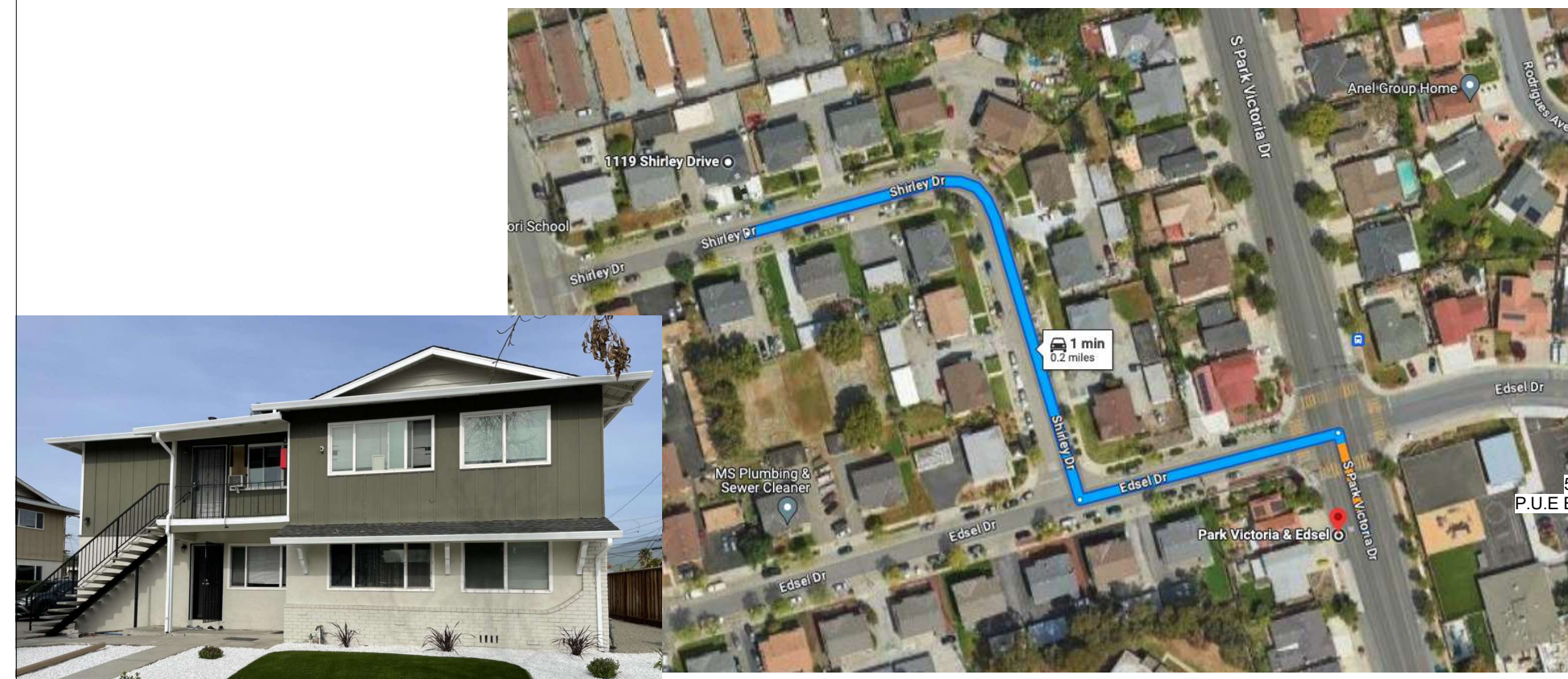
- CALIFORNIA RESIDENTIAL CODE 2022
- CALIFORNIA BUILDING CODE 2022
- CALIFORNIA MECHANICAL CODE 2022
- CALIFORNIA PLUMBING CODE 2022
- CALIFORNIA ELECTRICAL CODE 2022
- TITLE 24 ENERGY REGULATIONS 2022
- CALIFORNIA FIRE CODE 2022 (CFC)
- CALIFORNIA GREEN BUILDING STANDARDS CODE 2022 (CGC)

4 PROJECT INFORMATION

PROJECT OWNER: MARK AND SAMANTHA YEH
 PROJECT DESIGNER: AKD Homes
 3518 Arden Rd
 Hayward, CA 94545
 design@akdhomes.net
 510-314-0564
 www.akdhomes.com
 STRUCTURAL ENGINEER: FMD ENGINEERING, INC.
 32108 ALVARADO BLD #340
 UNION CITY, CA 94587
 510-475-9290
 FDUARTE@FMDENGR.COM
 T-24: QUEST ENERGY DESIGN
 1700 N 1ST ST.
 SAN JOSE, CA 95112
 408-896-6018

3 PROJECT DIRECTORY

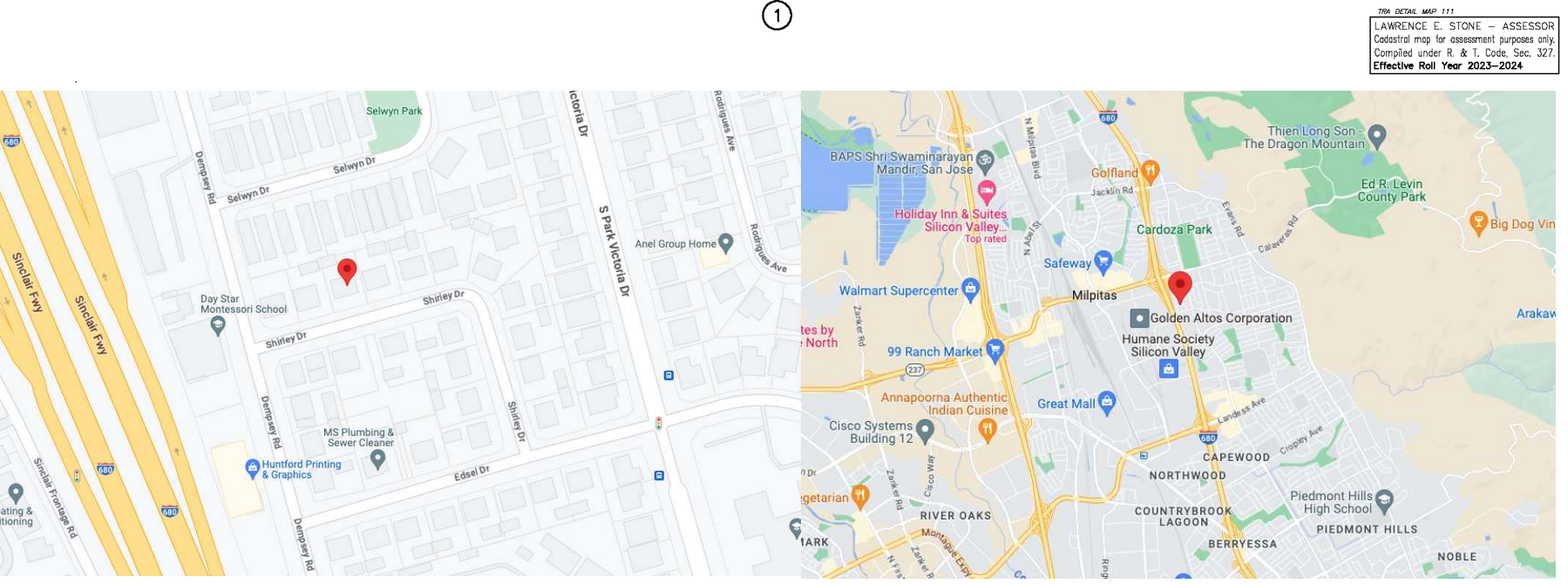
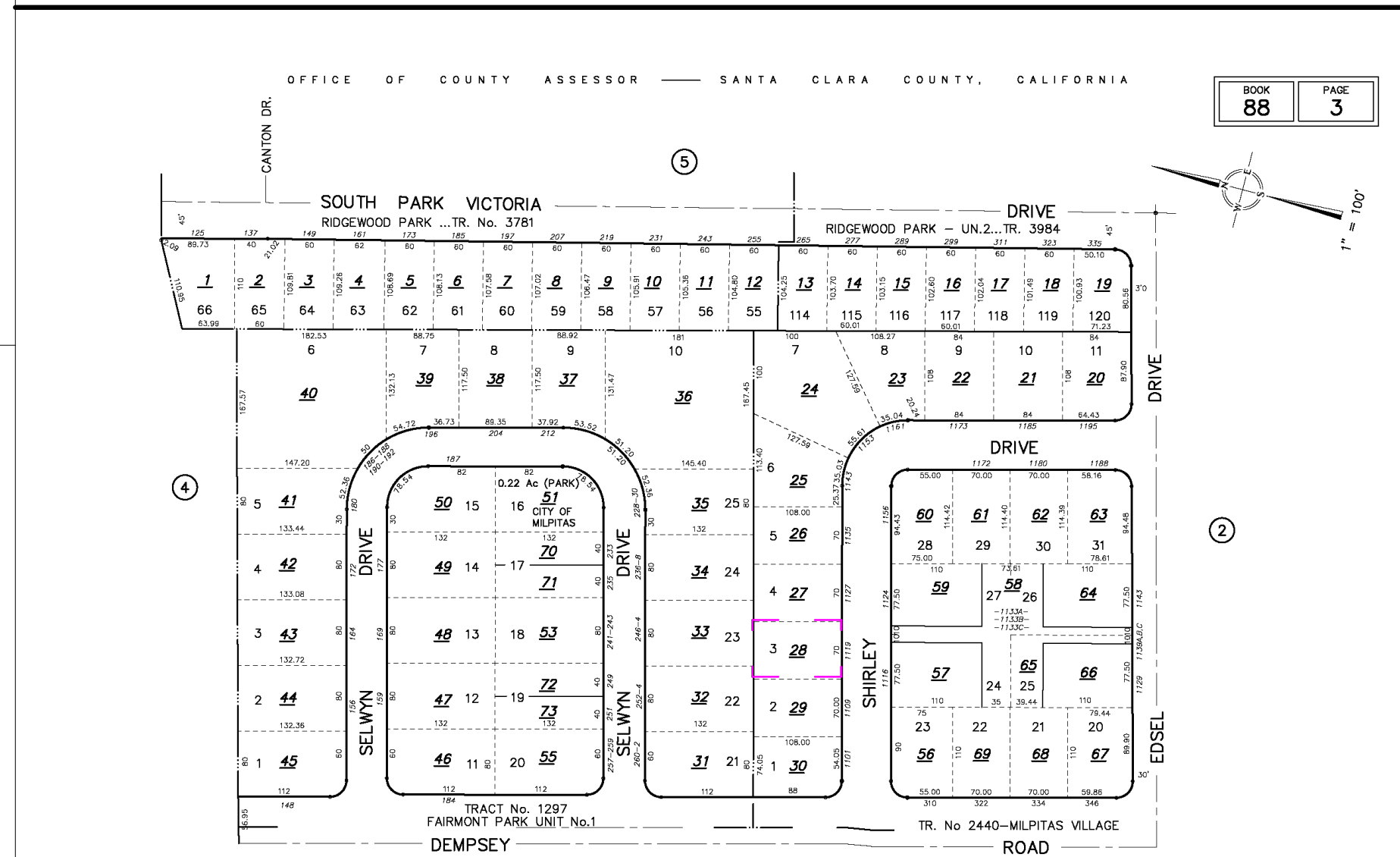
SHEET INDEX		
#	SHEET #	SHEET NAME
0	A-0.0	COVER SHEET
1	A-0.1	NOTES
2	A-0.2	NOTES
3	A-0.3	BMP
4	A-0.4	SURVEY
5	A-0.5	SURVEY
6	A-1.0	PROPOSED FLOOR PLAN
7	A-2.0	PROPOSED ROOF PLAN
8	A-3.0	PROPOSED ELEVATIONS
9	A-3.1	PROPOSED ELEVATIONS
10	A-3.2	EXISTING ELEVATIONS
11	A-4.0	BUILDING SECTIONS
12	A-5.0	PROPOSED ELECTRICAL PLAN
13	A-6.0	DOOR & WINDOW SCHEDULE
14	A-7.0	DETAILS
15	A-8.0	SPECIFICATIONS
16	A-8.1	SPECIFICATIONS
17	A-8.2	SPECIFICATIONS
18	A-8.3	SPECIFICATIONS
19	A-8.4	APPLIANCE SPECIFICATIONS
20	STD1	STRUCTURAL 1
21	STD2	STRUCTURAL 2
22	STD3	STRUCTURAL 3
23	STD4	STRUCTURAL 4
24	STD5	STRUCTURAL 5
25	STD6	STRUCTURAL 6
26	T24-1	T-24
27	T24-2	T-24



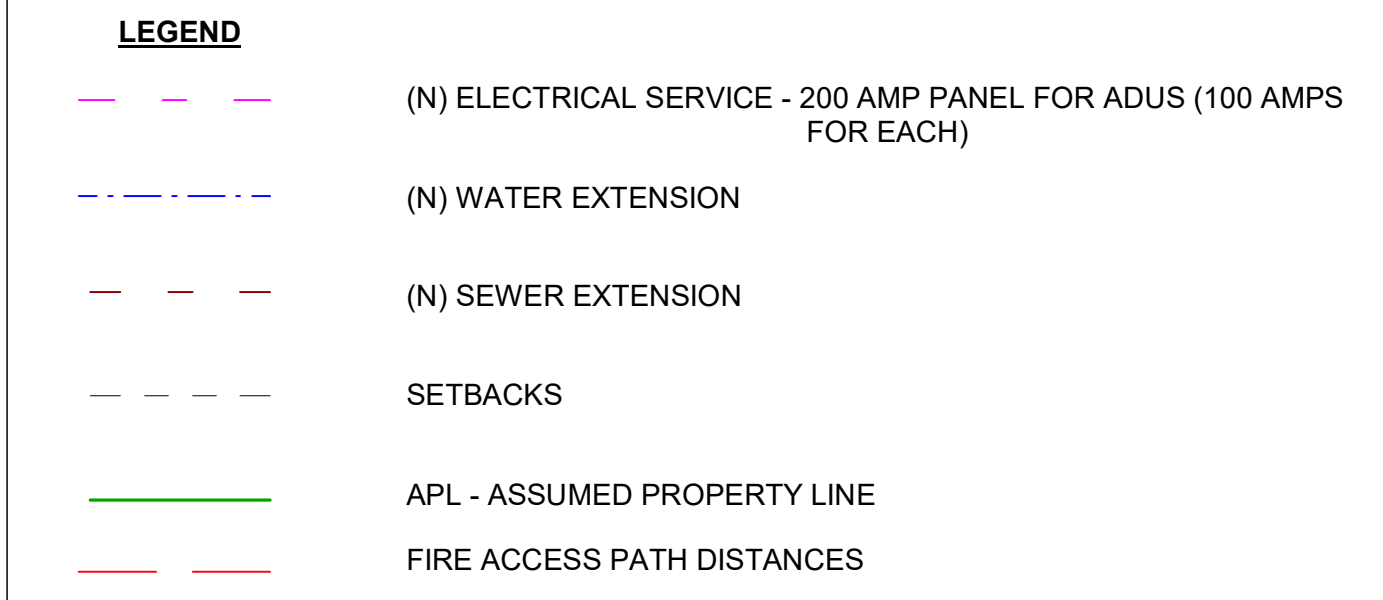
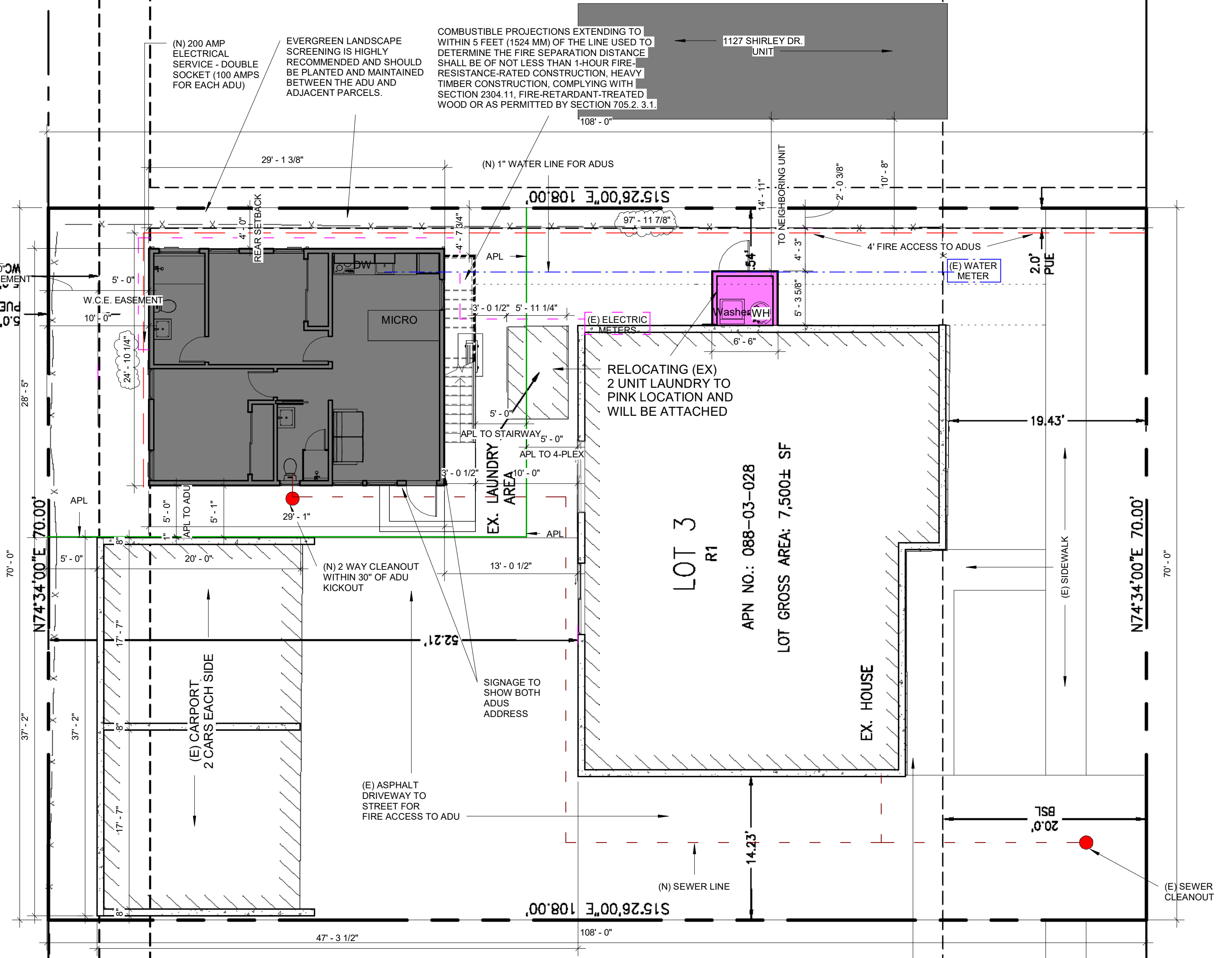
ADU TO NEAREST BUS STATION



(E) 4 UNIT EXTERIOR LOOK (N) ADUS TO MATCH MATERIAL AND PAINT COLORS



2 PARCEL AND VICINITY MAPS NOT TO SCALE



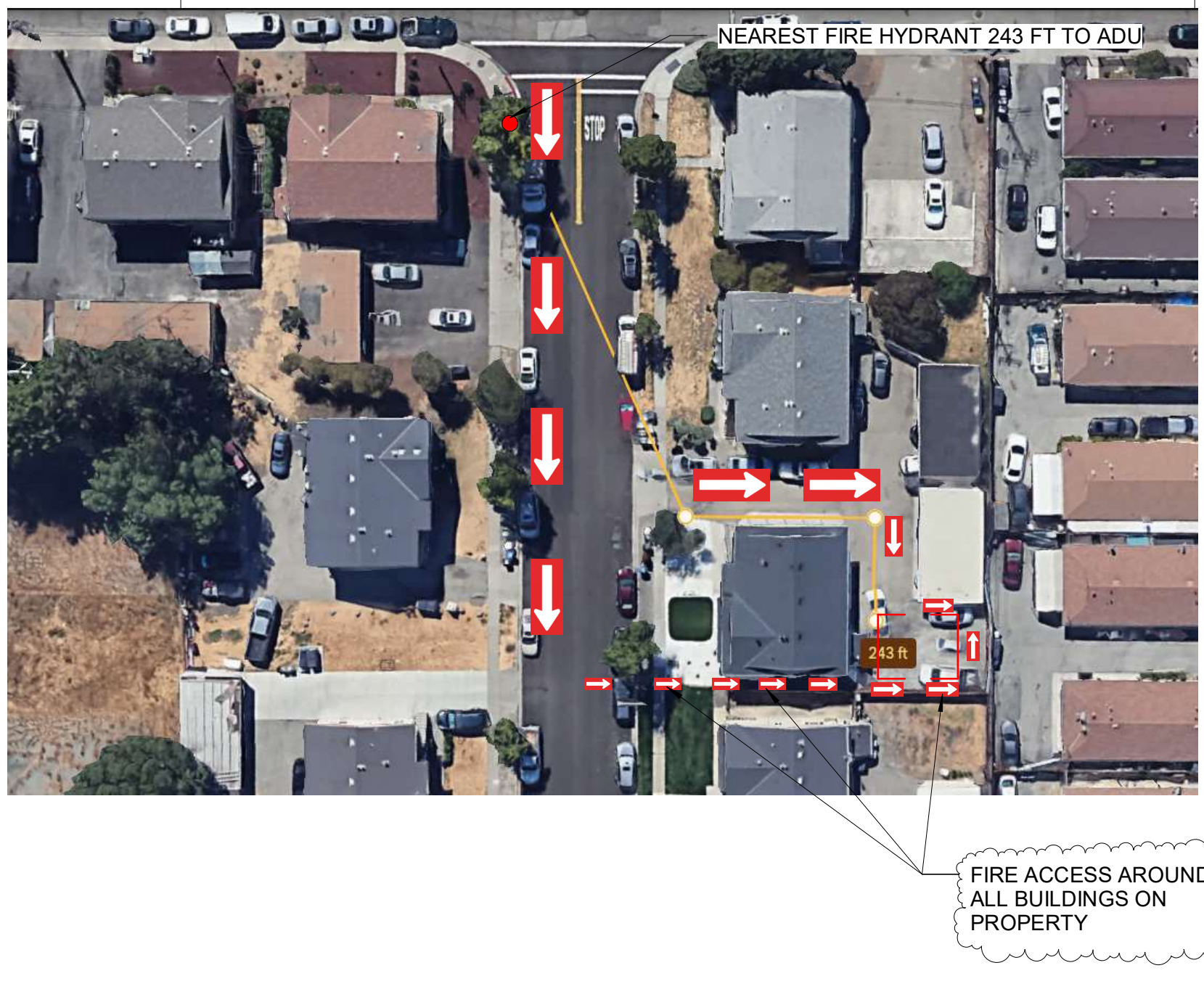
NOTES

- PROPOSED BUILDING IS AN ALL-ELECTRIC-BUILDING
- 4 PLEX DOES NOT HAVE FIRE SPRINKLERS - NO PROPOSED FIRE SPRINKLERS IN ADUS
- GROUND IMMEDIATELY ADJACENT TO ALL FOUNDATIONS SHALL BE SLOPED AWAY FROM BUILDING AT A SLOPE NOT LESS THAN 5% IN THE FIRST 10 FEET MEASURED PERPENDICULAR TO THE FACE OF WALL.

DEFERRED SUBMITTAL

- REQUIRED SPECIAL FEATURES AND HERS FEATURE SUMMARY
- BOTH ADU'S TO BE FIRE SPRINKLERED
- DEFERRED SUBMITTALS SHALL BE APPROVED PRIOR TO INSTALLATION OR CONSTRUCTION OF ANY WORK IN THE DEFERRED SUBMITTAL ITEMS.

SEWER NOTES:
 -Allowable pipe material: PVC SDR 26 or ABS Schedule 40
 -Minimum pipe diameter is 4"
 -Minimum allowable slope is 2% (1/4" per foot)
 -Minimum allowable pipe cover is 24"
 -2-way COTG within 30" of bldg kickout
 -If 24" pipe cover is not achievable then PVC C900 pipe shall be used
 -Sewer utilities shall be kept in separate trench below water, gas, and electric



FIRE ACCESS AROUND ALL BUILDINGS ON PROPERTY

5 FIRE ACCESS 1/4" = 1'-0"

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



**2 NEW DETACHED ADU
 TWO BEDROOM - TWO BATH**
 1119 SHIRLEY DR.
 Milpitas, CA 95035



ACCESSORY DWELLING UNITS
 WWW.AKDHOMES.COM
 EMAIL: DESIGN@AKDHOMES.NET
 TEL: 510-314-0564

ISSUANCES		
No.	Description	Date
1	PLANNING DEPT.	02.9.2024
2	REVISION #1	04.16.2024
3	REVISION #2	6.25.2024

Checked By: JANELLE VARGAS

Janelle Vargas

COVER SHEET

Drawing Scale: As indicated

Job No. PLANS

A-0.0

GENERAL NOTES:

- ALL WORK DESCRIBED HEREIN SHALL COMPLY WITH THE LATEST BUILDING CODES AS ADOPTED OR AS AMENDED BY THE STATE OF CALIFORNIA AND THE CITY OF XXX - 2022 CRC, CBC, CMC, CPC, CEC AND 2022 ENERGY REGULATIONS.
- EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR FOR COMPATIBILITY WITH THE NEW CONSTRUCTION.
- ALL NOTES AND DIMENSIONS SHALL BE FIELD VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO CONSTRUCTION.
- DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS. WRITTEN DIMENSIONS SHALL BE PREFERRED.
- IN CASE OF DISCREPANCIES BETWEEN THE DRAWINGS AND THE FIELD CONDITIONS, THE DESIGNER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH CONSTRUCTION.
- THE GENERAL CONTRACTOR / OWNER SHALL BE RESPONSIBLE FOR ALL WORK REQUIRED TO COMPLETE THE CONSTRUCTION OF THE PROJECT.
- WORKMANSHIP AND MATERIALS SHALL CONFORM WITH THE CURRENT UNIFORM BUILDING CODE.

SITE NOTES:

- EXISTING GRADE ELEVATION SHALL BE MAINTAINED.
- PROVIDE A 2% MIN SLOPE AWAY FROM BUILDING AT ALL LANDINGS.
- ALL NEW SEWER LINES TO HAVE ATMOSPHERIC AND LISTED ACCESSIBLE BACKFLOW PREVENTION WATER VALVES INSTALLED, AND SHALL HAVE AN ATMOSPHERIC RELIEF VALVE INSTALLED UPSTREAM OF THE BACKFLOW VALVE AND A CLEANOUT DOWNSTREAM OF THE BACKFLOW VALVE OUTSIDE THE BUILDING IN CLOSE PROXIMITY TO THE FOUNDATION.
- STATE ARCHITECT CERTIFIED EARTHQUAKE - ACTUATED GAS SHUT OFF VALVES AT ALL NEW GAS UTILITY METERS.

CONSTRUCTION NOTES:

- ALL DIMENSIONS ARE TO FINISHED FACE OF WALLS, FLOORS AND CEILINGS, UNLESS OTHERWISE NOTED.
- BEDROOMS THAT DO NOT HAVE EGRESS DOORS, SHALL HAVE ONE WINDOW THAT MEETS EGRESS REQUIREMENTS.
 - MIN. 20" CLEAR WIDTH, MIN. 24" CLEAR HEIGHT WHEN OPEN.
 - MIN. 7.5 SQ. FT. OF CLEAR OPEN AREA / 5 SQ. FT. FOR GRADE LEVEL ROOMS.
 - MAX. HEIGHT OF 44" FROM FINISHED FLOOR TO BOTTOM OF CLEAR OPENING.
- GLAZING INSTALLED SHALL BE TEMPERED WHEN INSTALLED IN THE FOLLOWING LOCATIONS:
 - ADJACENT TO AND WITHIN 24" OF A DOOR.
 - SHOWER/TUB ENCLOSURES WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS < 60" ABOVE THE FINISHED FLOOR.
 - GLAZING IN A WALL ENCLOSING A STAIRWAY LANDING OR WITHIN 6" OF THE BOTTOM OF STAIRWAYS, HALLWAYS, WHERE THE BOTTOM EDGE OF THE GLAZING IS < 60" ABOVE THE FLOOR.
 - FINISHED FLOOR ANY GLAZING MEETING ALL THE FOLLOWING CONDITIONS:
 - EXPOSED AREA OF AN INTERNAL PANE IS > 9 SQ. FT.
 - EXPOSED BOTTOM EDGE IS < 18" ABOVE FINISHED FLOOR.
 - EXPOSED TOP EDGE IS > 36" ABOVE FINISHED FLOOR.
 - WITH IN A 36" HORIZONTAL DISTANCE OF A WALKING SURFACE.
- NEW 110V SMOKE DETECTORS WITH BATTERY BACKUP, WHICH ARE AUDIBLE IN ALL SLEEPING AREAS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS: HALLWAYS LEADING TO BEDROOMS, ABOVE TOP OF STAIRS, ANY AREA WHERE CEILING HEIGHT IS OVER 24" ABOVE A BAY/WALL CEILING LEADING TO BEDROOMS AND MIN. ONE ON EVERY LEVEL.
- CARBON MONOXIDE DETECTORS SHALL BE INSTALLED AS PER CODE REQUIREMENTS.
- NEW TOILETS SHALL BE 1.28 GALLON PER FLUSH.
- NEW TOILETS SHALL KEEP THE FOLLOWING CLEARANCE: MIN 15" CLEAR FROM CENTER OF TOILET TO ADJACENT WALL OR ANY OTHER BUILT OBSTACLE. 24" CLEARANCE SHALL BE KEPT IN FRONT OF THE TOILET.
- PROVIDE MIN. 22" ATTIC ACCESS, SEE PLAN FOR LOCATION. ATTIC ACCESS TO HAVE A PULL DOWN CEILING PANEL WITH FOLDING LADDER. UNIT SHALL BE SELF CONTAINED WITH ITS OWN FRAME AND REQUIRE NO HEADROOM OR ATTIC CLEARANCE. WHERE OCCURS.
- PROVIDE 18"X24" CRAWL SPACE ACCESS. CRC SEC. R408.4, WHERE OCCURS.
- PROVIDE 5/8" GYPSUM BOARD AT ALL COMMON WALLS AND 5/8" GYPSUM BOARD TYPE 'X' AT CEILINGS BETWEEN GARAGE AND RESIDENCE. PROVIDE 1/2" GYPSUM BOARD AT ALL STRUCTURE SUPPORTING FLOOR AND CEILING ASSEMBLIES USED FOR SEPARATION BETWEEN GARAGE AND DWELLING. CRC SEC. R302.6; CRC SEC R501.3 AND CBC 717.1 AND 717.2. GARAGE FIRE RATED WALL ASSEMBLY TO EXTEND TO ROOF SHEATHING SEAL JOINTS WITH FIRE TAPE. 2022 CRC SEC. R302.6.
- DOOR SEPARATING THE GARAGE AND THE LIVING SPACE SHALL HAVE A 20 MINUTE FIRE PROTECTION RATING BE SELF CLOSING AND LATCHING. TIGHT FITTING SOLID, WOOD DOOR 1-3/8" THICKNESS (FIRE DOOR) SEE CRC SEC. R302.5.1.
- PROVIDE A MINIMUM 36" DEEP LANDING OUTSIDE ALL EXTERIOR DOORS. THE TOP OF THE EXTERIOR LANDING SHALL NOT BE MORE THAN 3/4" LOWER THAN THE EXTERIOR LANDING FOR IN-SWINGING DOORS, AND NOT MORE THAN 1 1/2" LOWER FOR OUT SWINGING DOORS CRC SEC. 311.3.1.
- GUARDRAILS SHALL BE 42" HIGH ABOVE FINISHED FLOOR. GUARDRAIL CONNECTION SHALL BE CAPABLE OF RESISTING A CONCENTRATED LOAD OF 200 POUNDS APPLIED AT ANY POINT ALONG THE TOP RAILING AND 25 PSF HORIZONTAL LOAD PERPENDICULAR TO THE BALUSTERS.
- WATER HEATERS SHALL BE MOUNTED ON A PLATFORM OR WALL MINIMUM 18" ABOVE FINISHED FLOOR, MEASURED TO THE FLAME. TYPICAL INSULATION (A) R-30 FOR ATTIC / CEILING ROOF; (B) R-15 FOR EXTERIOR WALLS; (C) R-19 FOR FLOORS OVER UNHEATED SPACES; (D) R-8 FOR HEATING AND COOLING DUCTS.
- STRUCTURAL WELDING: STRUCTURAL WELDING WILL BE COMPLETED AND INSPECTED IN AN APPROVED FABRICATION SHOP.
- UNDER FLOOR DUCTS, IF ANY, SHALL HAVE CLEARANCES TO EARTH AND NOT PASS THROUGH MINIMUM REQUIRED CRAWL SPACE ACCESS POINTS.
- FINISHED ROOFING MATERIAL SHALL BE INSTALLED AND COMPLETED PRIOR TO FRAME INSPECTION.
- Fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) in the following locations as per 2022 CRC R302.11:
 - In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs, as follows:
 - Vertically at the ceiling and floor levels.
 - Horizontally at intervals not exceeding 10 feet (3048 mm).
 - At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cover ceilings.
 - At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion. The material filling this annular space shall not be required to meet the ASTM E 136 requirements.

FIRE DEPARTMENT NOTES:

- SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS SHALL BE INNER CONNECTED.
- SMOKE DETECTORS SHALL BE DUAL SENSORS - IONIZATION PHOTO ELECTRIC. IF SMOKE DETECTOR IS LOCATED WITHIN 20 FEET OF KITCHEN OR FIREPLACE, PHOTO ELECTRIC SMOKE DETECTOR SHALL BE INSTALLED.
- A DUAL SENSOR SMOKE ALARM SHALL BE INSTALLED IN EVERY ROOM. A DUAL SENSOR SMOKE ALARM SHALL BE INSTALLED OUTSIDE SLEEPING AREAS.
- A CARBON MONOXIDE DETECTOR SHALL BE INSTALLED OUTSIDE SLEEPING AREAS.
- PREMISE IDENTIFICATION BUILDING ADDRESS NUMBERS SHALL BE LOCATED ON FRONT / STREET FACING EXTERIOR WALL. NUMBERS SHALL BE METAL, CONTRASTING AGAINST HOUSE COLOR AND SHALL BE MINIMUM 4" HIGH WITH A MIN. STROKE WIDTH OF .5" CFC SECTION 505.1.

2022 CAL GREEN NOTES:

- SITE AND CONSTRUCTION MANAGEMEN REQUIREMENTS:**
 - In order to manage storm water drainage during construction, one or more of the following shall be implemented:
 - Retention basins of sufficient size shall be utilized to retain storm water on the site.
 - 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.
 - Compliance with a lawfully enacted storm water management ordinance.
 - A4.106.2.3 Topsoil shall be protected or saved for reuse as specified in this section. The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area. Heavy equipment or vehicle traffic and material storage outside the construction area shall be limited to the areas that are planned to be paved.
 - 4.106.3 Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples are: swales, water collection and disposal systems, french drains, water retention gardens, other water measures which keep surface water away from buildings and aid in groundwater recharge.
 - A4.103.1 A site which complies with at least one of the following characteristics is selected: 1. An infill site is selected; 2. A greenfield site is selected; 3. An EPA-recognized and remediated site is selected.
 - A4.105.3 Prior to the house being demolished, a deconstruction survey shall be prepared that includes a list of all materials that are reusable.
 - A4.106.4 Not less than 30% of the total parking, walking or patio surfaces shall be permeable.
 - A4.106.5 Roof with slope > 2 shall have an SRI of 20 or greater. Roof with slope < 2 shall have an SRI of 75 or greater.
 - A4.106.8.2 a) The property owner shall provide Conduit Only, EVSE-Ready Only, or EVSE Installed for each residence. (b) Location. The proposed location of a charging station may be internal or external to the dwelling, and shall be in close proximity to an on-site parking space consistent with City guidelines, rules, and regulations.
 - A4.108.8.3 Provide at least one EVSE-ready outlet or charger for each residential unit in the structure. For guest parking provide conduit only, EVSE-ready outlet, or EVSE installed at least 25% of guest parking spaces, of which at least 5% (no less than one) shall be EVSE installed. If multi-family residential structures have individual attached parking then property owner shall provide conduit only, EVSE-ready outlet, or EVSE installed in a parking space attached to the residence or a shared electrical panel between the residence and parking space.
 - A4.103.2 Community connectivity. Facilitate community connectivity by one of the following methods: 1. Locate project within a 1/4-mile true walking distance of at least four basic services, readily accessible by pedestrians. 2. Locate project within a 1/2-mile true walking distance of at least seven basic services, readily accessible by pedestrians. 3. Other methods increasing access to additional resources. Note: Examples of services include bank, place of worship, grocery, day care, cleaners, fire station, barber shop, beauty shop, hardware store, laundry, medical clinic, dental clinic, senior care, park, pharmacy, post office, restaurant, school, theater, community center fitness center, museum, farmers market.
 - A4.103.1 A site which complies with at least one of the following characteristics is selected: 1. An infill site is selected. 2. A greenfield site is selected. 3. An EPA-recognized and remediated site is selected.
 - A4.104.1 Prior to the beginning of construction, the builder shall receive a written guideline and instruction specifying the green goals of the project.

LANDSCAPE REQUIREMENT:

- A4.106.3 Post-construction landscape design shall accomplish one or more of the following: 1) Areas disrupted during construction are restored to be consistent with native vegetation species and patterns. 2) Limit turf areas to no more than 10% of total landscaped area. 3) Utilize at least 75% native CA or drought tolerant plant and tree species appropriate for the climate zone region. 4) Hydrozone irrigation techniques are incorporated into the landscape design.
- A4.304.3 When landscaping is provided by the builder, a water budget shall be developed for landscape irrigation use that conforms to the local water efficient landscape ordinance or to the CA Department of Water Resources Model Water Efficient Landscape Ordinance where no local ordinance is applicable.
- A4.304.4 When landscape is provided by the builder, a water efficient landscape irrigation system shall be installed that reduces potable water use. The potable water use reduction shall be calculated beyond the initial requirements for plant installation and establishment. Calculations for the reduction shall be based on the water budget developed pursuant to Section A4.304.3. Landscapes does not exceed 60% ET to times the landscape area. Methods used to comply may include but are not limited to: plant coefficient, irrigation efficiency, captured rainwater, recycled water, graywater.
- A4.304.6 For new water service connections, landscaped irrigated areas more than 1,000 sq ft shall be provided with separate submeters for outdoor potable water use.
- A4.305.5 Newly constructed residential buildings with a landscape of any size shall install a three-way diverter valve in the drain-line of all laundry fixtures to assist in the future installation of a "Laundry-to-landscape" irrigation system.
- A4.106.10 Outdoor lighting systems comply with all of the following: 1) The minimum requirements in the CA Energy Code for Lighting Zone 1-4. 2) BUG ratings as defined in IES TM-15-11. 3) Allowable BUG ratings are not exceeding those shown in Table A4.106.10 or comply with a local ordinance pursuant to Section 101.7 of this code, whichever is more stringent.

IRRIGATION: All irrigation system controllers for landscaping shall comply with the following (CalGreen Section 4.304.1):

- Controllers shall be weather or soils moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.
- Weather-based controllers without integral rain sensors or communication systems that account for local rainfall, shall have a separate wired or wireless rain sensor which connects to or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.
- A4.304.1 Spray irrigation limited to lawns only. No lawns on slopes >10%. No overhead sprinklers installed where lawn is <8' wide. Low-volume irrigation systems are: drip, bubbler, drip emitters, soaker hose, and stream-rotator spray heads.

All annual spaces around pipes, electric cables, conduits or other openings in 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 per CalGreen Section 4.406.1.

Contractor shall provide a copy of the operation and maintenance manual to the building occupant or owner addressing the following items (1 through 10 in CalGreen Section 4.410.1), also, a copy of the Operation and maintenance manual shall be placed at the building at final inspection:

- Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
- Operation and maintenance instructions for the following:
 - Equipment and appliances, including water-saving devices and systems, HVAC systems, water-heating systems and other major appliances and equipment.
 - Roof and yard drainage, including gutters and downspouts.
 - Space conditioning systems, including condensers and air filters.
 - Landscape irrigation systems.
 - Water reuse systems.
- Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycling programs and water conservation.
- Public transportation and/or carpool options available in the area.
- 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.
- Information about water-conserving landscape and irrigation design and controllers which conserve water.
- Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
- Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
- Information about state solar energy and incentive programs available.
- A copy of all special inspection verifications required by the enforcing agency or this code.

Contractor shall install Pollutant Control as followed (CalGreen Section 4.504):

- Cover duct openings and other related air distribution component openings during construction (Cal Green 4.504.1).
- Aerosol paints and coatings shall be compliant with product weighted MIR limits for ROC and other toxic compounds (Cal Green 4.504.2.3) Verification of compliance shall be provided by contractor.
- Carpet and carpet systems shall be compliant with VOC limits (Cal Green 4.504.3).
- Minimum 80 % of floor area receiving resilient flooring shall comply with (Cal Green4.504.4).

Contractor shall install Interior Moisture Control as followed (Cal Green Section 4.505):

- Install capillary break and vapor retarder at slab on grade foundations (2022 Cal Green 4.505.2), see structural drawings and details.
- Contractor shall check moisture content of building materials used in wall and floor framing before enclosure and dand have results verified by inspector. (Cal Green sec. 4.505.3)
- Contractor to verify each bathroom shall be mechanically vented, and controlled by humidity control; except for fans functioning as a component of a whole house ventilation system (CalGreen Section 4.506) for further information please refer to electrical plans sheets A-0,2, and specifications located on 1/A-0,2, 2/A-0,2

PLUMBING FIXTURES SHALL COMPLY WITH THE FOLLOWING:

- 4.303.1.1 All toilets are 1.28 gpf or dual-flush.
- 4.303.1.3 Showerheads have max flow rate of 1.8 gpm at 80 psi. Showerheads shall be certified to the performance criteria of the U.S EPA WaterSense specs.
- 4.303.1.2.3 When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gpm at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.
- 4.303.1.4.2 Max flow rate for all lav faucets is 1.2 gpm at 60 psi. Minimum flow rate shall not be less than 0.8 gpm at 60 psi.
- 4.303.2 Plumbing fixtures shall comply with CA Plumbing Code.
- 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.
- 4.303.1.4.4 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.
- 4.303.2 Standards for plumbing fixtures and fittings.** Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the California Plumbing Code, and shall meet the applicable referenced standards. **Note:** Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

Environmental Comfort (Calgreen Section 4.507):

- Contractor shall provide Insulated louvers/cover (min R-4.2) which close when the fan is off for the whole house exhaust fans (4.507.1).
- Duct systems are sized, designed, and equipment is selected per Section 4.507.2.
- HVAC system installers must be trained and certified and special inspectors employed by the enforcing agency must be verified.
- APPLIANCES:** A4.303.3 Install at least one qualified Energy Star appliance: 1) Dishwasher no more than 4.25 gallons of water per cycle. 2) Clothes washer - water factor of 6 gallons of water per drum capacity or less.
- WASTE MANAGEMENT:**
 - 16.14/4.08.1 Nonhazardous construction and demolition debris generated at the site is diverted to recycle or salvage facilities. Eighty percent (80%) construction waste reduction is required for all residential projects.
 - 4.408.2 Everything done with Green Halo
 - 4.408.03 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.
 - 4.410.1 Operation and Maintenance Manual shall be prepared.
 - A4.405.3 The Recycled Content Value shall not be less than 15% of the total material cost of the project.
 - A4.403.2 Tier 2 = 25%. Materials used to reduce cement are: fly ash, slag, silica fume, rice hull ash.
 - A4.405.3.1 The Recycled Content Value shall not be less than 15% of the total material cost of the project.
 - 4.408.1 Construction waste management.** Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with one of the following: 1. Comply with a more stringent local construction and demolition waste management ordinance; or 2. A construction waste management plan, per Section 4.408.2; or 3. A waste management company, per Section 4.408.3; or 4. The waste stream reduction alternative, per Section 4.408.4.

FRAMING: A4.404.3 Use premanufactured building systems whenever possible. One or more of the following: 1) Composite floor joist or premanufactured floor framing system. 2) Composite roof rafters or premanufactured roof framing system. 3) Panelized framing - SIPs, ICF, etc.

FINISHES:

- A4.405.1 Use prefinished building materials that do not require additional painting or staining when possible. Use one or more of the following: 1) Exterior trim not requiring paint or stain. 2) Windows not requiring paint or stain. 3) Siding or exterior wall coverings that do not require paint or stain.
- A4.405.4 Use one or more of the following materials manufactured from rapidly renewable sources: 1) Insulation. 2) Bamboo or cork. 3) Engineererd products. 4) Agricultural based products.

ENVIRONMENTAL QUALITY:

- 4.503.1 Fireproof shall be direct-vent, sealed-combustion.
- 4.504.1 At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling, and ventilation equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal, etc. to reduce the amount of water, dust and debris, which may enter the system.
- 4.504.2 Finish materials shall comply with this section.
- 5.504.2.1 Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with Table 4.504.1 and/or Table 4.504.2.
- 4.504.2.2 All paints and coatings shall comply with Table 4.504.3.
- 4.504.2.3 Aerosol paints and coatings.** Aerosol paints and coatings shall be compliant with product weighted MIR limits for ROC and other toxic compounds.
- 4.504.2.4 Verification.** Documentation shall be provided to verify that compliant VOC limit finish materials have been used.
- 4.505.5 Composite wood products.** Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93J20.505.3), by or before the dates specified in those sections, as shown in Table 4.504.5.4.505.3 Wall and floor framing shall not be enclosed when the framing members exceed 19% moisture content. Moisture readings shall be taken 2-4 feet from the grade stamped end of each piece to be verified. At least 3 random moisture readings shall be performed on wall and floor framing.
- 4.508.1 Each bathroom shall be mechanically ventilated and shall comply with the following: 1) Fans shall be EnergyStar compliant and be ducted to terminate outside the building. 2) Unless functioning as a component of a whole house vent system, fans must be controlled by a humidity control. Humidity controls shall be capable of adjustment between a relative humidity range of 50-80%. A humidity control may utilize manual or automatic means of adjustment. A humidity control may be a separate component to the exhaust fan and is not required to be integral (built-in).
- 4.507.2 Heating and air-conditioning systems shall be sized, designed, and have their equipment selected using the following ACCA Manuals J, D, and S.
- A4.506.1 Return air filters with values greater than MERV 13 shall be installed on HVAC systems. Pressure drop across the filter shall not exceed 0.1 inches water column.
- 702.1 Installer Training. HVAC system** installers are trained and certified in the proper installation of HVAC systems.

INSULATION:

Ceiling / Roof

- Shall be insulated to achieve a weighted average U-factor not exceeding U-0.043 or shall be insulated between wood-framing members with insulation resulting in an insolated thermal resistance of R-22 or greater. The insulation alone. For vented attics, the mandatory insulation shall be installed at the ceiling level; for unvented attics, the mandatory insulation shall be placed at either ceiling or roof level; and EXCEPTION to Section 150.0(k)(1): Ceilings and rafter roofs in an attic shall be insulated to achieve a weighted average U-factor not exceeding 0.054 or shall be insulated between wood-framing members with insulation resulting in an installed thermal resistance of R-19 or greater.
- Attic access shall be permanently attached insulation using adhesive or mechanical fasteners. The attic access shall be gasketed to prevent air leakage; and
- Insulation shall be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in Section 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.

Walls

- 2x4 inch framing, shall have an overall assembly U-factor not exceeding U-0.102 equivalent to an installed R-value of 13 in a wood framed assembly. EXCEPTION to Section 150.0(k)(1): Existing walls already insulated to a U-factor not exceeding U-0.110 or already insulated between framing members with insulation having an installed thermal resistance of R-11 or greater.
- 2x6 inch or greater, framing shall have an overall assembly U-factor not exceeding U-0.074 or an installed R-value of 19 in a wood framed assembly.
- Opaque non-framed assemblies shall have an overall assembly U-factor not exceeding U-0.102, equivalent to an installed R-value of 13 in a wood framed assembly.

Raised floor assembly

Raised floors separating conditioned space from unconditioned space or ambient air shall have an overall assembly R-value of 19 or greater in a wood framed assembly.

EXCEPTION TO Section 150.0(d): A building with a controlled ventilation or unvented crawlspace may omit raised floor insulation if all of the following are met:

- The foundation walls are insulated to meet the wall insulation minimums as shown in TABLE 150.1-A and B.
- A Class I or Class II vapor retarder is placed over the entire floor of the crawlspace; and
- Cents between the crawlspace and outside air are fitted with automatically operated louvers that are temperature actuated; and
- The requirements in Reference Residential Appendix RA4.5.1.

Slab Edge Insulation

Material used for slab edge insulation shall meet the following minimum specifications:

- Water absorption rate for the insulation material alone without facings no greater than 0.3 percent when tested in accordance with Test Method A - 24-Hour outdoor minimums of ASTM C272.
- Water vapor permeance no greater than 2.0 perm/inch when tested in accordance with ASTM E96.
- Concrete slab perimeter insulation shall be protected from physical damage and ultraviolet light deterioration.
- Insulation for a heated slab floor shall meet the requirements of Section 110.8(g)

Water System Piping and Insulation for Piping, Tanks, and Cooling System Lines.

- Storage tank insulation - Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, shall be externally wrapped with insulation having an installed thermal resistance of R-12 or greater or have internal insulation of at least R-15 and a label on the exterior of the tank showing the insulation R-value.
- Water piping and cooling system line insulation thickness and conductivity:
 - All domestic hot water system piping conditions listed below, whether buried or unburied, must be insulated and the insulation thickness shall be selected based on the conductivity range in TABLE 120.3-A and the insulation level shall be selected from the fluid temperature range based on the thickness requirements in TABLE 120.3-A.
 - The first 5 feet (1.5 meters) of hot and cold water pipes from the storage tank.
 - All piping with a nominal diameter of 3/4 inch (19 millimeter) 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.
 - All hot water pipes from the heating source to the kitchen and bathrooms.
 - In addition to insulation requirements, all domestic hot water pipes that are buried below grade must be installed in a water proof and non-rushable casing or sleeve.
 - Pipe for cooling system lines shall be insulated as specified in Subsection A; Distribution piping for steam and hydronic heating systems shall meet the requirements in TABLE 120.3-A.
 - EXCEPTION 1 Factory-installed piping within space-conditioning equipment certified under Section 110.1 or 110.2.
 - EXCEPTION 2 Piping that serves process loads, gas piping, cold domestic water piping, condensate drains, roof drains, vents, or waste piping.
 - EXCEPTION 3 Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Metal piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall butt securely against all framing members.
 - EXCEPTION 4 Piping installed in interior or exterior walls shall not be required to have pipe insulation if all of the requirements are met for compliance with Quality Insulation Installation (QII) as specified in the Reference Residential Appendix RA3.5.
 - EXCEPTION 5 Piping installed in attics with a minimum of 4 inches (10 cm) of attic insulation on top of the piping shall not be required to have pipe insulation.
 - Insulation Protection.** Insulation outside conditioned space shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Protection includes but is not limited to the following:
 - Insulation exposed to weather shall be installed with a cover suitable for outdoor service including, but not limited to aluminum, sheet metal, painted canvas, or plastic cover. The cover shall be water retardant and provides shielding from solar radiation that can cause degradation of the material.
 - Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder.

LIGHTING

- All installed luminaires shall be high-efficacy in accordance with TABLE 150.0-A.
- The number of electrical boxes that are more than 5 feet above the finished floor and do not contain a luminaire or other device shall be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
- Luminaires recessed into ceilings shall meet all of the following requirements:
 - Be listed, as defined in Section 100.1, for zero clearance insulation contact (IC) by Underwriters Laboratories or other nationally recognized testing/laboratory; and
 - Have a label that certifies the luminaire is airtight with air leakage less than 2.0 CFM at 75 Pascals when tested in accordance with ASTM E283. An exhaust fan housing shall not be required to be certified airtight; and
 - Be sealed with a gasket or caulk between the luminaire housing and ceiling, and shall have all air leak paths between conditions and unconditioned spaces sealed with a gasket or caulk; and
 - For luminaires with hardwired ballasts or drivers, allow ballast or driver maintenance and replacement to be readily accessible to building occupants from below the ceiling without requiring the cutting of holes in the ceiling; and
 - Shall not contain screw base sockets
- Lighting integral to exhaust fans shall meet the applicable requirements of Section 150.0(k).
- EXCEPTION: Lighting installed by the manufacturer in kitchen exhaust hoods.
- Screw based luminaires shall meet all of the following requirements:
 - The luminaires shall not be recessed downlight luminaires in ceilings; and
 - The luminaires shall contain lamps that comply with Reference Joint Appendix JA8; and
 - The installed lamps shall be marked with "JA8-2016" or "JA8-2016-E" as specified in Reference Joint Appendix JA8.
- Enclosed Luminaires. Light sources that are not marked "JA8-2016-E" shall not be installed in enclosed luminaires.
- Interior Lighting Switching Devices and Controls.
 - All forward phase cut dimmers used with LED light sources shall comply with NEMA SSL 7A.
 - Exhaust fans shall be switched separately from lighting systems.
 - EXCEPTION Lighting integral to an exhaust fan may be on the same switch as the fan provided the lighting can be switched OFF in accordance with the applicable provisions in Section 150.0(k)(2) while allowing the fan to continue to operate for an extended period of time.
 - Luminaires shall be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF.
 - Lighting controls and equipment shall be installed in accordance with the manufacturer's instructions.
 - No controls shall bypass a dimmer or vacancy sensor function where that dimmer or vacancy sensor has been installed in compliance with Section 150.0(k).
 - Lighting controls shall comply with the applicable requirements of Section 110.9.
 - An Energy Management Control System (EMCS) may be used to comply with dimmer requirements in Section 150.0(k) if a minimum it provides the functionality of a dimmer in accordance with Section 110.9, meets the installation certificate requirements in Section 130.4, the EMCS requirements in Section 130.5(f), and complies with all other applicable requirements in Section 150.0(k)(2).
 - An Energy Management Control System (EMCS) may be used to comply with vacancy sensor requirements in Section 150.0(k) if at a minimum it provides the functionality of a vacancy sensor in accordance with Section 110.9, meets the installation certificate requirements in Section 130.4, the EMCS requirements in Section 130.5(f) and complies with all other applicable requirements in Section 150.0(k)(2).
 - A multisequence programmable controller may be used to comply with dimmer requirements in Section 150.0(k) if at a minimum it provides the functionality of a dimmer in accordance with Section 110.9, and complies with all other applicable requirements in Section 150.0(k)(2).
 - In hallways, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces shall be controlled by a vacancy sensor.
 - Dimmers or vacancy sensors shall control all luminaires required to have light sources compliant with Reference Joint Appendix JA8.
 - EXCEPTION 1-Luminaires in closets less than 70 square feet.
 - EXCEPTION 2-Luminaires in hallways.
 - Undercabinet lighting shall be switched separately from other lighting systems.
- Residential Outdoor Lighting. In addition to meeting the requirements of Section 150.0(k)1A, luminaires providing residential outdoor lighting shall meet the following requirements, as applicable:
 - For single-family residential buildings, outdoor lighting permanently mounted to a residential building or to other buildings on the same lot, shall meet the requirement in item i and the requirements in either item i or item iii:
 - Controlled by a manual ON and OFF switch that does not override to ON the automatic actions of Items i or iii below; and
 - Controlled by photocell and motion sensor. Controls that override to ON shall not be allowed unless the override automatically reactivates the motion sensor within 6 hours; or
 - Controlled by one of the following methods:
 - Photocontrol and automatic time switch control. Controls that override to ON shall not be allowed unless the override shall automatically return the photocontrol and automatic time switch control to its normal operation within 6 hours; or
 - Astronomical time clock. Controls that override to ON shall not be allowed unless the override shall automatically return the astronomical clock to its normal operation within 6 hours and which is programmed to automatically turn the outdoor lighting OFF during daylight hours; or
 - Energy management control system which meets all of the following requirements:
 - At a minimum provides the functionality of an astronomical time clock in accordance with Section 110.9; meets the Installation Certification requirements in Section 130.4; does not have an override or bypass switch that allows the luminaire to be always ON; and, is programmed to automatically turn the outdoor lighting OFF during daylight hours.

Water Heating System

Systems using gas or propane water heaters to serve individual dwelling units shall include the following components:

- A 120V electrical receptacle that is within 3 feet from the water heater and accessible to the water heater with no obstructions; and
- 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; and
- A condensate drain that is no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance; and
- A gas supply line with a capacity of at least 200,000 Btu/hr.
- Water heating recirculation loops serving multiple dwelling units shall meet the requirements of Section 110.3(c)(5).
- Solar water-heating systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC), or by a listing agency that is approved by the Executive Director.
- Instantaneous water heaters with an input rating greater than 6.8 kBtu/hr (2kW) shall meet the requirements of Section 110.3(c)(7).

TABLE 150.0-A CLASSIFICATION OF HIGH EFFICACY LIGHT SOURCES

High Efficacy Light Sources		Luminaires installed with only the lighting technologies in this table shall be classified as high efficacy	
Light sources in this column other than those installed in ceiling recessed downlight luminaires are classified as high efficacy and are not required to comply with Reference Joint Appendix JA8	Light sources in this column shall be certified to the Commission as High Efficacy Light Sources in accordance with Reference Joint Appendix JA8 and be marked as meeting JA8.		
1. Pin-based linear or compact fluorescent light sources using electronic ballasts.	8. All light sources in ceiling recessed downlight luminaires. Note that ceiling recessed downlight luminaires shall not have screw bases regardless of lamp type as described in Section 150.0(k)(1)C		
2. Pulse-start metal halide.	9. GU-24 sockets containing LED light sources.		
3. High pressure sodium.	10. Any light source not otherwise listed in this table and certified to the Commission as complying with Joint Appendix 8.		
4. Luminaires with hardwired high frequency generator and induction lamp.			
5. Inseparable SSL luminaires that are installed outdoors.			
6. Inseparable SSL luminaires containing colored light sources that are installed to provide decorative lighting.			

TABLE 120.3-A PIPE INSULATION THICKNESS

FLUID TEMPERATURE RANGE (°F)	CONDUCTIVITY RANGE (in Btu-inch per hour per square foot per °F)	INSULATION MEAN RATING TEMPERATURE (°F)				
		< 1	1 to 1.5	1.5 to 4	4 to 8	8 and larger
Space heating, hot Water systems (steam, steam condensate and hot water) and Service Water Heating Systems						
Above 350	0.30-0.34	250	4.5	5.0	5.0	5.0
250-350	0.29-0.31	200	3.0	4.0	4.5	4.5
200-250	0.27-0.30	150	2.0	2.5	2.5	3.0
141-200	0.25-0.29	125	1.5	1.5	2.0	2.0
105-140	0.22-0.28	100	1.0			

2022 Single-Family Residential Mandatory Requirements Summary	
§ 150.0(a)	Energy Storage System (ESS) Ready. All single-family residences must meet all of the following: Either ESS ready information equipment with backed up capacity of 90 amps or more and four or more ESS supplied branch circuits, or a dedicated roadway from the main service to a subpanel that supplies the branch circuits in § 150.0(a), at least four branch circuits must be identified and have their source collected at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet, main panelboard must have a minimum busbar rating of 225 amps, sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with necessary installed between the panelboard and the switch location to allow the connection of backup power source.
§ 150.0(f)	Heat Pump Space Heater Ready. Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(i)	Electric Cooktop Ready. Systems using gas or propane cooking to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooking with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(v)	Electric Clothes Dryer Ready. Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

2022 Single-Family Residential Mandatory Requirements Summary	
§ 150.0(m)(3)	Space Conditioning System Airflow Rate and Fan Efficiency. Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficiency ≥ 0.45 watts per CFM for gas furnace air handlers and ≥ 0.58 watts per CFM for oil burners. Small duct high-velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficiency ≥ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3.

Ventilation and Indoor Air Quality	
§ 150.0(e)(1)	Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(e)(1).
§ 150.0(e)(1)(B)	Central Fan Integrated (CFI) Ventilation Systems. Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling unit ventilation airflow required per § 150.0(e)(1). A motorized damper(s) must be installed on the ventilation duct(s) that prevents air flow through the space conditioning duct system when the damper(s) is closed and/or controlled per § 150.0(e)(1)(B)(i). CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with § 150.0(e)(1).
§ 150.0(e)(1)(C)	Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses. Single-family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow specified in § 150.0(e)(1)(C).
§ 150.0(e)(1)(D)	Local Mechanical Exhaust. Kitchens and bathrooms must have local mechanical exhaust, nonrecirculating kitchen fans must demand controlled exhaust systems meeting requirements of § 150.0(e)(1)(D), enclosed kitchens and bathrooms can use demand controlled or continuous exhaust meeting § 150.0(e)(1)(D) or airflow must be measured by the installer per § 150.0(e)(1)(D), and rated for sound per § 150.0(e)(1)(D).
§ 150.0(e)(1)(H)	Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation. The airflow required per § 150.0(e)(1)(C) must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminal/grilles per Reference Residential Appendix RA3.7. Whole-dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 § 7.2 or no less than the minimum airflow rate required by § 150.0(e)(1)(C).
§ 150.0(e)(2)	Field Verification and Diagnostic Testing. Whole-dwelling unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficiency must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified in accordance with Reference Residential Appendix RA3.7. A 3.5 cfm/ft ² or less, if rated by IAP or AHAM to comply with the airflow rates and sound requirements per § 150.0(e)(1)(G).

Pool and Spa Systems and Equipment	
§ 110.4(a)	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to all of the following compliance with the Accessibility: Efficiency Regulations and listing in MACTS, 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 system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated section and return lines, or built-in built-up connections to allow for future solar heating.
§ 110.4(b)(2)	Covers. Outdoor pools or spas that have a heated pump or spa 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 have a continuously burning pilot light.
§ 150.0(p)	Pool Systems and Equipment. Residential pool systems or equipment must meet the specified requirements for pump, piping, flow rate, piping, filters, and valves.
§ 150.0(q)	Lighting.
§ 110.9	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.
§ 150.0(a)(1A)	Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0.A except lighting integral to exhaust fans, kitchen range hoods, built-in vanity mirrors, and garage door openers, navigation lighting less than 5 watts, and lighting integral to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt.
§ 150.0(a)(1)(B)	Screen based luminaires. Screen based luminaires must contain lamps that comply with Reference Joint Appendix JA8.
§ 150.0(a)(1)(C)	Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must contain screen based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.
§ 150.0(a)(1)(D)	Light Sources in Enclosed or Recessed Luminaires. Lamps and other light sources that do not comply with the JAB elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(a)(1)(E)	Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a laminaire or other device shall be the same as that for the finished floor. These boxes shall be labeled as a denergizer, vacancy sensor control, low voltage wiring, or fan speed control.
§ 150.0(a)(1)(F)	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(a)(1)(F).

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2022 Single-Family Residential Mandatory Requirements Summary	
NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information.	
Building Envelope	
§ 110.8(a)(1)	Air Leakage. Manufactured fenestration, exterior doors, and exterior pool doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WMA/CA/SEA 1013.5/2440.2011.
§ 110.8(a)(2)	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 101-11(a).
§ 110.8(b)	Field Fabricated Exterior Doors and Fenestration Products. Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.8.A, 110.8.B, or JAB.5 for exterior doors. They must be caulked under weather-stripping.
§ 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 stopped.
§ 110.8(a)	Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHSGS).
§ 110.8(a)	Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(a).
§ 110.8(a)	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(a) and be labeled per § 110.113 when the installation of a roof coil is specified on the CFRS.
§ 110.8(a)	Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified by the Department of Consumer Affairs.
§ 150.0(a)	Roof Deck, Ceiling and Rafter Roof Insulation. Roof decks in newly constructed offices in climate zones 4 and 5: 16 area-weighted average U-factor not exceeding 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Also, 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 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 draft collar.
§ 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 wood framed walls or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet § 150.1.A or B.
§ 150.0(d)	Raised-Roof Insulation. Minimum R-19 insulation in raised wood framed roof 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, the insulation material above without facings, no greater than 3 percent, have a water vapor permeance no greater than 2.0 perm per 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(a).
§ 150.0(g)(1)	Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl spaces 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(g)(1).
§ 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(g)	Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45, or area-weighted average U-factor of all fenestration must not exceed 0.45.
§ 150.0(e)(3)	Fireplaces, Decorative Gas Appliances, and Gas Logs.
§ 150.0(e)(1)	Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)(1)	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)(2)	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 light-tighting damper or combustion-air control device.
§ 150.0(e)(3)	Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.

Space Conditioning, Water Heating, and Plumbing System	
§ 110.8 & 110.3	Certification. Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other optional appliances must be certified by the manufacturer to the California Energy Commission.
§ 110.2(a)	HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2.A through Table 110.2.N.
§ 110.2(b)	Controls for Heat Pumps with Supplemental Electric Resistance Heaters. Heat pumps with supplemental 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 call on temperature for compression heating is higher than the call on temperature for supplementary heating, and the call out temperature for compression heating is higher than the call out temperature for supplementary heating.
§ 110.2(c)	Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.
§ 110.3(a)(3)	Insulation. Infrared service water heater storage tanks and solar water heating backup tanks must have adequate insulation, or tank water heat loss rating.
§ 110.3(a)(6)	Isolation Valves. Instantaneous water heaters with an input rating greater than 8.8 kbtu per hour (2 MW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

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FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

TEMPORARY HEATING EQUIPMENT (SEC 3303)

3303.1 Listed

Temporary heating devices shall be listed and labeled in accordance with the California Code of Regulations, maintenance and use of temporary heating devices shall be in accordance with the terms of the listing.

3303.2 Oil-Fired Heaters

Oil-fired heaters shall comply with Section 603.

3303.3 LP-gas Heaters

Fuel supplies for liquefied-petroleum gas-fired heaters shall comply with Chapter 61 and the California Mechanical Code.

3303.4 Refueling

Refueling operations for liquid-fueled equipment or appliances shall be conducted in accordance with Section 3405. The equipment or appliance shall be allowed to cool prior to refueling.

3303.5 Installation

Clearance to combustibles from temporary heating devices shall be maintained in accordance with the labeled equipment. When in operation, temporary heating devices shall be fixed in place and protected from damage, dislodgement or overturning in accordance with the manufacturer's instructions.

3303.6 Supervision

The use of temporary heating devices shall be supervised and maintained only by competent personnel.

PRECAUTIONS AGAINST FIRE (3304)

3304.1 Smoking
Smoking shall be prohibited except in approved areas. Signs shall be posted in accordance with Section 3310. In approved areas where smoking is permitted, approved ashtrays shall be provided in accordance with Section 3310.

3304.2 Combustible debris, rubbish and waste
Combustible debris, rubbish and waste material shall comply with the requirements of Sections 3304.2.1 through 3304.2.4.

3304.2.1 Combustible waste material accumulation. Combustible debris, rubbish and waste material must be accumulated within buildings.

3304.2.2 Combustible waste material removal. Combustible debris, rubbish, and waste material shall be removed from buildings at the end of each shift of work.

3304.2.3 Rubbish containers. Where rubbish containers with capacity exceeding 5.33 cubic feet (40 gallons) (0.15 m³) are used for temporary storage of combustible debris, rubbish and waste material, they shall have light-tightening or self-closing lids. Such rubbish containers shall be constructed entirely of materials that comply with either of the following:

1. Noncombustible materials.
2. Materials that meet a peak rate of the heat release not exceeding 300 kW/m² when tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m² in the horizontal orientation.

3304.2.4 Spontaneous Ignition

Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a listed disposal container.

3304.3 Burning of Combustible debris, rubbish and waste.

Combustible debris, rubbish and waste material shall not be disposed of by burning on the site unless approved.

3304.3 Open Burning

Open burning shall comply with Section 307.

3304.5 Fire Watch

When required by the fire code official for building demolition, or building construction during working hours that is hazardous in nature, qualified personnel shall be provided to serve as an on-site fire watch. Fire watch personnel shall be provided with at least one approved means for notification of the fire department and their sole duty shall be to perform constant patrols and watch for the occurrence of fire.

3304.6 Cutting and Welding

Operations involving the use of cutting and welding shall be done in accordance with Chapter 35.

3304.7 Electrical

Temporary wiring for electrical power and lighting installations used in connection with the construction, alteration or demolition of buildings, structures, equipment or similar activities shall comply with California Electrical Code.

Flammable and Combustible Liquids (3305)
3305.1 Storage of Flammable and Combustible Liquids
Storage of flammable and combustible liquids shall be in accordance with Section 5704.

3305.2 Class I and Class II Liquids.
The storage, use and handling of flammable and combustible liquids at construction sites shall be in accordance with Section 5706.2. Ventilation shall be provided for operations involving the application of materials containing flammable solvents.

3305.3 Housekeeping

Flammable and combustible liquid storage areas shall be maintained clear of combustible vegetation and waste materials. Such storage areas shall not be used for the storage of combustible materials.

3305.4 Precautions Against Fire

Sources of ignition and smoking shall be prohibited in flammable and combustible liquid storage areas. Signs shall be posted in accordance with Section 3310.

3305.5 Handling at Point of Final Use

Class I and II liquids shall be kept in approved safety containers.

3305.6 Leakage and Spills

Leaking vessels shall be immediately repaired or taken out of service and spills shall be cleaned up and disposed of properly.

Flammable Gases (3306)

3306.1 Storage and Handling
The storage, use and handling of flammable gases shall comply with Chapter 58.

3306.2 Cleaning with Flammable Gas

Flammable gases shall not be used to clean or remove debris from piping open to the atmosphere.

3306.2.1 Pipe cleaning and purging.

The cleaning and pouring of flammable gas piping systems, including cleaning new or existing piping systems, purging piping systems into service and purging piping systems out of service, shall comply with NFPA 55.

3306.2.2 Piping systems regulated by the California Mechanical Code.

3. Liquefied petroleum gas systems in accordance with Chapter 61.

Explosive Materials (3307)

3307.1 Storage and Handling

Explosive materials shall be stored, used and handled in accordance with Chapter 56.

3307.2 Supervision

Blasting operations shall be conducted in accordance with Chapter 56.

3307.3 Demolition Using Explosives

Approved fire hoses for use by demolition personnel shall be maintained at the demolition site whenever explosives are used for demolition. Such fire hoses shall be connected to an approved water supply and shall be capable of being brought to bear on post-detonation fires anywhere on the site of the demolition operation.

Owner's Responsibility for Fire Protection (3308)

3308.1 Program Superintendent

The owner shall designate a person to be the fire prevention program superintendent who shall be responsible for the fire prevention program and ensure that it is carried out through completion of the project. The fire prevention program superintendent shall have the authority to enforce the provisions of this chapter and other provisions as necessary to secure the intent of this chapter. Where guard service is provided, the superintendent shall be responsible for the guard service.

3308.2 Prefire Plans

The fire prevention program superintendent shall develop and maintain an approved prefire plan in cooperation with the fire chief. The fire chief and the fire code official shall be notified of changes affecting the utilization of information contained in such prefire plans.

3308.3 Fire Extinguishers for Roofing Operations. Fire extinguishers shall comply with Section 906. There shall be not less than one multipurpose portable fire extinguisher with a minimum 3-A 40-B:C rating on the roof covering cover.

3308.3 Training

Training of responsible personnel in the use of fire protection equipment shall be the responsibility of the fire prevention program superintendent.

3308.4 Fire Protection Devices

The fire prevention program superintendent shall determine that all fire protection equipment is maintained and serviced in accordance with this code. The quantity and type of fire protection equipment shall be approved.

3308.5 Hot Work Operations

The fire prevention program superintendent shall be responsible for supervising the system for hot work operations in accordance with Chapter 26.

3308.6 Impairment of Fire Protection Systems

Impairments to any fire protection system shall be in accordance with Chapter 9.

3308.7 Temporary Covering of Fire Protection Devices

Coverings placed on or over fire protection devices to protect them from damage during construction processes shall be immediately removed upon the completion of the construction processes in the room or area in which the devices are installed.

Fire Reporting (3309)

3309.1 Emergency Telephone
Readily accessible emergency telephone facilities shall be provided in an approved location at the construction site. The street address of the construction site and the emergency telephone number of the fire department shall be posted adjacent to the telephone.

Access for Fire Fighting (3310)

3310.1 Required Access
Approved vehicle access for fire fighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet (30 480 mm) of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available.

3310.2 Key Boxes

Key boxes shall be provided as required by Chapter 5.

Means of Egress (3311)

3311.1 Stairways Required
Where a building has been constructed to a building height of 50 feet (15 240 mm) or four stories, or where an existing building exceeding 50 feet (15 240 mm) in building height is altered, not less than one temporary lighted stairway shall be provided unless one or more of the permanent stairways are erected as the construction progresses.

3311.2 Maintenance

Required means of egress shall be maintained during construction and demolition, remodeling or alterations and additions to any building.

Exception: Approved temporary means of egress systems and facilities.

Water Supply for Fire Protection (3312)

3312.1 When Required. An approved water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material arrives on the site.

Standpipes (3313)

3313.1 Where Required. In buildings required to have standpipes by Section 905.3.1, not less than one standpipe shall be provided for use during construction. Such standpipes shall be installed when the progress of construction is not more than 40 feet (12 192 mm) in height above the lowest level of fire department vehicle access. Such standpipes shall be provided with fire department hose connections at accessible locations adjacent to usable stairs. Such standpipes shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.

3313.2 Buildings Being Demolished. Where a building is being demolished and an standpipe is existing within such a building, such standpipe shall be maintained in an operable condition so as to be available for use by the fire department. Such standpipe shall be demolished with the building but shall not be demolished more than one floor below the floor being demolished.

3313.3 Detailed Requirements. Standpipes shall be installed in accordance with the provisions of Section 905.

Exception: Standpipes shall be either temporary or permanent in nature, and with or without a water supply, provided that such standpipes comply with the requirements of Section 905 as to capacity, outlets and materials.

Automatic Sprinkler System (3314)

3314.1 Completion Before Occupancy. In buildings where an automatic sprinkler system is required by this code or the California Building Code, it shall be unlawful to occupy any portion of a building or structure until the automatic sprinkler system installation has been tested and approved, except as provided in Section 105.3.4.

3314.2 Operation of Valves. Operation of sprinkler control valves shall be allowed only by properly authorized personnel and shall be accompanied by notification of duly designated parties. When the sprinkler protection is being regularly turned off and on to facilitate connection of newly completed segments, the sprinkler control valves shall be checked at the end of each work period to ascertain that protection is in service.

Portable Fire Extinguishers (3315)

3315.1 Where Required. Structures under construction, alteration or demolition shall be provided with not less than one approved portable fire extinguisher in accordance with Section 906 and sized for not less than ordinary hazard as follows:

1. At each stairway on all floor levels where combustible materials have accumulated.
2. In every storage and construction shed.
3. Additional portable fire extinguishers shall be provided where special hazards exist including, but not limited to, the storage and use of flammable and combustible liquids.

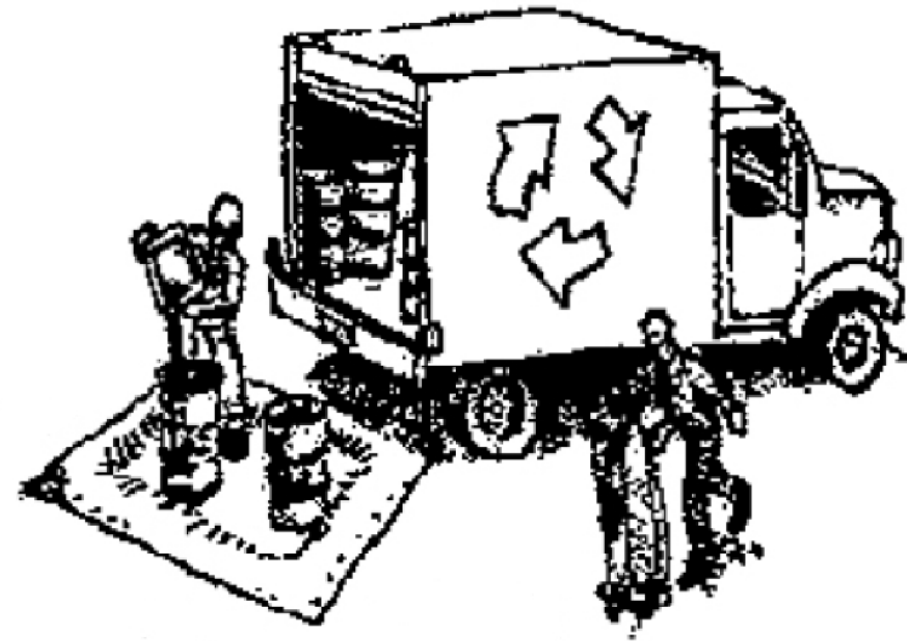
Motorized Equipment (3316)

3316.1 Conditions of Use. Internal-combustion-powered construction equipment shall be used in accordance with all of the following conditions:

Construction Best Management Practices (BMPs)

Construction projects are required to implement year-round stormwater BMPs.

Materials & Waste Management



Non-Hazardous Materials

- Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or when they are not in use.
- Use (but don't overuse) reclaimed water for dust control.
- Ensure dust control water doesn't leave site or discharge to storm drains.

Hazardous Materials

- Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with City, County, State and Federal regulations.
- Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- Follow manufacturer's application instructions for hazardous materials and do not use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under roofs or cover with tarps or plastic sheeting secured around the outside of the dumpster. A plastic liner is recommended to prevent leaks. Never clean out a dumpster by hosing it down on the construction site.
- Place portable toilets away from storm drains. Make sure they are in good working order. Check frequently for leaks.
- Dispose of all wastes and demolition debris properly. Recycle materials and wastes that can be recycled, including solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and cleared vegetation.
- Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.
- Keep site free of litter (e.g. lunch items, cigarette butts).
- Prevent litter from uncovered loads by covering loads that are being transported to and from site.

Construction Entrances and Perimeter

- Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

Equipment Management & Spill Control



Maintenance and Parking

- Designate an area of the construction site, well away from streams or storm drain inlets and fitted with appropriate BMPs, for auto and equipment parking, and storage.
- Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment, and do not use diesel oil to lubricate equipment or parts onsite.

Spill Prevention and Control

- Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- Maintain all vehicles and heavy equipment. Inspect frequently for and repair leaks. Use drip pans to catch leaks until repairs are made.
- Clean up leaks, drips and other spills immediately and dispose of cleanup materials properly.
- Use dry cleanup methods whenever possible (absorbent materials, cat litter and/or rags).
- Sweep up spilled dry materials immediately. Never attempt to "wash them away" with water, or bury them.
- Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- Report significant spills to the appropriate local spill response agencies immediately. If the spill poses a significant hazard to human health and safety, property or the environment, you must report it to the State Office of Emergency Services. (800) 852-7550 (24 hours).

Earthmoving



Grading and Earthwork

- Schedule grading and excavation work during dry weather.
- Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- Remove existing vegetation only when absolutely necessary, plant temporary vegetation for erosion control on slopes or where construction is not immediately planned.
- Prevent sediment from migrating offsite and protect storm drain inlets, drainage courses and streams by installing and maintaining appropriate BMPs (i.e. silt fences, gravel bags, fiber rolls, temporary swales, etc.).
- Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

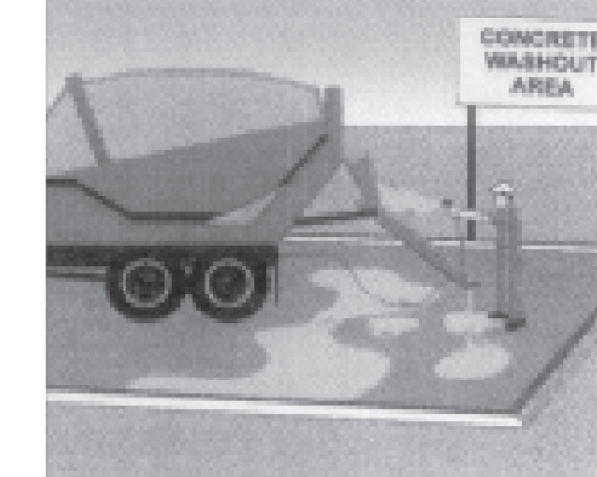
Contaminated Soils

- If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
 - Unusual soil conditions, discoloration, or odor.
 - Abandoned underground tanks.
 - Abandoned wells
 - Buried barrels, debris, or trash.
- If the above conditions are observed, document any signs of potential contamination and clearly mark them so they are not disturbed by construction activities.

Landscaping

- Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- Stack bagged material on pallets and under cover.
- Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

Concrete Management and Dewatering



Concrete Management

- Store both dry and wet materials under cover, protected from rainfall and runoff and away from storm drains or waterways. Store materials off the ground, on pallets. Protect dry materials from wind.
- Wash down exposed aggregate concrete only when the wash water can (1) flow onto a dirt area; (2) drain onto a bermed surface from which it can be pumped and disposed of properly; or (3) block any storm drain inlets and vacuum washwater from the gutter. If possible, sweep first.
- Wash out concrete equipment/trucks offsite or in a designated washout area onsite, where the water will flow into a temporary waste pit, and make sure wash water does not leach into the underlying soil. (See CASQA Construction BMP Handbook for properly designed concrete washouts.)

Dewatering

- Discharges of groundwater or captured runoff from dewatering operations must be properly managed and disposed. When possible, send dewatering discharge to landscaped area or sanitary sewer. If discharging to the sanitary sewer, call your local wastewater treatment plant.
- Divert run-on water from offsite away from all disturbed areas.
- When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- In areas of known or suspected contamination, call your local agency to determine whether the ground water must be tested. Pumped groundwater may need to be collected and hauled off-site for treatment and proper disposal.

Paving/Asphalt Work



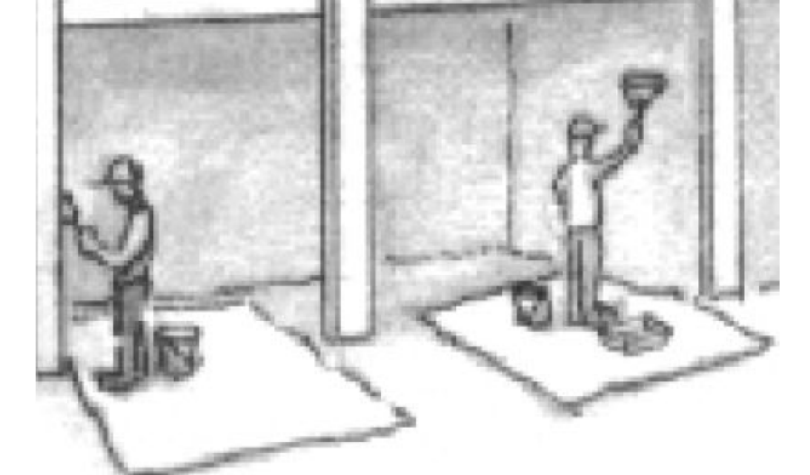
Paving

- Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- Cover storm drain inlets and manholes when applying seal coat, slurry seal, fog seal, or similar materials.
- Collect and recycle or properly dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.

Sawcutting & Asphalt/Concrete Removal

- Protect storm drain inlets during saw cutting.
- If saw cut slurry enters a catch basin, clean it up immediately.
- Shovel or vacuum saw cut slurry deposits and remove from the site. When making saw cuts, use as little water as possible. Sweep up, and properly dispose of all residues.

Painting & Paint Removal



Painting Cleanup and Removal

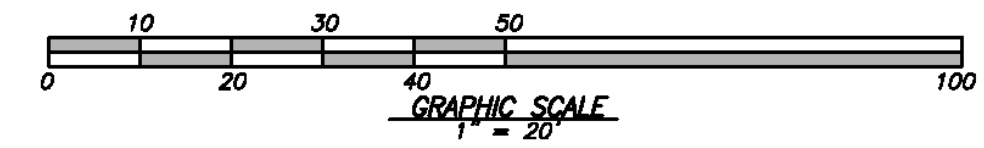
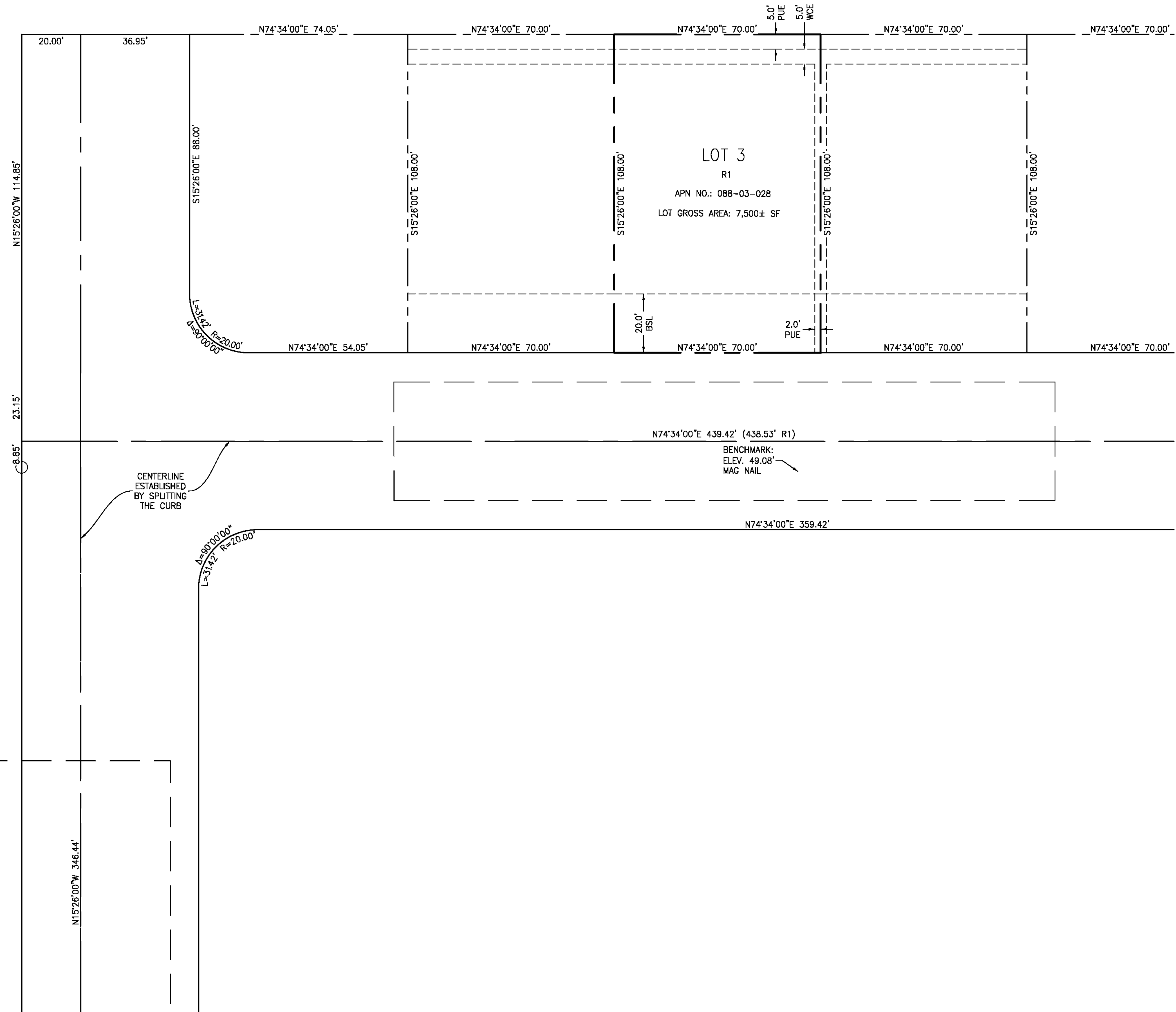
- Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- Sweep up or collect paint chips and dust from non-hazardous dry stripping and sand blasting into plastic drop cloths and dispose of as trash.
- Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.



**Santa Clara Valley
Urban Runoff
Pollution Prevention Program**

Storm drain polluters may be liable for fines of up to \$10,000 per day!

- LEGEND**
- 200--- EXISTING CONTOUR LINE
 - 200--- NATURAL GRADE CONTOUR LINE
 - ⊙ FOUND CITY MONUMENT BOX, OR AS NOTED
 - BOUNDARY OF PROPERTY SURVEYED
 - () RECORD INFORMATION
 - CENTERLINE
 - △ CURB INLET
 - CURB LINE
 - DRIVEWAY APRON
 - ELECTROLIER
 - FENCE
 - ⋄ FIRE HYDRANT
 - FLAT GRATE INLET
 - O.H. PWR OVERHEAD POWER LINE
 - O.H. TEL OVERHEAD TELEPHONE LINE
 - SS SANITARY SEWER LINE
 - SANITARY SEWER MANHOLE
 - ⊙ SANITARY SEWER CLEANOUT
 - SIGN
 - SD STORM DRAIN LINE
 - ⊙ STORM DRAIN MANHOLE
 - UTILITY BOX
 - UTILITY POLE
 - WATER LINE
 - ⊙ WATER METER
 - ⊙ WATER VALVE
 - ⊙ ELECTRIC METER
 - ⊙ WATER HEATER
 - ⊙ GAS



BASIS OF BEARINGS
 THE BEARING SOUTH 15°26'00" EAST OF THE CENTER LINE OF DEMPSEY ROAD AS SHOWN ON THAT MAP OF TRACT NO 2240 FILED FOR RECORD IN BOOK 152 OF MAPS PAGE 1, SANTA CLARA COUNTY RECORDS, AND BY SPLITTING THE CURBS, WAS TAKEN AS THE BASIS OF BEARING FOR THIS SURVEY.

REFERENCES
 R1 TRACT NO. 2440 152-M-1

BENCH MARK
 DESCRIPTION: ASSUMED BENCHMARK, MAG NAIL ON STREET, NEAR THE SOUTHERLY CORNER OF LOT AS SHOWN.
 PROJECT BENCHMARK 49.08' (NAV88 DATUM)

ABBREVIATIONS

APN	ASSESSOR'S PARCEL NUMBER
AE	ANCHOR EASEMENT
BM	BENCH MARK
BSL	BUILDING SETBACK LINE
CATV	CABLE TELEVISION OVERHEAD
D	CURVE DELTA
DRWY	DRIVEWAY
DS	DOWNSPOUT
EX	EXISTING
FF	FINISH FLOOR
FL	FLOW LINE ELEVATION
GFF	GARAGE FINISH FLOOR
IP	IRON PIPE
L	CURVE LENGTH
R#	REFERENCE DOCUMENT
M-M	MONUMENT TO MONUMENT
O.H. PWR	OVERHEAD POWER LINE
O.H. TEL	OVERHEAD TELEPHONE LINE
PCL	PARCEL
P.M.	PARCEL MAP
PTN	PORTION
R	RADIUS
SD	STORM DRAIN
SS	SANITARY SEWER
TC	TOP OF CURB ELEVATION
TEMP.	TEMPORARY
PUE	PUBLIC UTILITY EASEMENT
WLE	WATER LINE EASEMENT
WCE	WIRE CLEARANCE EASEMENT

- NOTES:**
- DISTANCES AND DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF.
 - THE DISTINCTIVE BORDER LINE DENOTES THE BOUNDARY.
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 - TOPOGRAPHY SHOWN ON THIS MAP REPRESENTS THE SURFACE FEATURES ONLY.
 - UNLESS SPECIFIED ON THIS MAP, LOCATIONS OF THE UNDERGROUND AND OVERHEAD UTILITIES ARE NEITHER INTENDED NOR IMPLIED. FOR THE LOCATIONS OF UNDERGROUND UTILITIES CALL "USA" (1-800-642-2440).
 - BUILDING FOOTPRINTS ARE SHOWN AT GROUND LEVEL.
 - FINISH FLOOR ELEVATION TAKEN AT DOOR THRESHOLD (EXTERIOR).
 - A TITLE REPORT FOR THE SUBJECT PROPERTY HAS NOT BEEN EXAMINED BY OSUNA ENGINEERING, INC. OTHER EASEMENTS OF RECORD MAY EXIST THAT ARE NOT SHOWN ON THIS MAP.

NO.	DATE	BY	REVISIONS

PROFESSIONAL LAND SURVEYOR
 PORFIRIO OSCAR OSUNA
 No. 8921
 Exp. 9-30-24
 STATE OF CALIFORNIA

P. Oscar Osuna
 PORFIRIO OSCAR OSUNA
 PLS 8921 EXP. 9-30-24

OSUNA ENGINEERING INC.
 Planning | Surveying | Civil Engineering

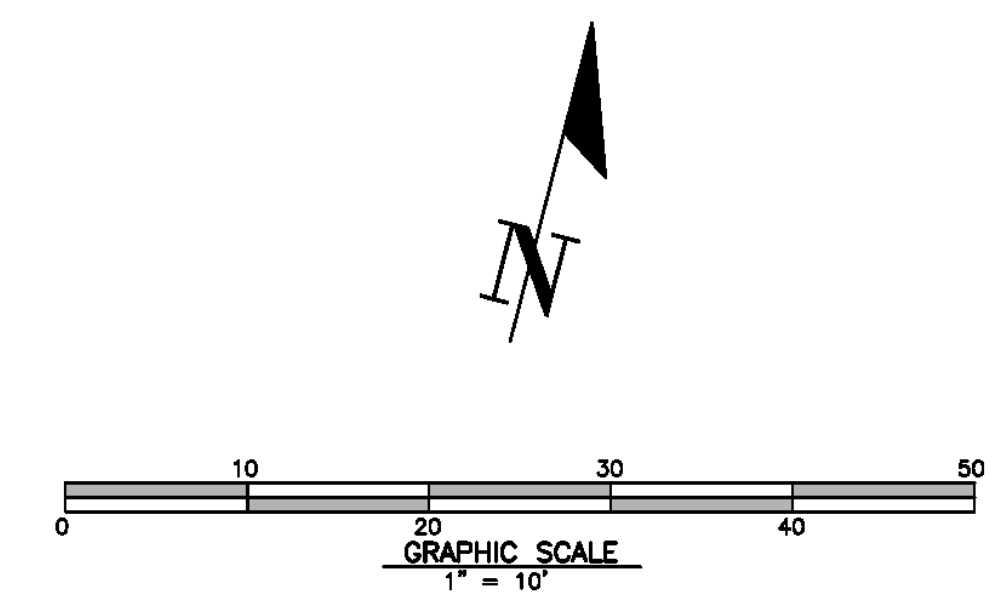
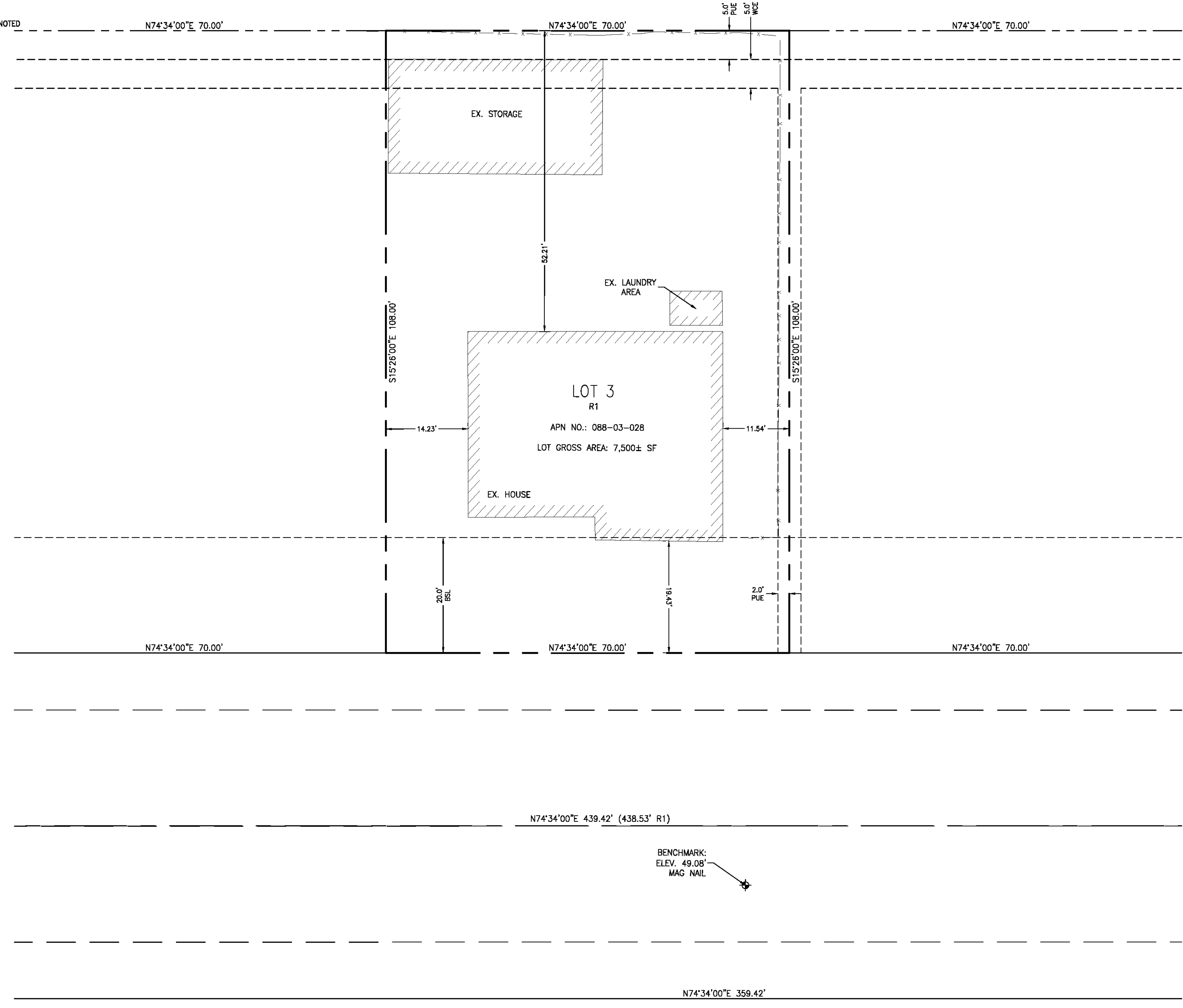
CONSULTING CIVIL ENGINEERS & LAND SURVEYORS
 6820 SANTA TERESA BLVD, 206
 SAN JOSE, CA 95119
 TEL: (408) 772-4381
 info@osunaengineering.com

PRELIMINARY SITE SURVEY

1119 SHIRLEY DR
 APN 088-03-028

Project No.: 2864
 Drawn By: []
 Checked: []
 Date: 8/9/23

- LEGEND**
- 200--- EXISTING CONTOUR LINE
 - 200--- NATURAL GRADE CONTOUR LINE
 - ⊙ FOUND CITY MONUMENT BOX, OR AS NOTED
 - BOUNDARY OF PROPERTY SURVEYED
 - () RECORD INFORMATION
 - CENTERLINE
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 - CURB LINE
 - DRIVEWAY APRON
 - ELECTROLIER
 - x-x-x- FENCE
 - ⊕ FIRE HYDRANT
 - FLAT GRATE INLET
 - O.H. PWR --- OVERHEAD POWER LINE
 - O.H. TEL --- OVERHEAD TELEPHONE LINE
 - SS --- SANITARY SEWER LINE
 - SANITARY SEWER MANHOLE
 - ⊙ SANITARY SEWER CLEANOUT
 - SIGN
 - SD --- STORM DRAIN LINE
 - ⊙ STORM DRAIN MANHOLE
 - UTILITY BOX
 - UTILITY POLE
 - W --- WATER LINE
 - ⊕ WATER METER
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 - ⊕ ELECTRIC METER
 - ⊕ WATER HEATER
 - ⊕ GAS



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BENCH MARK
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 PROJECT BENCHMARK 49.08' (NAVD88 DATUM)

- ABBREVIATIONS**
- | | |
|----------|---------------------------|
| APN | ASSESSOR'S PARCEL NUMBER |
| AE | ANCHOR EASEMENT |
| BM | BENCH MARK |
| BSL | BUILDING SETBACK LINE |
| CATV | CABLE TELEVISION OVERHEAD |
| D | CURVE DELTA |
| DRWY | DRIVEWAY |
| DS | DOWNSPOUT |
| EX | EXISTING |
| FF | FINISH FLOOR |
| FL | FLOW LINE, ELEVATION |
| OFF | GARAGE FINISH FLOOR |
| IP | IRON PIPE |
| L | CURVE LENGTH |
| R# | REFERENCE DOCUMENT |
| M-M | MONUMENT TO MONUMENT |
| O.H. PWR | OVERHEAD POWER LINE |
| O.H. TEL | OVERHEAD TELEPHONE LINE |
| PCL | PARCEL |
| P.M. | PARCEL MAP |
| PTN | PORTION |
| R | RADIUS |
| SD | STORM DRAIN |
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| TC | TOP OF CURB ELEVATION |
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- NOTES:**
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NO.	DATE	BY	REVISIONS



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 6920 SANTA TERESA BLVD. 206 TEL: (408) 772-4381
 SAN JOSE, CA 95119 info@osunaeengineering.com

PRELIMINARY SITE SURVEY
 1119 SHIRLEY DR
 APN 088-03-028
 CALIFORNIA 8/18/23
 Project No.: 2884
 Drawn By: SPJ
 Checked: 00
 Date: 8/18/23

SHEET B1
 OF B2 SHEETS

KEYNOTES

- 1 ROOF OVERHANG, ABOVE
- 2 ALL DOWNSPOUTS TO BE DISCHARGE INTO SPLASH BLOCK
- 3 ALL EXTERIOR LANDINGS AT EXTERIOR DOORS SHALL NOT BE MORE THAN 1-1/2" MAX DROP. 2022 CRC R311.3.2
- 4 ALL STEPS SHALL HAVE A MAXIMUM RISE OF 7/8" AND MINIMUM RUN OF 10". 2022 CRC R 311.7.4
- 5 FOUNDATION VENTS
- 6 CRAWL SPACE ACCESS - MIN 18"X24" 2022 CRC 408.4
- 7 MIN 3" THICK CONCRETE PAD FOR A/C CONDENSER. UNIT TO BE ANCHORED TO PAD
- 8 HRV UNIT TO BE PLACED IN CRAWL SPACE. SEE SPECS ON SHEET A-8.1
- 9 KITCHEN HOOD - SEE SHEET A-8.2. HOOD SPECIFIED IS 600 CFM (MIN 100 CFM REQUIRED) WITH 6" DUCT TERMINATED AT WALL. SHALL BE MIN 3'-0" FROM ANY OPENING INTO BUILDING. 3.0 SONES MAX
- 10 ELECTRIC WATER HEATER

- BATHROOM NOTES:**
- 1. ALL SHOWER AND BATHTUB SPACES WITH AN INSTALLED SHOWER HEAD TO BE FINISHED WITH A NON ABSORBENT SURFACE. EXTEND NOT LESS THAN 6 FEET ABOVE THE FLOOR. CBC 1219; CRC SEC R307.2 TYP.
 - 2. ALL SHOWER AND TUB-SHOWER COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES FOR PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE TYPE. CPC SEC. 418.0
 - 3. ALL TILE AND STONE SLABS AT BATHTUBS, SHOWER AND AREAS EXPOSED TO DIRECT WATER OR CONTINUOUS HUMIDITY SHALL BE INSTALLED WITH MORTAR ON FIBER CEMENT BOARDS, TYP. GREEN BOARD SHALL NOT BE USED AT SAID LOCATIONS. CRC SEC.702.3.8.1

- 4. ALL BATHROOM FLOORS WITH TILE FLOORING SHALL BE RECESSED, SYMBOL HATCH FOR RECESSED FLOORS
- 5. SHOWER AREAS SHALL HAVE A CLEAR INTERIOR FINISH AREA OF 1,024 SQ. IN. AND BE ABLE TO ACCOMMODATE A MINIMUM 30" CIRCLE AT THE THRESHOLD LEVEL. THESE CLEARANCES SHALL BE MAINTAINED UP TO A HEIGHT OF 70" ABOVE SHOWER DRAIN PER CPC Section 411.7.
- 6. ALL SHOWER ENCLOSURE DOORS SHALL SWING OUT OF THE SHOWER STALL
- 12 SOAP NICHE
- 13 (N) 100 AMP SUBPANEL

LEGEND

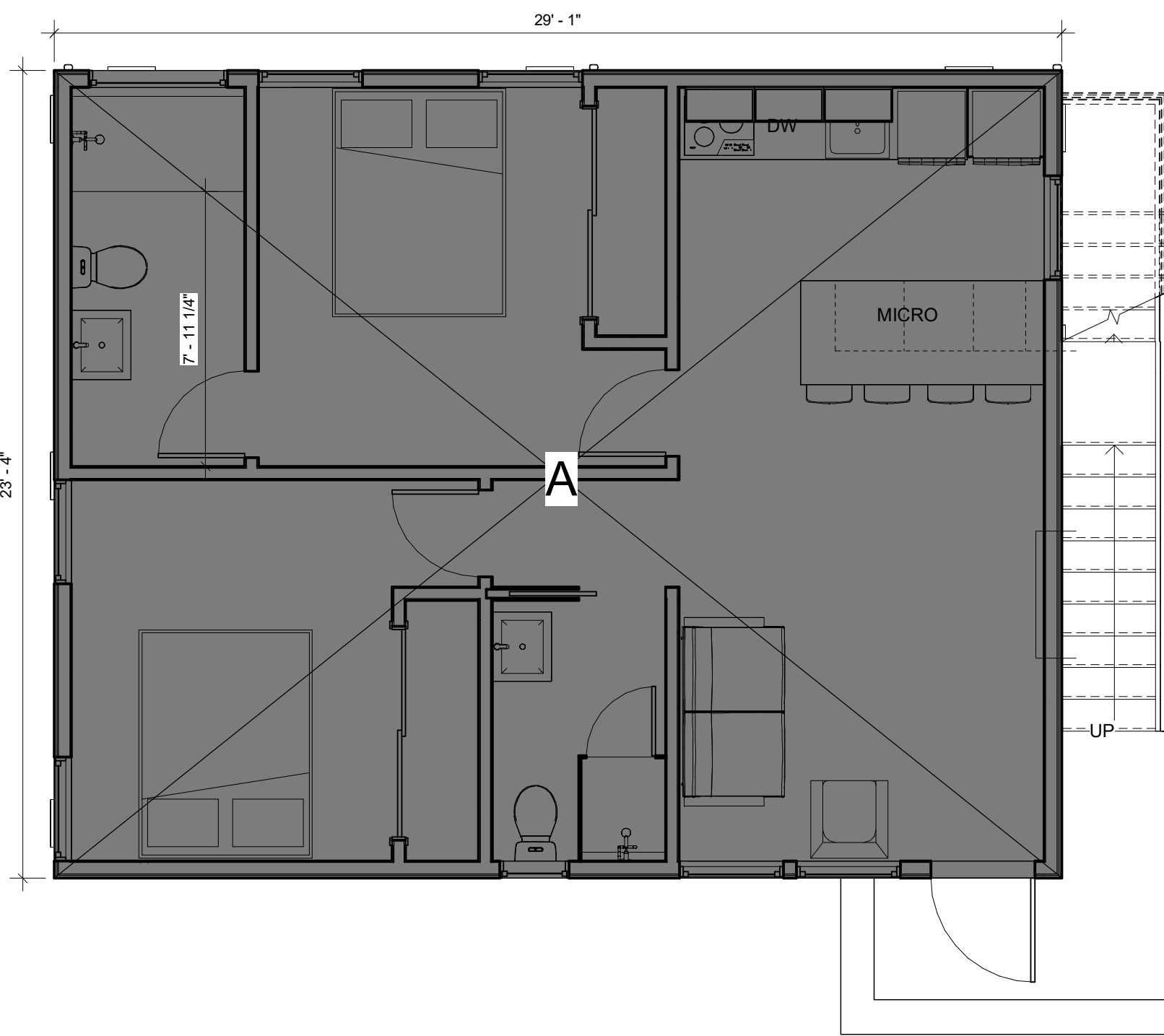
FOUNDATION VENT
 CRAWL SPACE AREA VENTILATION CALCULATION:
 MASTER FLOW FOUNDATION VENT BLOCK STYLE 15 3/8" X 8" GALVANIZED STEEL FOUNDATION VENT = 73 SQ. IN. OF NET FREE VENTILATION AREA
 SEE SPECS ON A-8.0

PROPOSED CRAWLSPACE AREA: 680 SQ. FT.
 680 / 150 = 4.5 (SQ. FT.) X 144 = 648 SQ. IN. FREE AREA REQ'D.
 648 / 73 = 8.9 (9 TOTAL VENTS REQ'D)
 9 FOUNDATION VENTS X 73 SQ. IN. = 657 SQ. IN. (SEE ELEVATIONS AND PLAN FOR LOCATION)
 657 SQ. IN. > 648 SQ. IN. = OK

NOTES:

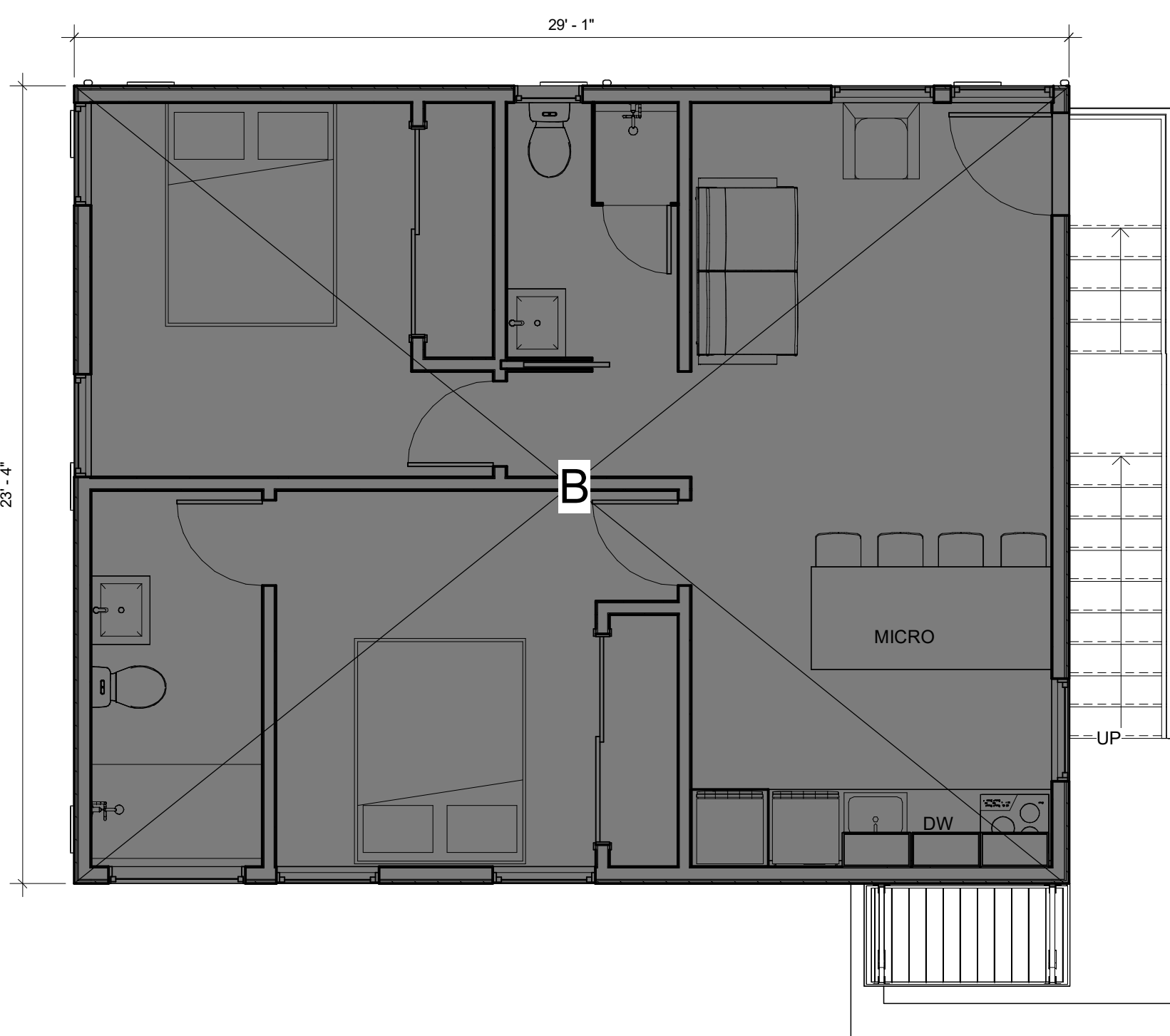
- 1. OPENING UNDER FLOOR ARE REQUIRES A MINIMUM OF ONE SQUARE FOOT OF VENTILATION FOR EACH 150 SQUARE FOOT OF UNDER FLOOR SPACE
- 2. OPENINGS ARE REQUIRED TO BE SPACED SO AS TO PROVIDE CROSS VENTILATION OF THE UNDER FLOOR SPACE
- 3. VENTILATION OPENINGS SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING CRC 2022 SEC R408.1 - SEE FLOOR PLAN FOR LOCATION
- 4. THERE ARE SIX DIFFERENT OPTIONS FOR OPENING COVERINGS: PERFORATED SHEET METAL PLATES, EXPANDED SHEET METAL PLATES, CAST IRON GRILLES, EXTRUDED LOAD BEARING VENTS, HARDWARE CLOTH AND CORROSION RESISTANT WIRE MESH ARE ACCEPTABLE MATERIALS CRC R2022 SEC. R408.2
- 5. CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL FOUNDATION VENTS PER MANUFACTURER SPECIFICATIONS.
- 6. CONTRACTOR SHALL CONFIRM NUMER AND LOCATION OF VENTS ON-SITE AND COORDINATE PLACEMENT AS TO NOT BE PLACED IN CLOSE PROXIMITY TO STRUCTURAL ELEMENTS. IN CASES OF DISCREPANCY, CONTRACTOR SHALL CONTACT DESIGNER AND PROJECT ENGINEER PRIOR INSTALLATION.

NOTE 1: UNDER FLOOR DUCTS, IF ANY, SHALL HAVE CLEARANCES TO EARTH AND NOT PASS THROUGH MINIMUM REQUIRED ACCESS CRAWL SPACE POINTS.
NOTE 2: The prescriptive fan duct sizing requirements for air flow (per ASHRAE 62.2-2010) shall comply with Table 7.1 below or comply with manufacturer's design criteria for systems with airflow greater than 125 cfm at 0.25 of water column static pressure.



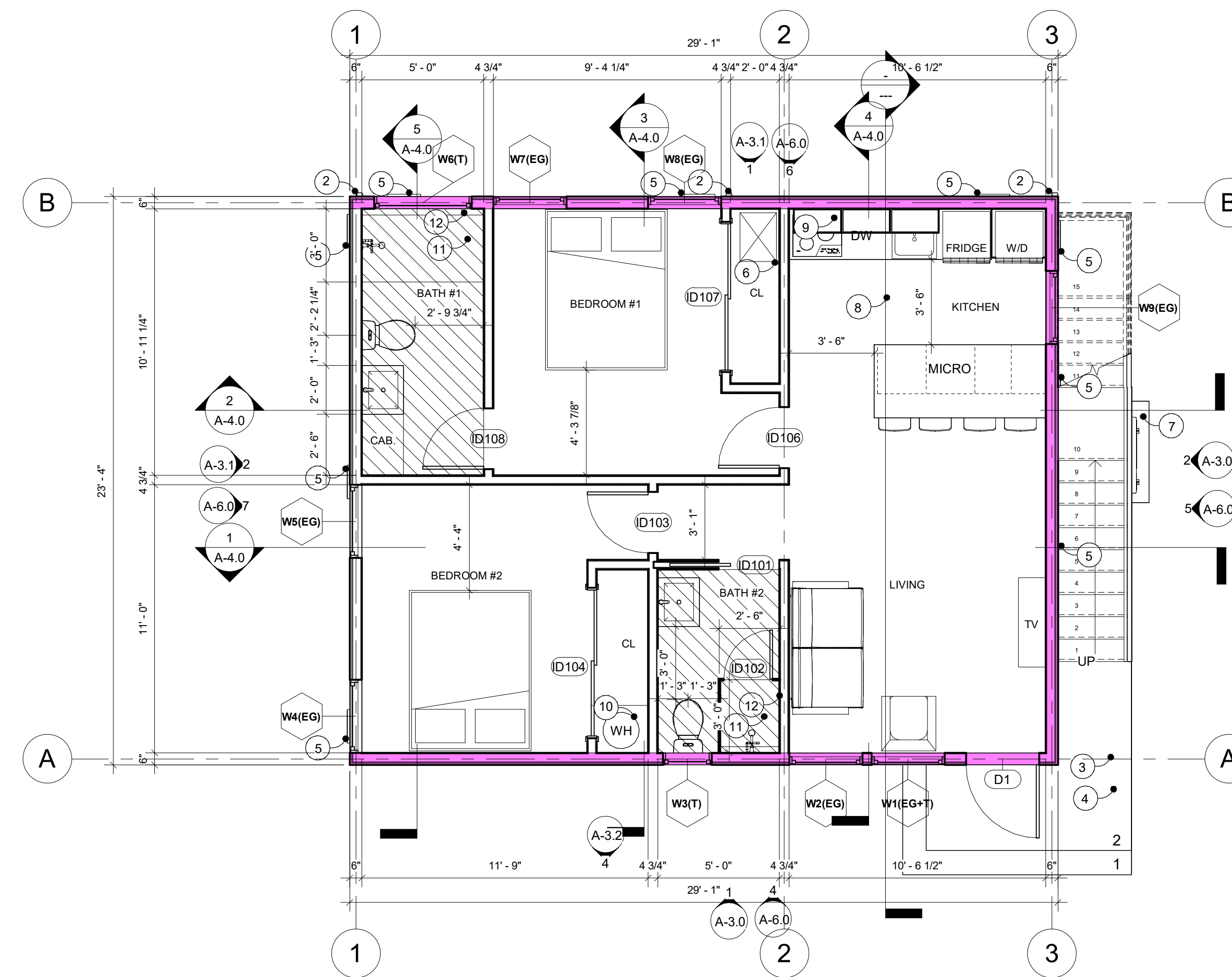
SQUARE FOOTAGE BREAKDOWN - UNIT 1

A. 29' - 1" X 23' - 4" 680 SQ. FT.
TOTAL SQUARE FEET 680 SQ. FT.

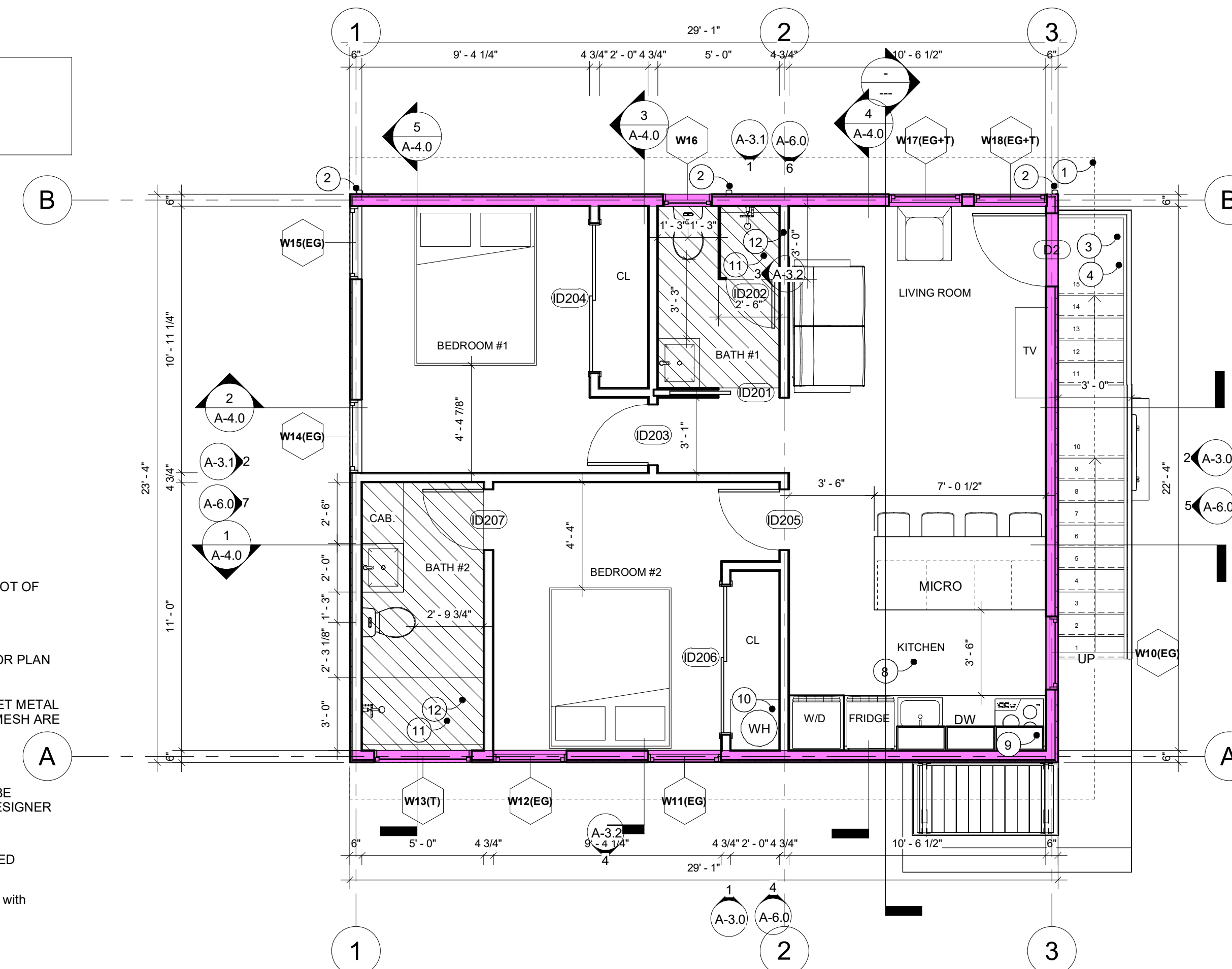


SQUARE FOOTAGE BREAKDOWN - UNIT 2

A. 29' - 1" X 23' - 4" 680 SQ. FT.
TOTAL SQUARE FEET 680 SQ. FT.



3 PROPOSED UNIT 1 FLOOR PLAN - 1/4" = 1'-0"

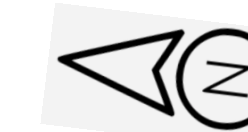


4 PROPOSED UNIT 2 FLOOR PLAN - 1/4" = 1'-0"

1 PROPOSED FLOOR PLANS - NOTES. 1/4" = 1'-0"



**2 NEW DETACHED ADU
 TWO BEDROOM - TWO BATH**
 1119 SHIRLEY DR.
 Milpitas, CA 95035



ACCESSORY DWELLING UNITS

WWW.AKDDESIGN.COM
 EMAIL: DESIGN@AKDDESIGN.COM
 TEL: 510-314-6564

ISSUANCES

No.	Description	Date
1	PLANNING DEPT.	02.9.2024
2	REVISION #1	04.16.2024
3	REVISION #2	6.25.2024

Checked By: JANELLE VARGAS

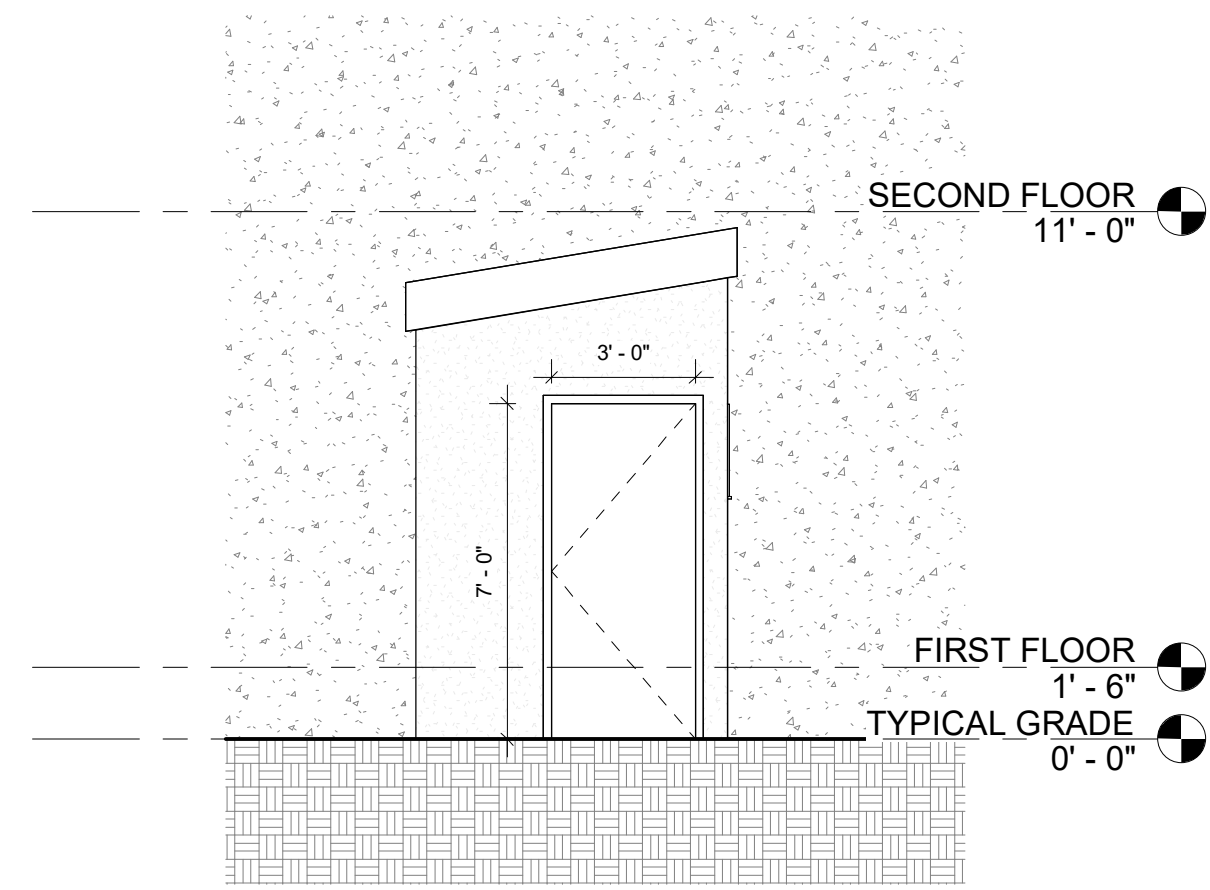
Janelle Vargas

PROPOSED FLOOR PLAN

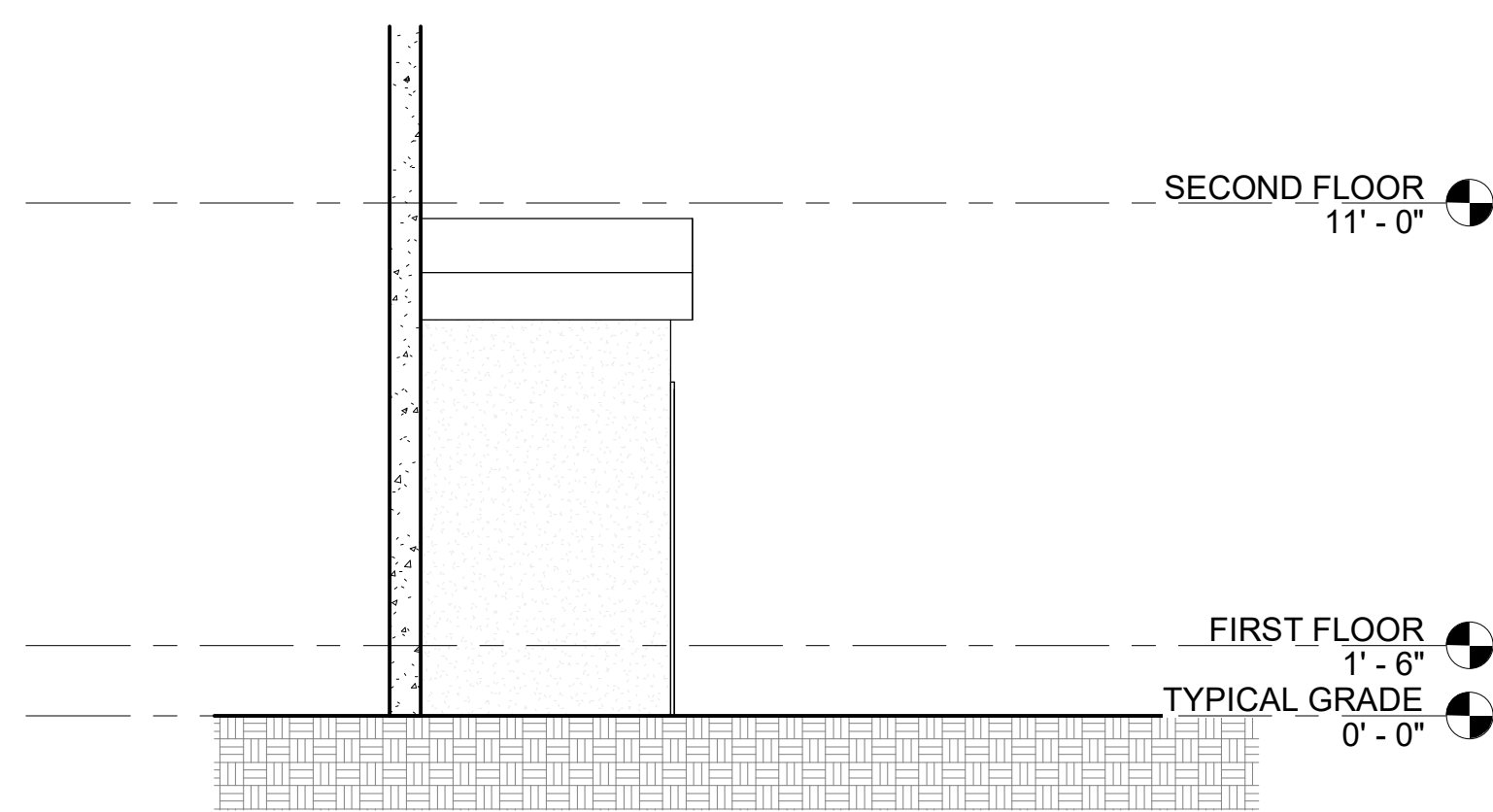
Drawing Scale: 1/4" = 1'-0"

Job No. PLANS

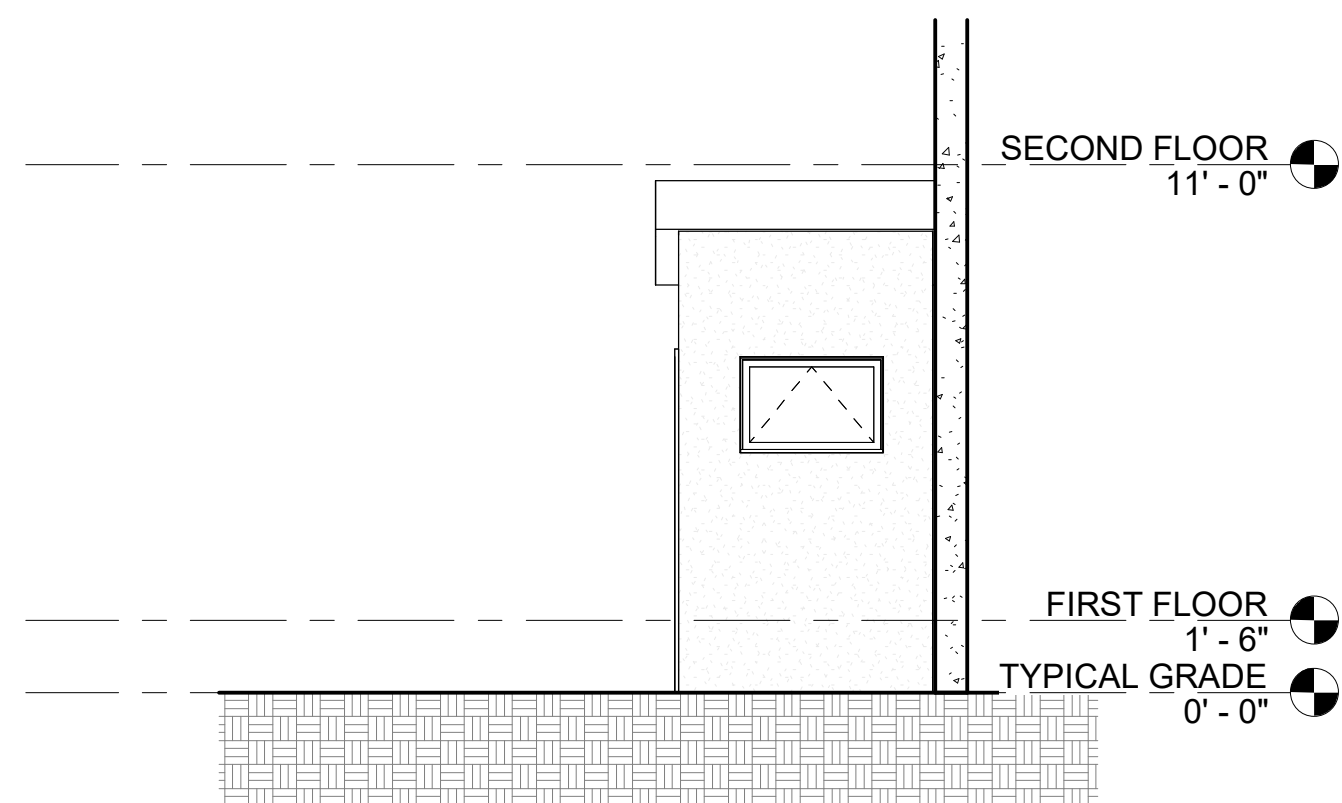
A-1.0



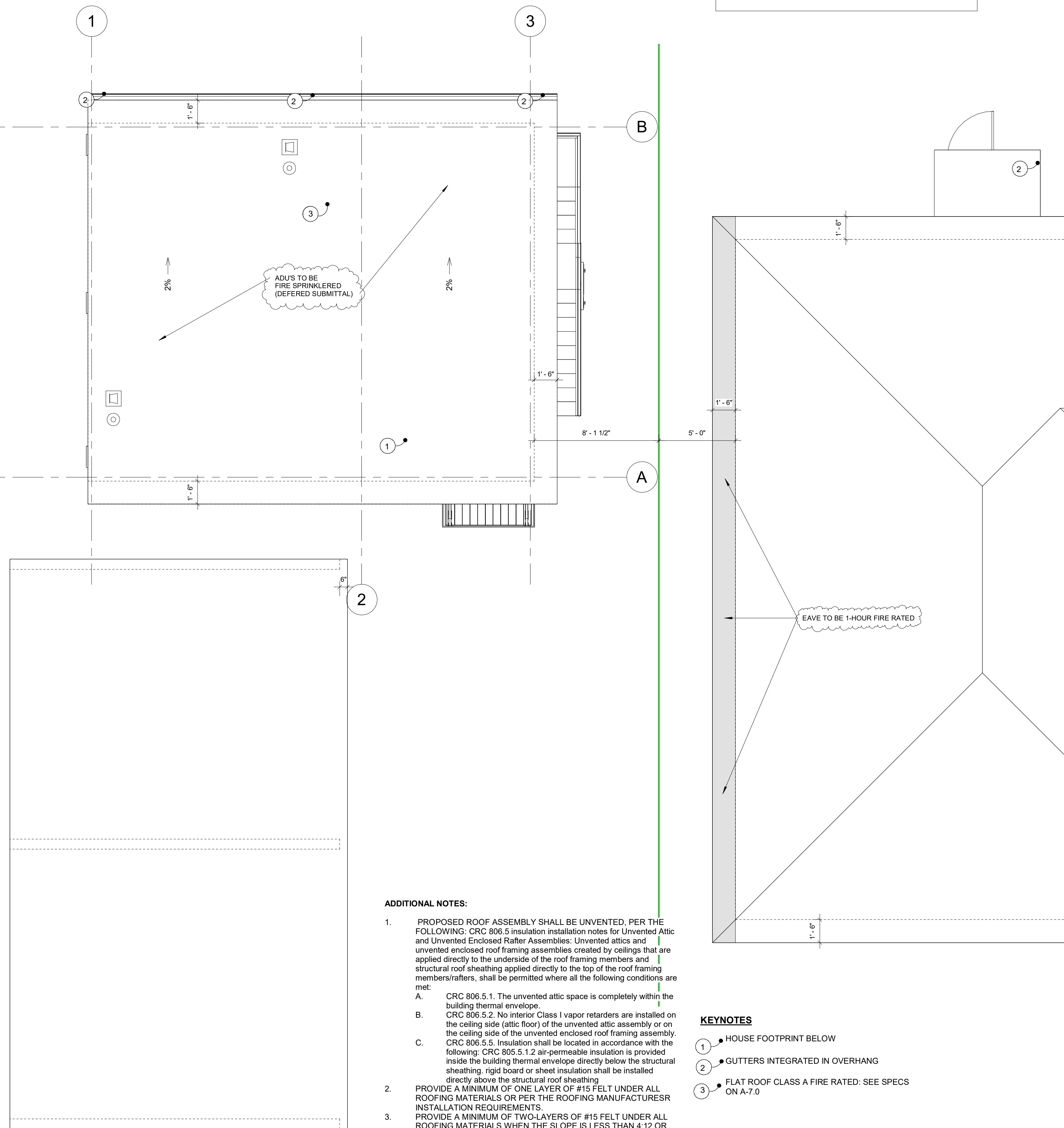
2 ATTACHED LAUNDRY FRONT ELEVATION
1/4" = 1'-0"



3 ATTACHED LAUNDRY LEFT SIDE ELEVATION
1/4" = 1'-0"



4 ATTACHED LAUNDRY RIGHT SIDE ELEVATION
1/4" = 1'-0"



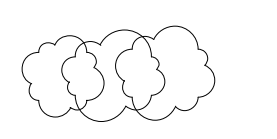
ROOF LEGEND

- BATHROOM FAN TERMINATION CAP
- PLUMBING VENT
- DOWNSPOUT
- 2% DIRECTION OF DRAINAGE

- ADDITIONAL NOTES:**
- PROPOSED ROOF ASSEMBLY SHALL BE UNVENTED, PER THE FOLLOWING: CRC 806.5 insulation installation notes for Unvented Attic and Unvented Enclosed Rafter Assemblies; Unvented attics and unvented enclosed roof framing assemblies created by ceilings that are applied directly to the underside of the roof framing members and structural roof sheathing applied directly to the top of the roof framing members/rafters, shall be permitted where all the following conditions are met:
 - CRC 806.5.1. The unvented attic space is completely within the building thermal envelope.
 - CRC 806.5.2. No interior Class I vapor retarders are installed on the ceiling side (attic floor) of the unvented attic assembly or on the ceiling side of the unvented enclosed roof framing assembly.
 - CRC 806.5.5. Insulation shall be located in accordance with the following: CRC 805.5.1.2 air-permeable insulation is provided inside the building thermal envelope directly below the structural sheathing, rigid board or sheet insulation shall be installed directly above the structural roof sheathing
 - PROVIDE A MINIMUM OF ONE LAYER OF #15 FELT UNDER ALL ROOFING MATERIALS OR PER THE ROOFING MANUFACTURER'S INSTALLATION REQUIREMENTS.
 - PROVIDE A MINIMUM OF TWO-LAYERS OF #15 FELT UNDER ALL ROOFING MATERIALS WHEN THE SLOPE IS LESS THAN 4:12 OR PER THE ROOFING MANUFACTURER'S INSTALLATION REQUIREMENTS

- KEYNOTES**
- 1 HOUSE FOOTPRINT BELOW
 - 2 GUTTERS INTEGRATED IN OVERHANG
 - 3 FLAT ROOF CLASS A FIRE RATED: SEE SPECS ON A-7.0

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



2 NEW DETACHED ADU
TWO BEDROOM - TWO BATH
1119 SHIRLEY DR.
Milpitas, CA 95035



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ACCESSORY DWELLING UNITS
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EMAIL: DESIGN@AKDHOMES.NET
TEL: 510-314-6564

ISSUANCES

No.	Description	Date
1	PLANNING DEPT.	02.9.2024
2	REVISION #1	04.16.2024
3	REVISION #2	6.25.2024

Checked By: JANELLE VARGAS

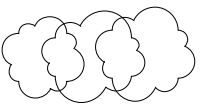
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**PROPOSED
ROOF PLAN**

Drawing Scale: 1/4" = 1'-0"

Job No. PLANS

A-2.0



2 NEW DETACHED ADU
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Checked By: JANELLE VARGAS

Janelle Vargas

PROPOSED ELEVATIONS

Drawing Scale: 1/4" = 1'-0"

Job No. PLANS

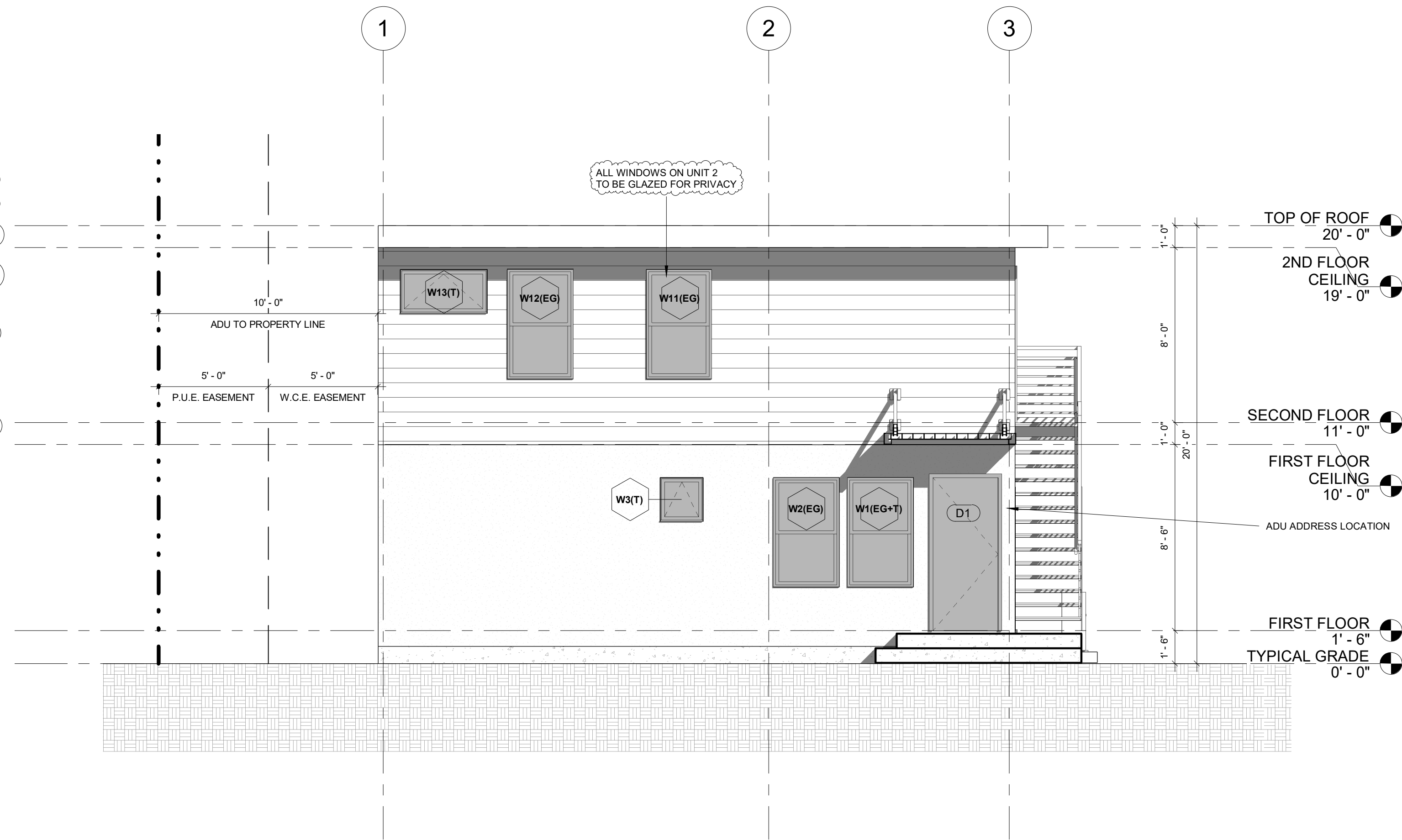
A-3.0

FRONT EXTERIOR WALL OPENING BREAKDOWN

	WINDOWS OPENING SQUARE FOOTAGE	96 SQ. FT.
	WALL SQUARE FOOTAGE	530 SQ. FT.

530 SQ. FT. X 25% = 133 SQ. FT.
133 SQ. FT. > 96 SQ. FT. = OK

12% = OK NEED BE UNDER 15%



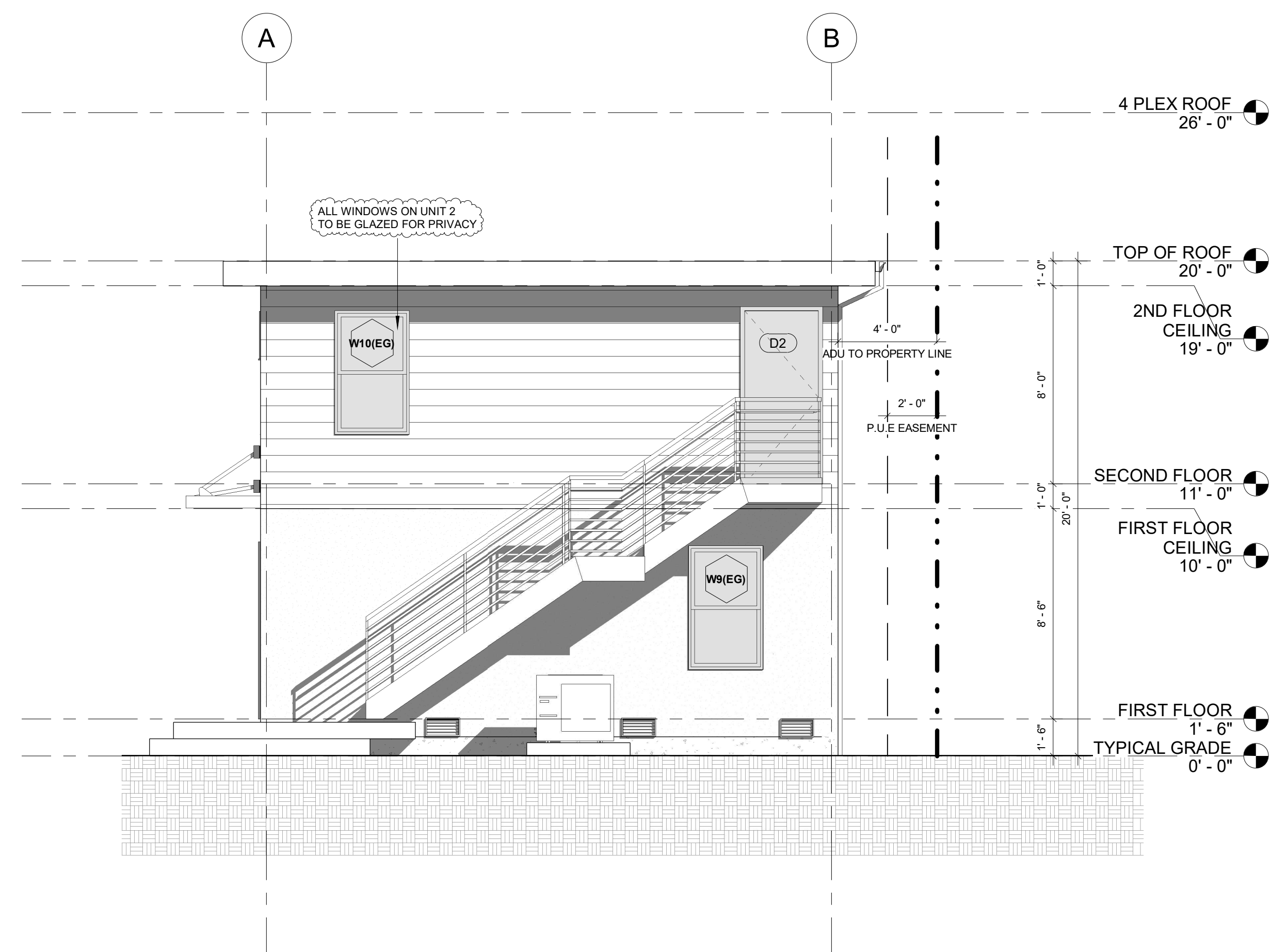
1 FRONT ELEVATION
1/4" = 1'-0"

RIGHT SIDE EXTERIOR WALL OPENING BREAKDOWN

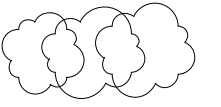
	WINDOWS OPENING SQUARE FOOTAGE	54 SQ. FT.
	WALL SQUARE FOOTAGE	421 SQ. FT.

421 SQ. FT. X 25% = 105.25 SQ. FT.
105.25 SQ. FT. > 54 SQ. FT. = OK

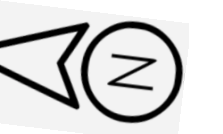
12% = OK NEED BE UNDER 15%



2 RIGHTSIDE ELEVATION
1/4" = 1'-0"



2 NEW DETACHED ADU
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Checked By: JANELLE VARGAS

Janelle Vargas

PROPOSED ELEVATIONS

Drawing Scale: 1/4" = 1'-0"

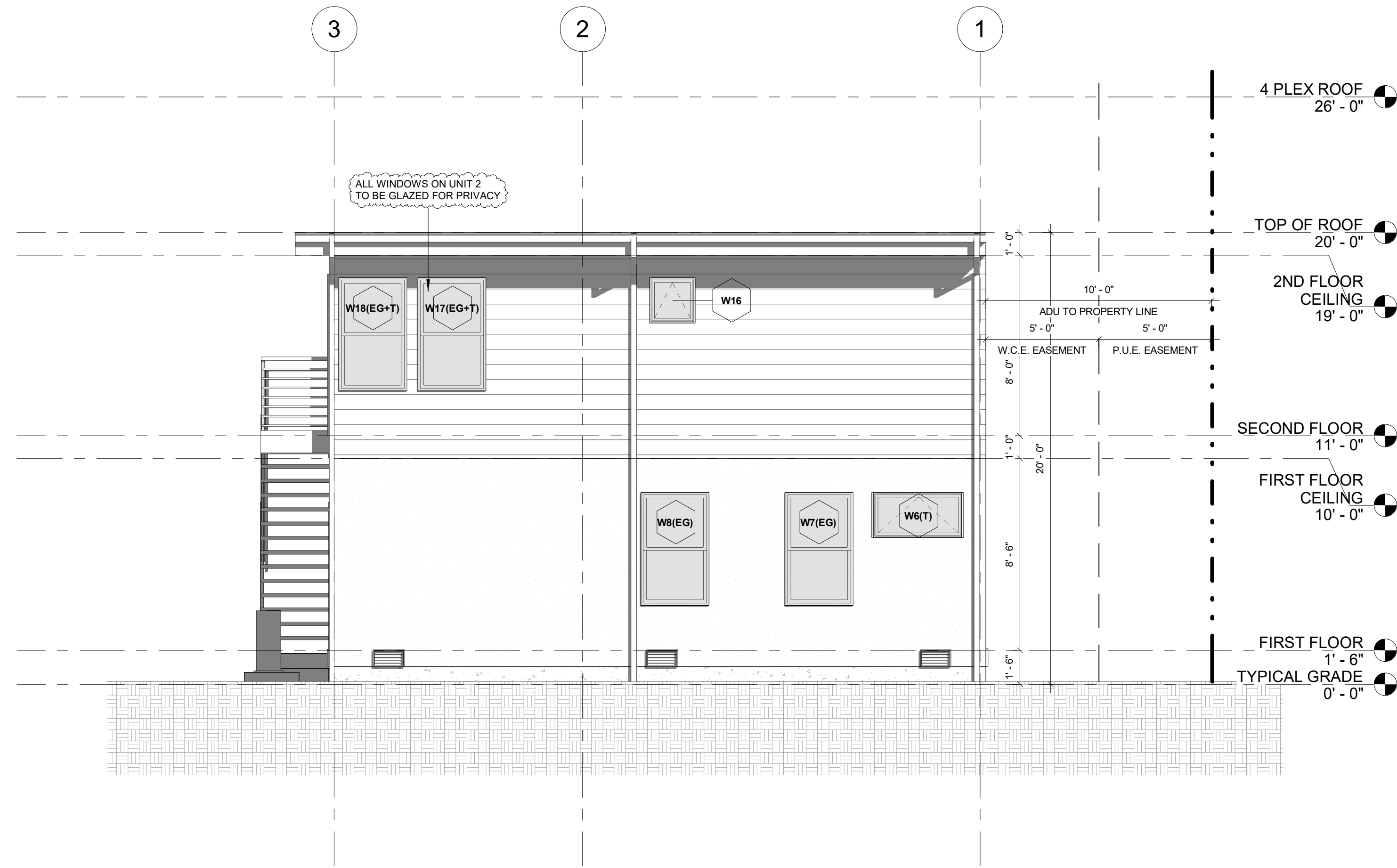
Job No. PLANS

A-3.1

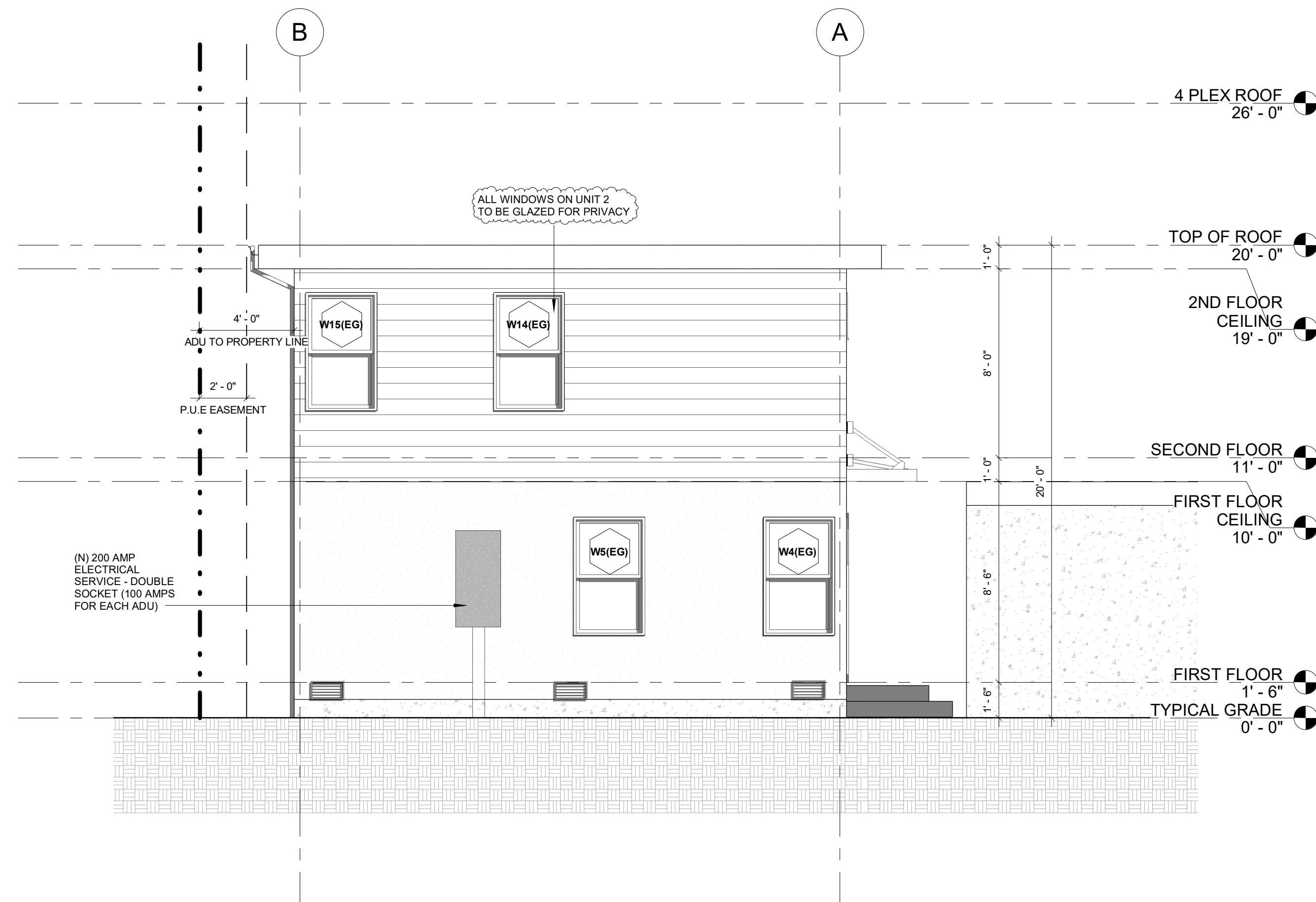
REAR EXTERIOR WALL OPENING BREAKDOWN

	WINDOWS OPENING SQUARE FOOTAGE	72 SQ. FT.
	WALL SQUARE FOOTAGE	530 SQ. FT.

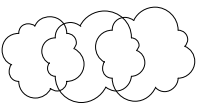
530 SQ. FT. X 25% = 132.5 SQ. FT.
132.5 SQ. FT. > 72 SQ. FT. = OK



1 REAR ELEVATION
1/4" = 1'-0"



2 LEFTSIDE ELEVATION
1/4" = 1'-0"



2 NEW DETACHED ADU
TWO BEDROOM - TWO BATH

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Milpitas, CA 95035



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Checked By: _____ Checker

Jedde Vangjost
jedde@akdhomes.net (650) 655-6299

EXISTING ELEVATIONS

Drawing Scale: As indicated

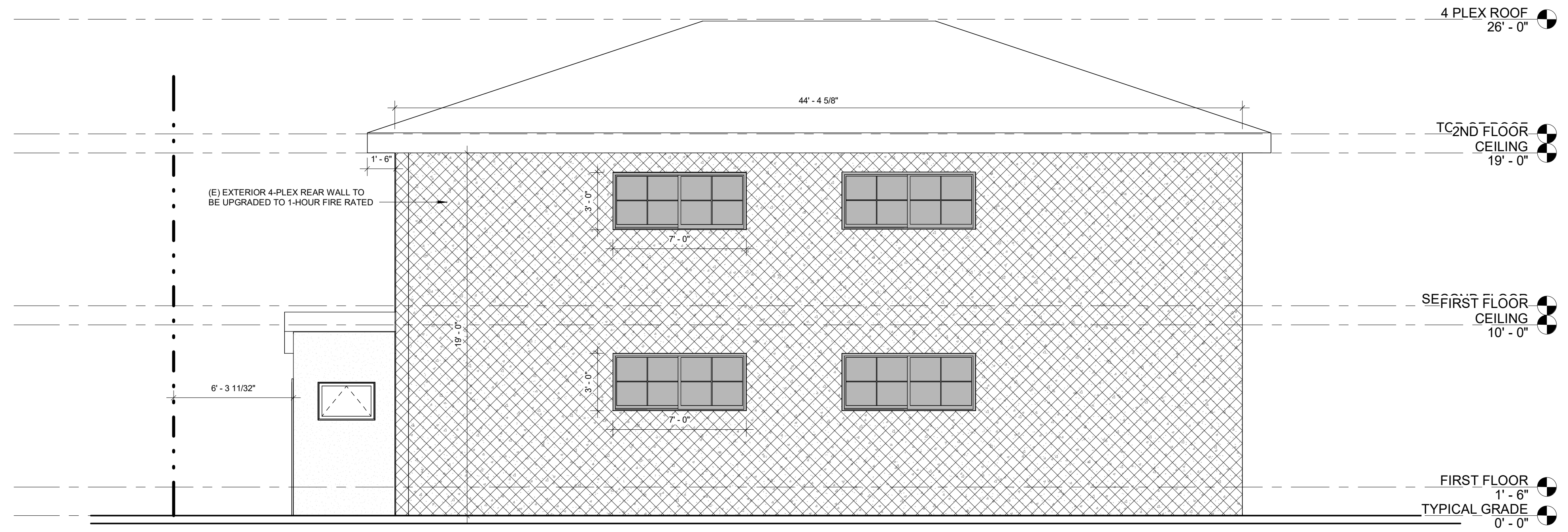
Job No. PLANS

A-3.2

4 PLEX - REAR EXTERIOR WALL OPENING BREAKDOWN

	WINDOWS OPENING SQUARE FOOTAGE	84 SQ. FT.
	WALL SQUARE FOOTAGE	844 SQ. FT.

844 SQ. FT. X 25% = 211 SQ. FT.
211 SQ. FT. > 84 SQ. FT. = OK 84 / 844 = .10%

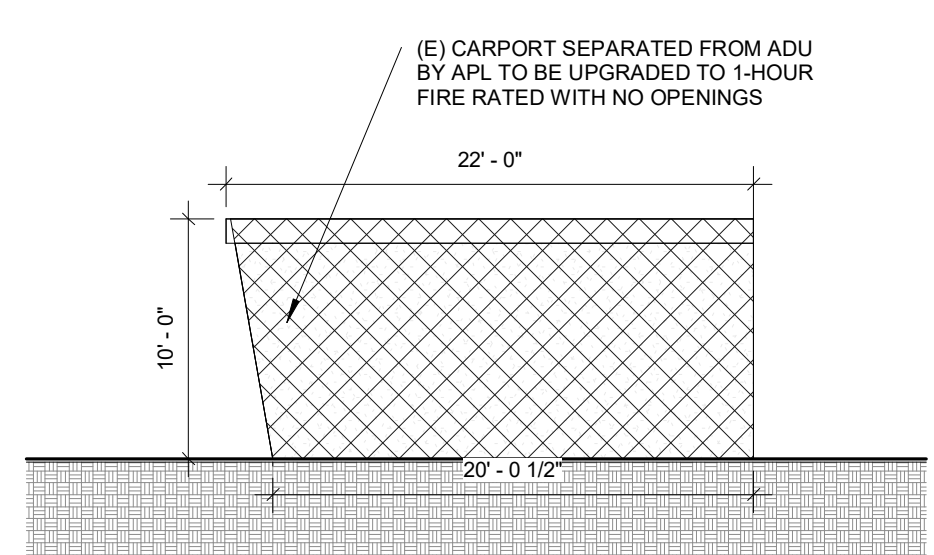


1 4 PLEX REAR ELEVATION
1/4" = 1'-0"

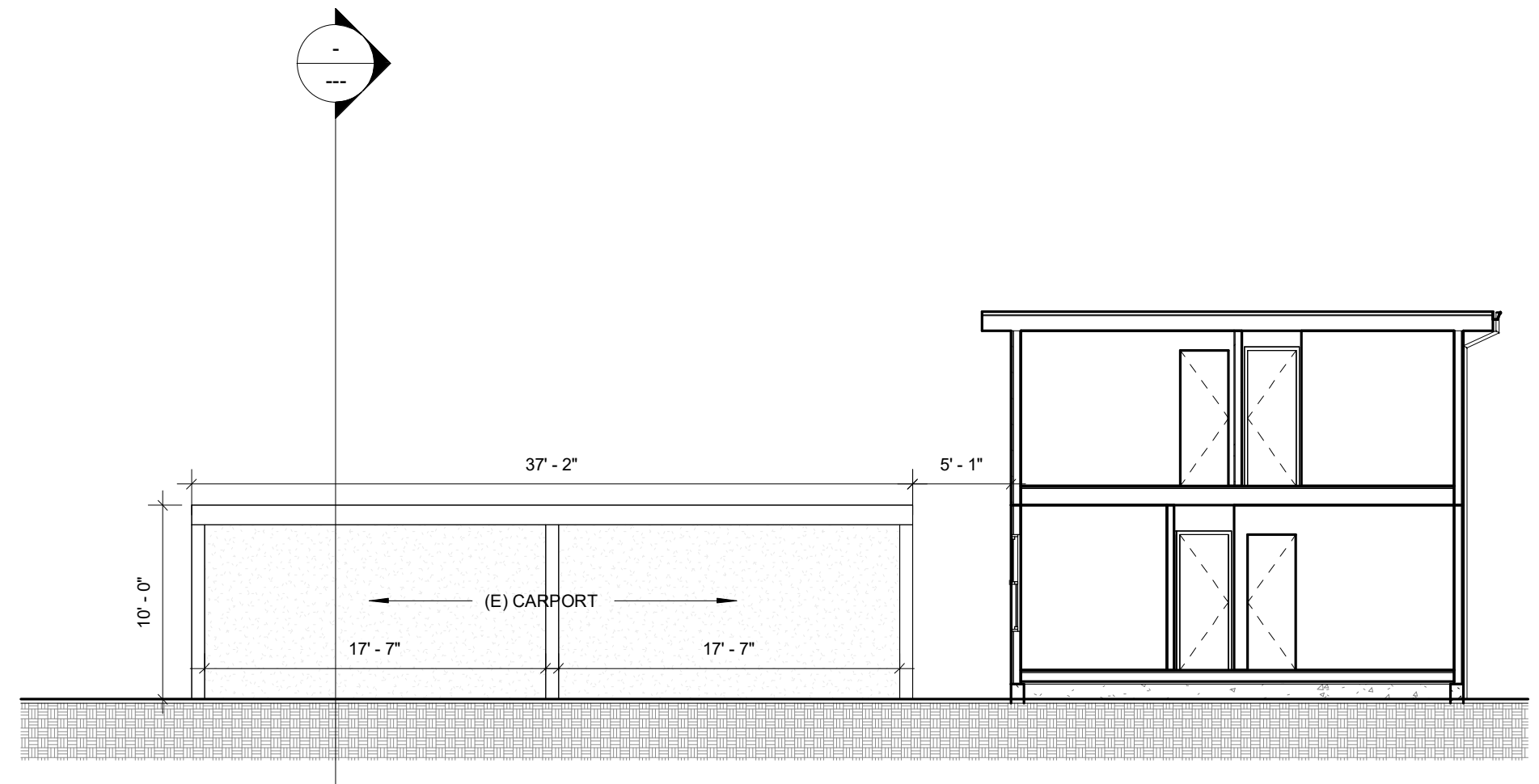
CARPORT EXTERIOR WALL OPENING BREAKDOWN

	WINDOWS OPENING SQUARE FOOTAGE	0 SQ. FT.
	WALL SQUARE FOOTAGE	210 SQ. FT.

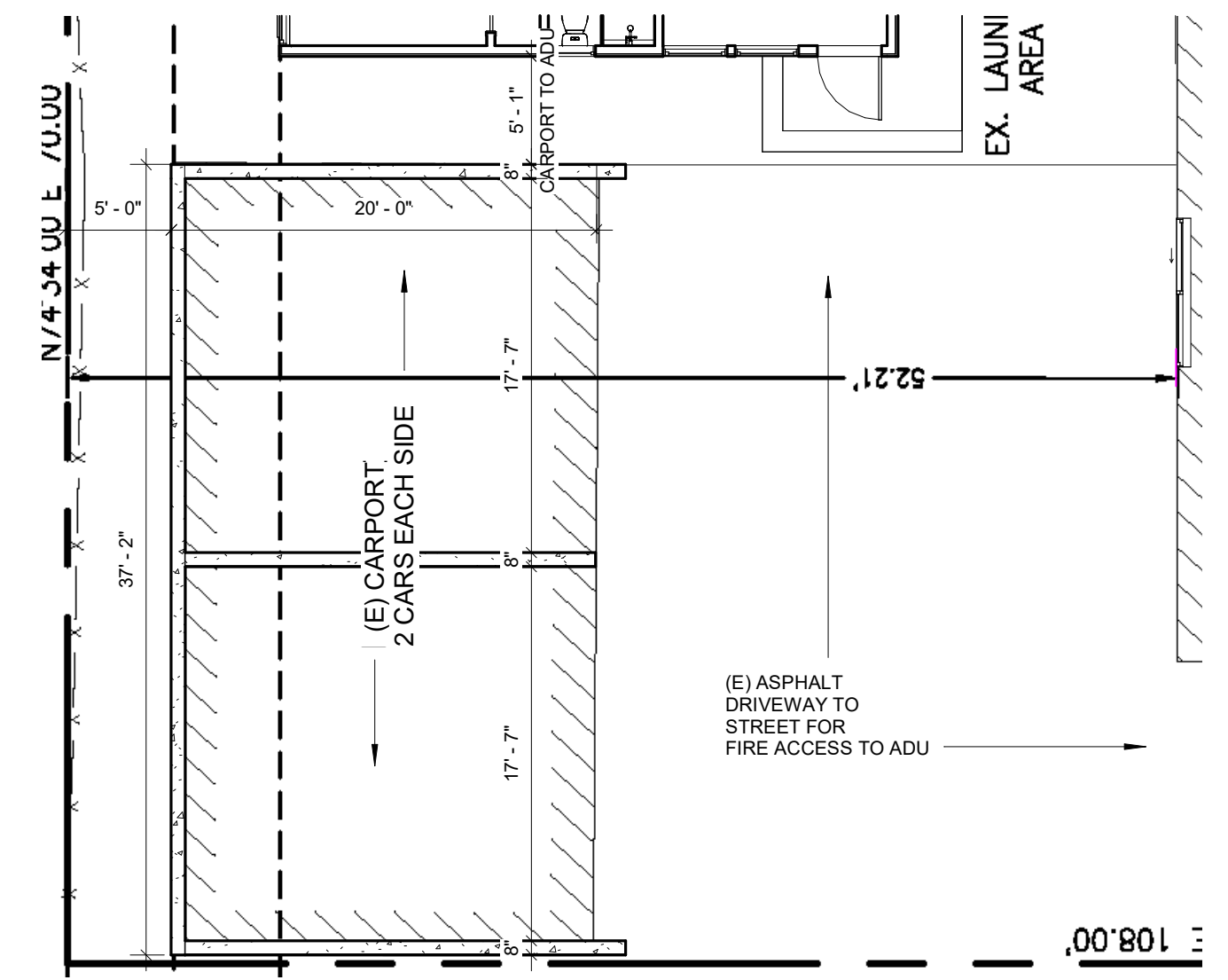
210 SQ. FT. X 25% = 52.5 SQ. FT.
NO OPENINGS ON THE CARPORT WALL EXISTING OR PROPOSED



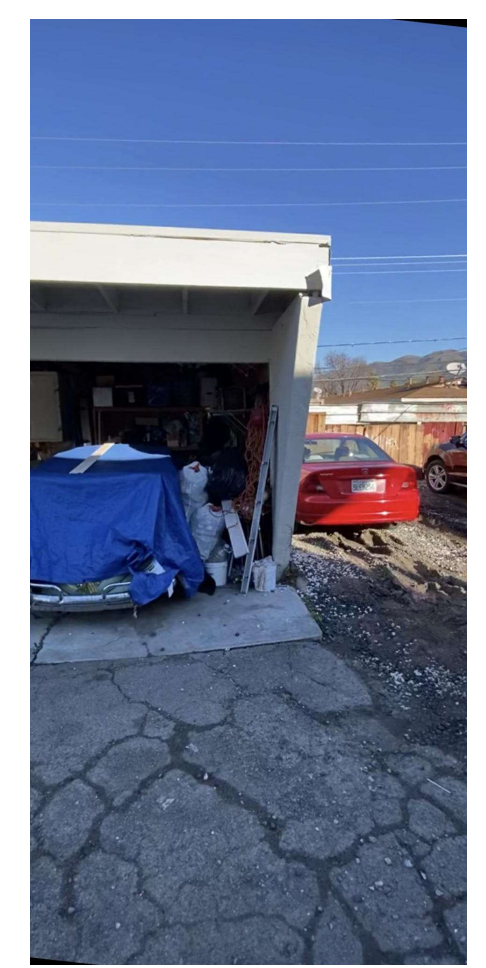
4 SIDE OF CAR PORT ELEVATION
1/8" = 1'-0"



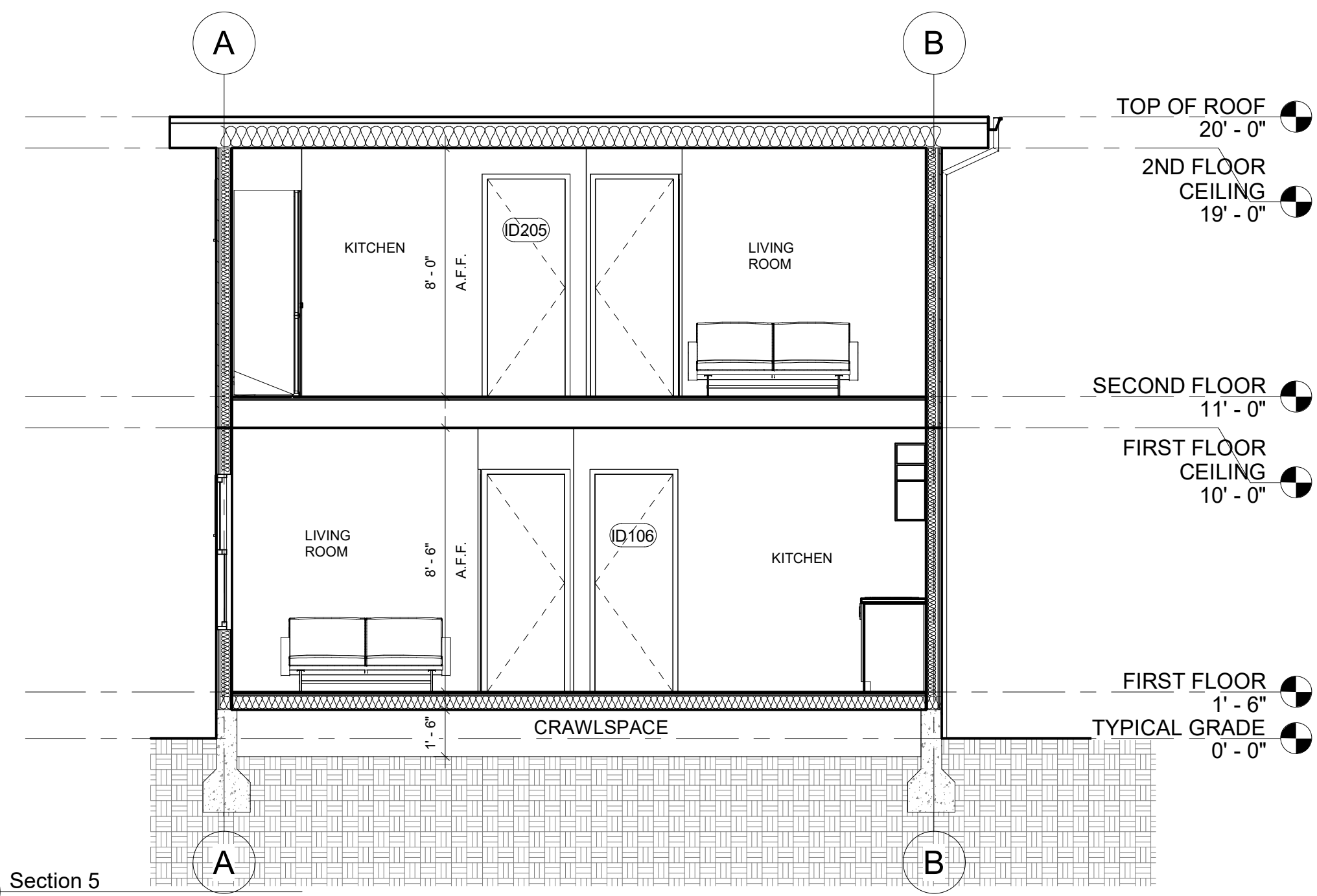
3 FRONT OF CAR PORT ELEVATION
1/8" = 1'-0"



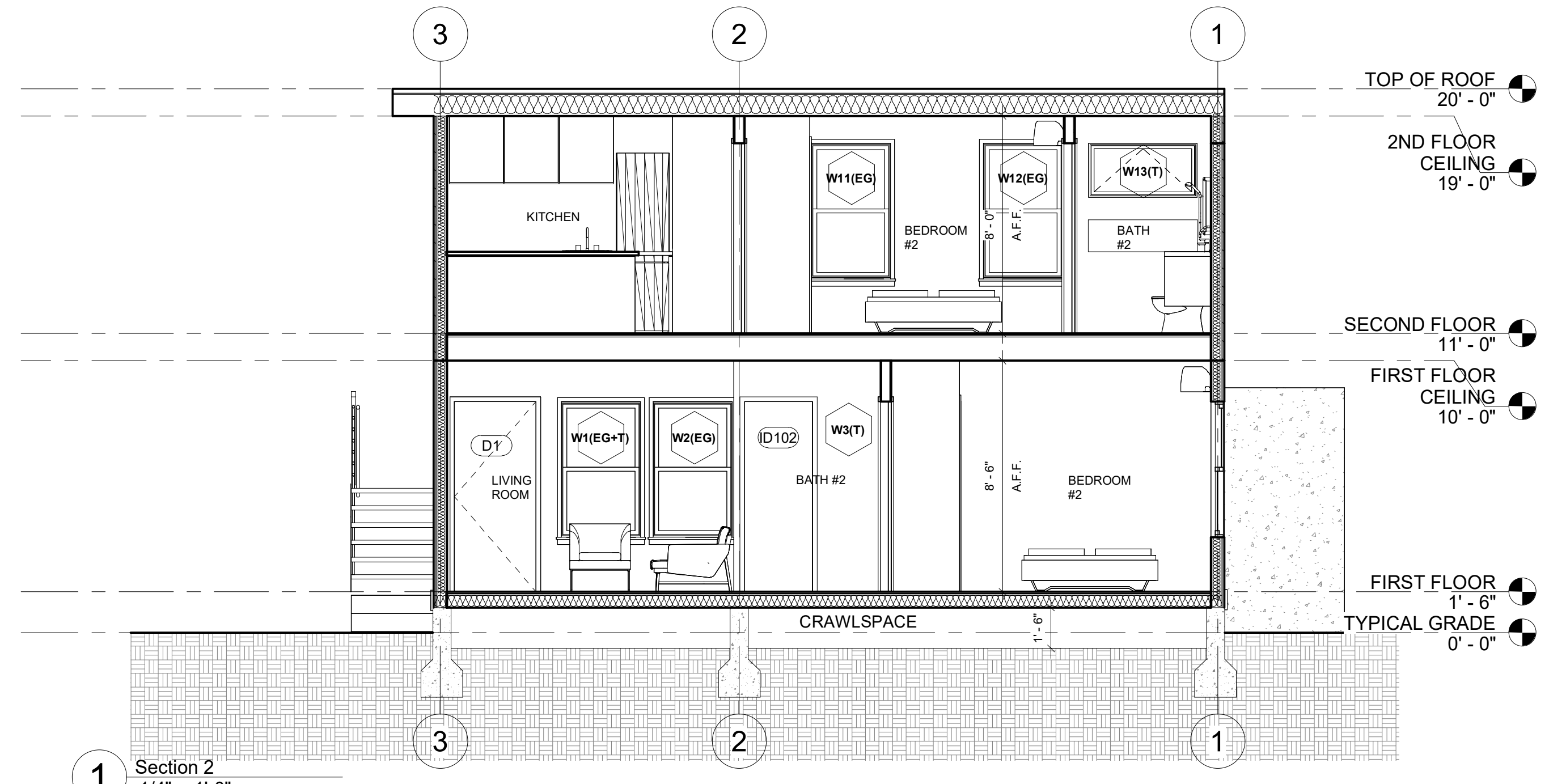
2. EXISTING CARPORT FLOOR PLAN
1/8" = 1'-0"



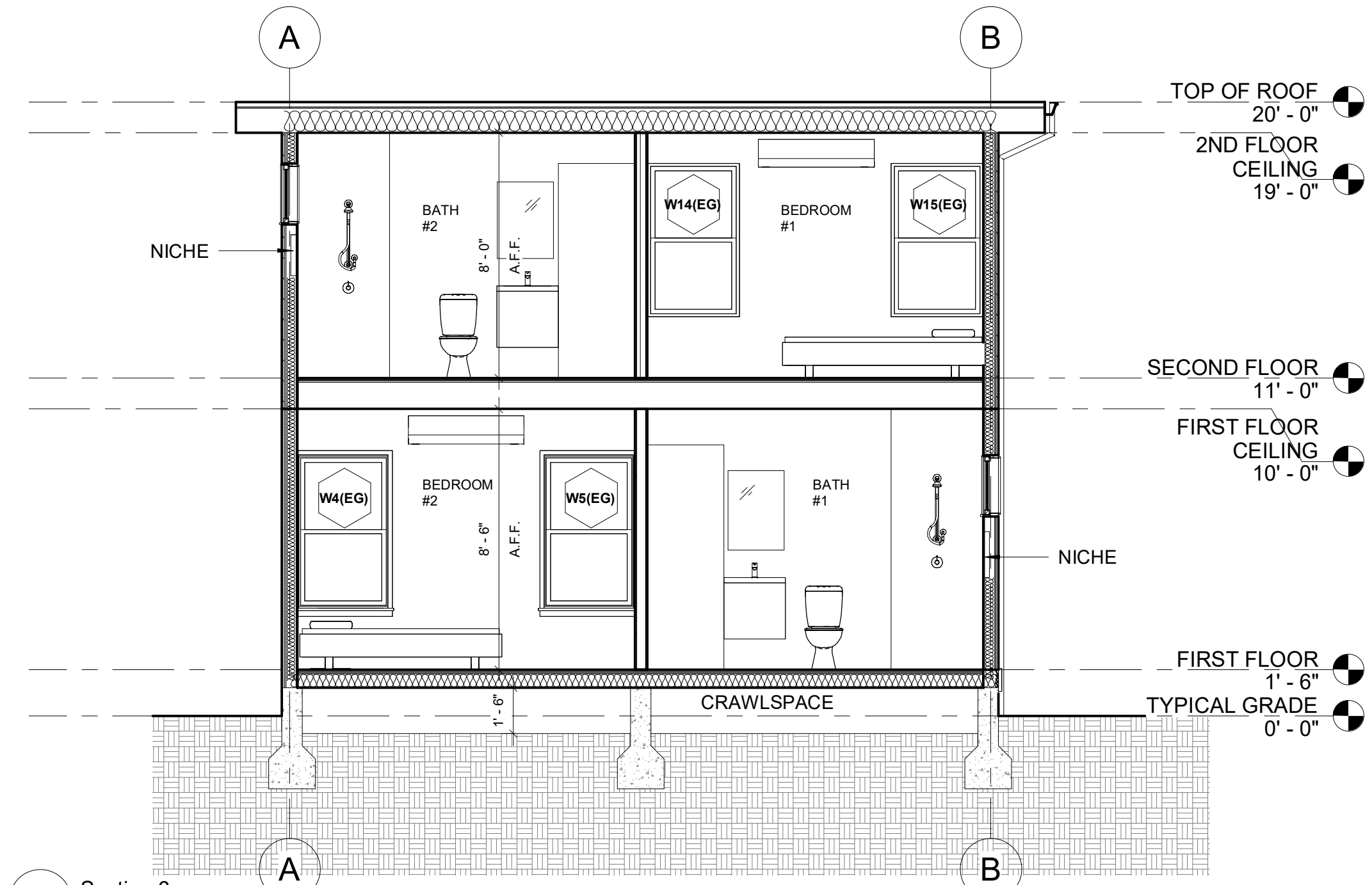
(E) CARPORT AREA THAT WILL BE NEXT TO PROPOSED ADU



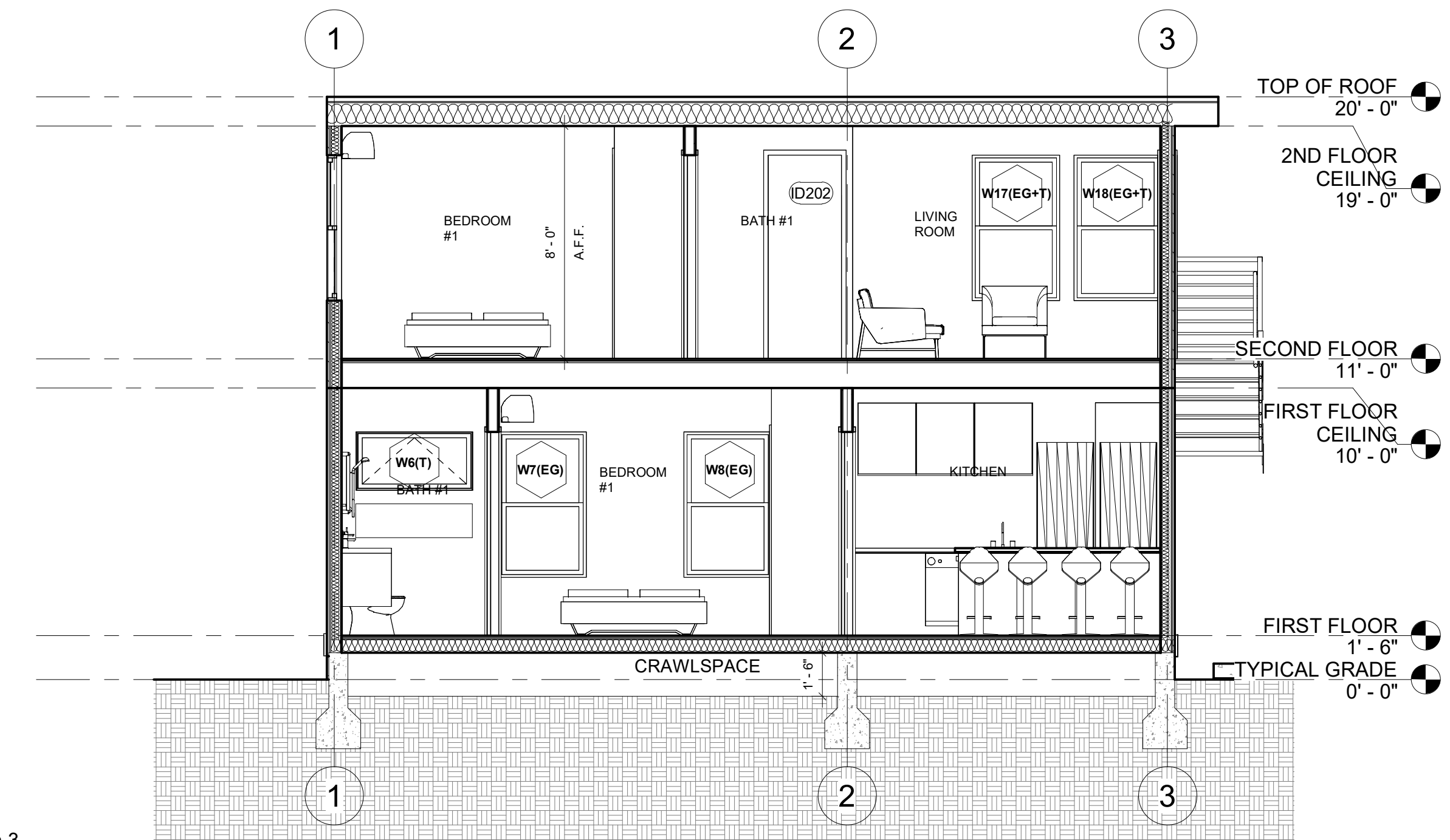
4 Section 5
1/4" = 1'-0"



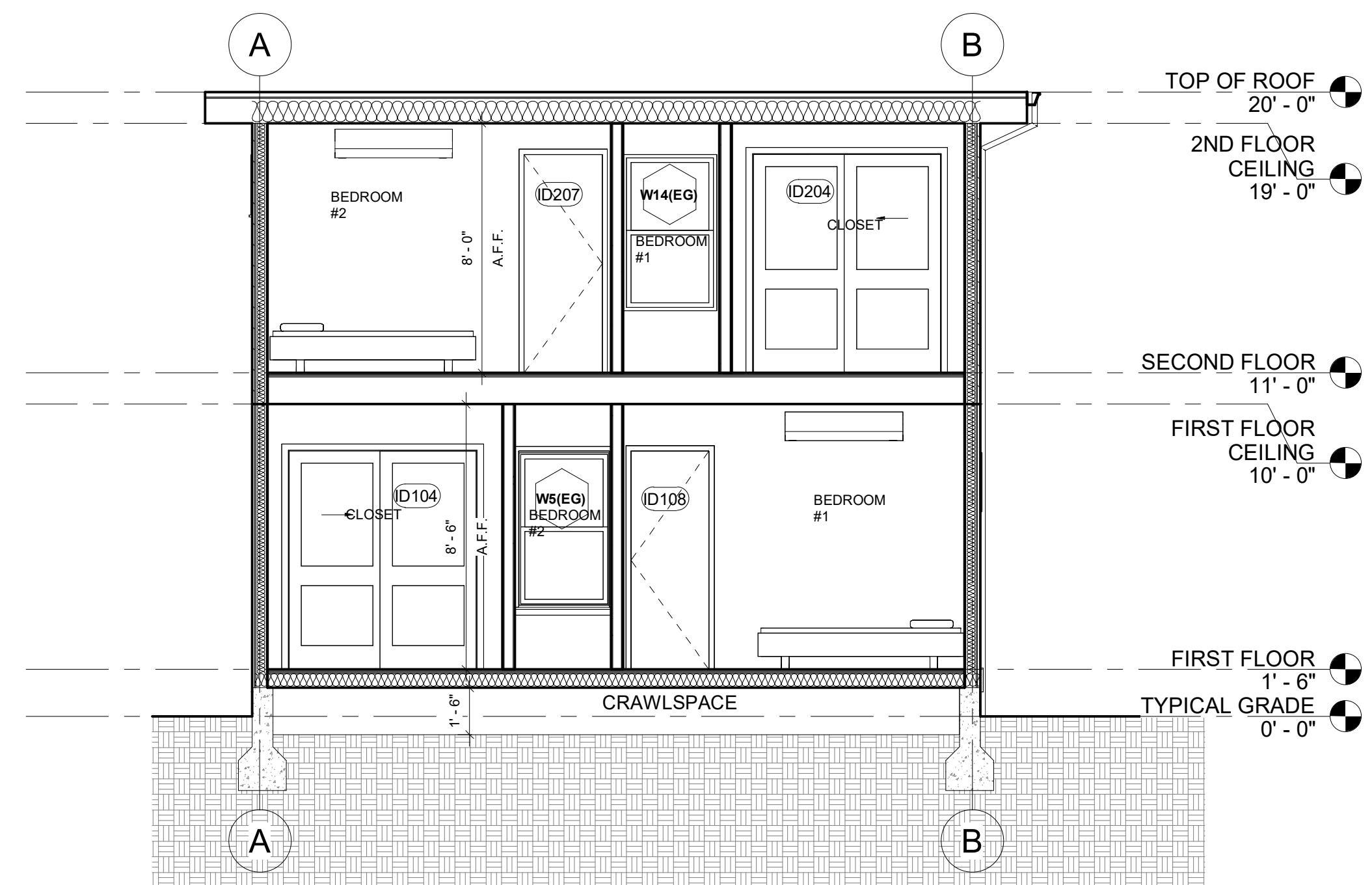
1 Section 2
1/4" = 1'-0"



5 Section 6
1/4" = 1'-0"



2 Section 3
1/4" = 1'-0"



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

2 NEW DETACHED ADU
TWO BEDROOM - TWO BATH
1119 SHIRLEY DR.
Milpitas, CA 95035



ISSUANCES

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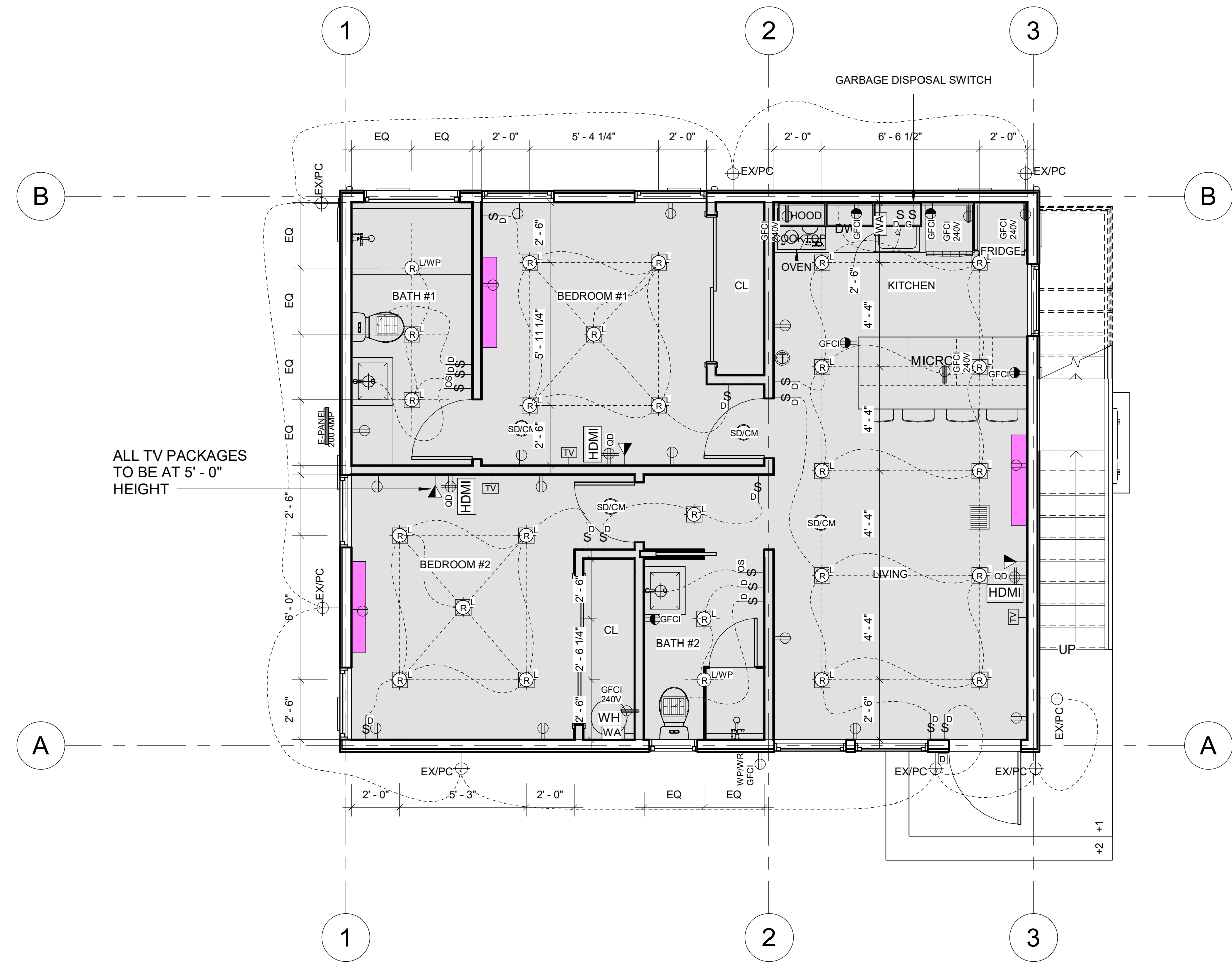
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BUILDING SECTIONS

Drawing Scale: 1/4" = 1'-0"

Job No. PLANS



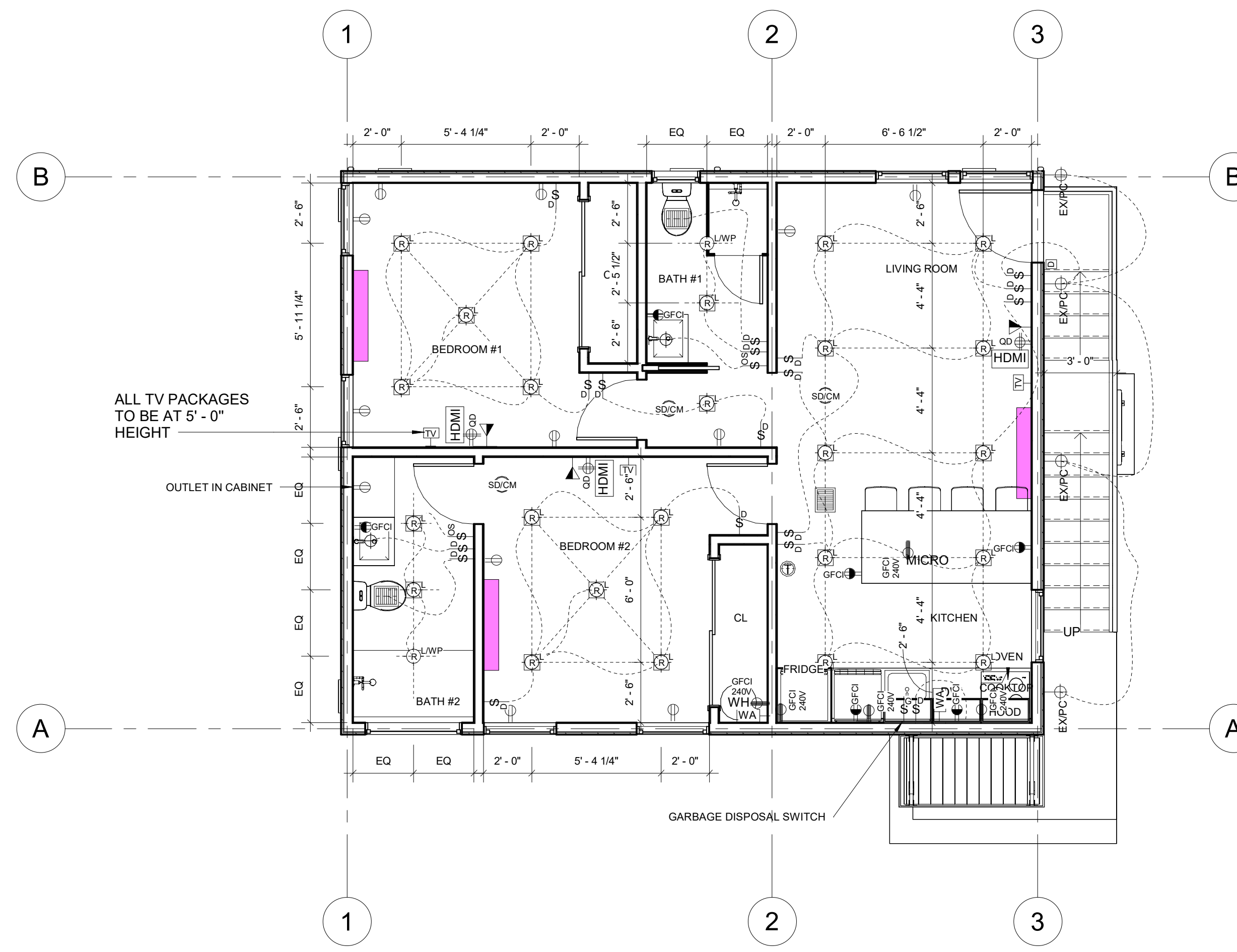
3 PROPOSED UNIT 1 ELECTRICAL PLAN
1/4" = 1'-0"

- ELECTRICAL LEGEND**
- Ⓛ HIGH EFFICACY RECESSED LED CAN DOWNLIGHTS
 - ⓁⓂ HIGH EFFICACY RECESSED LED CAN DOWNLIGHTS- WATER PROOF
 - ⓁⓂ ISLAND PENDANTS
 - Ⓛ VANITY SCONCE
 - ⓁⓂ EXPC EXTERIOR MOTION SENSOR WALL SCONCE - PC FOR PHOTO CELL
 - Ⓛ UNDER CABINET LIGHT
 - Ⓛ EXTERIOR STEP LIGHT (LED)
 - Ⓛ TV CONNECTION
 - Ⓛ HDMI
 - Ⓛ DOOR BELL
 - Ⓛ SWITCH
 - Ⓛ DIMMER SWITCH (LEVITON / SMART HOME CONTROL) REMOTE CONTROLS WILL BE LOCATED IN FIELD
 - ⓁⓂ MANUAL ON-OCCUPANCY SENSOR motion sensor with a manual-on/automatic -off switch and photocell per 2022 CEC 150(k)13
 - Ⓛ RECEPTACLE DUPLEX 120V/60HZ - 16" F.F.
 - ⓁⓂ RECEPTACLE GFCI DUPLEX / WEATHER PROOF / WATER RESISTANT - 16" F.F.
 - ⓁⓂ RECEPTACLE GFCI DUPLEX - 16" F.F.
 - ⓁⓂ RECEPTACLE GFCI/USB - 16" F.F.
 - ⓁⓂ RECEPTACLE GFCI DUPLEX - 42" F.F.
 - Ⓛ RECEPTACLE DUPLEX - 60" (HOOD) F.F.
 - ⓁⓂ RECEPTACLE GFCI QUAD - 16" F.F.
 - ⓁⓂ RECEPTACLE DUPLEX OUTLET 220 VOLT
 - ⓁⓂ RECEPTACLE DUPLEX OUTLET 240 VOLT
 - ⓁⓂ RECEPTACLE - OVERHEAD (FOR SHADES) - 84" F.F. U.D.I.

- MECHANICAL LEGEND**
- Ⓜ WH WATER HEATER - ELEC HP WH SEE SPECS ON 1/A-8.1
 - Ⓜ Bathroom / Laundry Exhaust Fan - SEE SPECS ON 2/A-8.1
 - Ⓜ HRV HRV UNIT - SEE SPECS ON 2/A-8.1
 - Ⓜ MINI SPLIT HEAT PUMP
 - Ⓜ 8'-6" CEILING A.F.F. BATHROOM
 - Ⓜ 8'-0" CEILING A.F.F.

- PLUMBING LEGEND**
- Ⓜ SHOWER CONTROLS
 - Ⓜ WATER CONNECTION
 - Ⓜ HOSE BIB
 - (N) 200 AMP ELECTRICAL SERVICE - DOUBLE SOCKET (100 AMPS FOR EACH ADU)
 - Ⓜ SMOKE ALARM / AC/DC INTERCONNECTED
 - Ⓜ SMOKE ALARM / CARBON MONOXIDE COMBINATION INTERCONNECTED BATTERY BACKUP
 - Ⓜ THERMOSTAT (NEST)
 - Ⓜ CAT6
 - Ⓜ ALIGN CENTER FIXTURE

2 ELECTRICAL & PLUMBING LEGENDS - FIRST FLOOR
1/4" = 1'-0"



4 PROPOSED UNIT 2 ELECTRICAL PLAN
1/4" = 1'-0"

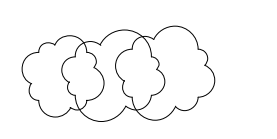
ELECTRICAL NOTES:

1. ALL LIGHT FIXTURES, OUTLET, SWITCHES, SMOKE DETECTORS AND OTHER ELECTRICAL FIXTURES SHALL MEET THE LATEST CODE REQUIREMENT. ALL RECEPTACLES SHALL BE GFCI PROTECTED AND TAMPER RESISTANT (TR). NEW/ADDITIONAL OUTLETS SHALL HAVE A DEDICATED 20-AMP CIRCUIT. (CEC 210.8, 210.11, 406.11)
2. EXHAUST FANS WITH MINIMUM VENTILATION RATE OF 50 CFM ARE REQUIRED IN ALL BATHROOMS, EVEN IF AN OPERABLE WINDOW IS INSTALLED. EXHAUST FANS AND LIGHTING SHALL HAVE SEPARATE CONTROL SWITCHES. THE EXHAUST FAN MAY NEED TO BE SUPPLIED BY A GFCI PROTECTED CIRCUIT BASED ON THE MANUFACTURER'S REQUIREMENTS. THE EXHAUST FAN DUCT SHALL TERMINATE A MINIMUM OF THREE FEET FROM ANY OPENING IN THE BUILDING (ATTIC VENT, WINDOW, DOOR, ETC.). (CECS 150.0(a) and CMC 504.3). ALL EXHAUST FANS SHALL BE ENERGY STAR COMPLIANT, WITH HUMIDITY CONTROLS, ADJUSTING FROM 50% TO 80%, AND BACKDRAFT DAMPERS.
3. LIGHTING EFFICACY: ALL LIGHTING MUST BE HIGH EFFICACY. ALL LIGHTS MUST EITHER COMPLY WITH COLUMN A OF TABLE 150.0(A) OR CONTAIN HIGH EFFICACY LIGHT SOURCES MARKED JAB-2016 OR JAB-2016-E.
4. SMOKE ALARMS SHALL BE REPLACED 10 YEARS AFTER THE DATE OF MANUFACTURE LISTED ON THE ALARM (IF NO DATE IS LISTED THE ALARM SHALL BE REPLACED). NEWLY INSTALLED SMOKE ALARMS SHALL HAVE A 10-YEAR-OLD BATTERY.
5. CARBON MONOXIDE ALARMS SHALL BE INSTALLED ON THE CEILING OR WALL (ABOVE THE DOOR HEADER) IN EACH AREA/HALLWAY ADJACENT TO SLEEPING ROOMS, EACH STORY OF THE BUILDING, AND ANY BASEMENT. CARBON MONOXIDE ALARMS ARE NOT REQUIRED IF THERE IS NO FUEL-BURNING APPLIANCES AND WHERE THE GARAGE IS DETACHED FROM THE HOUSE.
6. ALL PROPOSED COMBINATION SMOKE ALARMS/ CARBON MONOXIDE DETECTORS SHALL BE 110V POWERED, INTERCONNECTED WITH A BATTERY BACKUP. INSTALLATION, IF NECESSARY, SHALL COMPLY WITH CRC R314, R314.3, R314.6.2, CBC 907.2.11, CRC 315.1
7. NEW 110V SMOKE DETECTORS WITH BATTERY BACKUP, WHICH ARE AUDIBLE IN ALL SLEEPING AREAS, SHALL BE INSTALLED IN THE FOLLOWING LOCATION: BEDROOMS, HALLWAYS LEADING TO BEDROOMS, ABOVE TOPS OF STAIRS, ANY AREA WHERE CEILING HEIGHT IS OVER 24' ABOVE A HALLWAY CEILING LEADING TO BEDROOMS AND MIN. ONE ON EVERY LEVEL. FOR PLACEMENT OF SMOKE ALARMS AND CARBON MONOXIDE ALARMS IN ROOMS WITH VARIATIONS IN CEILING HEIGHT (SLOPED, FITCHED ETC.), REFER TO THE MANUFACTURER'S GUIDELINES FOR PROPER PLACEMENT
8. ALL CLOSETS TO CEILING TO BE 8'-0" A.F.F., UNLESS NOTED OTHERWISE.
9. PROVIDE SEPARATE CIRCUITS FOR DISPOSAL AND DISHWASHER AND TWO 20-AMP GFCI PROTECTED CIRCUITS IN THE KITCHEN COUNTER AND PENINSULA OUTLETS 2022 CEC 210.52(B) (3)
10. PROVIDE 220 VOLTS, 30 AMP DEDICATED CIRCUIT FOR DRYER PER CEC 220.54
11. PROVIDE 20 AMP BRANCH CIRCUITS AT BATHROOMS
12. PROVIDE GFCI PROTECTED OUTLETS AT 48" MAXIMUM SPACING, 24" FROM ENDS AT KITCHEN COUNTERTOP
13. PROVIDE ELECTRICAL RECEPTACLES AT 12 FEET MAXIMUM SPACING AND 6 FEET FROM DOORS AT BEDROOMS, LIVING ROOM, DINING ROOM AND FAMILY ROOM
14. ALL 120V, 15 AND 20 AMP RECEPTACLES INSTALLED OUTDOOR, IN BATHROOMS, KITCHEN COUNTERTOP AND GARAGE TO BE EQUIPPED WITH GFCI PROTECTION
15. COMBINATION TYPE ARC-FAULT CIRCUIT INTERRUPTER SHALL PROTECT ALL RECEPTACLES IN ALL BEDROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS OR SIMILAR ROOMS OR AREAS WITH BRANCH CIRCUITS THAT SUPPLY 125 VOLT, SINGLE PHASE, 15 AND 20 AMPERE RECEPTACLE OUTLETS 2022 CEC SEC. 210.12(B)
16. ALL RECEPTACLES SHALL BE TEMPER RESISTANT CEC. SEC. 406.11
17. ALL CONCEALED LIGHT FIXTURES WILL BE IC RATED. WHEREVER INSULATION IS REQUIRED, THE HOUSING FOR LUMINAIRES SHALL BE AIRTIGHT AND SHALL NOT HAVE SCREW-BASE SOCKETS. SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE LUMINAIRE HOUSING AND CEILING, SHALL CONTAIN JAB-2016 LIGHT SOURCE OR JAB-2016-E IF ENCLOSED.
18. LIGHTING FIXTURES LOCATED WITHIN 3' HORIZONTAL AND 8' VERTICALLY OF THE BATHTUB RIM OR SHOWER STALL THRESHOLD SHALL BE LISTED FOR DAMP LOCATION, OR LISTED FOR WET LOCATIONS WHERE SUBJECT TO SHOWER SPRAY. (CEC 410.10)
19. CONTRACTOR TO PROVIDE SUBPANEL OF 100A FOR ADU
20. OUTDOOR LIGHTING TO MEET MANUAL AND AUTOMATED CONTROL REQUIREMENTS OF ENERGY CODE SECTION 150.0(k)3
21. PROVIDE A SEPARATED CIRCUIT FOR FAU PER EQUIPMENT SPECIFICATIONS.
22. PROVIDE A SEPARATED 20AMP CIRCUIT FOR LAUNDRY

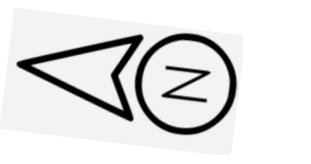
PLUMBING AND MECHANICAL NOTES:

- CAL GREEN 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 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 ALLOW ONLY ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME. NOTE: A HAND-HELD SHOWER SHALL BE CONSIDERED A SHOWERHEAD.
- CAL GREEN 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 80 PSI. THE MINIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT BE LESS THAN 0.8 GALLONS PER MINUTE AT 20 PSI.
- CAL GREEN 4.303.1.4.4 KITCHEN FAUCETS. THE MAXIMUM FLOW RATE OF KITCHEN FAUCETS SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 80 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.
- 1. SHOWER STALLS SHALL HAVE A MINIMUM FINISHED INTERIOR OF 1.024 SQ. IN. BE CAPABLE OF ENCOMPASSING A 30" DIAMETER CIRCLE. ANY DOORS SHALL SWING OUT OF THE ENCLOSURE AND HAVE A MINIMUM OPENING OF 22". CPC 408.5, 408.6
- 2. ALL SHOWERS AND BATHTUBS SPACES WITH INSTALLED SHOWER HEADS TO BE FINISHED WITH A NON ABSORBENT SURFACE EXTENDED NO LESS THAN 6 FEET ABOVE THE FINISHED FLOOR. CRC 2022 SEC R307.4 INCH DRAINAGE PIPE SHALL BE REQUIRED FOR FOUR OR MORE WATER CLOSET FIXTURES ON THE SAME HORIZONTAL BRANCH OR DRAIN. CPC TABLE 703.2
- 3. CUSTOM SHOWERS SHALL COMPLY WITH CRC SEC. R307.2 AND R702.4.2
- 4. WHERE WATER CLOSET (OR OTHER PUMING FIXTURE) COMES IN CONTACT WITH THE WALL OR FLOOR, THE JOINT SHALL BE CAULKED AND SEALED TO BE WATERTIGHT. (CPC 402.2)
- 5. NEW TOILETS SHALL BE 1.28 GALLON PER FLUSH
- 6. LAUNDRY ROOM DOOR SHALL HAVE LOUVERED OPENINGS TO ALLOW A MINIMUM OF 100 SQ. IN. OF CLEAR AREA FOR AIR FLOW
- 7. PROVIDE WATER HAMMER ARRESTORS AT ALL APPLIANCES THAT HAVE QUICK-ACTING VALVES.
- 8. UNDER FLOOR DUCTS, IF ANY, SHALL HAVE CLEARANCES TO EARTH AND NOT PASS THROUGH MINIMUM REQUIRED CRAWL SPACE ACCESS POINTS
- 9. NEW WATER HEATER SHALL BE MOUNTED ON A PLATFORM OR WALL. MINIMUM 18" ABOVE FINISHED FLOOR, MEASURED TO THE FLAME. NEW TANKLESS WATER HEATERS SHALL BE MOUNTED ON EXTERIOR FACE OF WALL.
- 10. PIPE INSULATION: INSTALL ≥1" FOAM INSULATION ON ALL ACCESSIBLE HOT WATER AND RECIRCULATION PIPING WITH A DIAMETER OF ≤1". PIPES OF DIAMETER >1" - <2" TO HAVE INSULATION AT LEAST AS THICK AS THE DIAMETER OF THE PIPE. ≥2" INSULATION ON PIPES ≥2" DIAMETER. INCLUDE INSULATION ON PIPES IN WALLS. INSULATE 5' OF COLD WATER PIPING ADJACENT TO WATER HEATER. (ENERGY CODE § 150 (J) 2; PLUMBING CODE § 609.11).
- 11. CLEANOUTS PLUG (707 CPC): EACH CLEANOUT FITTING FOR CAST-IRON SHALL CONSIST OF A CAST-IRON OR COPPER ALLOY BODY AND AN APPROVED PLUG. EACH CLEANOUT FOR GALVANIZED WROUGH-IRON, GALVANIZED STEEL, COPPER OR COPPER ALLOY PIPE SHALL CONSIST OF A PLUG AS SPECIFIED IN TABLE 707.1 CPC.
- 12. CLEANOUTS LOCATIONS (719 CPC): SHALL BE PLACED INSIDE THE BUILDING NEAR THE CONNECTION BETWEEN THE BUILDING DRAIN AND THE BUILDING SEWER OR INSTALLED OUTSIDE THE BUILDING AT THE LOWER END OF THE BUILDING DRAIN AND EXTENDED TO GRADE.
- 13. ALL CLEANOUTS EXTENDED TO THE EXTERIOR WHEN LOCATED MORE THAN 20' FROM THE CRAWL HOLE.
- 14. PROVIDE A CLEANOUT TO BE 2' OF THE BUILDING FOUNDATION ON THE EXTERIOR OF THE BUILDING.
- 15. ALL NEW HOSE BIBS TO HAVE NON-REMOVABLE BACKFLOW DEVICE.

1 ELECTRICAL & PLUMBING NOTES
1/4" = 1'-0"



2 NEW DETACHED ADU
TWO BEDROOM - TWO BATH
1119 SHIRLEY DR.
Milpitas, CA 95035



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EMAIL: INFO@AKDGROUP.COM
TEL: 510-314-6564

ISSUANCES

No.	Description	Date
1	PLANNING DEPT.	02.9.2024
2	REVISION #1	04.16.2024
3	REVISION #2	6.25.2024

Checked By: JANELLE VARGAS

Janelle Vargas

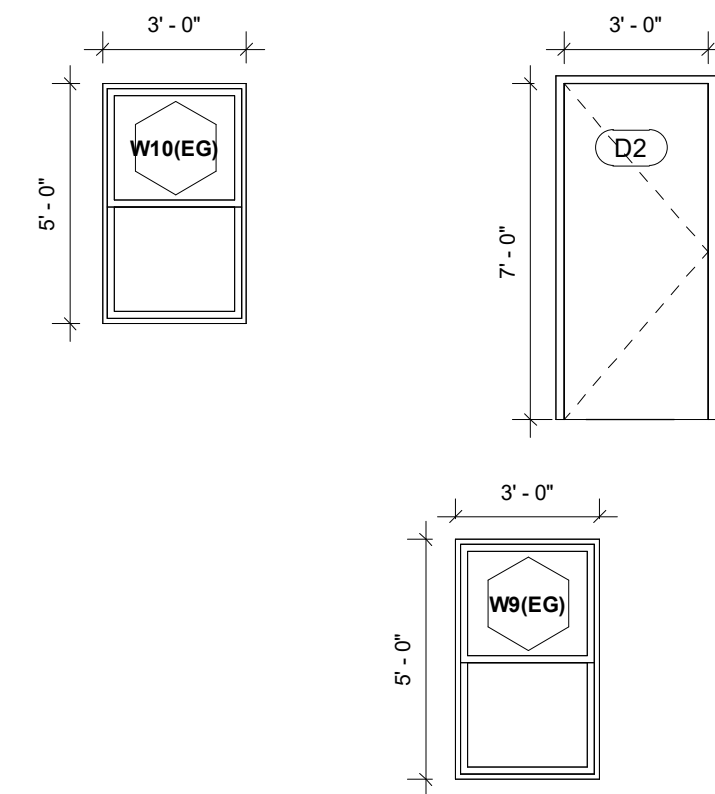
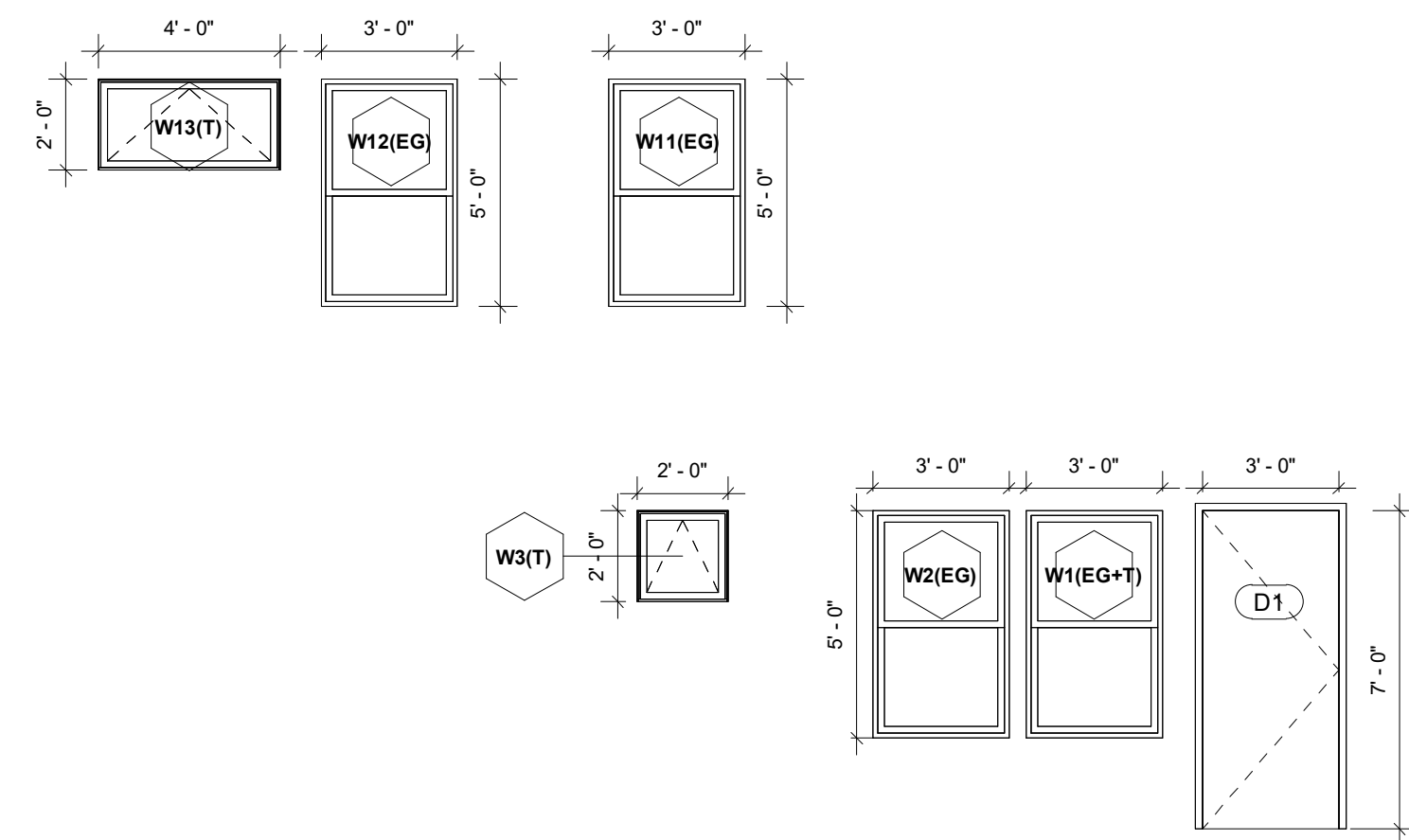
PROPOSED ELECTRICAL PLAN

Drawing Scale: 1/4" = 1'-0"

Job No. PLANS

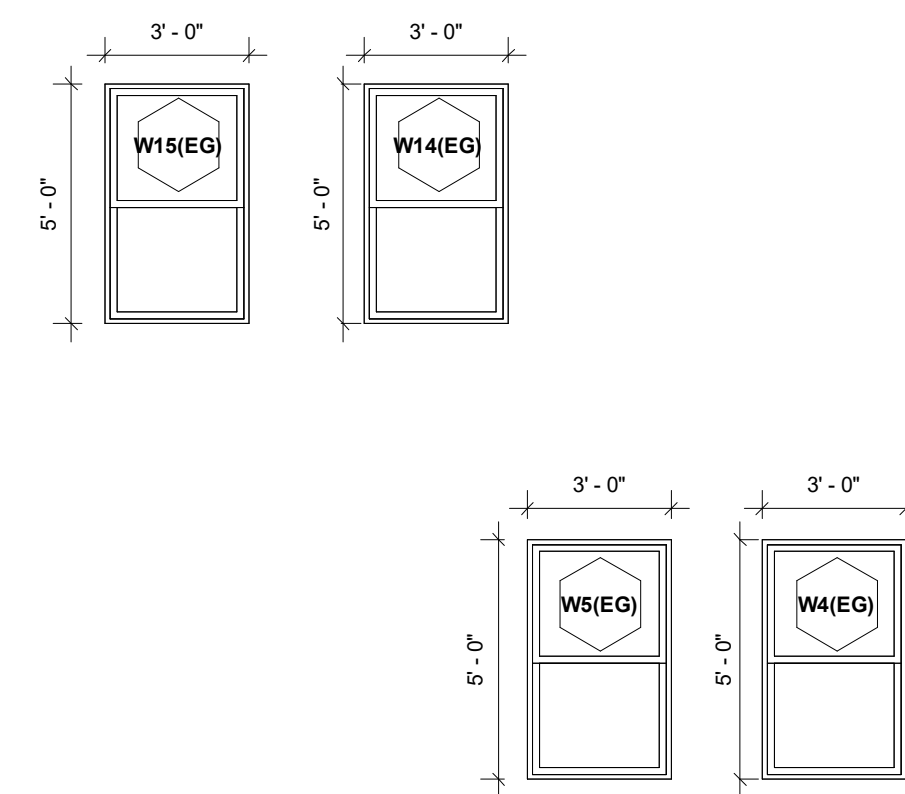
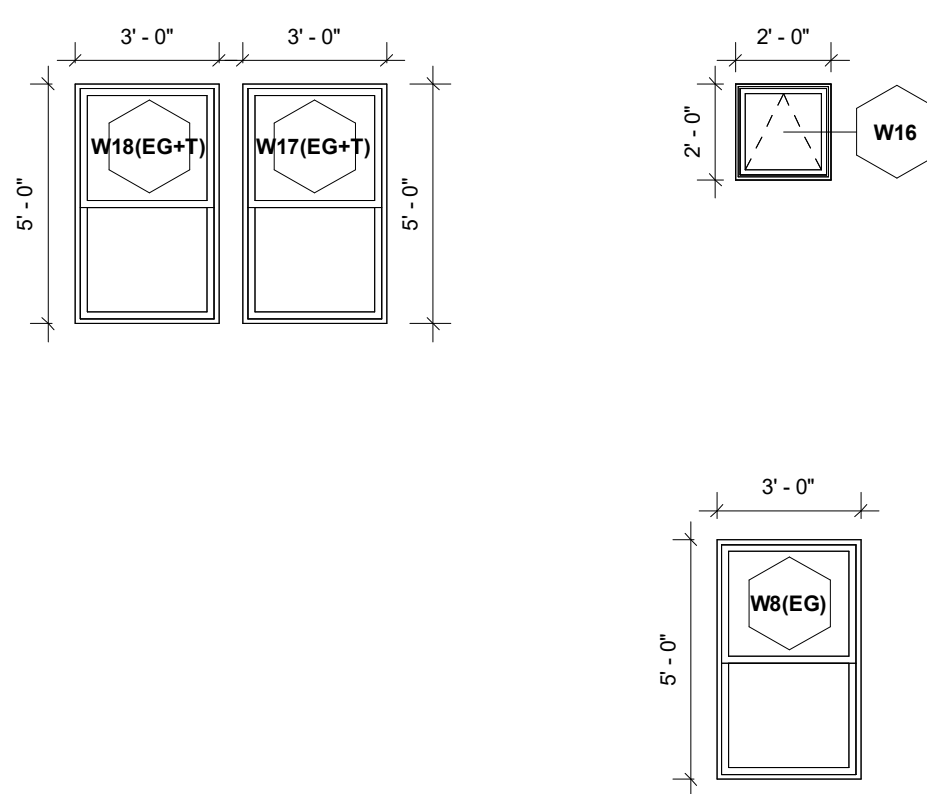
A-5.0

WINDOW SCHEDULE							
MARK	DESCRIPTION	W	H	MANUFACTURER	FINISH	SHGC	U-FACTOR
W1(EG+T)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W2(EG)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W3(T)	AWNING	2' - 0"	2' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W4(EG)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W5(EG)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W6(T)	AWNING	4' - 0"	2' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W7(EG)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W8(EG)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W9(EG)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W10(EG)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W11(EG)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W12(EG)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W13(T)	AWNING	4' - 0"	2' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W14(EG)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W15(EG)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W16	AWNING	2' - 0"	2' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W17(EG+T)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W18(EG+T)	DOUBLE HUNG	3' - 0"	5' - 0"	ANDERSON 100 SERIES	WHITE EXTERIOR / WHITE INTERIOR	.25	0.3
W28		3' - 0"	2' - 0"				
W29		7' - 0"	3' - 0"				
W30		7' - 0"	3' - 0"				



4 Elevation 1 - a
1/4" = 1'-0"

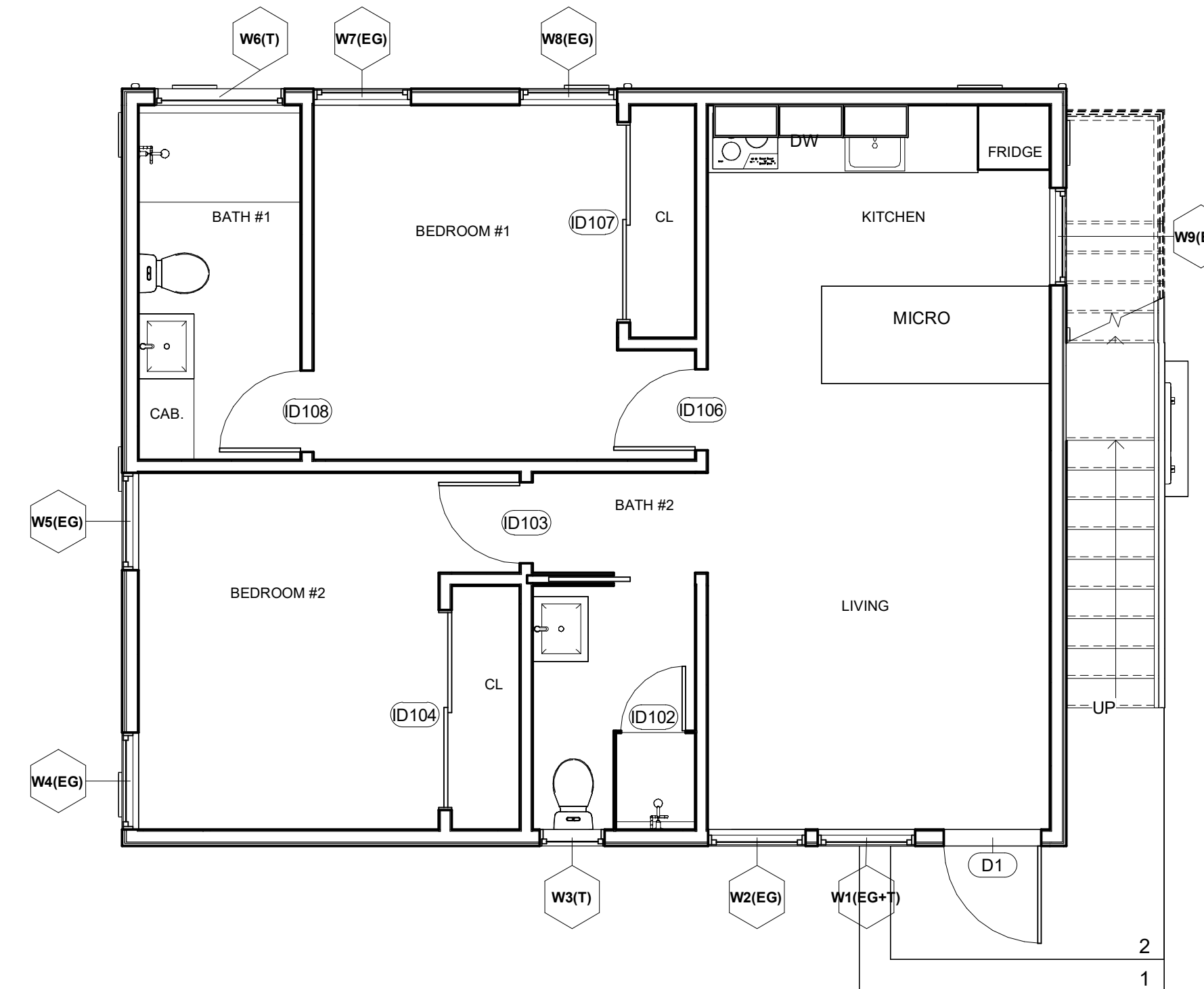
5 Elevation 2 - a
1/4" = 1'-0"



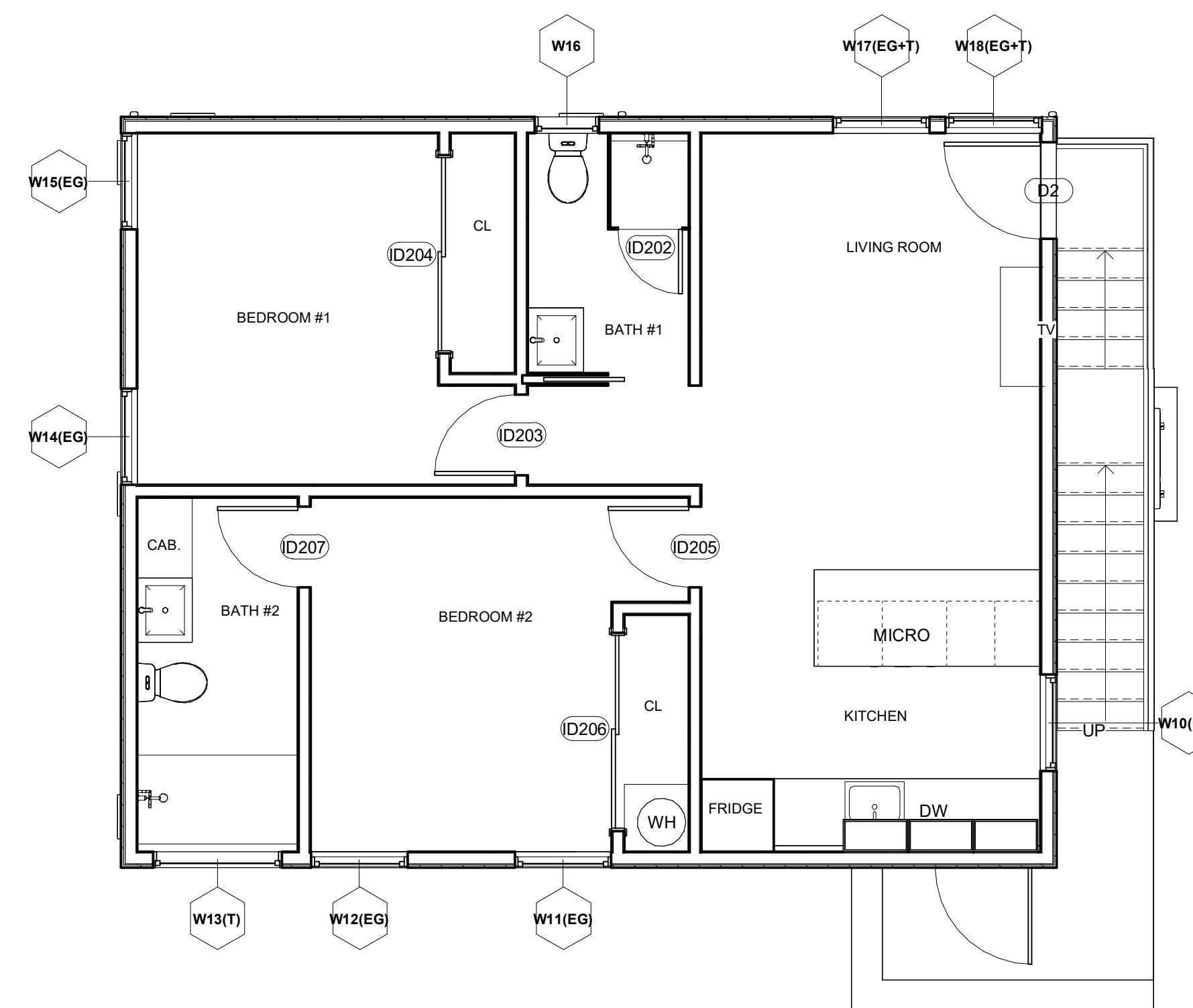
6 Elevation 3 - a
1/4" = 1'-0"

7 Elevation 4 - a
1/4" = 1'-0"

DOOR SCHEDULE							
wt	FUNCTION	Description	Width	Height	Manufacturer	Comments	
D1	Exterior	SWING	3' - 0"	7' - 0"	CUSTOM		
D2	Exterior	SWING	3' - 0"	7' - 0"	CUSTOM		
ID101	Interior	POCKET DOOR	2' - 6"	7' - 0"	MASONITE OR EQUAL		
ID102	Interior	GLASS SHOWER DOOR	2' - 0"	7' - 0"	MASONITE OR EQUAL		
ID103	Interior	SWING	2' - 6"	7' - 0"	MASONITE OR EQUAL		
ID104	Interior	SLIDER	6' - 0"	7' - 0"	MASONITE OR EQUAL		
ID106	Interior	SWING	2' - 6"	7' - 0"	MASONITE OR EQUAL		
ID107	Interior	SLIDER	6' - 0"	7' - 0"	MASONITE OR EQUAL		
ID108	Interior	SWING	2' - 6"	7' - 0"	MASONITE OR EQUAL		
ID201	Interior	POCKET DOOR	2' - 6"	7' - 0"	MASONITE OR EQUAL		
ID202	Interior	GLASS SHOWER DOOR	2' - 0"	7' - 0"	MASONITE OR EQUAL		
ID203	Interior	SWING	2' - 6"	7' - 0"	MASONITE OR EQUAL		
ID204	Interior	SLIDER	6' - 0"	7' - 0"	MASONITE OR EQUAL		
ID205	Interior	SWING	2' - 6"	7' - 0"	MASONITE OR EQUAL		
ID206	Interior	SLIDER	6' - 0"	7' - 0"	MASONITE OR EQUAL		
ID207	Interior	SWING	2' - 6"	7' - 0"	MASONITE OR EQUAL		
ID211	Exterior	SWING	3' - 0"	7' - 0"	CUSTOM		



1 PROPOSED UNIT 1 KEY PLAN
1/4" = 1'-0"



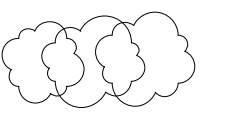
3 PROPOSED UNIT 2 KEY PLAN
1/4" = 1'-0"

NOTE 1: WINDOWS MARKED 'EG' (EGRESS) MUST COMPLY WITH R310 CRC. EMERGENCY ESCAPE AND RESCUE OPENINGS ARE REQUIRED FOR EVERY SLEEPING ROOM AND SHALL HAVE NO LESS THAN ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING.
R310.2.1 CRC: EMERGENCY AND ESCAPE RESCUE OPENING SHALL HAVE A NET CLEAR OPENING OF NOT LESS THAN 5.7 SQUARE FEET (0.530 M²). THE NET CLEAR OPENING DIMENSIONS REQUIRED BY THIS SECTION SHALL BE OBTAINED BY THE NORMAL OPERATION OF THE EMERGENCY ESCAPE AND RESCUE OPENING FROM THE INSIDE. THE NET CLEAR HEIGHT OPENING SHALL BE NOT LESS THAN 24 INCHES (610MM) AND THE NET CLEAR WIDTH SHALL BE NOT LESS THAN 20 INCHES (508 MM).
R310.2.2 CRC: WINDOW SILL HEIGHT: WHERE A WINDOW IS PROVIDED AS THE EMERGENCY ESCAPE AND RESCUE OPENING, IT SHALL HAVE THE BOTTOM OF THE CLEAR OPENING NOT GREATER THAN 44 INCHES (1118 MM) MEASURED FROM THE FLOOR, WHERE THE SILL HEIGHT IS BELOW GRADE, IT SHALL BE PROVIDED WITH A WINDOW WELL IN ACCORDANCE WITH SECTION R310.2.3

NOTE 2: ALL DOORS AND WINDOWS MARKED WITH A 'T' ARE TO HAVE TEMPERED SAFETY GLASS PER SECTION R308.4 CRC AT THE LOCATIONS SPECIFIED AS HAZARDOUS PER SECTION R308.4.1 THROUGH 310.4.7.

Contractor shall confirm the following:
Per California Fire code 2022 / 708A.2.1 Exterior glazed door assemblies shall comply with one of the following requirements:
1. Be constructed of multi-pane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing, or
2. Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257 or
3. Be tested to meet the performance requirements of SFM 12-7A-2.
Per California Fire code 2022 / 708A.3 and 708A.3.1 Solid exterior doors shall comply with the following:
1. The exterior surface or cladding shall be of noncombustible or ignition-resistant material, or
2. Shall be constructed of solid core wood having stiles and rails not less than 1 3/8 inches thick with interior field panel thickness no less than 1 1/4 inches thick, or
3. Shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252.

Exception: Solid doors having a fire-resistance rating of not less than 20 minutes may have untested glazing that complies with section 708A.2.
4. Shall be tested to meet the performance requirements of standard SFM 12-7A-1. 708A.3.1 Exterior door glazing. Glazing in exterior doors shall comply with Section 708A.2.1.



2 NEW DETACHED ADU
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2	REVISION #1	04.16.2024
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Checked By: JANELLE VARGAS

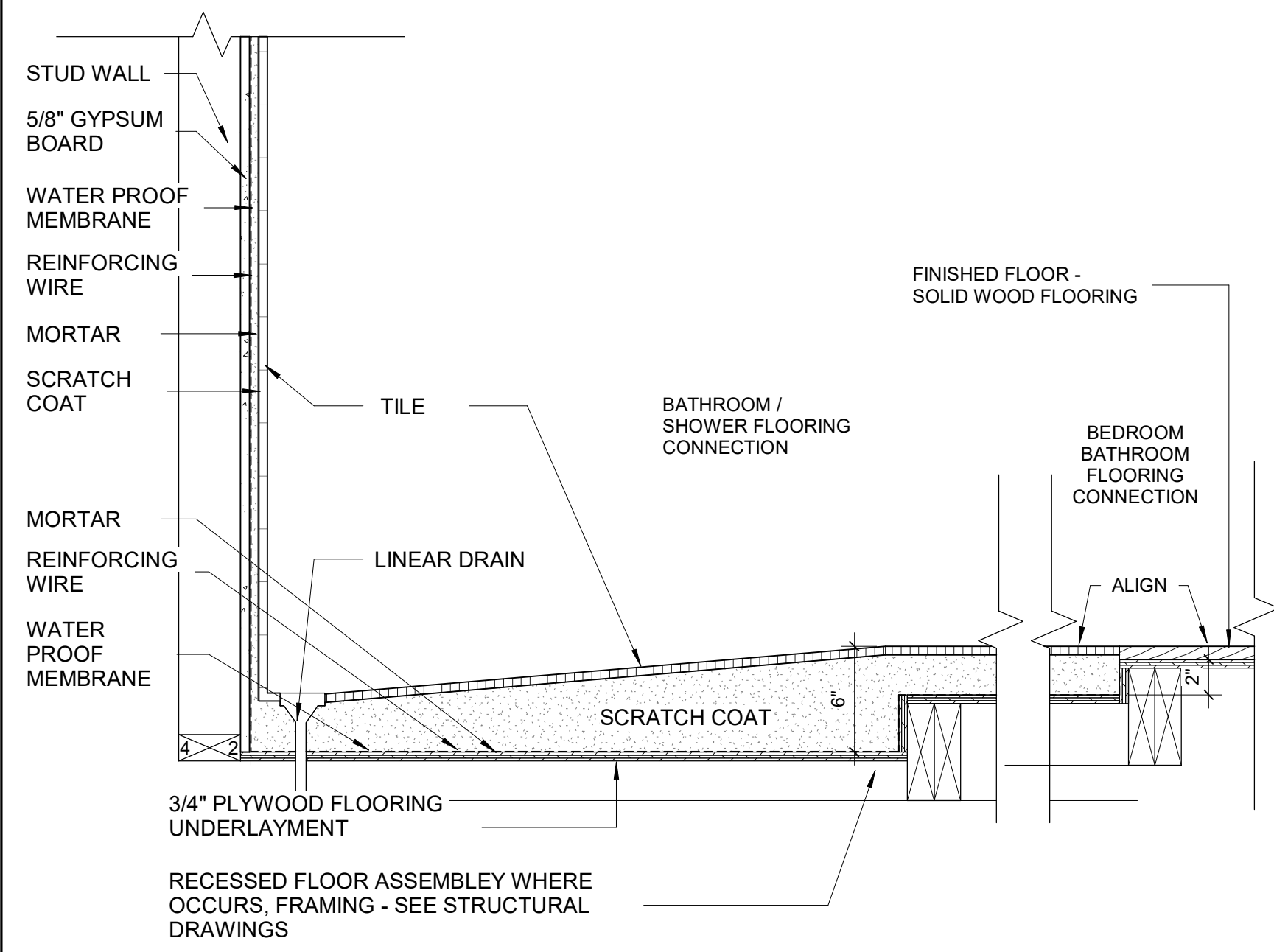
Janelle Vargas

DOOR & WINDOW SCHEDULE

Drawing Scale: 1/4" = 1'-0"

Job No. PLANS

A-6.0



1. DRAINAGE OF 1/2" SLOPE TO THE DRAIN SHALL EXTEND 2' OUTSIDE OF THE SHOWER DOOR.
2. THE ENTIRE FLOOR AREA OF THE BATHROOM SHALL BE TREATED AS A WET AREA W/ WATERPROOF UNDERLAYMENT THRUOUT BATHROOM
3. ALL OUTLETS SHALL BE TREATED AS WET AREAS OUTLETS AND REQUIRE GFI CIRCUIT

4 TYP. RECESSED SHOWER FLOOR / LINEAL DRAIN
1 1/2" = 1'-0"

GA FILE NO. WP 8105	GENERIC	1 HOUR FIRE
GYPSUM WALLBOARD, GYPSUM SHEATHING, WOOD STUDS		
<p>Fire Design: EXTERIOR SIDE: One layer 48" wide 5/8" type X gypsum sheathing applied parallel to 2 x 4 wood studs 24" o.c. with 1-3/4" galvanized roofing nails 4" o.c. at vertical joints and 7" o.c. at intermediate studs and top and bottom plates. Joints of gypsum sheathing may be left untreated. Exterior cladding to be attached through sheathing to studs. INTERIOR SIDE: One layer 5/8" type X gypsum wallboard, water-resistant gypsum backing board, or gypsum veneer base applied parallel or at right angles to studs with 6d coated nails, 1-7/8" long, 0.0915" shank, 1/4" heads, 7" o.c. (LOAD-BEARING)</p>		
<p>Thickness: 4-3/4" without cladding (Fire) Approx. Weight: 6 psf without cladding (Fire) Fire Test: See WP 3510 (UL R3501-47, -48, 9-17-65, UL Design U309, UL R1319-129, 7-22-70, UL Design U314)</p>		

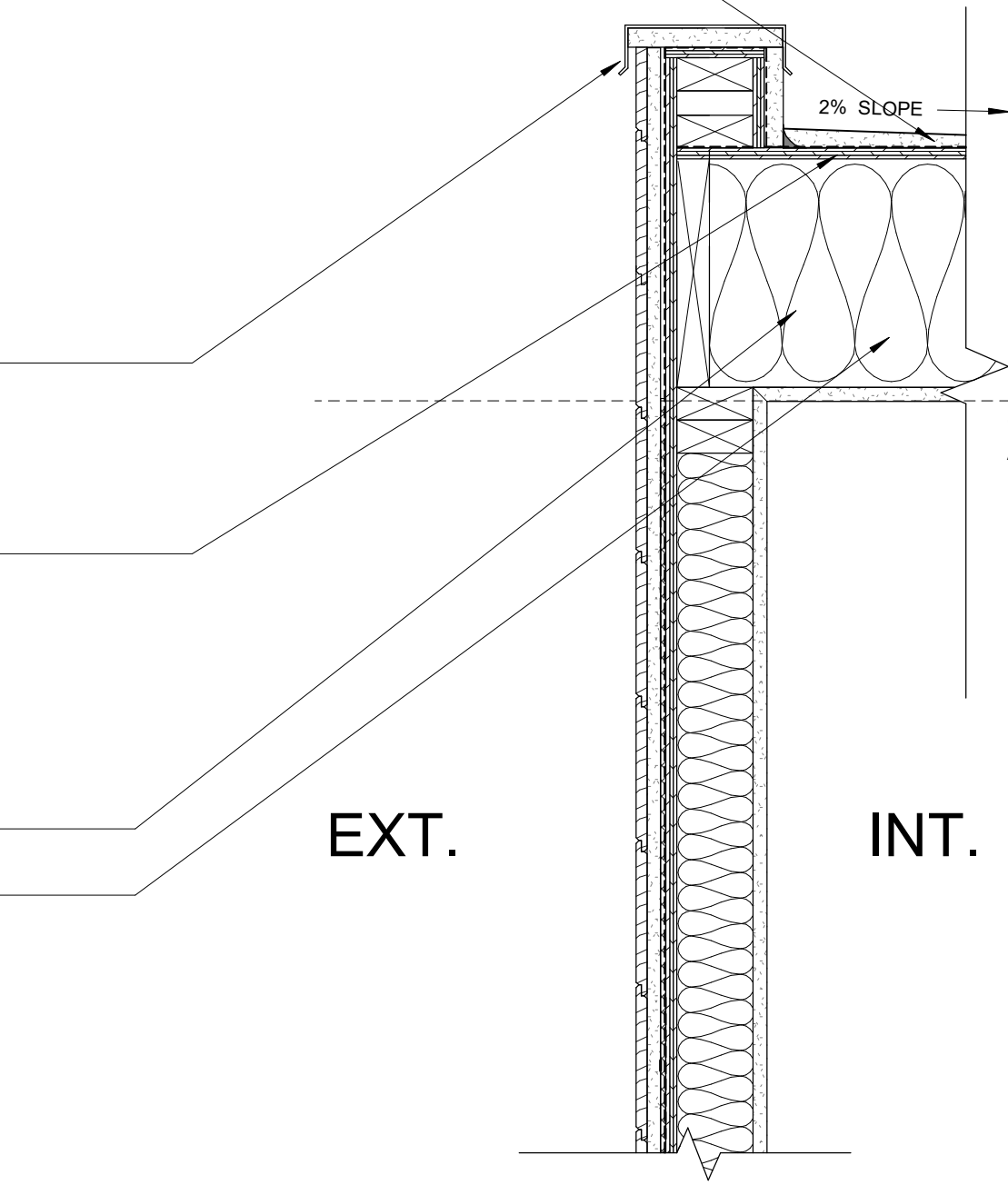
GA FILE NO. WP 8170	PROPRIETARY	1 HOUR FIRE
GYPSUM WALLBOARD, WOOD STUDS, GYPSUM SHEATHING, STUCCO NETTING, STUCCO		
<p>Fire Design: EXTERIOR SIDE: 5/8" proprietary type X gypsum sheathing applied parallel or at right angles to 2 x 4 wood studs 16" o.c. with 1-1/4", Type W screws 8" o.c. Pre-furred wire stucco netting applied over gypsum sheathing with 1-1/4" x 1" steel staples 7" o.c. Portland cement stucco, 3/4", applied over stucco netting. INTERIOR SIDE: One layer 5/8" proprietary type X gypsum wallboard applied parallel or at right angles to studs with 1-1/4" Type W screws 8" o.c. (LOAD-BEARING)</p>		
<p>PROPRIETARY GYPSUM BOARD American Gypsum Company LLC - 5/8" FireBloc® Type X Gypsum Board - 5/8" Type X Exterior Gypsum Sheathing</p>		
<p>Thickness: 6-1/8" (Fire) Approx. Weight: 11 psf (Fire) Fire Test: UL R14196, 4787829354, 02-01-17, UL Design V333</p>		

3 1-HOUR FIRE RATED SPECS
1/4" = 1'-0"

ROOFING MATERIAL AND ASSEMBLY SHALL BE CLASS A FIRE RATED (CRC R327). SPECIFICATION SHALL BE AS FOLLOWED OR EQUAL: GAF / FIREOUT FIRE BARRIER COATING OVER GAF / RUBEROID TORCH SMOOTH BITUMEN MEMBRANE GAF / WORKHORSE ROOFMATCH APP GRANULAR MEMBRANE OVER GAF / GAFGLASS #75 BASE SHEET OVER WATER PROOFING MEMBRANE: Ruberoid Modified Bitumen APP Membranes OVER ROOF DECK.

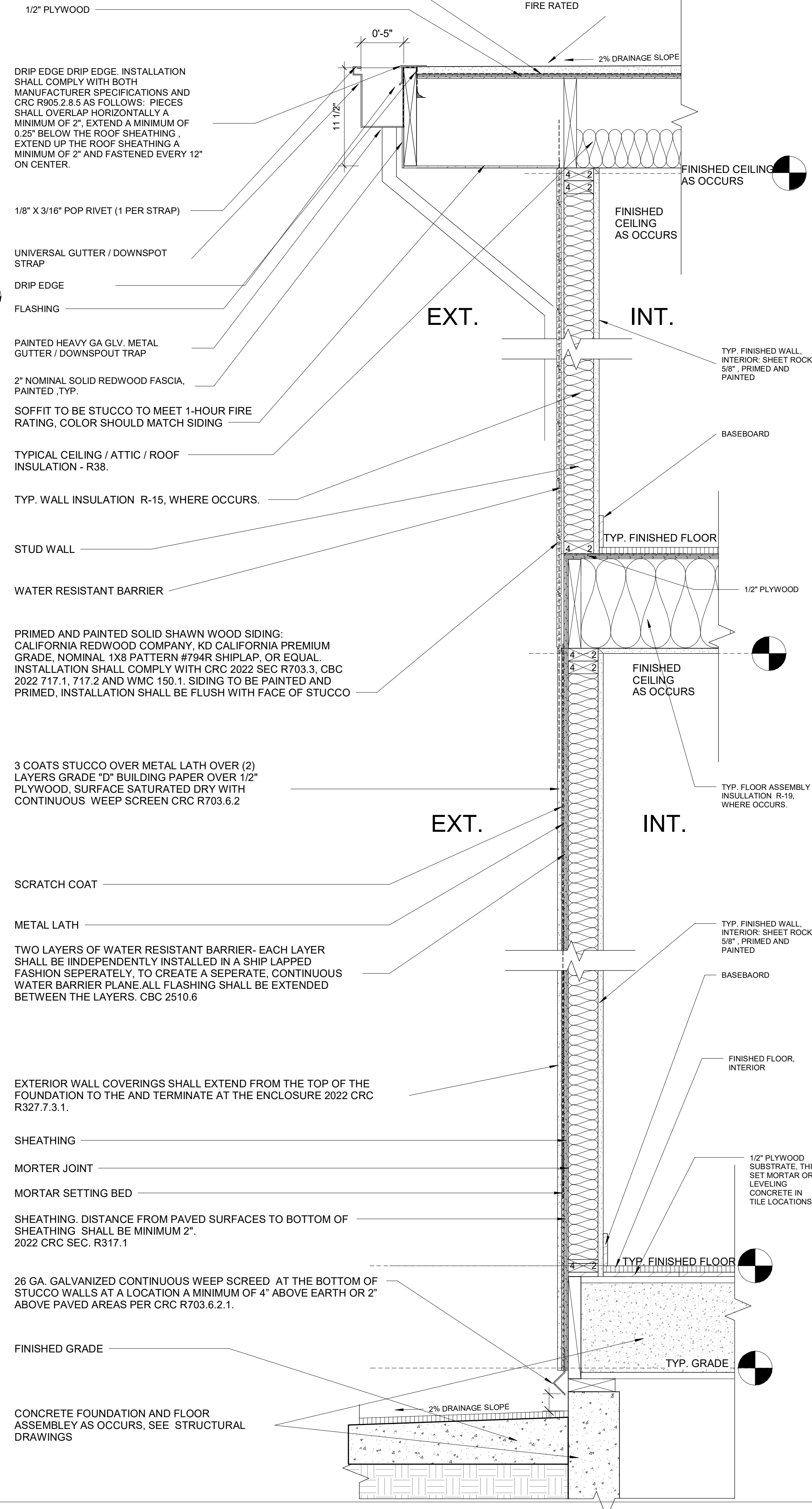
FLASHING - MIN. NO. 26 GAGE GALVANIZED SHEET CORROSION-RESISTANT METAL INSTALLED OVER NOT LESS THAN ON LAYER OF MINIMUM 72-POUND MINERAL-SURFACED NON-PERFORATED CAP SHEET, AT LEAST 36 INCH WIDE RUNNING THE FULL LENGTH OF THE PARAPET PER CRC R327.5.3.

1/2" PLYWOOD SHEATHING
 ROOF RAFTERS, SEE STRUCTURAL DRAWINGS
 TYPICAL CEILING INSULATION - R38



2 TYPICAL SIDING WALL ASSEMBLY AT PARAPET WALL.
1 1/2" = 1'-0"

HEAVY ROOFING FELT PAPER OR WATER VAPOR MEMBRANE
 1/2" PLYWOOD
 DRIP EDGE DRIP EDGE. INSTALLATION SHALL COMPLY WITH BOTH MANUFACTURER SPECIFICATIONS AND CRC R905.2.8.5 AS FOLLOWS: PIECES SHALL OVERLAP HORIZONTALLY A MINIMUM OF 2". EXTEND A MINIMUM OF 0.25" BELOW THE ROOF SHEATHING. EXTEND UP THE ROOF SHEATHING A MINIMUM OF 2" AND FASTENED EVERY 12" ON CENTER.
 1/8" X 3/16" POP RIVET (1 PER STRAP)
 UNIVERSAL GUTTER / DOWNSPOT STRAP
 DRIP EDGE
 FLASHING
 PAINTED HEAVY GA GLV. METAL GUTTER / DOWNSPOUT TRAP
 2" NOMINAL SOLID REDWOOD FASCIA, PAINTED, TYP.
 SOFFIT TO BE STUCCO TO MEET 1-HOUR FIRE RATING, COLOR SHOULD MATCH SIDING
 TYPICAL CEILING / ATTIC / ROOF INSULATION - R38.
 TYP. WALL INSULATION R-15, WHERE OCCURS.
 STUD WALL
 WATER RESISTANT BARRIER
 PRIMED AND PAINTED SOLID SHAWN WOOD SIDING: CALIFORNIA REDWOOD COMPANY, KD CALIFORNIA PREMIUM GRADE. NOMINAL 1X8 PATTERN #794R SHIPLAP. OR EQUAL. INSTALLATION SHALL COMPLY WITH CRC 2022 SEC R703.3, CBC 2022 717.1, 717.2 AND WMC 150.1. SIDING TO BE PAINTED AND PRIMED, INSTALLATION SHALL BE FLUSH WITH FACE OF STUCCO
 3 COATS STUCCO OVER METAL LATH OVER (2) LAYERS GRADE "D" BUILDING PAPER OVER 1/2" PLYWOOD, SURFACE SATURATED DRY WITH CONTINUOUS WEEP SCREEN CRC R703.6.2
 SCRATCH COAT
 METAL LATH
 TWO LAYERS OF WATER RESISTANT BARRIER- EACH LAYER SHALL BE INDEPENDENTLY INSTALLED IN A SHIP LAPPED FASHION SEPERATELY, TO CREATE A SEPERATE, CONTINUOUS WATER BARRIER PLANE. ALL FLASHING SHALL BE EXTENDED BETWEEN THE LAYERS. CBC 2510.6
 EXTERIOR WALL COVERINGS SHALL EXTEND FROM THE TOP OF THE FOUNDATION TO THE AND TERMINATE AT THE ENCLOSURE 2022 CRC R327.7.3.1.
 SHEATHING
 MORTER JOINT
 MORTAR SETTING BED
 SHEATHING. DISTANCE FROM PAVED SURFACES TO BOTTOM OF SHEATHING SHALL BE MINIMUM 2". 2022 CRC SEC. R317.1
 26 GA. GALVANIZED CONTINUOUS WEEP SCREED AT THE BOTTOM OF STUCCO WALLS AT A LOCATION A MINIMUM OF 4" ABOVE EARTH OR 2" ABOVE PAVED AREAS PER CRC R703.6.2.1.
 FINISHED GRADE
 CONCRETE FOUNDATION AND FLOOR ASSEMBLY AS OCCURS, SEE STRUCTURAL DRAWINGS



7 TYPICAL SIDING/STUCCO WALL ASSEMBLY
1 1/2" = 1'-0"

AKD homes

2 NEW DETACHED ADU
 TWO BEDROOM - TWO BATH
 1119 SHIRLEY DR.
 Milpitas, CA 95035

ACCESSORY DWELLING UNITS

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Checked By: JANELLE VARGAS

Janelle Vargas

DETAILS

Drawing Scale: As indicated
 Job No. PLANS

A-7.0

Master Safety Caps For Chimneys

Safety Caps for chimneys provide protection against dangerous sparks while reducing downdrafts, clogging, soot, and creosote build-up. They also protect against animal and bird infestation, and deflect other debris and rain from entering the chimney. All Master Flow Safety Caps feature:

- Superior Design... Single piece, heavy gauge hood for longer life and less chance for leaks
- Long-Lasting Construction... No rivets or seams to rust or corrode
- Great Looks... Epoxy powder finish provides long lasting protection (note: stainless steel safety cap is unpainted)
- Quick, Easy Installation... Using only a screwdriver
- Appropriate Code Approval... Meets most fire codes



Model No.	File Size	File Color	Dimensions/Shape	Model No.	File Size	File Color	Dimensions
CS1313SS LKSS	11 1/2" x 11 1/2"	13 1/2" x 13 1/2"	Log Kit	CS09	7 1/2" x 7 1/2"	9 1/2" x 9 1/2"	8" x 8" Flat 12" O.D. Round
CS1313	7 1/2" x 11 1/2"	9 1/2" x 13 1/2"	Log Kit	CS1313	11 1/2" x 11 1/2"	13 1/2" x 13 1/2"	8" O.D. Round thru 12" O.D. Round

Foundation Vents

POWER

- Removes damaging moisture - helps prevent structural decay and mold growth
- Fits in traditional foundation vent openings, with simple plug and go operation
- Up to 330 CFM/airflow to eliminate moisture during peak times
- Tested and approved by independent laboratories

PFV1

Automatic

- Automatically opens at 70°F, closes at 40°
- Helps prevent foundation decay
- Lowest risk of frozen pipes
- Replaces manual vent
- Snap-in installation
- Saves energy

PFV1

Grate Style

- Designed for routing to floor joists or as a foundation block replacement

LW1/LW1L

Cover

- Easy to mount over any 16"x8" foundation vent

FVC168

Block Style

- Aluminum vents; lintel not required
- For block, brick or frame construction
- Recommended for high level ventilation

BVSII

Model No.	Style	Color	Construction	Description	N.F.V.A. (Sq. Ft.)
PFV1	Power	Black	Hi-Density Polyethylene	16" x 8" 330CFM 1yr. lfd. warranty	57
PFV1	Automatic	Black	Hi-Density Polyethylene	16" x 8"	57
PFV1	Grate	Mill	Die-cast aluminum	With lintel & damper - 16" x 8"	28
BVSII	Block	Mill	Galv. Steel/Alum.	Non-pipe boxes - 16"x8"x8" deep	18
LW1	Grill	Mill	Die-cast aluminum	With damper - 16" x 8"	50
LW1L	Grill	Mill	Die-cast aluminum	With TV lintel & damper - 16" x 8"	50
FVC168	Cover	Mill	Aluminum	Cover - Fits most sizes	-

- NOTES:**
- OPENING UNDER FLOOR ARE REQUIRES A MINIMUM OF ONE SQUARE FOOT OF VENTILATION FOR EACH 150 SQUARE FOOT OF UNDER FLOOR SPACE
 - OPENINGS ARE REQUIRED TO BE SPACED SO AS TO PROVIDE CROSS VENTILATION OF THE UNDER FLOOR SPACE
 - VENTILATION OPENINGS SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING CRC 2022 SEC R408.1 SEE FLOOR PLAN FOR LOCATION
 - THERE ARE SIX DIFFERENT OPTIONS FOR OPENING COVERINGS: PERFORATED SHEET METAL PLATES, EXPANDED SHEET METAL PLATES, CAST IRON GRILLES, EXTRUDED LOAD BEARING VENTS, HARDWARE CLOTH AND CORROSION RESISTANT WIRE MESH ARE ACCEPTABLE MATERIALS CRC R2013 SEC. R408.2
 - CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL FOUNDATION VENT PER MANUFACTURER SPECIFICATIONS.

1 FOUNDATION VENT ESPECIFICATION. 1/4" = 1'-0"

Two Innovative Technologies. One Roofing Solution.

Granule-Surfaced Self-Adhering Membrane

LIBERTY
SBS Self-Adhering Roofing System

Smooth-Surface Self-Adhering Membrane

FreedomTPO

No Fumes... Eliminates fumes and odors caused by hot asphalt or solvent-based adhesives.

Safe... Eliminates the need for open flames.

Quicker Installation... Eliminates the need for conventional systems, with minimal setup or cleanup time.

Flexible Color Choices... Available in a wide range of colors to match your building's exterior color shown at right.

Free 14 Year Warranty Against Material Defects... For up to 14 years.

Optional Guarantee Against Defects to Materials And Workmanship... Up to 12-year protection against material and workmanship defects, including labor and materials disposal (if necessary).

Available in Heat-weld or FastSeam Technology

No Fumes... Eliminates the fumes and odors caused by hot asphalt or solvent-based adhesives.

Safe... Eliminates the need for open flames.

Quicker Installation... Eliminates the need for conventional systems, with minimal setup or cleanup time.

ENERGY STAR Qualified... To help you save on energy costs (2.5% off).

Free 14 Year Warranty Against Material Defects... For up to 14 years.

Optional NRC Guarantee Against Defects to Materials And Workmanship... Up to 12-year protection against material and workmanship defects, including labor, and material disposal (if necessary).

GAF

EverGuard

60 MIL Single-Ply TPO Roofing Membrane

Get Easy Pro Installation (/roofing/contractors)

Suitable for use in all types of single-ply systems: Mechanically Attached, Fully Adhered, and Ballast Applied.

EverGuard® TPO 60 Mil Membrane

- Why TPO?**
- Great Value** — Excellent performance at a cost-effective price
 - Excellent Seam Strength** — Heat-welded seams provide greater seam strength to lap and other seams
 - Long-term Weathering** — Excellent long-term heat and UV resistance
 - Energy Saving** — Highly reflective and emissive white roof can help reduce energy costs and urban heat island effect
 - CREST Energy Savings Calculator** — See your potential savings at cool.gaf.com
 - Versatile Application Method

- Why GAF EverGuard® TPO?**
- Outperforms standard TPO in heat aging and UV tests—the best predictors of TPO performance
 - Independent TPO Study proves EverGuard® TPO 60 mil Membrane is the best standard TPO in accelerated aging. View the key finding and full study (/Roofing/Commercial/Products/Single_Ply_Roofing/EverGuard_TPO_Single_Ply_Membranes/TPO_Results) here.
 - After accelerated heat aging at 275°F (135°C) for 112 days, EverGuard® TPO showed no cracking—while every one of the competitor samples had failed!
 - UV testing—Greater than 2.5 times the industry standard (ASTM D6878 weather resistance test)
 - Guarantees are available up to 25 years when using EverGuard® TPO 60 mil Membrane.*
 - Easier to install due to:
 - Large welding window
 - Most complete line of accessories
 - 10' (3.05 m) wide sheets

- Installation**
- EverGuard® TPO 60 mil Membrane is suitable for all types of single-ply systems:
- Mechanically Attached Application...** for a quick and cost-effective system that can be installed practically year-round.
 - RhinoBond® Application...** can be applied without using adhesives and installed practically year-round. Qualifies for the same guarantee length as an adhered system.*
 - Adhered Application...** can be installed with EverGuard® 1121 Bonding Adhesive (solvent based), EverGuard® Low VOC Adhesive, or EverGuard® W8181 Bonding Adhesive (water based) for the smoothest appearance. Provides excellent wind uplift performance.

Application

Field fabrication of TPO accessories is time-consuming, costly, and inconsistent, and can lead to unreliable details that compromise a watertight roofing system. EverGuard® TPO prefabricated accessories deliver consistent quality and eliminate the worry and problems often associated with field fabrication. They can also boost productivity up to 200%,** while reducing installed cost by up to 12%.

- Sustainability**
- GAF's sustainability credentials include:
- NSF/ANSI 347** — Providing architects and contractors with a certified sustainable option for single-ply roofing membranes
 - UL Landfill Waste Diversion Validation** — Zero Waste to Landfill (Mt. Vernon TPO Plant)
 - HPDs** — Only single-ply roofing manufacturer that publishes Health Product Declarations (HPDs) for transparent reporting and LEED® v4 compliance
 - EPDs** — Publishes Environmental Product Declarations (EPDs) for Single-Ply Roofing Membranes

Applicable Standards

UL approved for use in the construction of Class A, B, or C roofs; FM Approved, ASTM D6878, Title 24 Compliant, Miami-Dade County Product Control Approved, Florida Building Code Approved, ENERGY STAR® Certified.*

Physical Properties	ASTM Test Method	ASTM D6878 Minimum	EverGuard® Typical Test Data
Nominal Thickness	ASTM D751	0.039" (min.) [0.99 mm]	0.060" [1.52 mm]
Breaking Strength	ASTM D751 Grab Method	220 lbf/m. [38.5 kn/m]	305 lbf x 290 lbf [454 x 432 kg/m]

1. Certain data is provided in MD (machine direction) x CMD (cross machine direction) format.

2. Data is based upon typical product performance, and is subject to normal manufacturing tolerance and variance.

2 ROOFING MATERIAL SPECIFICATIONS TPO.1 NOT TO SCALE

EverGuard® TPO 60 mil Membrane

Applicable Standards

UL Listed, FM Approved, Miami-Dade County Approved, Florida Building Code Approved, CRRC Listed, Title 24 Compliant*, ENERGY STAR® Qualified**, ASTM D6878.

Physical Properties	ASTM Test Method	ASTM D6878 Minimum	EverGuard® Typical Test Data
1. Certain data is provided in MD (machine direction) x CMD (cross machine direction) format. 2. Data is based upon typical product performance, and is subject to normal manufacturing tolerance and variance.			
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Breaking Strength	ASTM D751 Grab Method	220 lbf/m. [38.5 kn/m]	305 lbf x 290 lbf [454 x 432 kg/m]
Factory Seam Strength	ASTM D751	66 lbf [98.34 kg/m]	135 lbf [membrane failure] [201.1 kg/m]
Elongation at Break	ASTM D751	15%	30%
Heat Aging	ASTM D573	90% Retention of Breaking Strength and Elongation at Break	100%
Tear Strength	ASTM D751 8" x 8" [203 x 203 mm] Sample	55 lbf [81.95 kg/m]	75 lbf x 130 lbf [111.8 x 193.7 kg/m]
Puncture Resistance	FTM 101C Method 2031	Not Established	380 lbs. [172 kg]
Cold Brittleness	ASTM D2137	-40°C	-40°C
Permeance	ASTM E96	Not Established	0.08 perms
Dimensional Change	ASTM D1204 @ 158°F [70°C], 6 hrs.	+/-1%	0.4%
Water Absorption	ASTM D471 @ 158°F [70°C], 1 week	+/-3.0%	0.7%
Hydrostatic Resistance	ASTM D751 Method D	Not Established	430 psi
Ozone Resistance	ASTM D1149	No visible deterioration @ 7x magnification	No visible deterioration @ 7x magnification
Reflectivity (white) Initial/Aged	ASTM C1549	N/A	0.76/0.68
Emissivity (white) Initial/Aged	ASTM C1321	N/A	0.90/0.83
Weather Resistance	ASTM G155/D6878	10,080 KJ/(m ² .mm) at 340 nm	>25,000 KJ/(m ² .mm) at 340 nm
Heat Aging	ASTM D573	240° F [115°C] for 32 weeks	60 weeks
Thickness Above Scrim	ASTM D7635	Min 90% of Total Thickness	22.1" [561 mm] [Nominal]

Guarantee
Up to 25 years

*White, Energy Gray, and Energy Tan Membranes Only

**ENERGY STAR® only valid in the USA

Product Data

Note: Product sizes, dimensions, and widths are nominal values and are subject to normal manufacturing/packaging tolerance and variation.

Roll Size	Colors	Full Size Roll	Full Roll Weight	Half Roll Size	Half Roll Weight
10' x 100' (3.05 x 30.5 m) [1,000 sq. ft. [92.9 sq.m]]	White, Tan, Gray, Energy Tan, Energy Gray	322 lbs. [146 kg]	322 lbs. [146 kg]	5' x 100' (1.52 x 30.5 m) [500 sq. ft. [46.5 sq.m]]	162 lbs. [73.5 kg]
	8' x 100' (2.44 x 30.5 m) [800 sq. ft. [74.3 sq.m]]	257 lbs. [117 kg]	257 lbs. [117 kg]	4' x 100' (1.21 x 30.5 m) [400 sq. ft. [37.1 sq.m]]	128.8 lbs. [58.4 kg]

Note: Membrane rolls shipped horizontally on pallets, stacked pyramid-style and banded.

Storage
Store rolls on their sides on pallets or shelving in a dry area.

Safety Warning
Membrane rolls are heavy. Position and install by at least two people.

GAF Quality You Can Trust... From North America's Largest Roofing Manufacturer!

©2015 GAF 9/15 #342

gaf.com

Factory Seam Strength	ASTM D751	66 lbf [98.34 kg/m]	135 lbf [membrane failure] [201.1 kg/m]
Elongation at Break	ASTM D751	15%	30%
Heat Aging	ASTM D573	90% Retention of Breaking Strength and Elongation at Break	100%
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Water Absorption	ASTM D471 @ 158° F [70° C], 1 week	+/-3.0%	0.7%
Hydrostatic Resistance	ASTM D751 Method D	Not Established	430 psi
Ozone Resistance	ASTM D1149	No visible deterioration @ 7x magnification	No visible deterioration @ 7x magnification
Reflectivity (white) Initial/Aged	ASTM C1549	N/A	0.76/0.68
Emissivity (white) Initial/Aged	ASTM E408	N/A	0.90/0.83
Weather Resistance	ASTM G155/D6878	10,080 KJ/(m ² .mm) at 340 nm	>25,000 KJ/(m ² .mm) at 340 nm
Heat Aging	ASTM D573	240° F [115° C] for 32 weeks	60 weeks
Thickness Above Scrim	ASTM D7635	Min 90% of Total Thickness	22.1" [561 mm] [Nominal]

Guarantee
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Product Data

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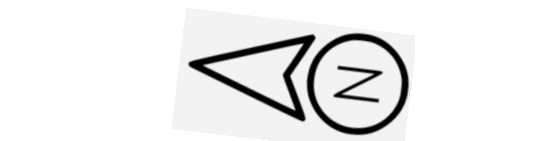
Note: Membrane rolls shipped horizontally on pallets, stacked pyramid-style and banded.

Storage
Store rolls on their sides on pallets or shelving in a dry area.

Safety Warning
Membrane rolls are heavy. Position and install by at least two people.



2 NEW DETACHED ADU
TWO BEDROOM - TWO BATH
1119 SHIRLEY DR.
Milpitas, CA 95035



ACCESSORY DWELLING UNITS

WWW.AKDHOUSES.COM
EMAIL: INFO@AKDHOUSES.COM
TEL: 510-314-6564

ISSUANCES

No.	Description	Date
1	PLANNING DEPT.	02.9.2024
2	REVISION #1	04.16.2024
3	REVISION #2	6.25.2024

Checked By: JANELLE VARGAS

Janelle Vargas

SPECIFICATIONS

Drawing Scale: NOT TO SCALE

Job No. PLANS

A-8.0

Pioneer Multi 27000 BTU 3 Ton 22 SEER Triple (3) Zone Wall Mount Air Conditioner Heat Pump Ductless Mini Split, 208/230 V

★★★★★ (17) Questions & Answers (121)



Hover image to Zoom

Product Details

Pioneer brand multi split heat pump system, complete set. System components include: one multi zone outdoor unit, matching multiple wall mount indoor units, piping and accessory kits and remote controllers. Pioneer multi split systems are available in 4 versions; for 2, 3, 4 and 5 zones.

- Ultra-high efficiency inverter++ ductless multi split trio (3) zone heat pump system
- (x3) Inside unit cooling capacity: 12,000 BTU/H nominal capacity, condensing system 27000 BTU/H (Range:6,630 minimum - 30,600 maximum) with 22.5 SEER/12 EER efficiency
- Heating capacity:28,000 BTU/H nominal (range 3,690 minimum - 32,860 maximum) with 10.2 HSPF efficiency
- Voltage: 208 - 230-Volt, 60 hertz, 1 phase (standard household 2 line power, 11-12-g)
- Complete system set including: indoor (fan coil) section, outdoor (condenser) section, wireless remote controller with optional wi-fi, 16 ft. L line set with other installation accessories
- Unsurpassed support hotline covering installation, use, troubleshooting, warranty and parts issues
- Low ambient system can heat down to -13°F ambient outdoor temperatures
- Pioneer is the best choice for pros and homeowners with the highest ratings for consumer satisfaction
- Certified by: ETL, AHRI, DOE for safety, performance and efficiency
- Built with the latest technologies using pulse width modulation driven DC inverter compressor and variable speed DC inverter fan motors for high performance and low power consumption
- Click here for more information on Electronic Recycling Programs
- Return Policy
- California residents see Prop 65 WARNINGS

ATMO™150H Fresh Air Appliance
Item #: 463888



Description

ATMO 150H Fresh Air Appliance continuously supplies 150 cfm of fresh, filtered air while removing an equal amount of stale air. Controlled ventilation ensures home occupants receive the highest level of comfort. Up to 75% of the heat in the extract air is recovered by the heat exchanger and used to pre-heat the fresh air coming from outside.

- Side port 6" duct connection
- Up to 150 cfm @ 0.4 in wg
- Integrated air balancing taps
- Multi-speed operation
- Automatic defrost
- External electrical box
- Lightweight

ATMO 150H is designed for high static pressure applications that demand high...
Find more details in our online catalogue

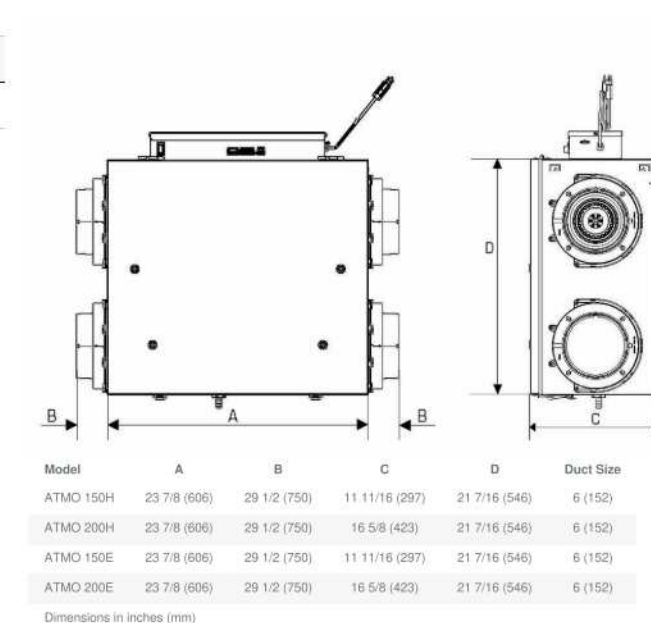
Technical parameters

Product	
Voltage (nominal)	120 V
Phases(s)	1-
Input power	168 W
Input current	1.4 A
Air flow	max 162 cfm
Static pressure	0.4 in.wg
Certificate	HVI, CSA
Exchanger	
Exchanger type	Cross flow
Dimensions and weights	
Weight	48.5 lb
Used for	
Installation placement	Vertical

Performances

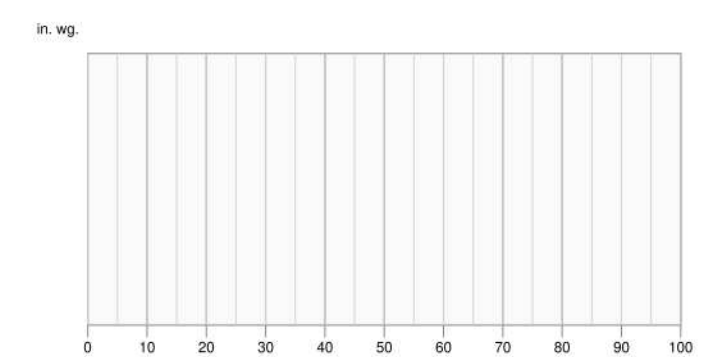
Model	Supply Air Flow (CFM)	Supply Air Temp (°F)	Exhaust Air Temp (°F)	Supply Air Humidity (%)	Exhaust Air Humidity (%)	Supply Air Pressure (in.wg)	Exhaust Air Pressure (in.wg)
ATMO 150H	150	75	81	0.15	81		
ATMO 200H	200	75	78	0.01	78		
ATMO 300H	300	75	75	0.01	75		
ATMO 400H	400	80	80	0.02	80		

Dimensions

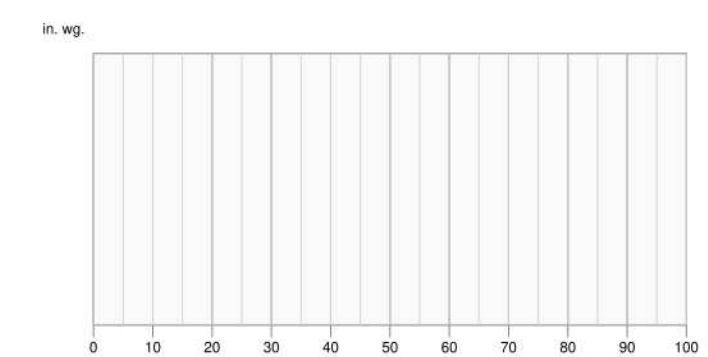


Item name: ATMO™150H Fresh Air Appliance | Product link: <https://shop.fantech.net/en-US/product/Permalink?ps=747376> | Item #: 463888 | Document type: Product card | Created on: 2022-03-30 | Generated by: Fantech Online Catalogue | Language: English

Supply - Performance curve



Extract - Performance curve



Unit	Supply	Extract
Required air flow	-	-
Working air flow	-	-
Required external pressure	-	-
Working air pressure	-	-
Power	-	-
Current	-	-
Air density	-	0.075 lb/ft³
Fan control - RPM	-	-

Accessories

Contractor Commissioning Kit (463811)	ECO Flex® Auto IQD Control (414729)
ECO Touch® Auto IQD (414727)	RTS-W Wireless Timer (414802)
COMPS Supply and Exhaust Hoods (40222)	FDT 6 Insulated Flex Duct (411054)
MGE 4 Metal Exhaust Grill (411106)	MGS 4 Metal Supply Grill (411388)

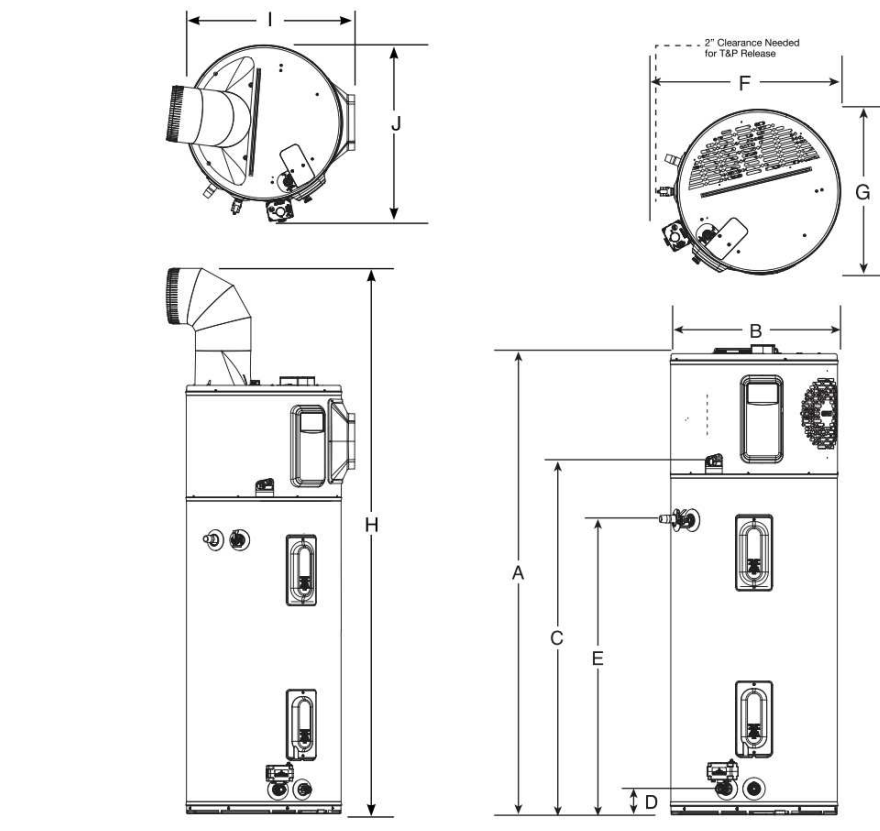
Documents

E1091 HSPD ATMO Brochure.pdf
463913 ATMO IOM EN FR.pdf
463949 ATMO 150H Spic Sheet.pdf

Item name: ATMO™150H Fresh Air Appliance | Product link: <https://shop.fantech.net/en-US/product/Permalink?ps=747376> | Item #: 463888 | Document type: Product card | Created on: 2022-03-30 | Generated by: Fantech Online Catalogue | Language: English

Professional Prestige® ProTerra Hybrid Specifications

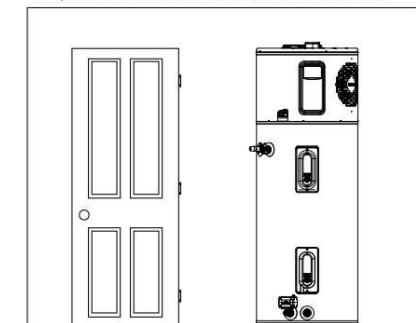
Model	Capacity (Gallon)	Model	Capacity (Gallon)	Energy Input (kW)	Energy Output (kW)	Energy Efficiency (EER)	Energy Efficiency (SEER)	Energy Efficiency (HSPF)	Energy Efficiency (COP)	Energy Efficiency (AFUE)	Energy Efficiency (APF)	Energy Efficiency (EER)	Energy Efficiency (SEER)	Energy Efficiency (HSPF)	Energy Efficiency (COP)	Energy Efficiency (AFUE)	Energy Efficiency (APF)
40	36	PROTH40	40	3.75	3.14	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000
50	45	PROTH50	50	3.75	3.14	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000
60	54	PROTH60	60	3.88	3.14	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000
72	66	PROTH72	72	4.00	3.14	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000



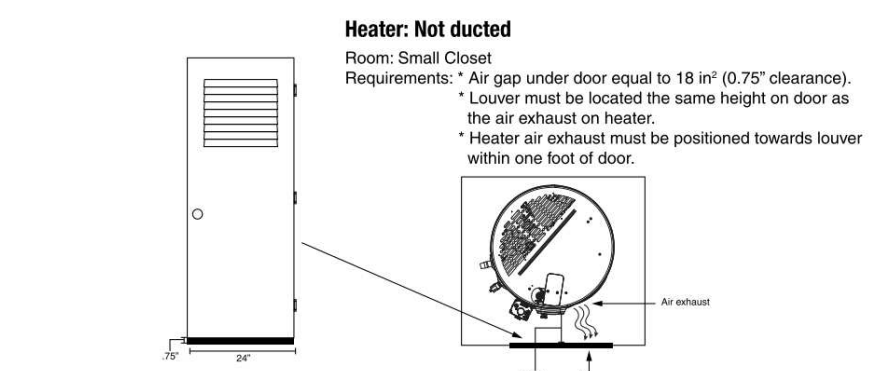
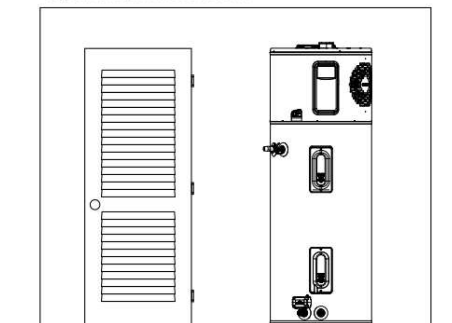
DESCRIPTION	MODEL	A	B	C	D	E	F	G	H	I	J
40	PROTH40	20-1/4"	20-1/4"	47"	3-5/8"	25-5/8"	25-5/8"	20-1/2"	20-1/2"	22-3/4"	23-1/4"
50	PROTH50	24-1/4"	24-1/4"	47"	3-5/8"	28-3/8"	28-3/8"	20-1/2"	20-1/2"	24-3/8"	24-3/8"
60	PROTH60	28-1/4"	28-1/4"	48"	3-7/8"	32-3/8"	32-3/8"	20-1/2"	20-1/2"	28-1/4"	28-1/4"
72	PROTH72	32-1/4"	32-1/4"	49"	3-7/8"	36-3/8"	36-3/8"	20-1/2"	20-1/2"	32-1/4"	32-1/4"

Hybrid Water Heater Installation Guidelines to Provide Optimal Efficiency

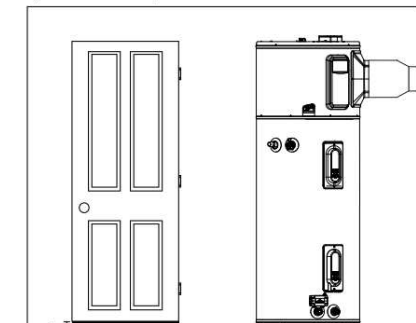
Heater: Not Ducted
Room size: Larger than 700 ft³ (e.g. 7' x 10' x 10').
Requirements: No additional ventilation needed.



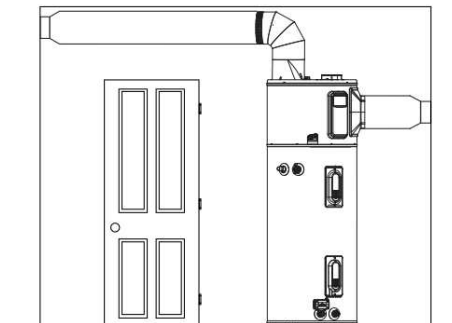
Heater: Not Ducted
Room size: Smaller than 700 ft³ (e.g. 7' x 10' x 10').
Requirements: Full bouvered door OR two louvers top and bottom. See below.



Heater: Ducted with Inlet OR outlet duct
Room size: Any size room
Requirements: Air gap under door equal to 18 in³ (0.75" clearance).



Heater: Ducted with inlet AND outlet duct
Room size: Any size room
Requirements: No additional ventilation needed.



Item name: ATMO™150H Fresh Air Appliance | Product link: <https://shop.fantech.net/en-US/product/Permalink?ps=747376> | Item #: 463888 | Document type: Product card | Created on: 2022-03-30 | Generated by: Fantech Online Catalogue | Language: English

- A fan pulls air through the upper intake port
- Air entering the upper intake port passes through a filter
- Eco-friendly refrigerant absorbs heat
- A compressor pumps heated refrigerant to the condenser
- Heat is transferred to the water in the tank
- Condensate is routed away from the unit

Up to \$4,800 in Energy Cost Savings

The Rheem® ProTerra™ Hybrid Electric Water Heater is the most efficient water heater on the market, helping homeowners save up to \$480 per year in energy costs—that's almost \$5,000 over 10 years!

DEMAND RESPONSE SCHEDULING
Homeowners can save up to \$400 over the life of the heater with peak and off-peak energy rate scheduling with built-in demand response!

ENERGY SAVING SCHEDULING
Program the water heater to match demand throughout the day—higher production during high use times, like the morning, and lower production for energy savings when no one is home and off-peak energy rate scheduling with built-in demand response!

SET VACATION OR AWAY MODE
Reduce water heating costs while homeowners are away for a week or just for the day—it's easy to set from a phone from anywhere through the free Rheem EcoNet app!

QUICK PAYBACK
Upgrading pays for itself in the first two years! Thanks to an amazing 4.0 EER and features that deliver long-term savings.

LESS THAN 2 year PAYBACK

SEE HOW PROTERRA STACKS UP AGAINST OTHER WATER HEATERS!

SIZE	HYBRID PROTERRA HYBRID ELECTRIC WITH LEAKGUARD	STANDARD ELECTRIC	STANDARD GAS
40 Gallon	\$104	\$419	\$208
50 Gallon	\$104	\$419	\$200
5 Operating Modes	✓	✗	✗
10-Year Warranty	✓	6-Year	6-Year
Water Leak Detection	✓	✗	✗
Auto Water Shut-off	✓	✗	✗
Energy Saving Scheduling	✓	✗	✗
Local Utility Rebates	✓	✗	✗
Federal Tax Credit	✓	✗	✗

Based on comparison of the 50-gallon Hybrid Electric Water Heater against the estimated annual operating cost of a standard electric water heater of like capacity manufactured prior to 2015 under NAECA 4.0 with a 4.0 EER. Energy savings per gallon capacity. Based on review of available residential electric water heaters. Product based on cost of product input compared to alternative product input, and estimated annual energy cost savings. Based on internal testing and the NAECA cost for peak / off peak pricing and season difference. NAECA standard connector and Rheem EcoNet App required connection between water heater and app dependent on selected feature. Rheem's estimated annual energy costs of current NAECA 2015 products of like capacity per DOE test procedures.

Rheem.com/Hybrid | 5

PROTERRA
Rheem® ProTerra™ Hybrid Specifications

DESCRIPTION	ENERGY INFO	FEATURES	TANK DIMENSIONS													
40	36	PROTH40	40	3.75	\$104	4,000	4,000	4.0	60	26	62-5/16"	20-1/4"	47"	3-5/8"	39-5/8"	174
50	45	PROTH50	50	3.75	\$104	4,500	4,000	4.0	67	27	61-3/4"	22-1/4"	47"	3-5/8"	39-5/8"	218
60	54	PROTH60	60	3.85	\$155	4,500	4,000	4.0	75	27	64-3/16"	24-1/4"	49"	3-7/8"	42-3/8"	262
72	66	PROTH72	72	4.00	\$149	4,500	4,000	4.0	87	27	74-3/16"	24-1/4"	50"	3-7/8"	52-3/8"	281

**2 NEW DETACHED ADU
TWO BEDROOM - TWO BATH**
1119 SHIRLEY DR.
Milpitas, CA 95035

AKD homes
ACCESSORY DWELLING UNITS

ISSUANCES

No.	Description	Date
1	PLANNING DEPT.	02.9.2024
2	REVISION #1	04.16.2024
3	REVISION #2	6.25.2024

Checked By: JANELLE VARGAS

Janelle Vargas

SPECIFICATIONS

Drawing Scale: 1/4" = 1'-0"

Job No. PLANS

CERTIFICATE OF LISTING

This certificate is not evidence of current listing. To verify listing status, visit the IAPMO R&T Product Listing Directory at pld.iapmo.org

Effective Date: February 2019 -Rev. 2/19/2019- Void After: February 2024
 Product: Commercial and Residential Floor Drains File No. 11455
 Issued To: Infinity Drain, Ltd.
 145 Dixon Avenue
 Nanisiville, NY 11701

Identification: Manufacturer's name or trademark, and load specification. Markings shall appear on the grate, cleanout cover, or top rim (as applicable) and on the body, and shall be legibly marked. The marking shall be accomplished by use of a permanent mark or by placing a permanent label on the product. Product shall also bear the UPC certification mark.

Characteristics: Floor and general-purpose drains with Metal, ABS, and PVC components to be installed in accordance with the manufacturer's instructions and the latest edition of the Uniform Plumbing Code® and the National Plumbing Code of Canada. The grate free area shall meet the minimum dimensions per ASME A112.6.3 with respect to the outlet connection size.

Products listed on this certificate have been tested by an IAPMO R&T recognized laboratory. This recognition has been granted based upon the laboratory's compliance to the applicable requirements of ISO/IEC 17025.

Products are in compliance with the following code(s):
 Uniform Plumbing Code (UPC)

Tom Collins Chairman, Product Certification Committee
Ron Chang CEO, The IAPMO Group

This listing period is based upon the last date of the month indicated on the Effective Date and Void After Date shown above. Any change in material, manufacturing process, marking or design without testing and approval of the Product Certification Committee, or any violation of non-compliance with applicable codes and standards or of inferior workmanship, may be deemed sufficient cause for revocation of this listing. Production of or reference to this form for advertising purposes may be made only by specific written permission of IAPMO Research and Testing, Inc. Any alteration of this certificate could be grounds for revocation of the listing. This document shall be reproduced in its entirety.

IAPMO RESEARCH AND TESTING, INC.
CERTIFICATE OF LISTING

-Rev. 2/19/2019- Void After: February 2024
 Product: Commercial and Residential Floor Drains File No. 11455
 Issued To: Infinity Drain, Ltd.
 National Plumbing Code of Canada

Products are in compliance with the following standard(s):
 ASME A112.6.3-2016 and CSA B79-2008 (R2013)

KOHLER Santa Rosa™
 Comfort Height® Compact Toilet
K-3810

Features

- Vitreous china.
- Comfort Height® Compact Elongated bowl.
- AquaPiston® flushing system.
- Includes left-hand polished chrome trip lever.
- 1.28 gpf (4.8 lpf).
- 2-1/8" (54 mm) glazed trapway.
- 12" (305 mm) rough-in.
- Includes Brevia™ Quiet-Close™ seat.
- Less supply.
- 11" (279 mm) x 8-1/8" (206 mm) water area.
- 27-3/4" (705 mm) x 18-3/4" (476 mm) x 28-3/16" (716 mm).
- Floor mount/Floor outlet.

Recommended Accessories

- K-75796 Cachet® Nightlight Quiet-Close™ Elongated Toilet Seat
- K-8296 C08-155 Elongated Cleansing Toilet Seat
- K-5420 Low-Profile Bolt Caps
- K-9169-L Trip Lever

Codes/Standards

- ADA CSA B651 OBC
- ASME A112.19.2/CSA B45.1
- DOE - Energy Policy Act 1992
- EPA WaterSense®
- ADA
- ICC/ANSI A117.1
- CSA B651
- OBC

Components

Additional included component/s: Tank cover, Trip lever, Bolt cap accessory pack, and Tank accessory pack.

Available Color/Finishes
 Color tiles intended for reference only.

Color	Code	Description
	0	White
	96	Biscuit
	47	Almond
	NY	Dune
	95	Ice™ Grey
	G9	Sandbar
	7	Black Black™

KOHLER® One-Year Limited Warranty
 See website for detailed warranty information.

KOHLER Santa Rosa™
 Comfort Height® Compact Toilet
K-3810

For Back-to-Back Toilet Installations

Use a 45° double wye fitting. Do not use a double sanitary tee.

Technical Information

All product dimensions are nominal.

Toilet type: One-piece, Floor-mount
 Waste Outlet: Floor
 Bowl shape: Compact Elongated front
 Flush type: AquaPiston®
 Trap passageway: 2-1/8" (54 mm)
 Water Consumption:
 Full: 1.28 gpf (4.8 lpf)
 Water surface size: 11" x 8-1/8" (279 mm x 206 mm)
 Rim to water surface: 6-1/4" (159 mm)
 Rough-in: 12" (305 mm)
 Seat-mounting holes: 5-1/2" (140 mm)

Notes

Install this product according to the installation instructions.

For back-to-back toilet installations: Use only a 45° double wye fitting.

ADA, OBC, CSA B651 compliant when installed to the specific requirements of these regulations.

Plumbing codes may require elongated toilets and elongated, open-front seats in public bathrooms.

Accessibility standards may require controls to be located on the open side of the toilet.

Talis N
 HighArc Kitchen Faucet, D-Style 2-Spray Pull-Down, 1.75 GPM
 Finishes: chrome Part no.: 72800001

Description

Features

- Swivel range adjustable in 4 steps 60°, 110°, 150° or 360°
- Aerated and needle spray
- Toggle spray diverter
- MagFit magnetic sprayhead docking
- Single-hole installation
- Flow: 1.75 GPM (6.6 L/Min)
- Ceramic cartridge
- 1/2" connections
- Integrated double backflow prevention
- 1 1/2" Mounting hole required
- Single lever kitchen mixer, connection hoses, Fastening set, Assembly instructions

Item details

List Price: \$ 550.00

Technology

Compliance

Product image

Scale drawing

More details are available on our website www.hansgrohe-usa.com. We look forward to seeing you 8/18/20 Page 1/2

PLUMBING FIXTURES FLOW RATE CHART

FIXTURE	GPM	MODEL/SPECIFICATION
TOILET	1.28 GPF	KOHLER: SANTA ROSA K-3810
SHOWER HEAD	1.8 GPM	GROHE: NEW TEMPESTA COSMOPOLITAN 100 26076002
VANITY FAUCET	1.2 GPM	GROHE: CONCETTO 32138002
KITCHEN FAUCET	1.8 GPM	HANSGRÖHE: TALIS N 72800001

NEW TEMPESTA COSMOPOLITAN 100 Shower Rail Set 2 Sprays
 MODEL # 26076002

Pure Freude an Wasser GROHE

GROHE America, Inc | 200 North Gray Avenue, Suite G, Hanola, IL 68172
 Phone: +1 (800) 444-7643 | Fax: +1 (800) 225-2778 | us.customerservice@grohe.com

Product Description:
 Shower Rail Set 2 Sprays

Standard Specification:

- Consisting of:
- New Tempesta Hand shower (26 046)
- 24" shower bar (27 521)
- Release-free 60° plastic shower hose (28 154)
- GROHE EcoJoy 1.75 gpm (6.6 l/min) flow limiter
- GROHE DreamSpray perfect spray pattern
- GROHE StartLight chrome finish
- SpeedClean® anti-lime system
- Inner WaterGuide for a longer life
- Min. recommended pressure: 15 psi

Color:
 □ 26076002 StarLight Chrome

EUROSTYLE COSMOPOLITAN Single-Handle Bathroom Faucet S-Size
 MODEL # 2303600A

Pure Freude an Wasser GROHE

Product Description:
 EUROSTYLE COSMOPOLITAN Single-Handle Bathroom Faucet S-Size

Standard Specification:

- GROHE EcoJoy technology for less water and perfect flow
- Single hole installation
- GROHE SilkMove 1.4" (35 mm) ceramic cartridge
- GROHE StarLight chrome finish
- Adjustable flow rate limiter
- Pop-up waste set
- Stainless steel basin lines
- GROHE QuickFix installation system with centering support
- Optional temperature limiter ref. no. 46 375
- Max flow rate: 1.2 gpm (4.58 l/min)

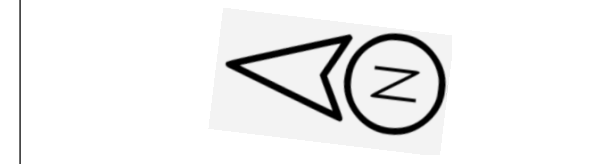
Applicable Codes & Standards:

- Energy Policy Act of 1992
- NSF 61
- ASME A112.18.1/CSA B125.1
- US Federal and State material regulations
- EPA WaterSense®
- ICC/ANSI A117.1

Color:
 □ 2303600A StarLight Chrome



2 NEW DETACHED ADU
 TWO BEDROOM - TWO BATH
 1119 SHIRLEY DR.
 Milpitas, CA 95035



AKD homes
 ACCESSORY DWELLING UNITS
www.akdhomes.com
 EMAIL: info@akdhomes.com
 TEL: 510-314-6564

ISSUANCES

No.	Description	Date
1	PLANNING DEPT.	02.9.2024
2	REVISION #1	04.16.2024
3	REVISION #2	6.25.2024

Checked By: JANELLE VARGAS

SPECIFICATIONS

Drawing Scale: 1/4" = 1'-0"
 Job No. PLANS

A-8.3

STRUCTURAL SPECIFICATIONS

GENERAL

- These notes are general and apply to the entire project except where there are specific indications to the contrary. Construction shall meet the requirements of the latest edition of the 2022 California Building Code. The above shall govern except where other applicable codes or the following notes are more restrictive. Structures have been designed for operational loads on completed structures. During construction, structures and parts of the structures shall be protected and/or supported by bracing and shoring wherever excessive loading may occur. The contractor alone is responsible for job site safety. Site review of the construction by the Architect and/or Engineer, if any, is to determine conformance with the plans and specifications. It does not encompass safety procedures or operations. It is the responsibility of the Contractor and Subcontractor to notify the Owner and the Architect and/or Engineer of any conditions to be found in the field to be different from those shown on the plans, or of errors or omissions on the plans, which might affect the completion of the project. Lay out all structural work by referring to dimensions and elevation notes on the architectural plans. Do not scale structural drawings. Work details dimensions from the controlling surface points and actual material dimensions. Larger scale details take precedence over smaller scale details. Verify type and size of metal work against appropriate member size before ordering hardware. Hardware notes is Simpson "Strong Tie". Hardware of similar construction and equal ICC values is acceptable. For hardware use the maximum size bolts and nails specified in manufacturer's catalog. Nail all holes. Use special short-length nails supplied by manufacturer where common nails will exceed the width of the framing member. In case of conflict between structural and architectural plans, details, and/or specifications, the more restrictive condition shall apply and notify applicable parties.

CONCRETE

- All concrete work shall conform to the requirements of the latest edition of the ACI Building Code (ACI-318) and the California Building Code (CBC). Detailing, fabrication, and erection of reinforcing bars shall be in accordance with the latest edition of the Manual of Standard Practices (ACI-315). Aggregate for the concrete mix shall conform to ASTM-C33. Cement shall conform to ASTM-C150, Type I or II. Concrete shall have an ultimate compressive strength of 3000 psi (28 day strength) with a 4" slump (tolerance 1"). Design with 2500 psi (Special inspection NOT required). Reinforcing steel shall be deformed bars (ASTM A615) Grade 40, except that No. 4 or larger bars shall be Grade 60. Welded wire fabric shall be per ASTM 185. Reinforcing steel in grade beams shall be securely fastened in place horizontally and vertically prior to pouring. Lap bars 48 diameters at splices. Hook bars 24 diameters at corners. Bend down top bars at ends of grade beams, such as at garage doors. Provide a minimum of two anchor bolts per splice, with one within 12" of each end. Concrete floor shall be screeded, wood floated and then given a steel trowel finish. Provide foundation vents equal in area to 1/150 of underfloor area. Locate vents on opposing sides where possible.

WOOD

- Unless otherwise noted, framing lumber shall be graded as follows: Framing lumber (rafters, joists, etc.): DF No.2 Beams headers and post: DF, No. 1 Studs: Stud grade Foundation sill: Pressure-treated (DF) Exposed decking: California Redwood No.1 Moisture content of all structural lumber shall be less than 19 percent. All Plywood shall be CDX OR OSB U.O.N. Minimum thickness shall be 1/2" on roof, 3/4" T & G on floor and 1/2" on walls (where noted). Use panel clips at unsupported edges of built-up roofs. Minimum span of plywood sheathing in each direction shall not be less than 24". Glu-lam beams shall be Grade 24F-V4, standard camber (AISC-103) U.O.N. Provide connection certificate to building Department. Glu-lam beams shall have metal hardware connections to posts (BC past cap minimum).

FRAMING

- All framing shall conform to chapter 23 of the 2022 California Building Code. Nailing shall be per CBC Table 2304.10.1. All nails and hardware exposed to the weather shall be galvanized. Nails shall be common wire nails U.O.N. All bolts for wood connections shall be conform to ASTM A307 with heavy hex heads. Malleable iron washer shall be used at all places where the bolt head or nut would otherwise bear or be in contact with the wood surface. Bolt holes in wood members shall not be drilled more than 1/8" larger than the bolt diameter. Balloon frame all walls with sloping ceilings or with raised ceilings. Maximum stud height for 2x4 stud is 10'-0" and for 2x6 stud 14'-0". Provide fire blocking such that maximum concealed space is 10'-0". Block under all perpendicular partitions. Double joists (min.) under all parallel partitions. Bolt multiple joists together with 1/2" machine bolts at 24" o.c. Alternate bolts between the lower 1/4 of the joist depth. Nail double joists with 16d nails at 12" o.c. (similar pattern). Nail double or multiple studs with 16d at 12" o.c. (similar pattern). Provide lateral support at ends of joist and rafters by blocking, rim joists or hangers. Block between joists and rafters over all supports. Microlam (LV) floor joist or beam shall have grade 1.9 DF/LP/WH 6 Fb=2600 psi, Fv=285 psi, MOE=2,0x10^6 psi, ICC ESR-1387. Parallel (PSL) beam shall have grade 2.0 DF/SP/WH/YP OR YP/RM 6 Fb=2900 psi, Fv=290 psi, MOE=2,2x10^6 psi, ICC ESR-1387. Anthony Power beam (APB) beam shall have grade 3.0 6 Fb=3000 psi, Fv=300 psi, MOE=2,1x10^6 psi, ICC ESR-1104. All wood members in contact with concrete or masonry foundation surface shall be pressure treated with a preservative. Solid sawn members in floors shall be placed with crowns and any major knots upward. Posts shall be continuous from beam or header to floor or sill below. Provide at least a double stud at all bearing points under beams. All headers 4x12 U.O.N. Lap top plates 48". Nail with 16d nails. Maximum allowable notch is 7/8" in 2x4 studs and 1-3/8" in 2x6 studs. Maximum allowable bored hole is 1-3/8" in 2x4 studs and 2-1/8" in 2x6 studs with at least 5/8" clear to the edge of the stud. Use 1x6 collar ties at 48" o.c. wherever possible. Collar ties shall be placed as low as feasible. Provide A35 anchor from rafter to top plate at 48" o.c. U.O.N. All wood members in contact with concrete or masonry foundation surface shall be pressure treated with a preservative. Solid sawn members in floors shall be placed with crowns and any major knots upward. Lap top plates 48". Nail with 16d nails. Maximum allowable notch is 7/8" in 2x4 studs and 1-3/8" in 2x6 studs. Maximum allowable bored hole is 1-3/8" in 2x4 studs and 2-1/8" in 2x6 studs with at least 5/8" clear to the edge of the stud. Use 1x6 collar ties at 48" o.c. wherever possible. Collar ties shall be placed as low as feasible. Unless otherwise noted, stagger all plywood joints in floor and roof sheathing and lay face grain perpendicular to supports. Minimum nailing for roof sheathing shall be 8d common at 5" along support edges and 12" field. Nail perimeter of diaphragm with 8d common at 4" o.c. Minimum nailing for floor sheathing shall be 10d common at 8" o.c. along supported edges and 10" field. Nail perimeter of diaphragm with 10d common at 4" o.c.

FRAMING (CONTINUED)

- Vertical plywood sheathing shall be blocked at all edges and shall be extended from top to bottom of wall. Where possible, butt vertical sheathing on floor joists or blocking, leaving 3/8" gap for shrinkage. Vertical sheathing shall continue to the foundation sill if required on first floor walls. Minimum nailing is 8d at 6" edges and 12" field. Where plywood shear walls are interrupted by floor, provide adequate shear transfer from sole plate to blocking or joist below and from the blocking to the top plate of a wall continuation below, if any, by providing 16d common nails at the same spacing as the shear wall edge nailing U.O.N. Add 2x nailers or metal anchors as necessary. Minimum gypsum board nailing is 5d Parkerhead nail (6d for 5/8" board) at 7" o.c. edges and field. Holdowns are attached to 4x studs at the ends of shear walls and extend to either 4x studs or framing below or to the foundation bolts (see detail for size). Nail all double studs at holdowns together with 16d nails at 8" o.c. Where cripple walls occur below the lower floor, install an MST172 strap holdown from the shear wall to a 4x cripple stud and a foundation holdown from the 4x cripple stud to the foundation, or bolt directly to the foundation bolt using threaded rod. The contractor shall carefully review holdown bolt embedment requirements in the Simpson Strong-Tie catalog. Where solid sawn wood members are framed into glu-lam members in floors, the tops of these members shall be held 3/8" above glu-lams. Cantilever deck joists shall be notched with hand tools to avoid overcutting. Fasteners for pressure-preservative treated and fire-retardant treated wood shall be of hot-dipped zinc coated galvanized, stainless steel, silicon bronze or copper. CBC 2304.9.5

STRUCTURAL STEEL

- Detailing, fabrication, and erection of structural steel shall conform to the specification and standards of the latest edition of the AISC Manual of Steel Construction. All structural steel plates, shapes and bars shall conform to ASTM A36. Steel shall be free of all scale, rust or other contaminants that would impair the bonding of the concrete to the steel. All structural HSS tube steel shall be A500 Grade "B". Steel bolts shall be A307. All steel members shall have a minimum of 2 coats of red primer, finish coat if required by owner. Special inspection required for all field & shop welds.

SOILS

Slope finish exterior surface away from foundation.

ABBREVIATIONS

Table with 4 columns: A & B, ABOVE AND BELOW, M.B., MACHINE BOLT. Includes abbreviations for structural materials like steel, wood, and concrete, and construction terms like framing, sheathing, and fasteners.

PROJECT SEISMIC DESIGN DATA table with columns A through I. A: SEISMIC IMPORTANCE FACTOR, I = 1.0 AND RISK CATEGORY = II. B: MAPPED SPECTRAL RESPONSE ACCELERATIONS, Ss = 2.192g AND S1 = 0.847g. C: SITE CLASS = D-DEFAULT. D: SPECTRAL RESPONSE COEFFICIENTS, SDS = 1.754g AND SD1 = 0.960g. E: SEISMIC DESIGN CATEGORY = E. F: BASIC SEISMIC FORCE-RESISTING SYSTEM(S) = WOOD PANEL SHEAR WALL. G: SEISMIC RESPONSE COEFFICIENT(S) C = 0.270. H: RESPONSE MODIFICATION FACTOR(S) R = 6.5. I: ANALYSIS PROCEDURE USED = EQUIVALENT LATERAL FORCE PROCEDURE.

CBC TABLE 2301.10.2 FASTENING SCHEDULE

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, NUMBER AND TYPE OF FASTENER, SPACING AND LOCATION. Rows include 24. 2" subfloor to joist or girder, 25. 2" plank (plank & beam - floor & roof), 26. Built up girders and beams, 27. Ledger strip supporting joists or rafters, 28. Joist to band joist or rim joist, 29. Bridging or blocking to joist, rafter or truss.

WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, Edges (Inches), Intermediate Supports (Inches). Rows include 30. 1/2" fiberboard sheathing, 31. 1 1/2" fiberboard sheathing, 32. 3/4" - 1 1/4" fiberboard sheathing.

OTHER EXTERIOR WALL SHEATHING

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, Edges (Inches), Intermediate Supports (Inches). Rows include 33. 1/2" fiberboard sheathing, 34. 3/4" fiberboard sheathing.

WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, Edges (Inches), Intermediate Supports (Inches). Rows include 35. 1/4" and less, 36. 3/4"-1", 37. 1 1/2"-1 3/4".

PANEL SIDING TO FRAMING

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, Edges (Inches), Intermediate Supports (Inches). Rows include 38. 1/2" or less, 39. 3/8".

INTERIOR PANELING

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, Edges (Inches), Intermediate Supports (Inches). Rows include 40. 1/4", 41. 3/8".

- For SE: 1 inch = 25.4 mm. a. Nails spaced at 6 inches at intermediate supports where spans are 48" or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing. b. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked). c. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule and the ceiling joist is fastened to the top plate in accordance with this schedule, the number of toenails in the rafters shall be permitted to be reduced by one nail. d. RSKS-01 is a Roof Sheathing Rink Shank nail meeting the specifications in ASTM F1667.

CBC TABLE 2301.10.2 FASTENING SCHEDULE

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, NUMBER AND TYPE OF FASTENER, SPACING AND LOCATION. Rows include Roof, 1. Blocking between ceiling joists, rafters or trusses to top plate or other framing below, 2. Blocking between rafters or truss not at the wall top plate, to rafter or truss, 3. Flat blocking to truss and web filler, 4. Ceiling joists to top plate, 5. Ceiling joist not attached to parallel rafter, laps over partitions (no thrust), 6. Ceiling joists attached to parallel rafter (heel joint), 7. Collar tie to rafter, 8. Rafter or roof truss to top plate, 9. Roof rafters to ridge valley or hip rafters; or roof rafter to 2" ridge beam.

WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, Edges (Inches), Intermediate Supports (Inches). Rows include 10. 1/2" fiberboard sheathing, 11. 3/4" fiberboard sheathing, 12. 3/8" fiberboard sheathing.

WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, Edges (Inches), Intermediate Supports (Inches). Rows include 13. 1/4" and less, 14. 3/4"-1", 15. 1 1/2"-1 3/4".

PANEL SIDING TO FRAMING

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, Edges (Inches), Intermediate Supports (Inches). Rows include 16. 1/2" or less, 17. 3/8".

INTERIOR PANELING

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, Edges (Inches), Intermediate Supports (Inches). Rows include 18. 1/4", 19. 3/8".

- For SE: 1 inch = 25.4 mm. a. Nails spaced at 6 inches at intermediate supports where spans are 48" or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing. b. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked). c. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule and the ceiling joist is fastened to the top plate in accordance with this schedule, the number of toenails in the rafters shall be permitted to be reduced by one nail. d. RSKS-01 is a Roof Sheathing Rink Shank nail meeting the specifications in ASTM F1667.

FLOOR

Table with 3 columns: DESCRIPTION OF BUILDING ELEMENTS, NUMBER AND TYPE OF FASTENER, SPACING AND LOCATION. Rows include 20. Joist to sill, top plate, or girder, 21. Rim joist, band joist, or blocking to top plate, sill or other framing below, 22. 1" x 6" subfloor or less to each joist.



FMD ENGINEERING, INC. CIVIL ENGINEERS 2740 COLTON AVE., SUITE 104 PALMDALE, CA 91366 OFFICE (650) 285-4424 Email: fmd@fmdengineering.com

AKD HOMES 1119 SHIRLEY DR. MILPITAS, CA 95035

REVISIONS/DATE BY

Engineer: FD Drafter: FD Date: 01/02/2024 Scale: AS NOTED Job No: 24003

SHEET STD1

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FMD ENGINEERING, INC.
 CIVIL ENGINEERS
 2710 COLLETON AVENUE, SUITE 104
 PALMDALE, CALIFORNIA 93550
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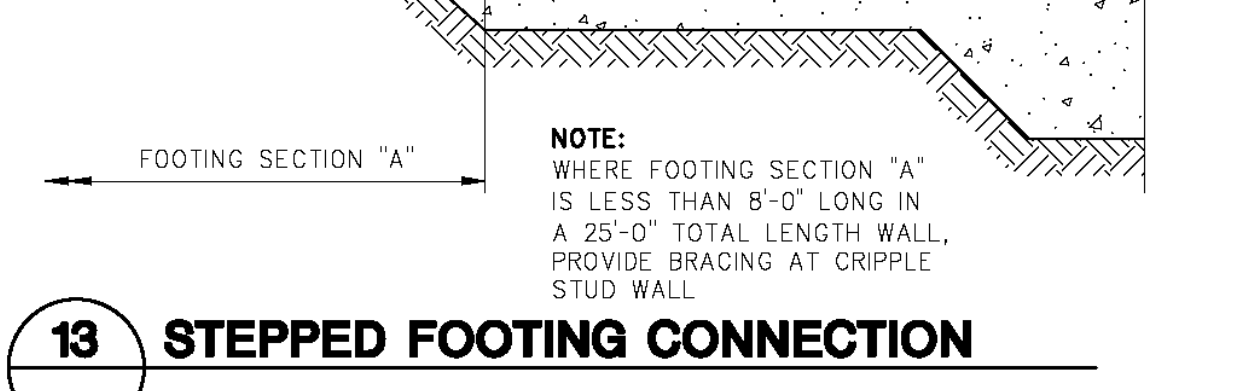
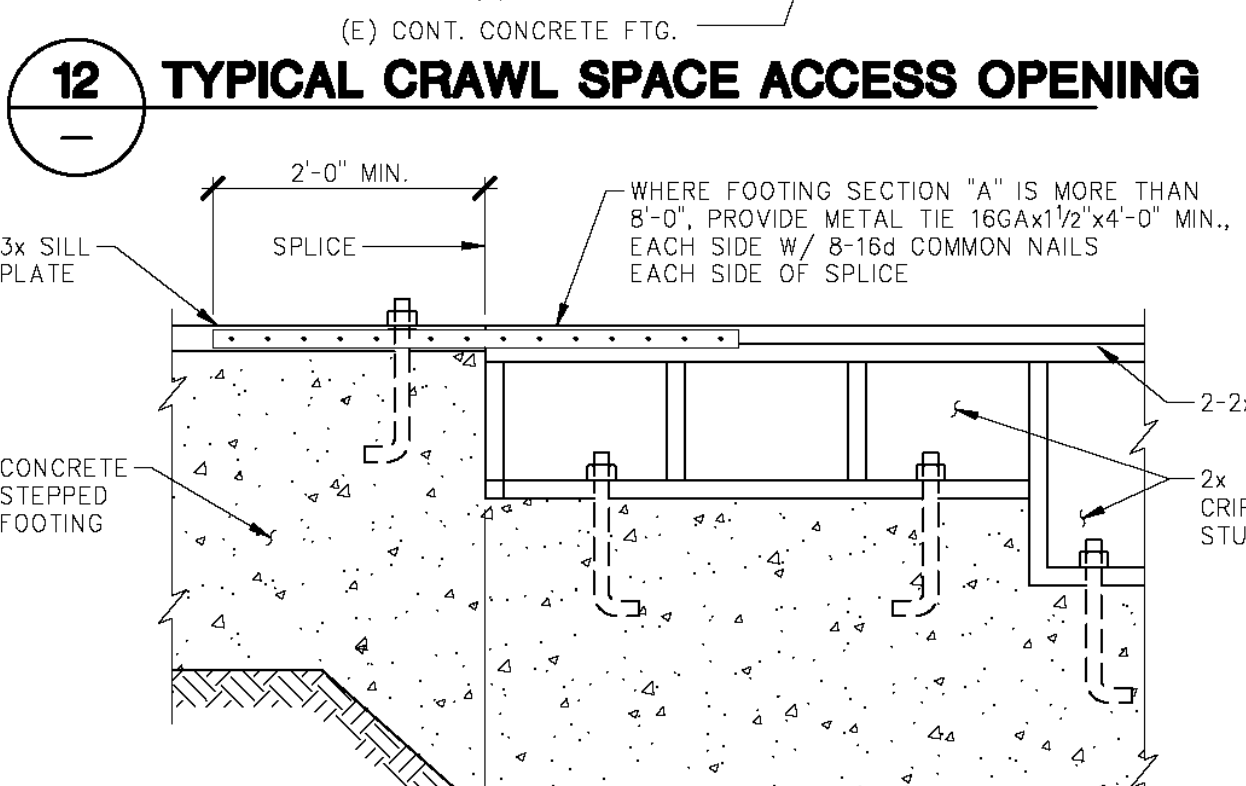
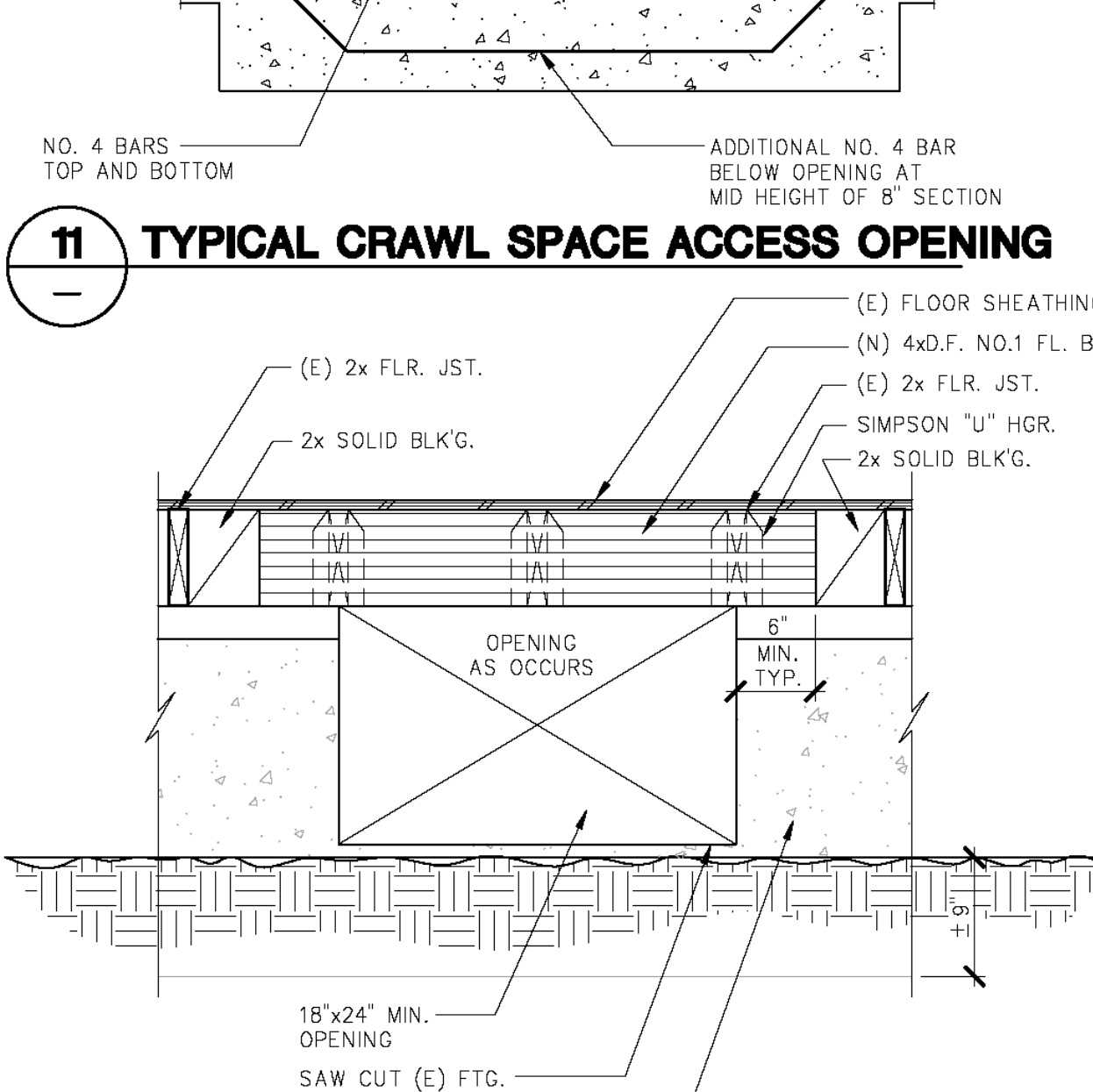
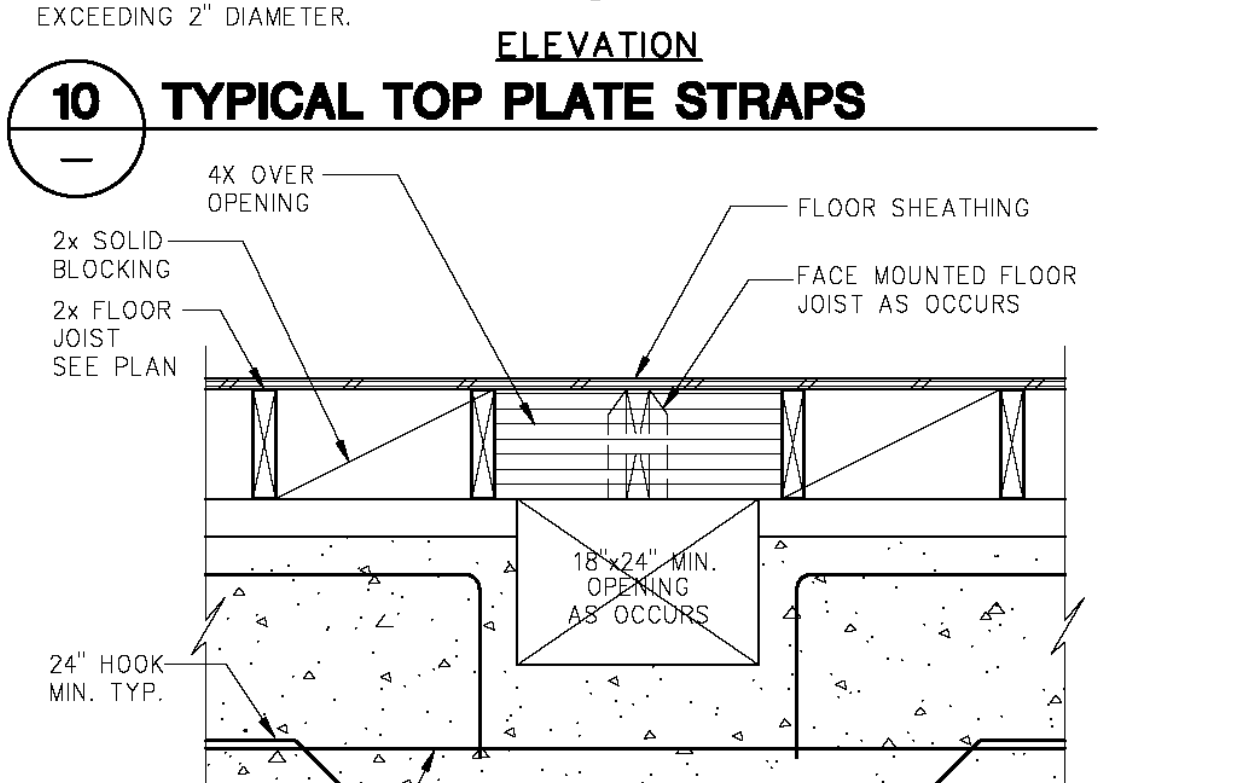
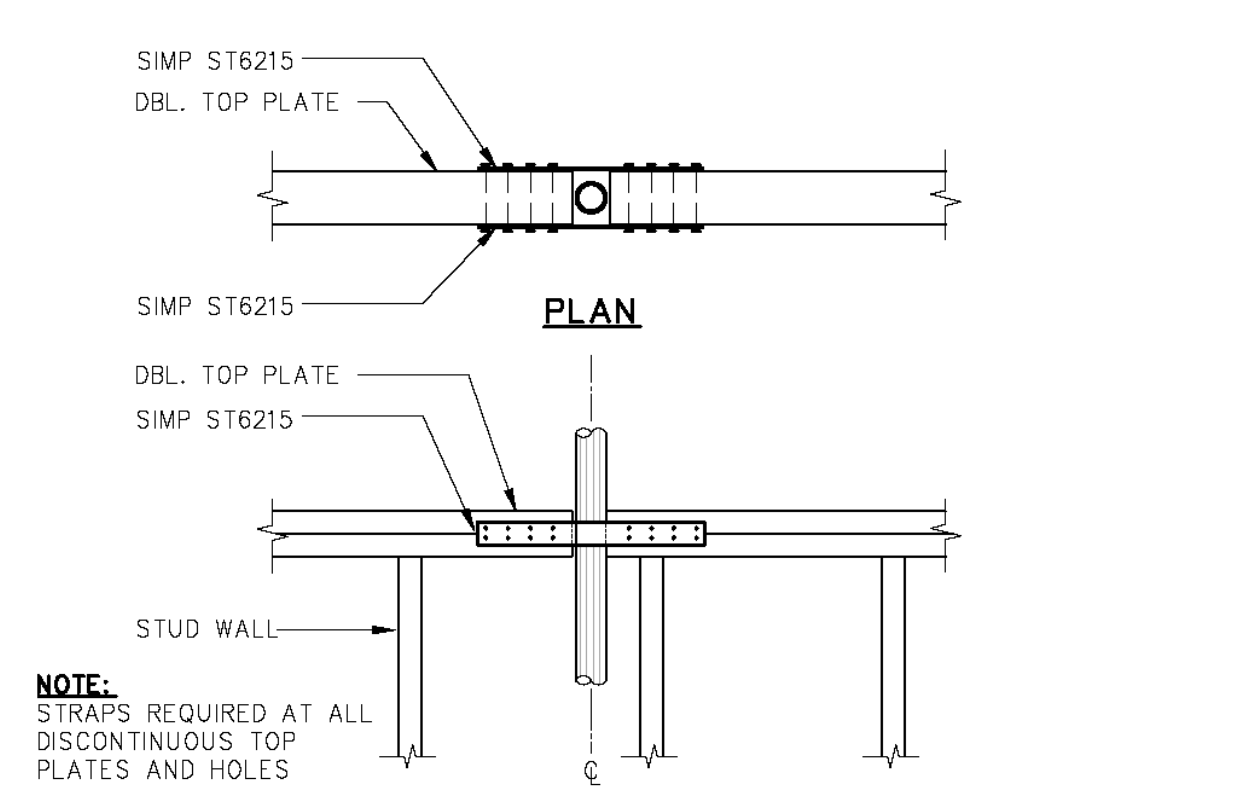
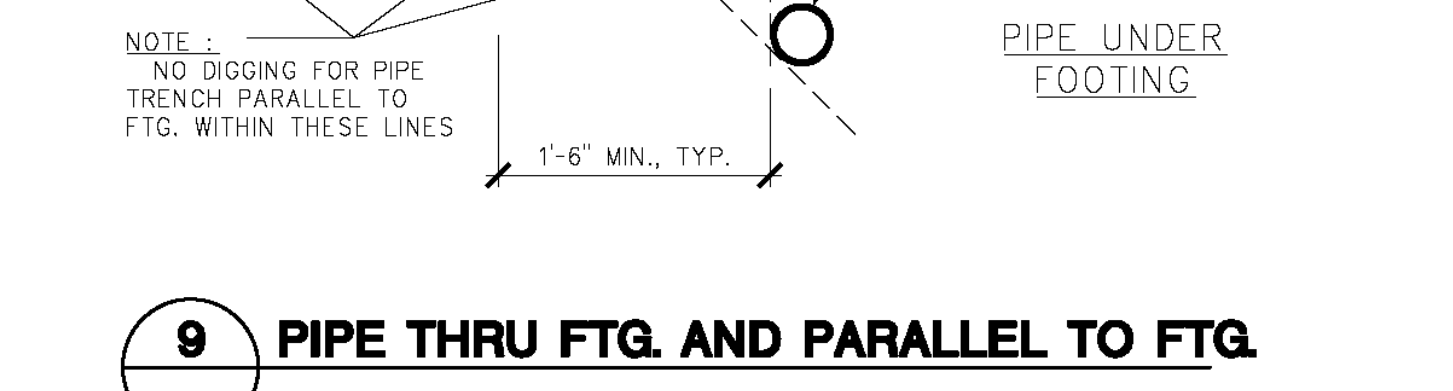
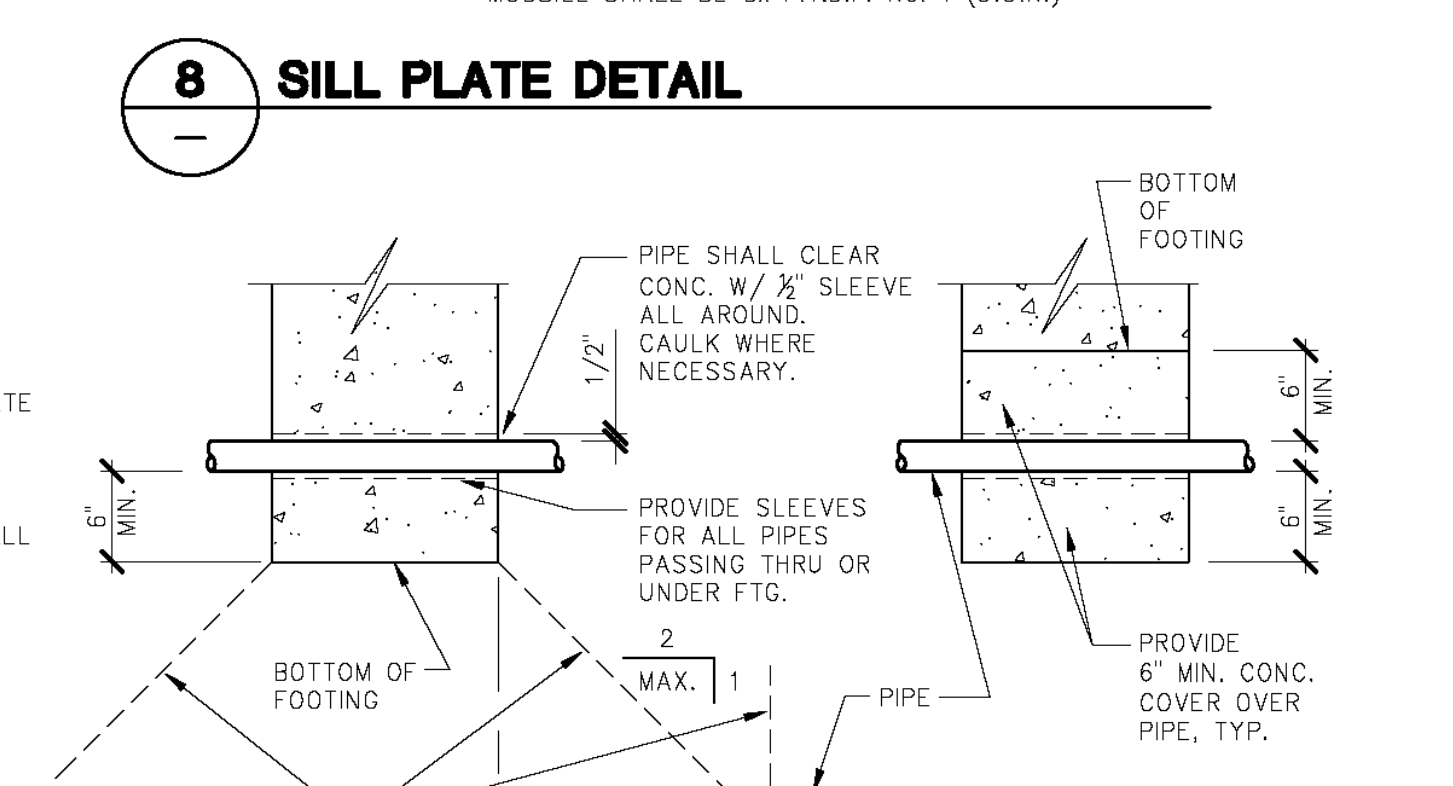
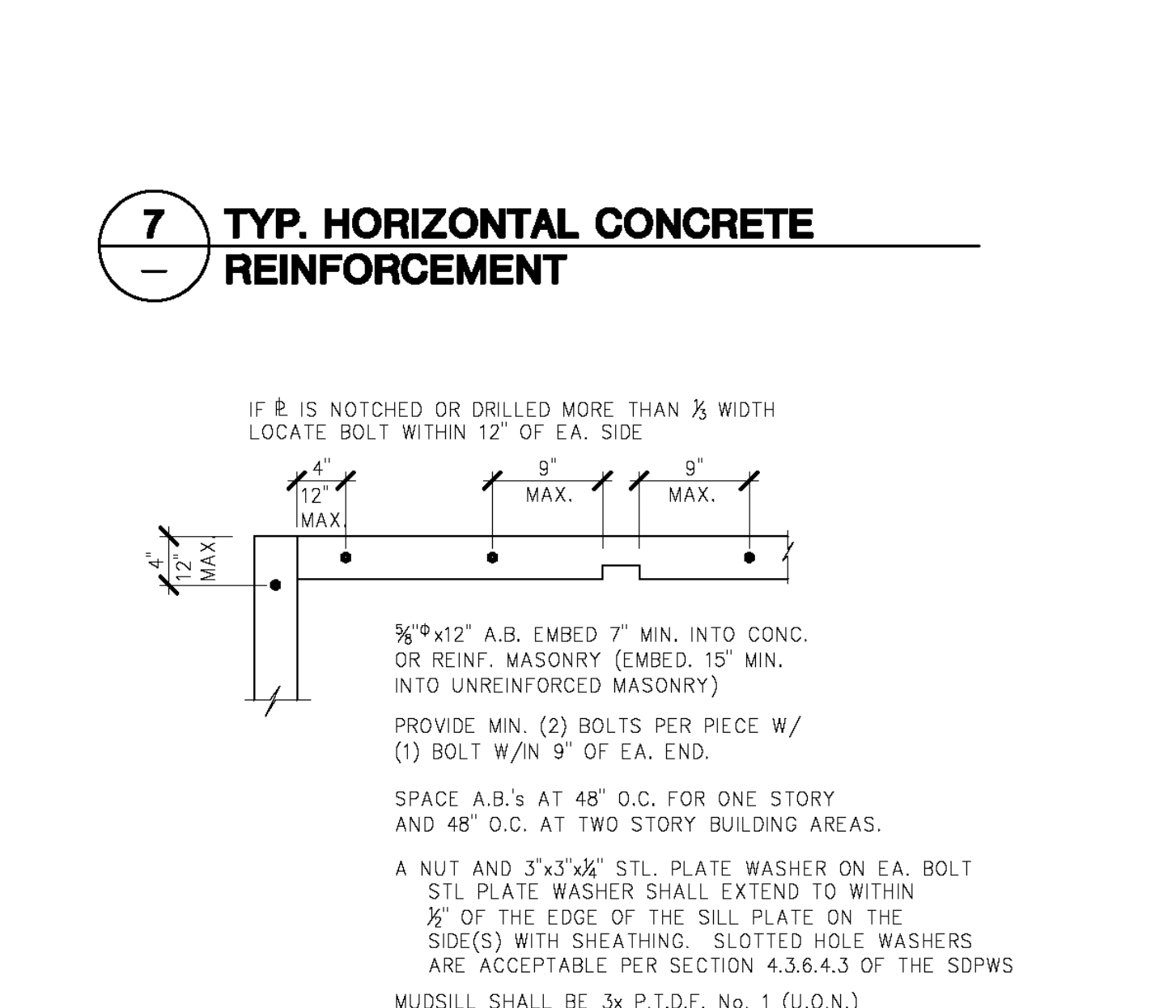
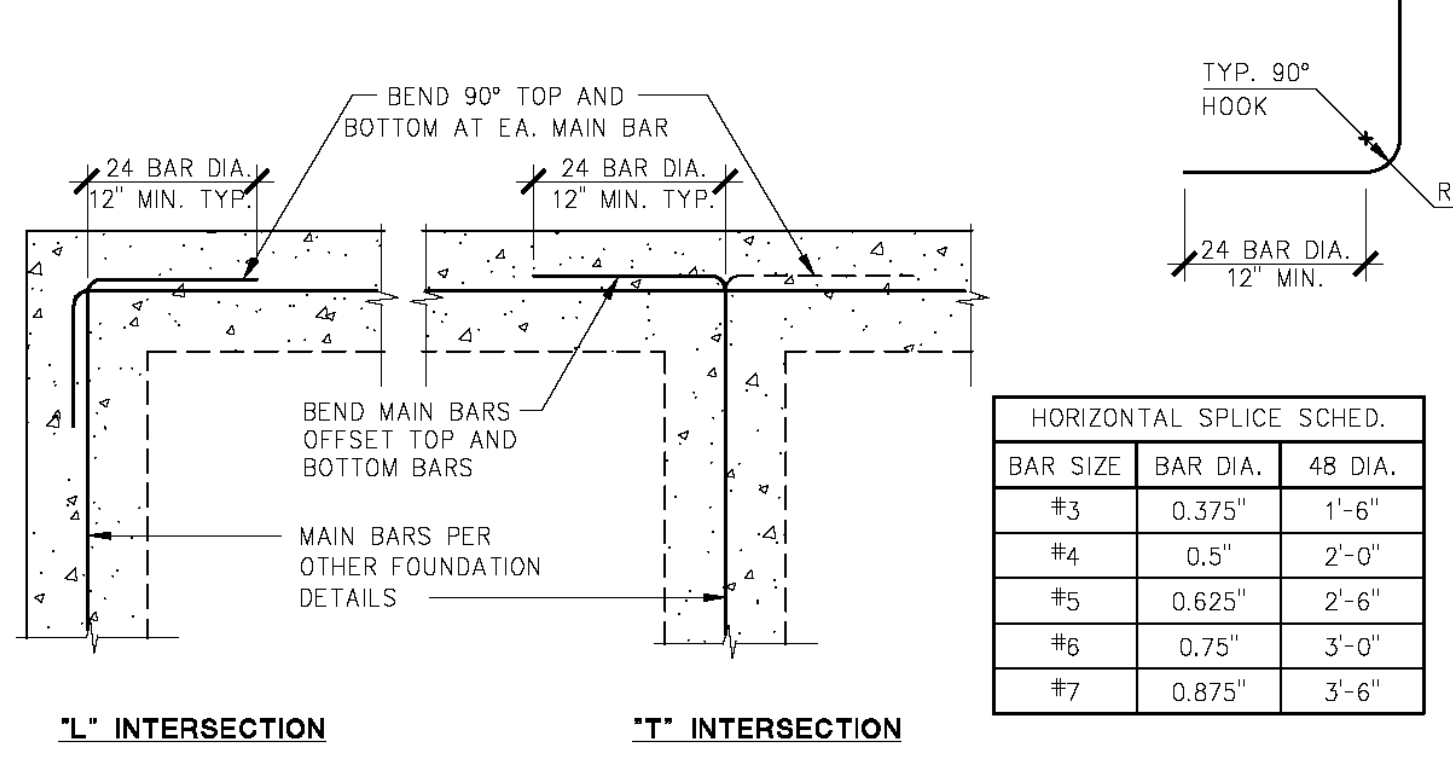
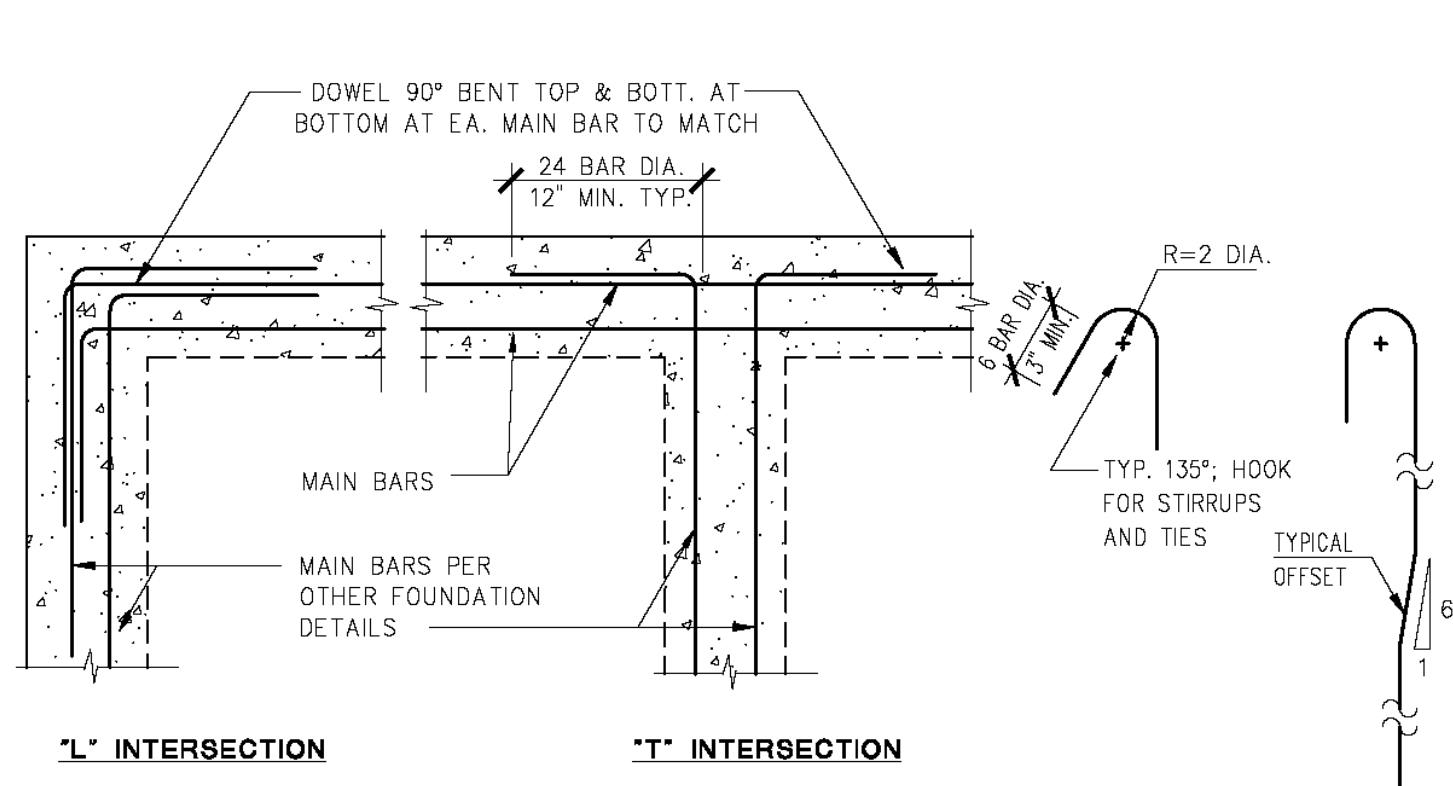
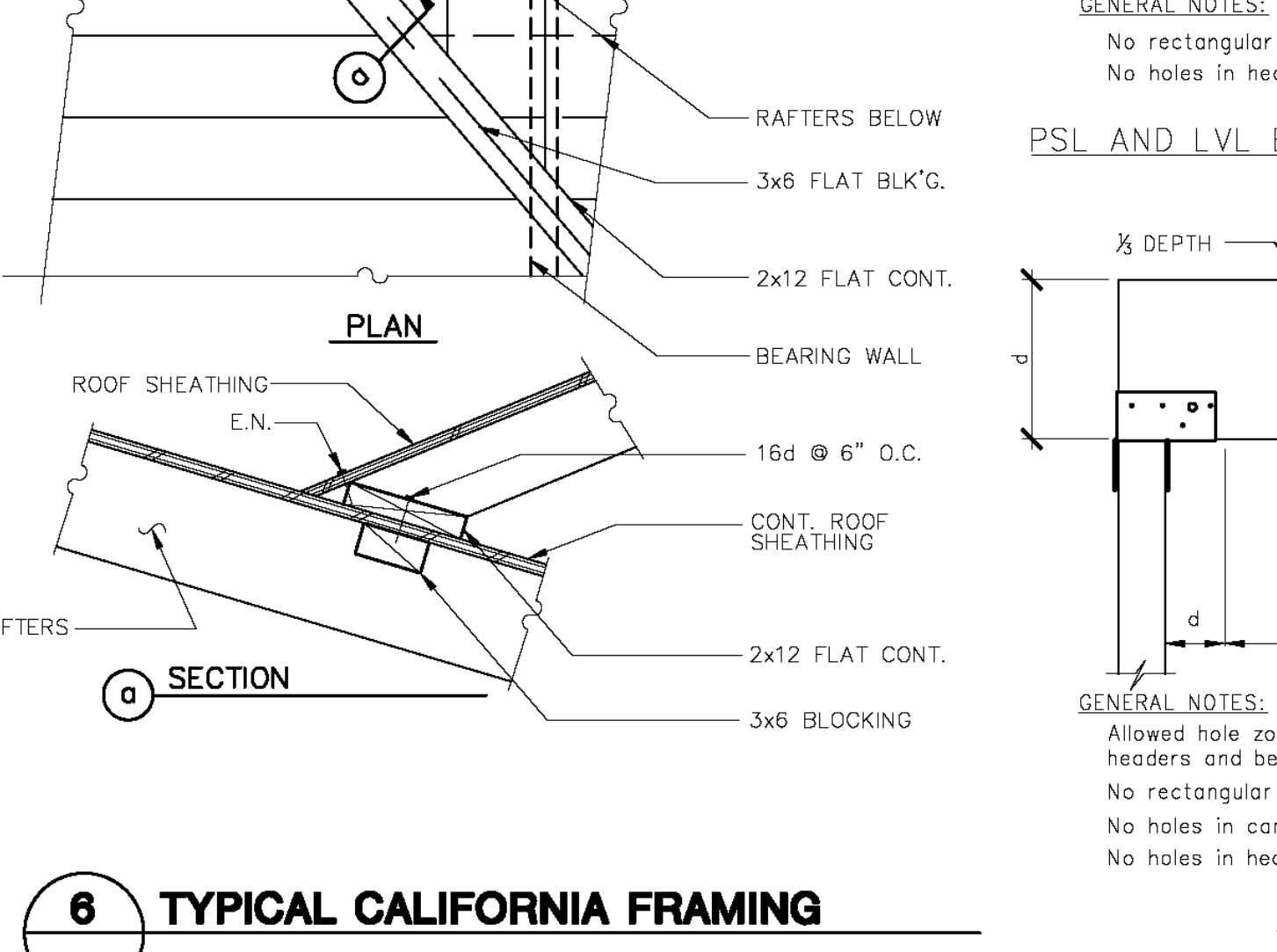
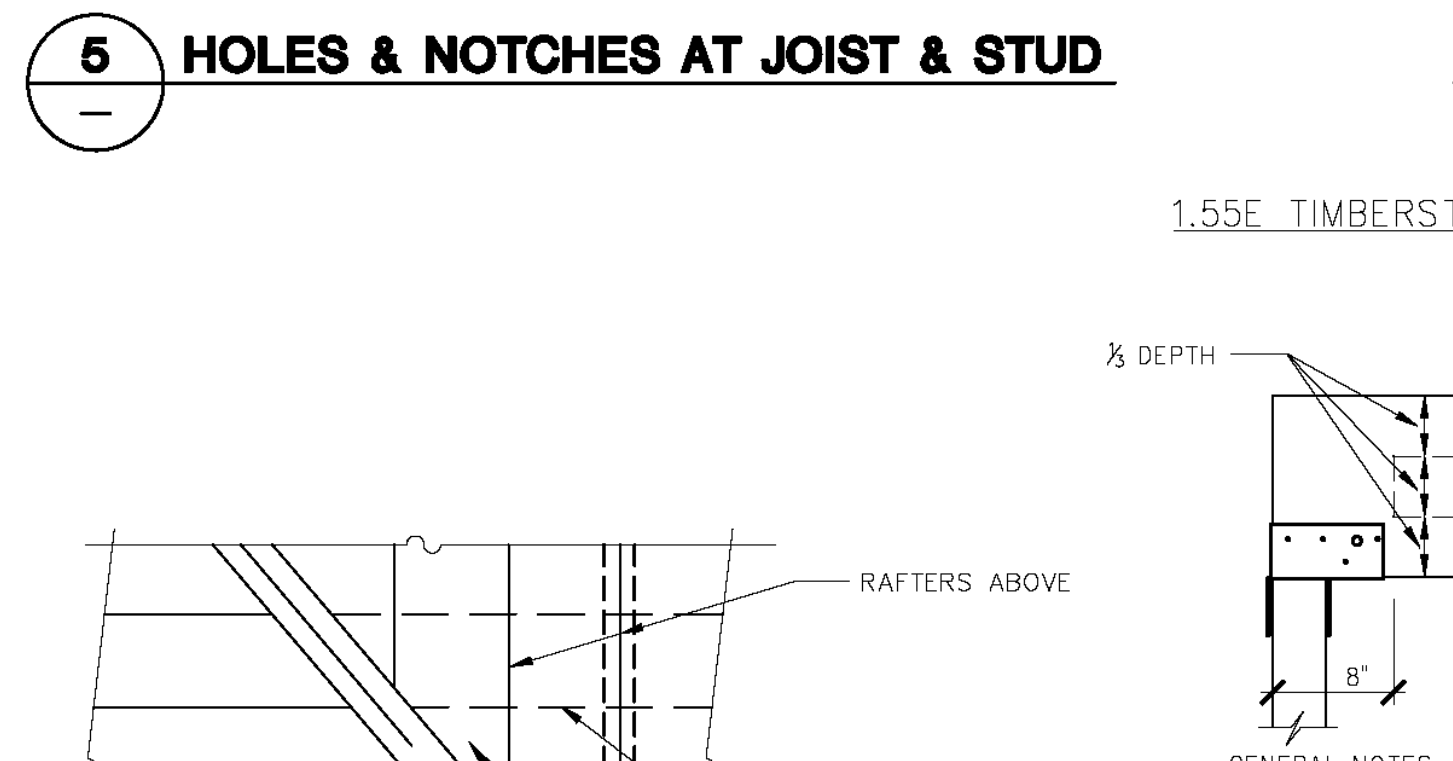
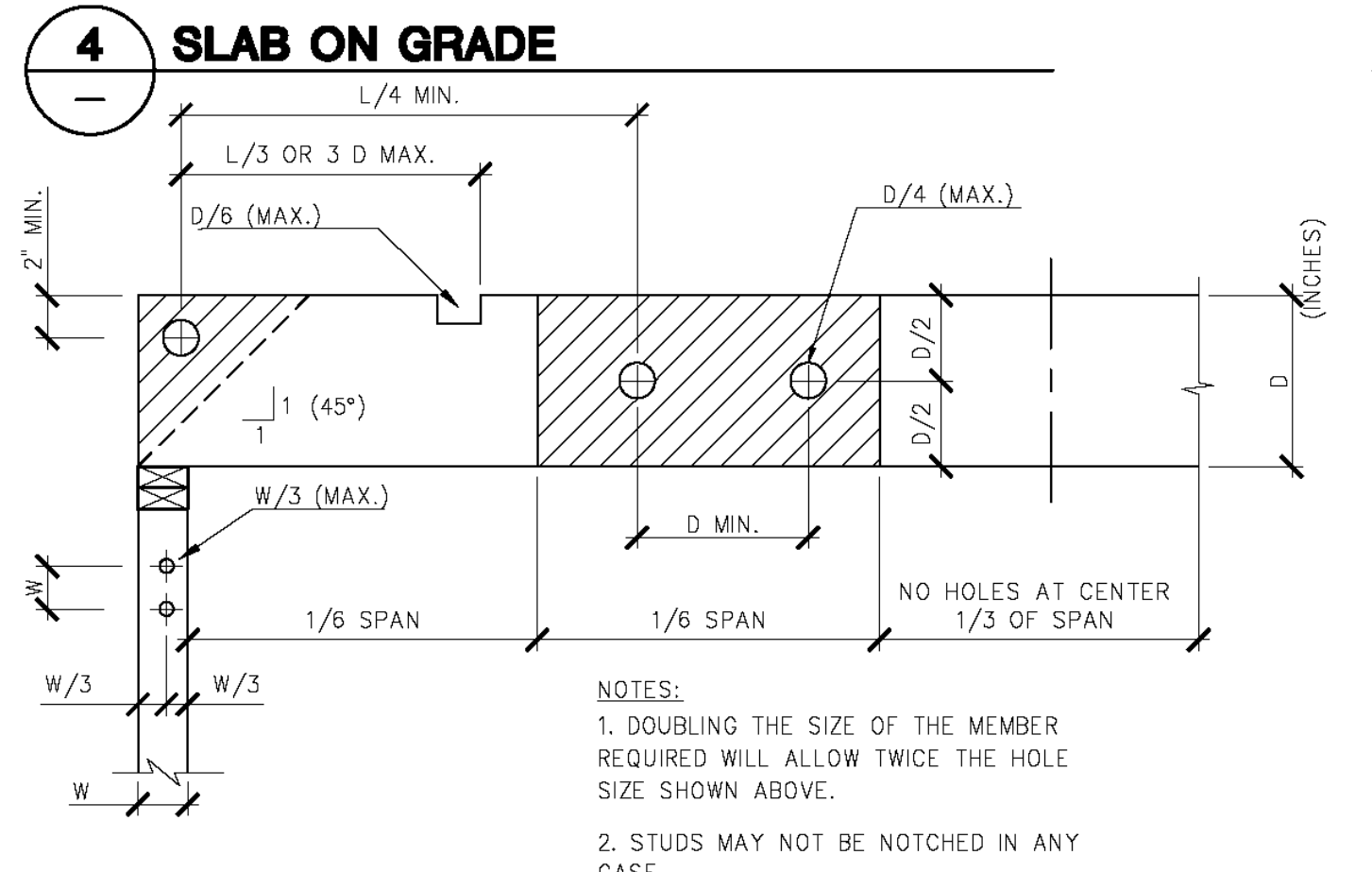
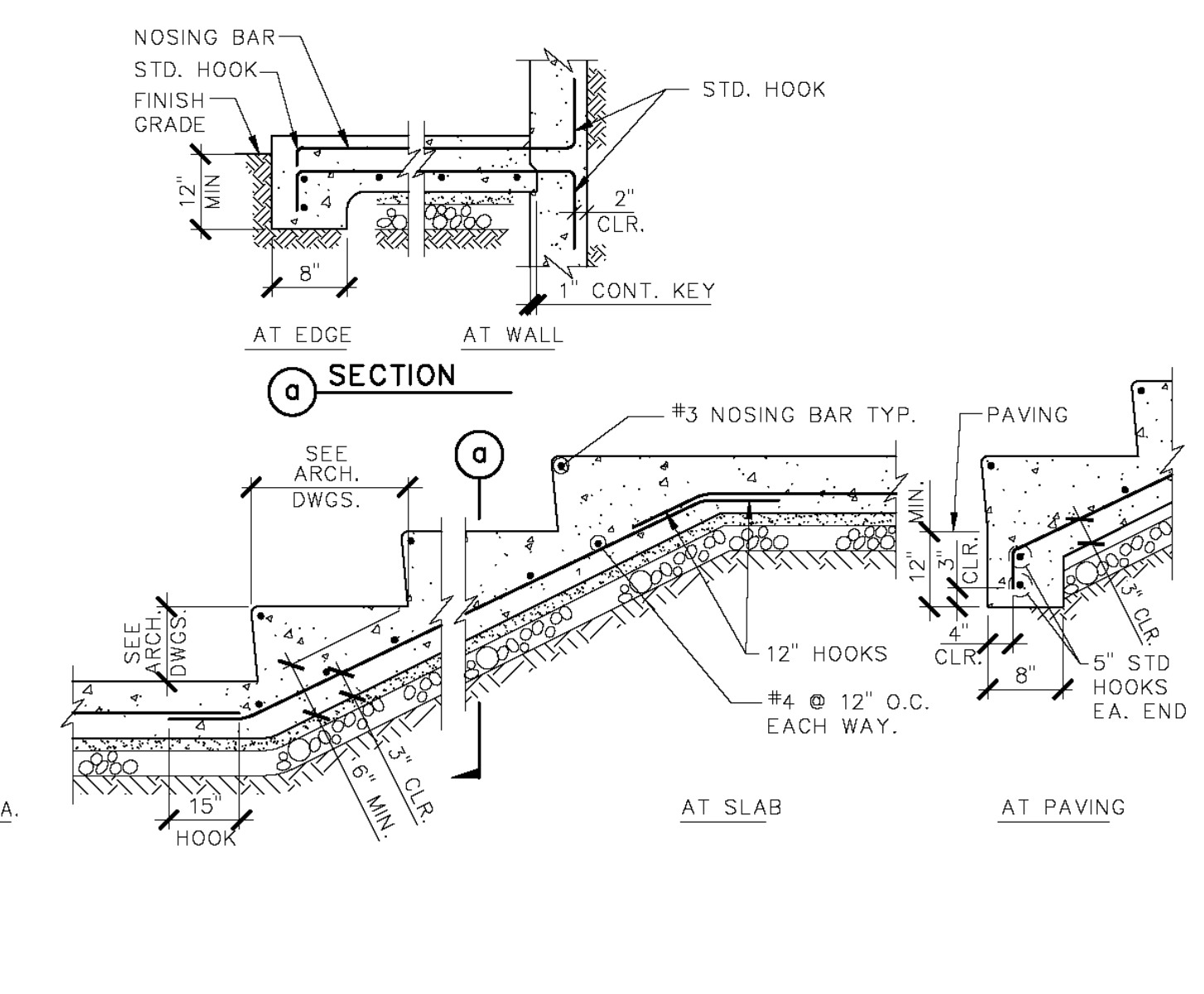
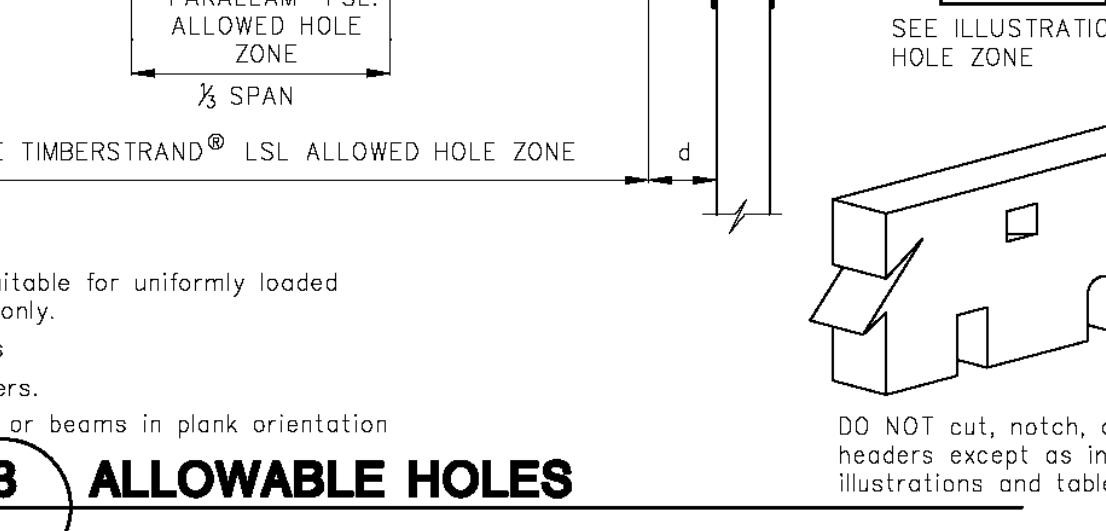
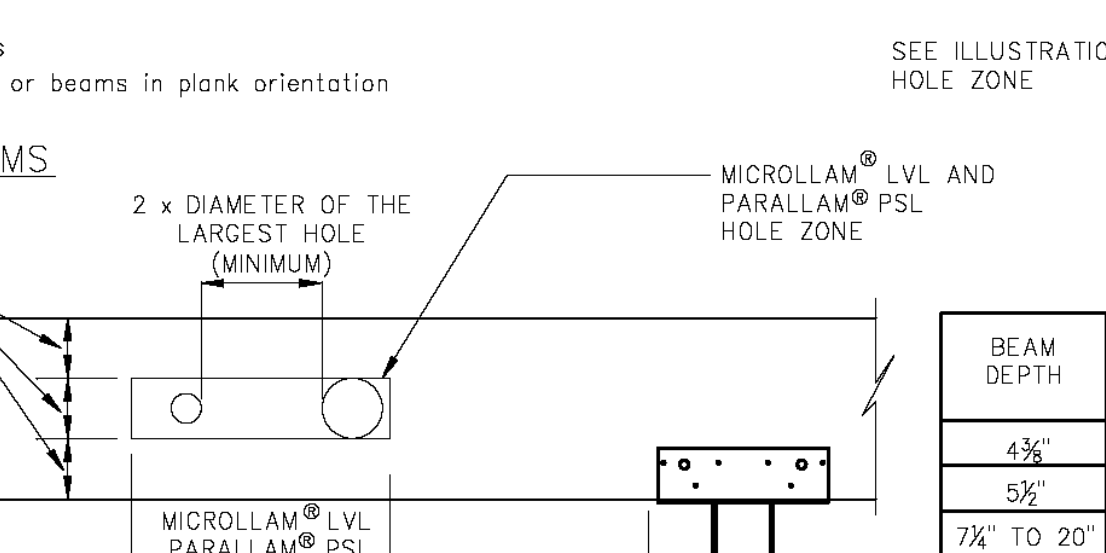
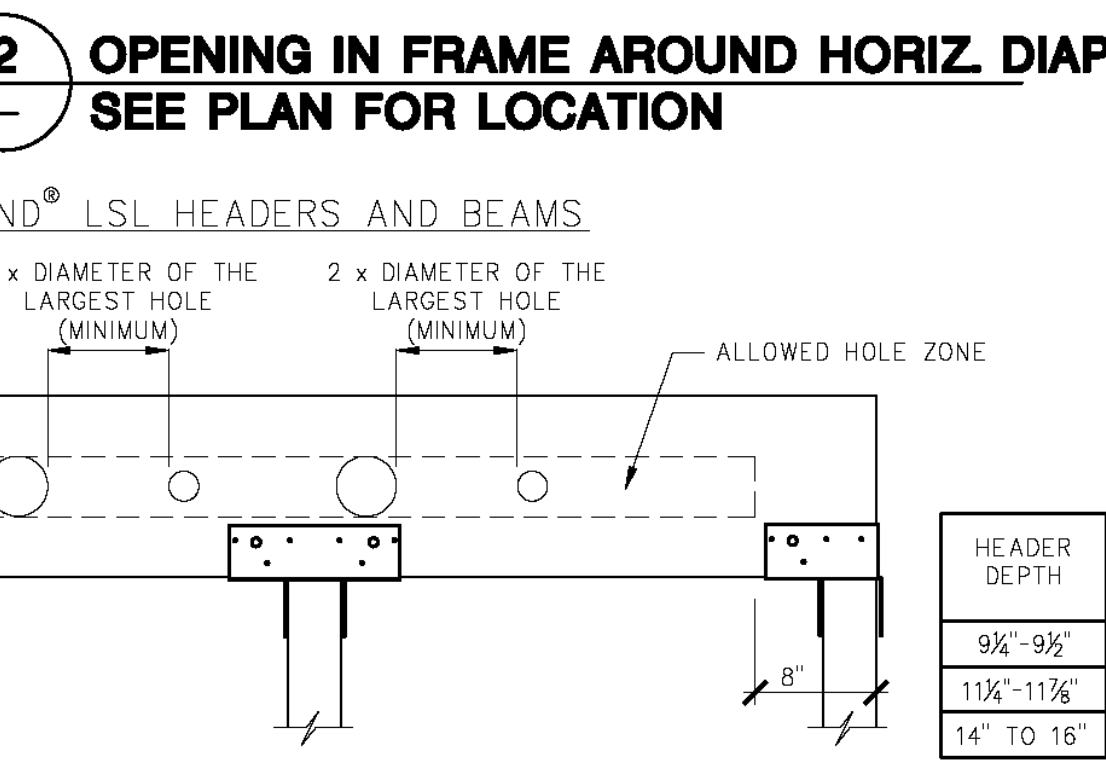
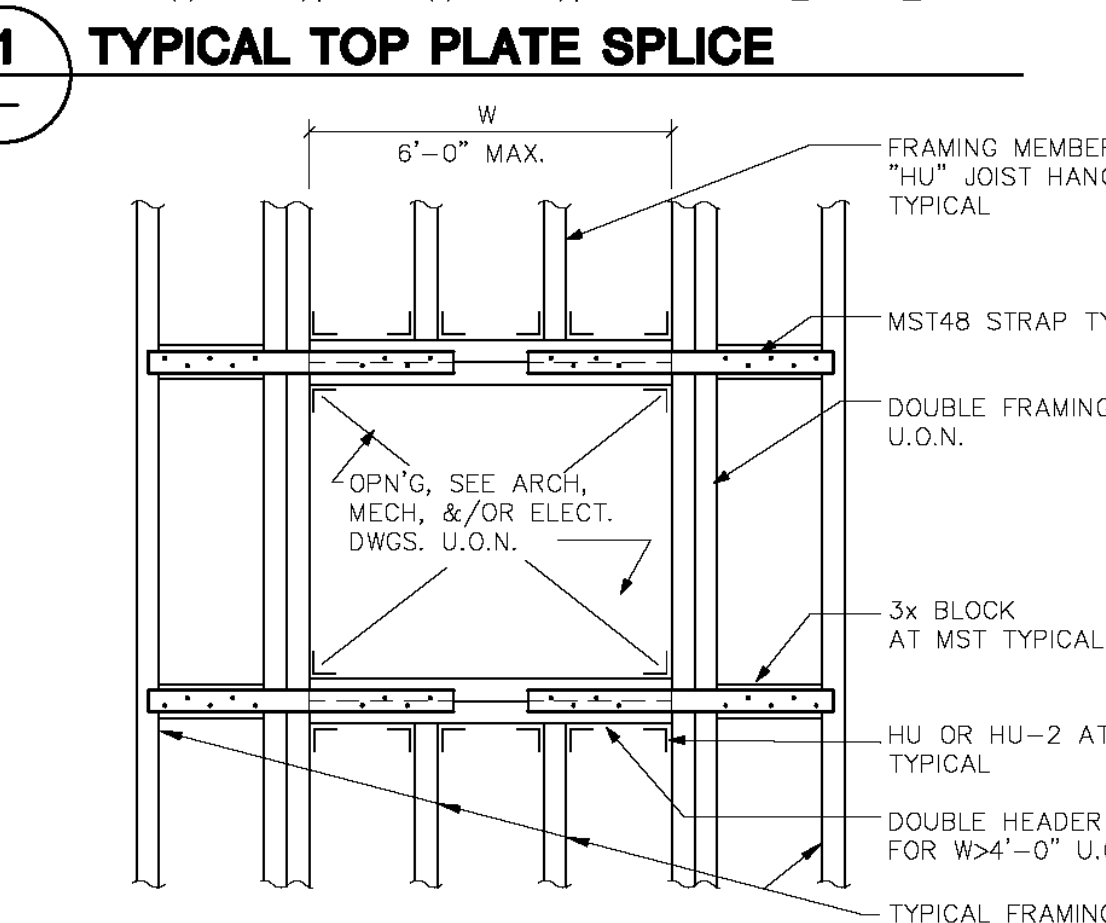
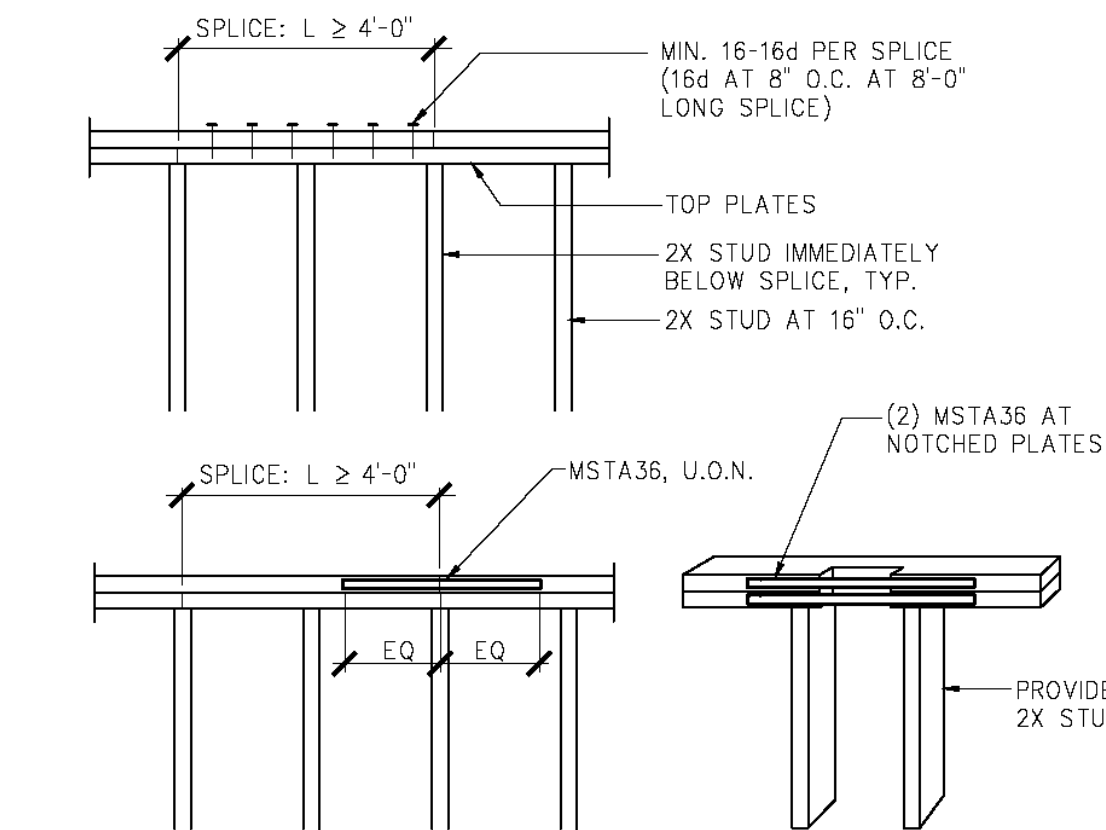
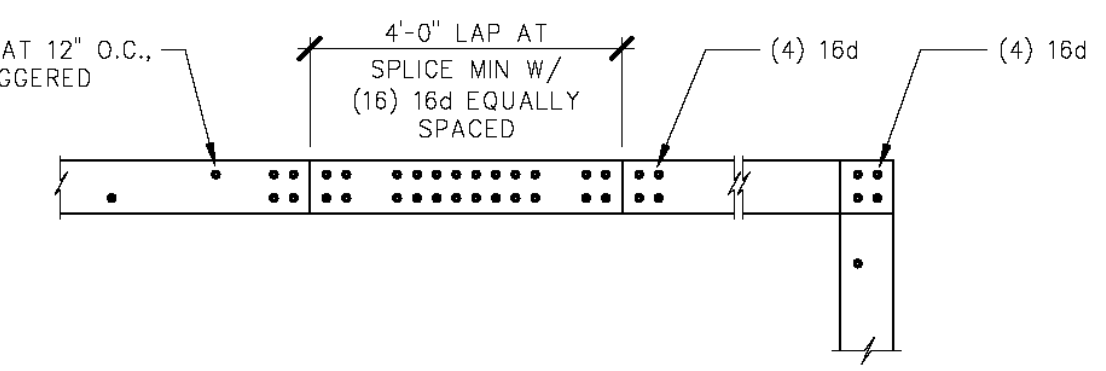
AKD HOMES
 1119 SHIRLEY DR.
 MILPITAS, CA 95035

REVISIONS/DATE BY

Engineer: FD
 Drafter: FD
 Date: 01/02/2024
 Scale: AS NOTED
 Job No: 24003

SHEET

STD2



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 PLOT DATE: 01-17-24 PLOTTED BY: FMD



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 721 COLORADO AVENUE, SUITE 104
 MILPITAS, CA 95035
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 FAX (950) 285-4424
 www.fmdengineering.com

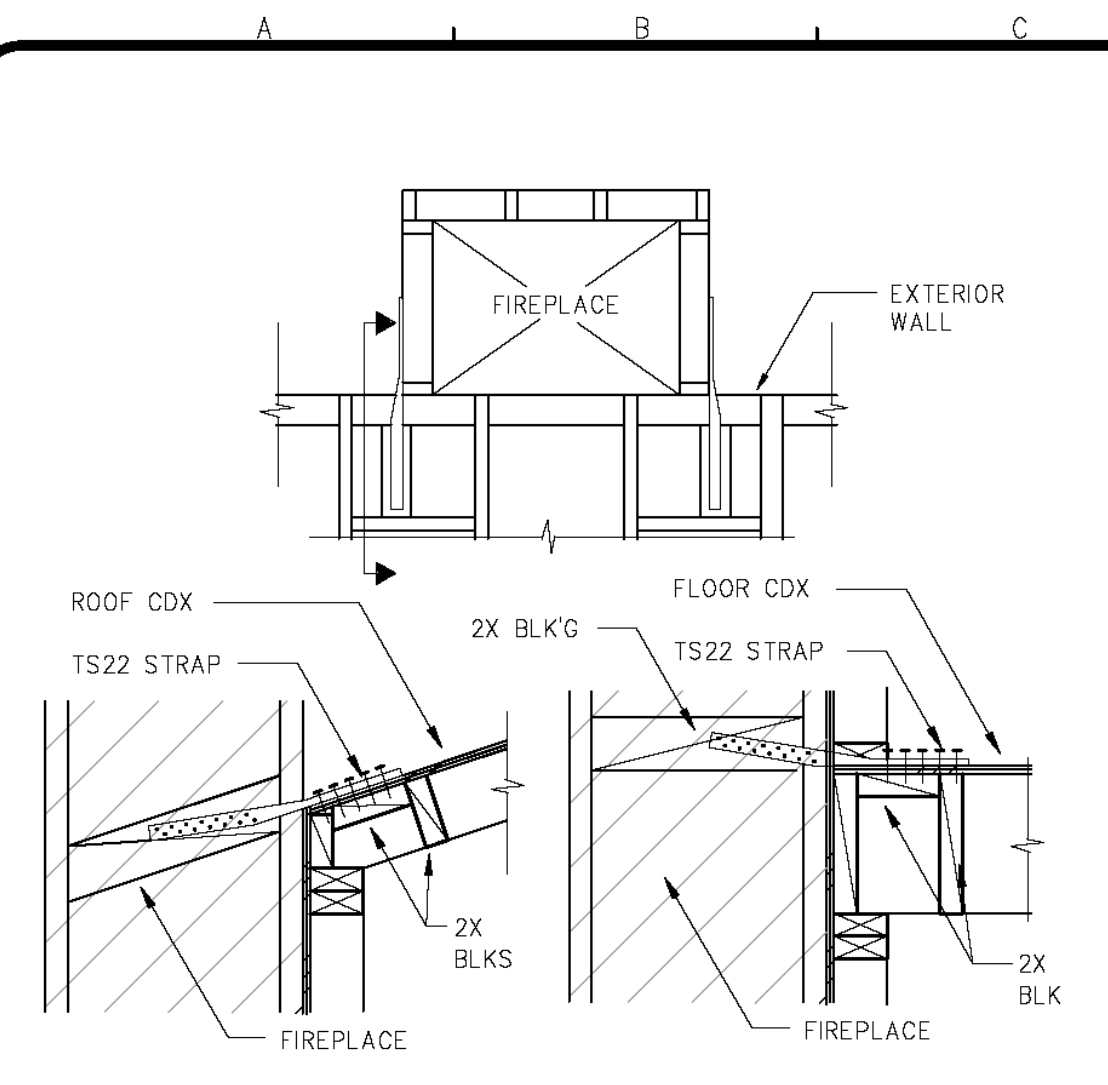
AKD HOMES
 1119 SHIRLEY DR.
 MILPITAS, CA 95035

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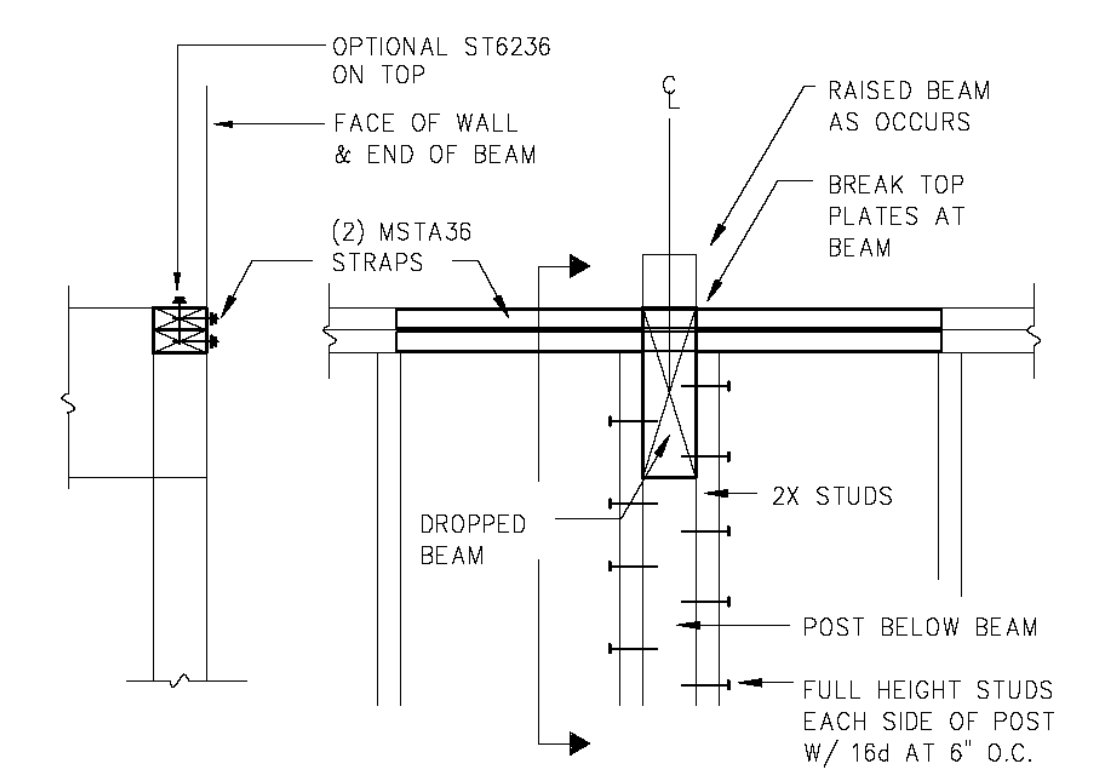
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 Drafter: FD
 Date: 01/02/2024
 Scale: AS NOTED
 Job No: 24003

SHEET

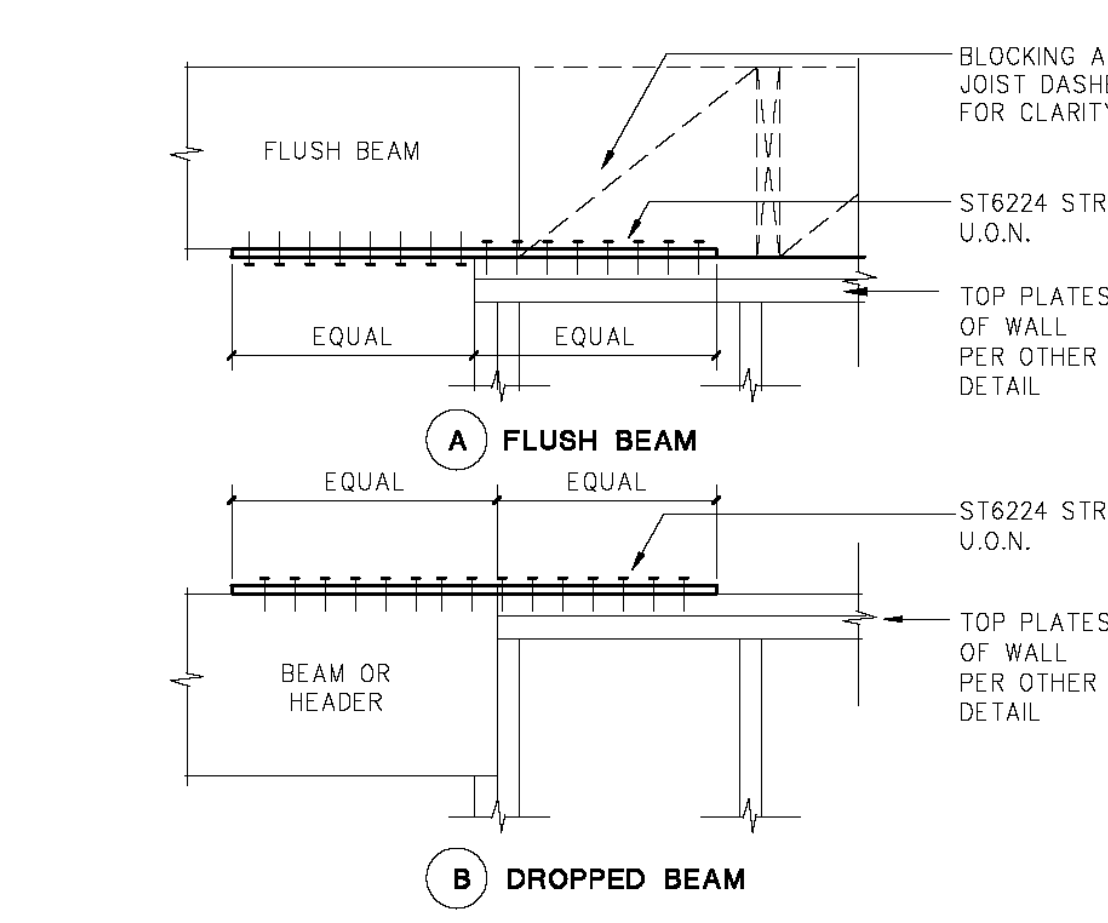
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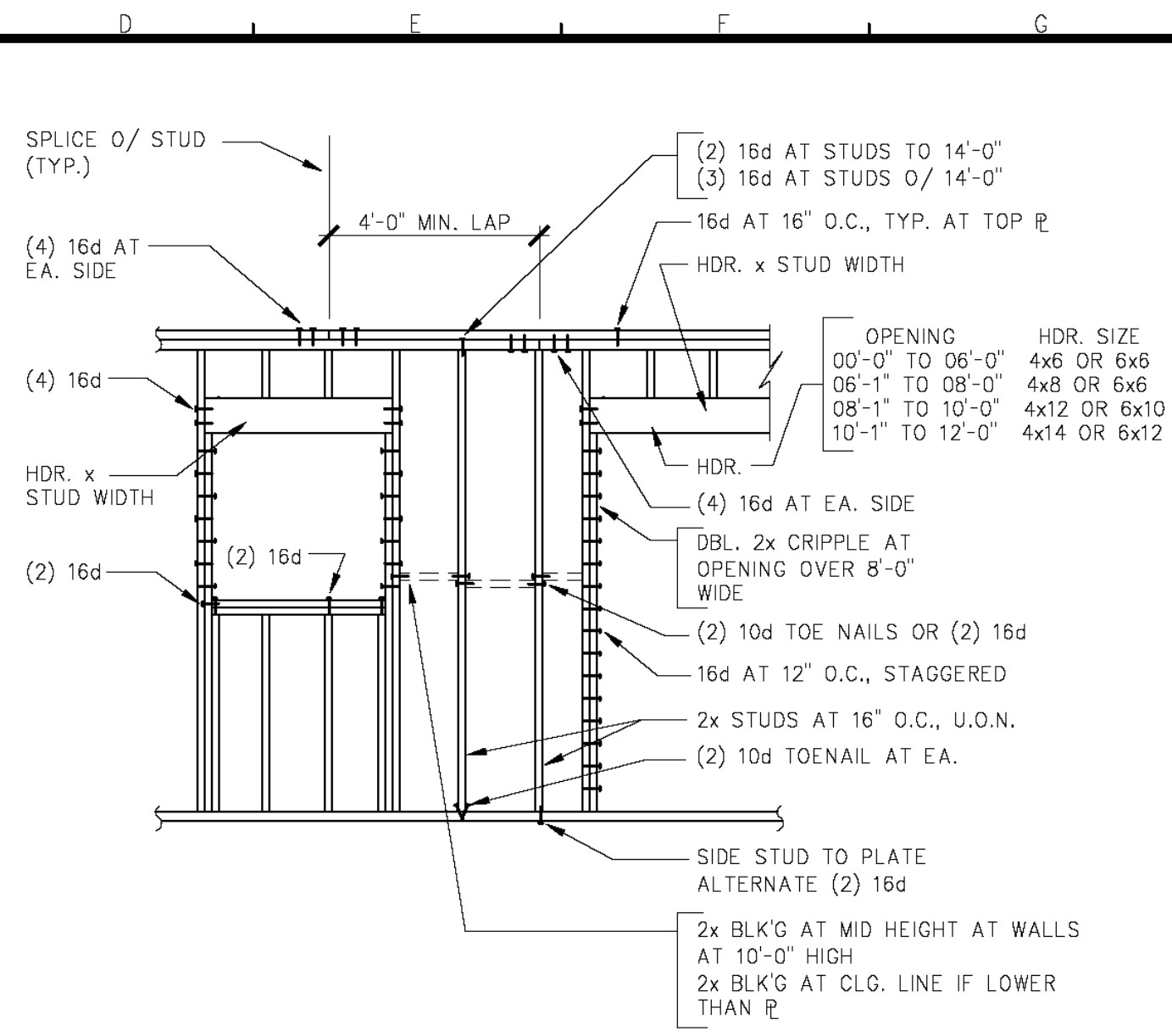
10 TYPICAL METAL TIE FOR WOOD FRAME CHIMNEY



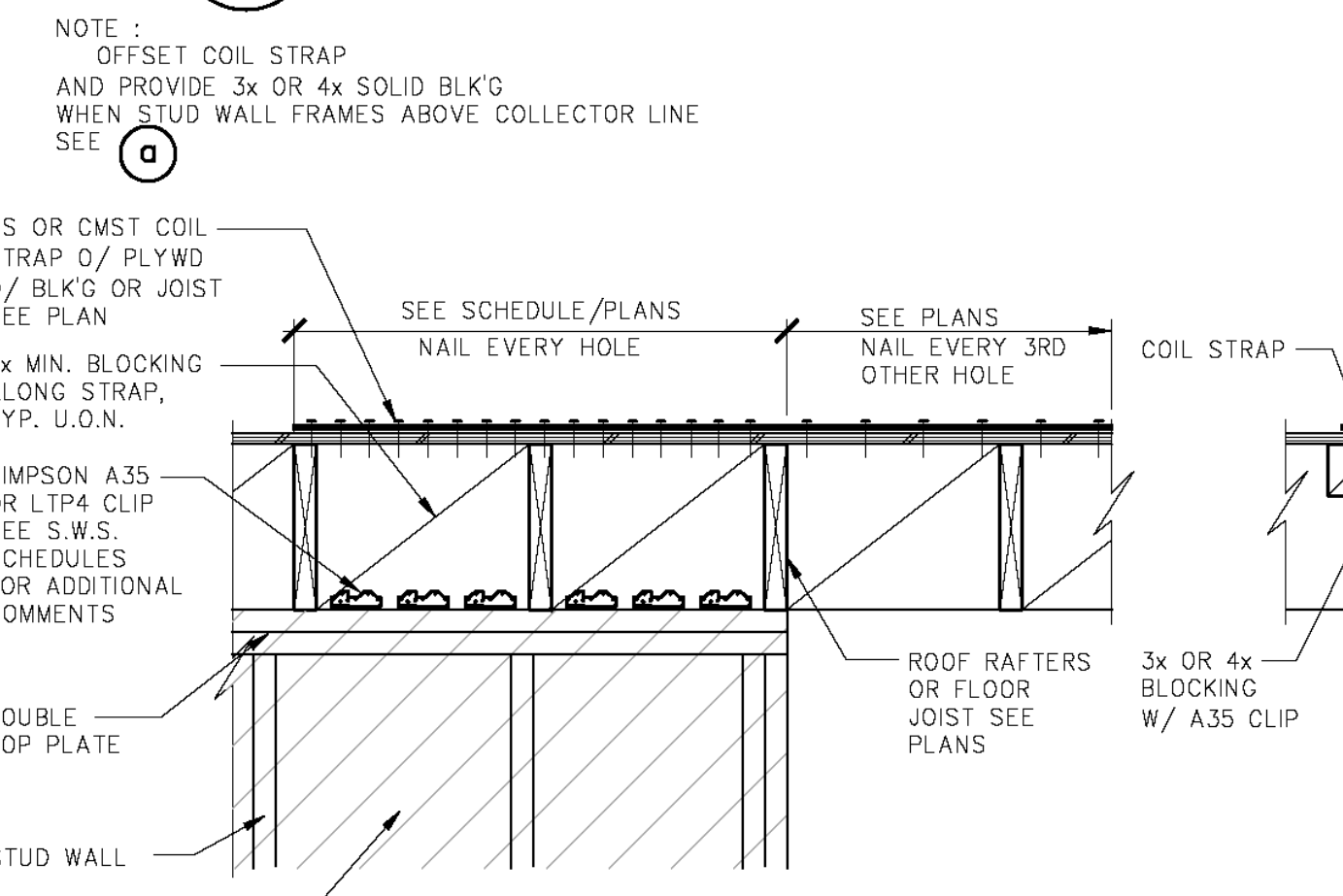
11 TYPICAL TOP PLATE SPLICE AT BEAM CONNECTION



12 TYPICAL SHEAR COLLECTOR STRAP



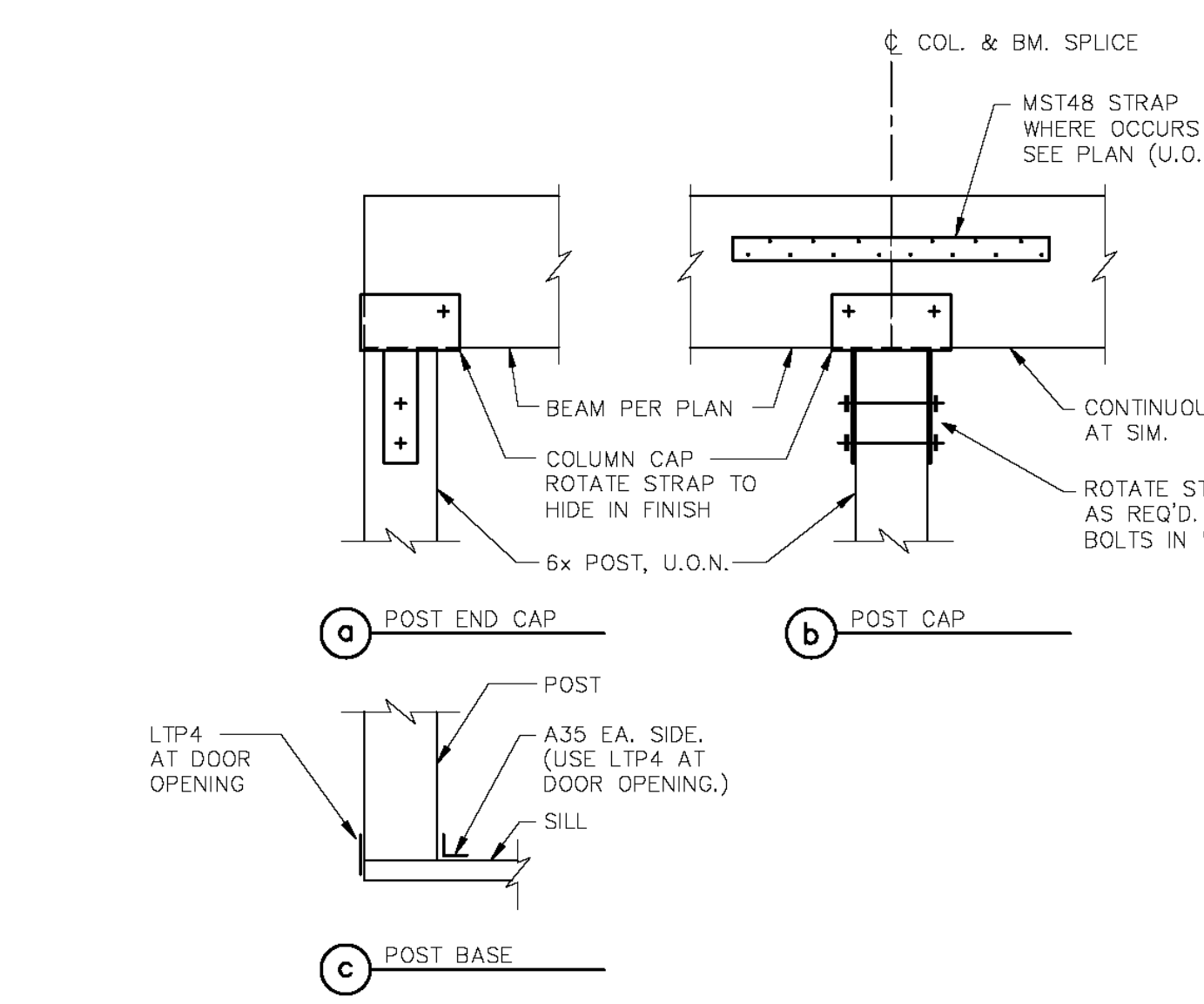
7 TYPICAL STUD WALL DETAIL



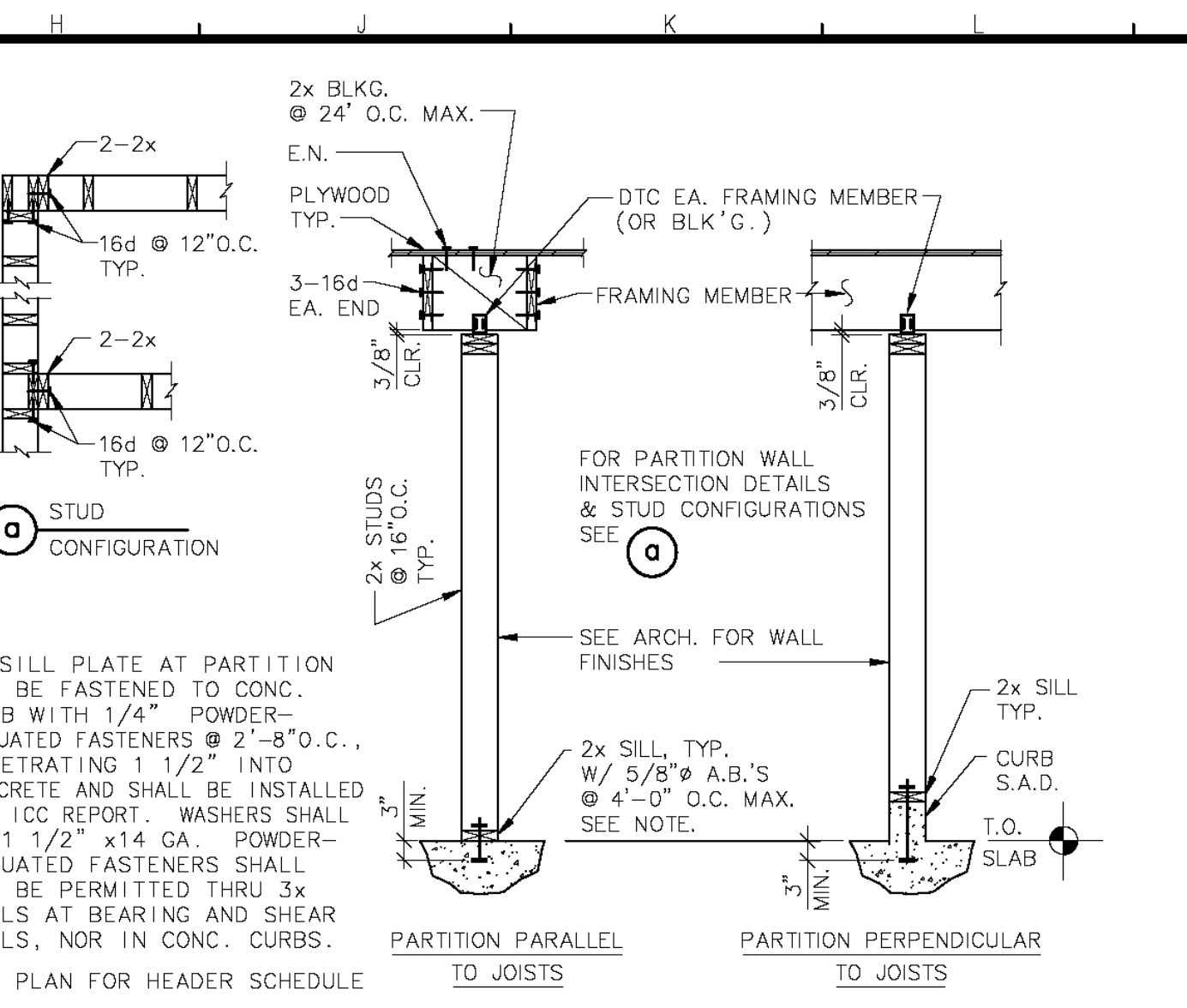
SCHEDULE

COIL STRAP	LENGTH "L" INTO SHEAR WALL	NO. OF CLIPS
CS16	24"	(4) A35's
CS14	24"	(6) A35's
CMSTC16	36"	(7) LTP4/(10) A35's
CMST14	48"	(10) LTP4/(14) A35's

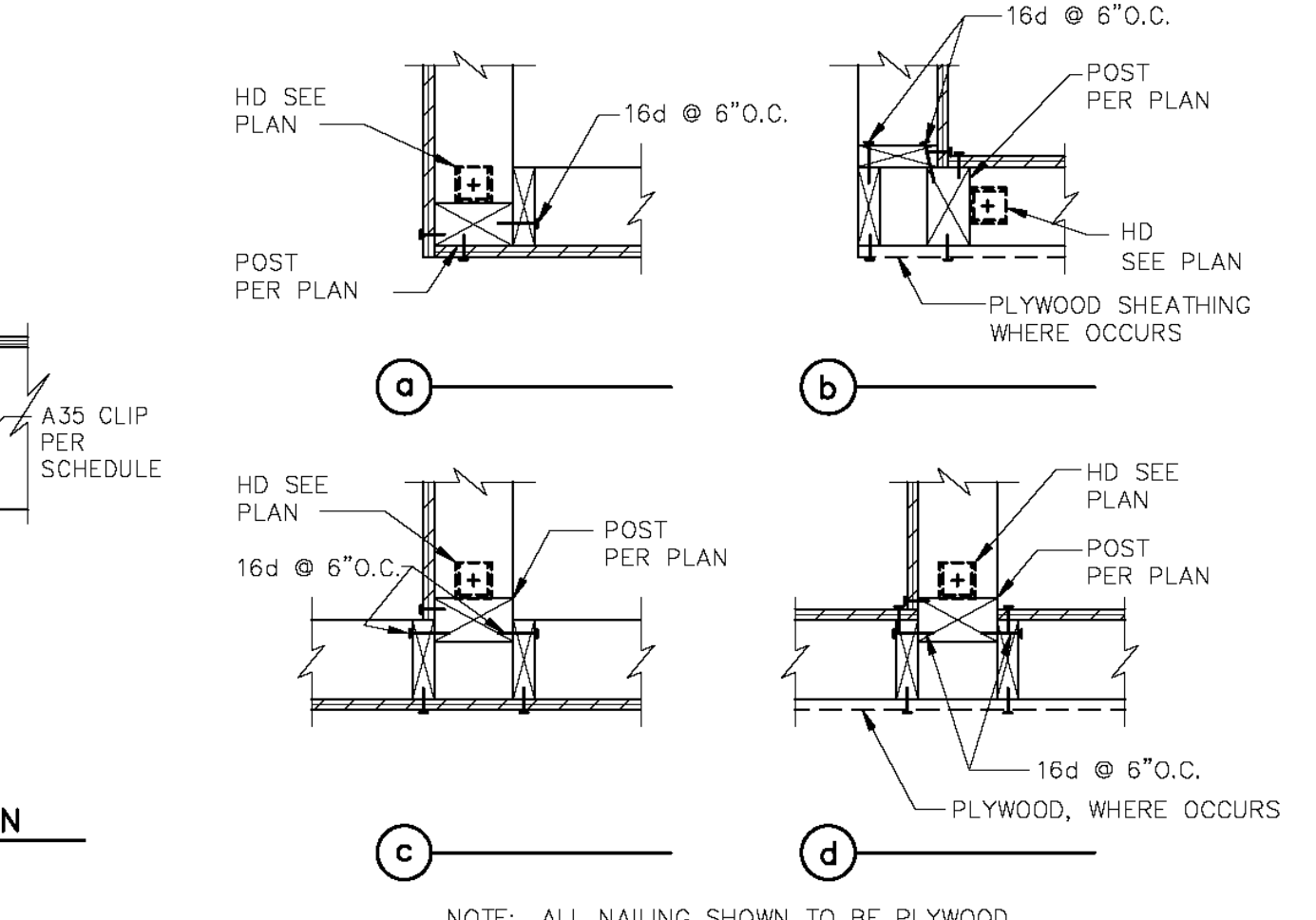
8 TYPICAL COIL STRAP DRAG CONNECTION AT ROOF



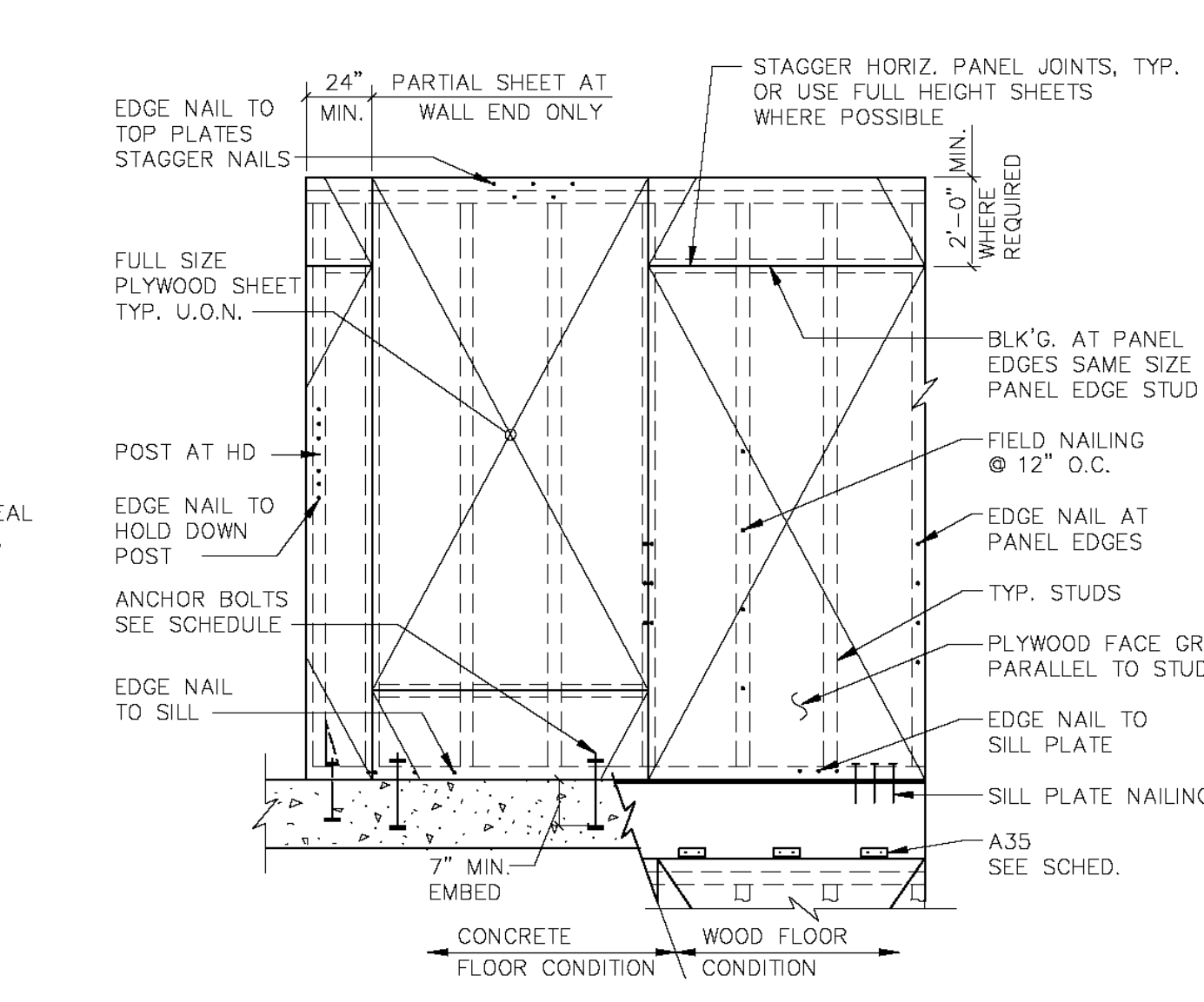
9 BEAM AND POST CONNECTION



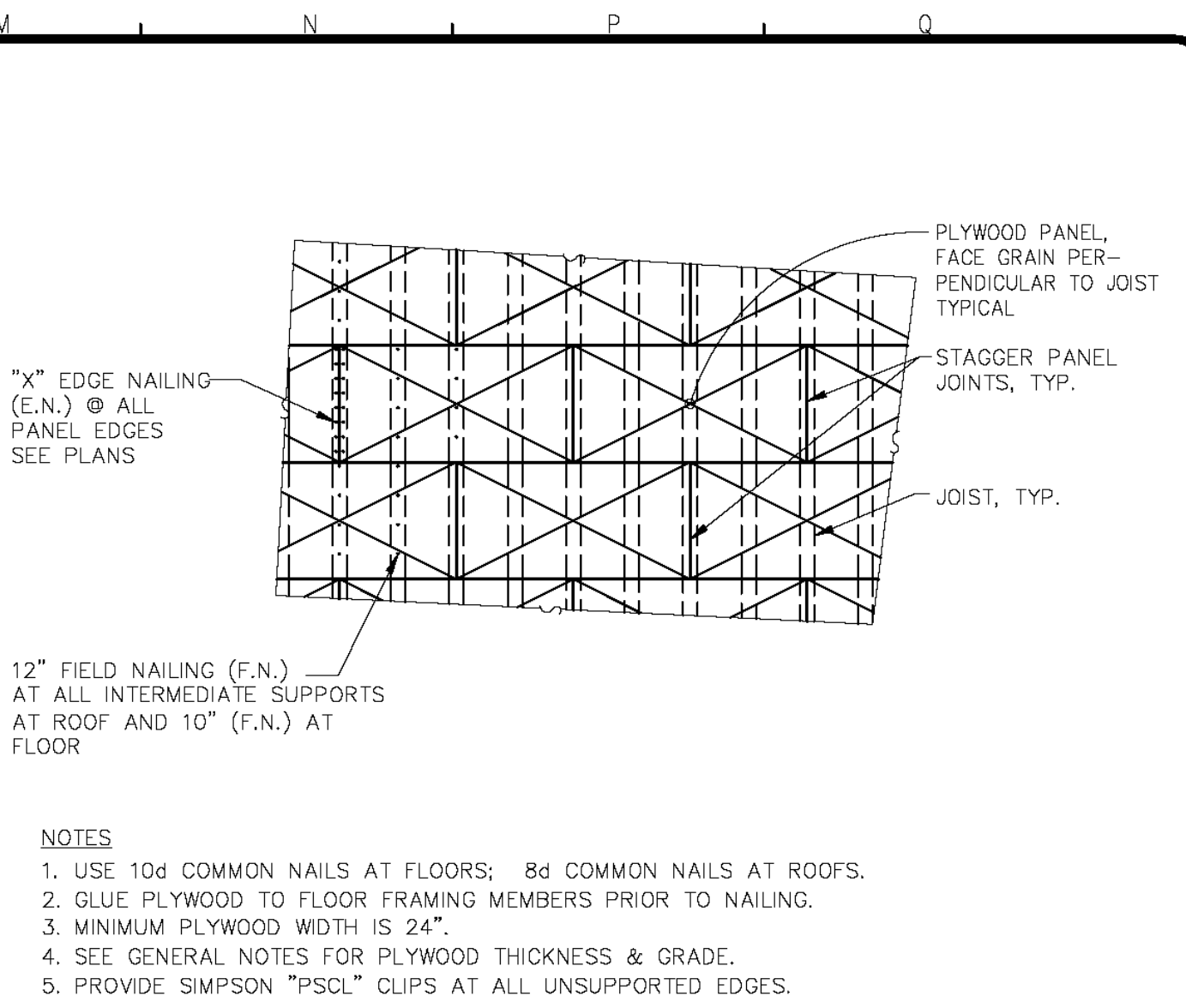
4 NON-STRUCTURAL PARTITION



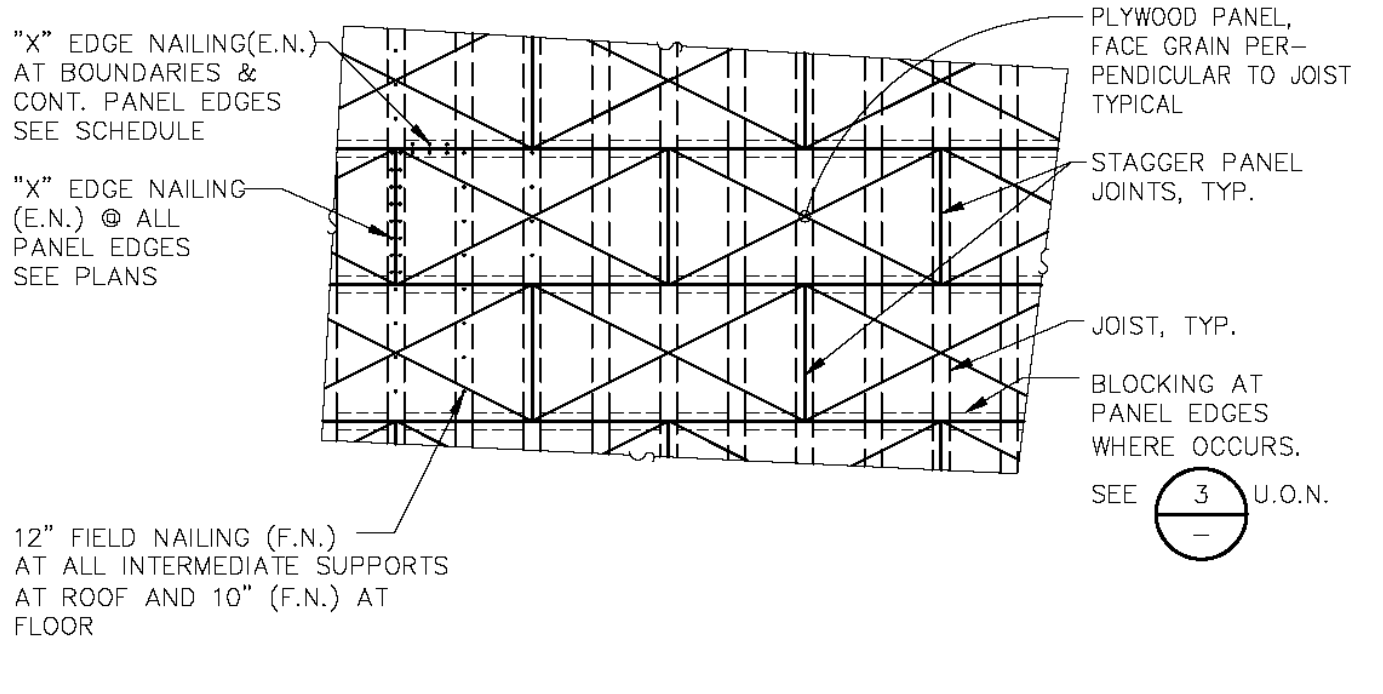
5 SHEAR WALL INTERSECTIONS



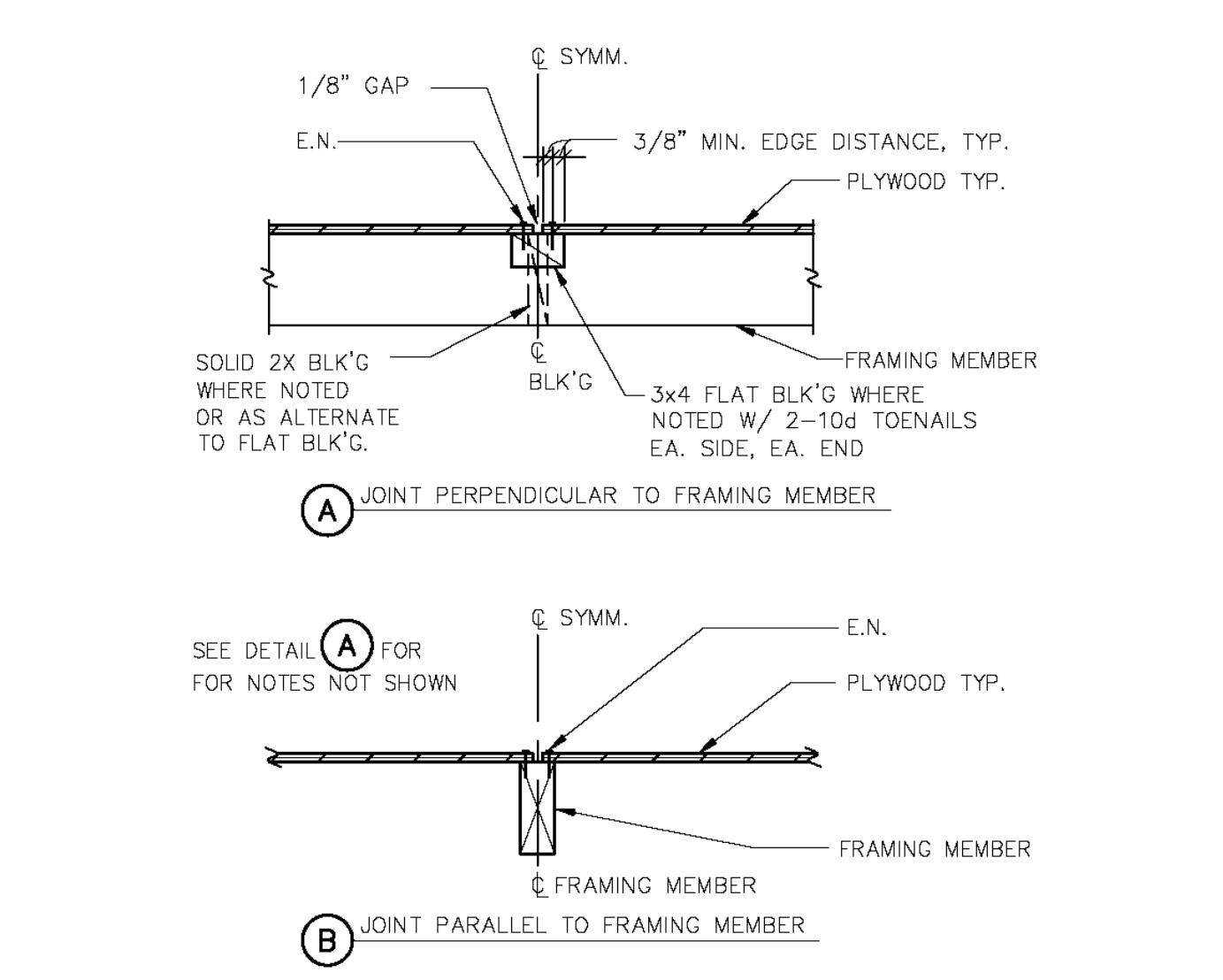
6 SHEAR WALL FRAMING ELEVATION



1 PLYWOOD SHEATHING AT ROOF AND FLOORS UNBLOCKED



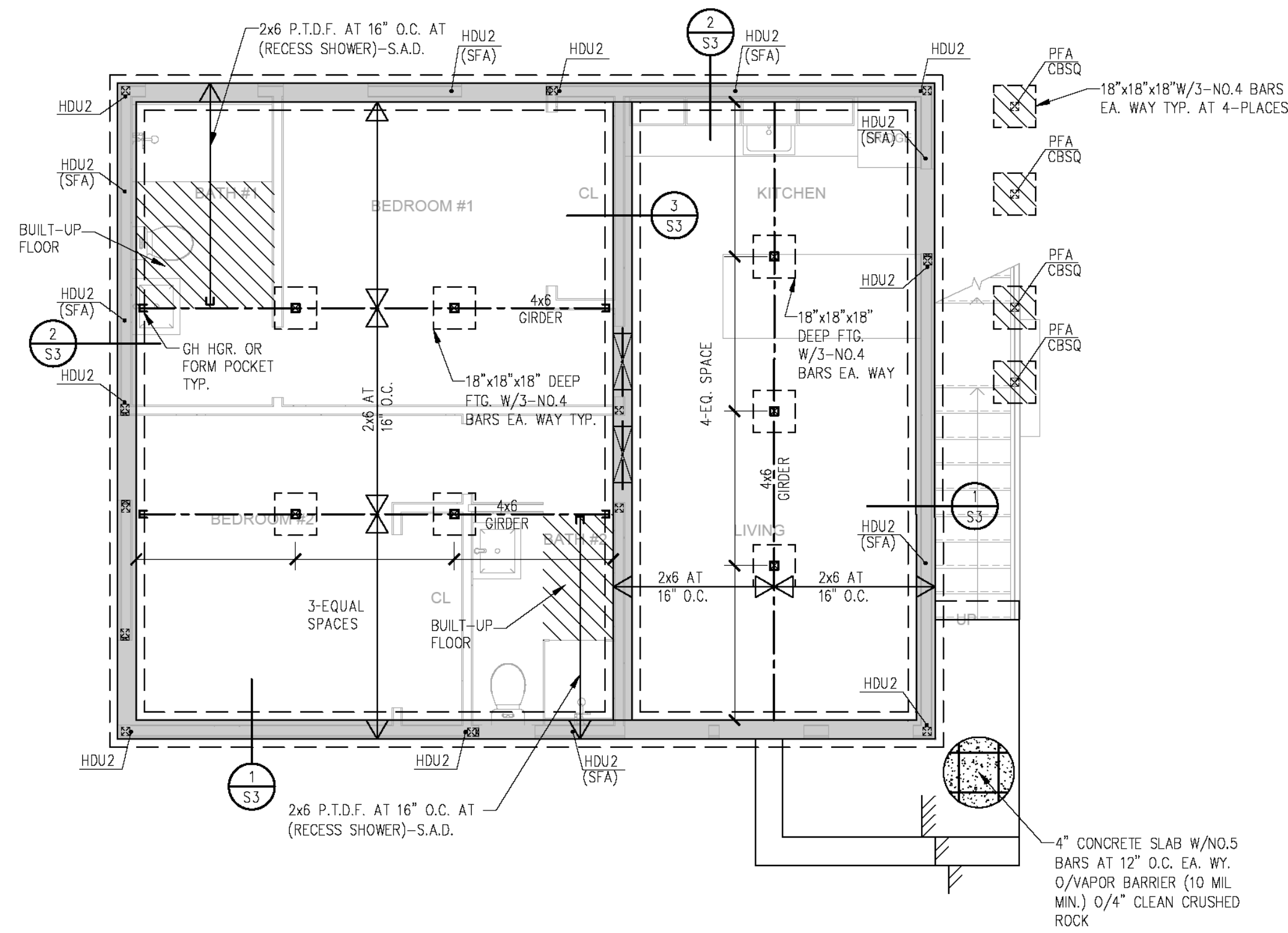
2 PLYWOOD SHEATHING AT ROOF AND FLOORS REQUIRING SPECIAL BLOCKING AND EDGE NAIL SEE PLAN FOR LOCATION



3 PLYWOOD NAILING

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 PLOT DATE: 01-17-24 PLOTTED BY: cttacc



FOUNDATION PLANS
 SCALE 1/4" = 1'-0"

LEGEND AND NOTES

- FLOOR JOIST: 2x6 D.F. No. 2 OR BETTER AT 16" O.C., TYP. (U.O.N.)
- NOTE:**

 PROVIDE OBL. JOIST UNDER PARALLEL NON-BEARING PARTITION WALL ABOVE AND 2x BLOCKING UNDER PERPENDICULAR NON-BEARING PARTITION WALL ABOVE.
- 15" WIDE CONTINUOUS FOOTING WITH 3-NO.4 BARS 1-TOP AND 2-BOTTOM W/ NO.4 VERTICAL BAR AT 24" O.C.
- DENOTES 4x6 GIRDER D.F. NO.1 OR BETTER W/ CONCRETE SPREAD FOOTING, SEE PLAN FOR SIZES AND REINF. SEE DETAIL
- DENOTES CONCRETE SPREAD FOOTING SEE PLAN FOR SIZES AND REINF. SEE DETAIL
- DENOTES CRAWL SPACE ACCESS SEE
- DENOTES SIMPSON HDU HOLDOWNS, NEW FOOTING: SEE DETAIL
- DENOTES CHANGE IN ELEVATION SEE ARCH. PLANS
- DENOTES 4x OR 6x POST, SEE FRAMING PLAN
- DENOTES POST FROM ABOVE

HORIZONTAL DIAPHRAGMS
 FLOORS: 3/4" CDX PLYWOOD WITH 10d COMMON NAILS @ 4" O.C. BOUNDARY, 6" O.C. EDGES, AND 10" O.C. FIELD. (UNBLOCKED UNLESS OTHERWISE NOTED ON PLANS)
 IF 1 1/8" THICK PLYWOOD IS USED FOR FLOOR DIAPHRAGM, USE SIMPSON 1/4"x1 1/2" LONG SDS SCREWS AT SILL PLATE NAILING FOR &

ANCHOR BOLT SCHEDULE:
 FASTENERS FOR PRESSURE-PRESERVATIVE TREATED AND FIRE-RETARDANT TREATED WOOD SHALL BE OF HOT-DIPPED ZINC COATED GALVANIZED, STAINLESS STEEL, SILICON BRONZE OR COPPER. CBC 2304.9.5
NEW FOOTING: USE 3x P.T.D.F. SILL WITH 3/8"x12" A.B.'S (GALV.) AT 48" O.C. (MIN. 2 BOLTS PER SILL) (USE 3"x3" W/ STEEL PLATE WASHERS (GALV.) TYPICAL. (U.O.N.)

NOTE:
 ALL INDICATED DIMENSION SHALL TAKE PRECEDENCE OVER ANY SCALE MEASUREMENTS. DO NOT SCALE DRAWINGS.
 REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND CRAWL SPACE VENTILATION.



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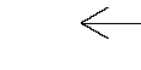


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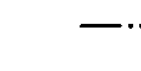
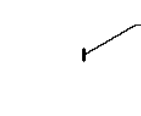



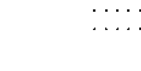

Engineer: FD
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SHEET
S1

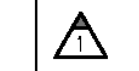
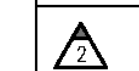



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LEGEND AND NOTES

-  ROOF RAFTERS : TJI 230 x 117/8" DEEP AT 16" O.C., TYP. (U.O.N.) ESR-1153
-  CEILING JOIST : 2x6 D.F. No. 2 AT 16" O.C. (MAX. SPAN 14'-0") OR 2x8 D.F. No. 2 AT 24" O.C. (MAX. SPAN 16'-0")
-  FLOOR JOIST : TJI 230 x 117/8" DEEP AT 16" O.C., TYP. (U.O.N.) ESR-1153
- PROVIDE DBL JOIST UNDER PARALLEL NON-BEARING PARTITION WALL ABOVE AND TJI BLOCKING UNDER PERPENDICULAR NON-BEARING PARTITION WALL ABOVE.
-  HEADERS: 4" WALL - 4x10 D.F. NO.1 OR BETTER, TYP. (U.O.N.)
6" WALL - 6x10 D.F. NO.1 OR BETTER, TYP. (U.O.N.)
- DENOTES FLUSH OR DROP BEAMS: (SEE FRAMING PLAN FOR SIZES & LOCATION)

 - DIMENSIONAL LUMBER: D.F. No. 1, TYP. (U.O.N.)
 - STRUCTURAL COMPOSITE LUMBER: ICC No. ESR 1387
 - MICROLAM LAMINATED VENEER LUMBER (LVL) E=2.0 x 10⁶ PSI
 - PARALLEL STRAND LUMBER (PSL) E=2.2 x 10⁶ PSI
-  LEDGER 2x10 P.T.D.F. No. 1 OR BETTER W/ (3) 1/4"x3/8" SDS AT 16" O.C. TYP. (U.O.N.)
-  DENOTES SIMPSON MST STRAP HOLD-DOWN SEE DETAIL S3 AND S3
-  DENOTES 4x OR 6x POST, SEE PLAN
-  DENOTES STRAP FROM ABOVE
-  DENOTES POST FROM ABOVE
-  DENOTES WALL FROM ABOVE
-  DENOTES STB236 COLLECTOR STRAP - BEAM TO BEAM, BEAM TO TOP PLATE OR THE TOP PLATES TYP. U.O.N.

SHEAR WALL SCHEDULE

DENOTES SHEAR WALL. SEE PLAN FOR LOCATION			
SHEAR WALL	PANEL NAILING AND MATERIALS	SILL PLATE NAILING (FLOOR)	SIMPSON A35 BETWEEN BLKG OR RM MEMBER & TOP PLATE
	1/2" CDX PLYWD. W/84 @ 6" O.C. EDGES & 12" O.C. FIELD	164 @ 6" O.C.	A35 @ 24" O.C.
	1/2" CDX PLYWD. W/84 @ 4" O.C. EDGES & 12" O.C. FIELD	164 @ 4" O.C.	A35 @ 18" O.C.
	1/2" CDX PLYWD. W/84 @ 3" O.C. EDGES & 12" O.C. FIELD	1/4"x45" LAG @ 5" O.C.	A35 @ 16" O.C.
	1/2" CDX PLYWD. W/84 @ 2" O.C. EDGES & 12" O.C. FIELD	1/4"x45" LAG @ 4" O.C.	A35 @ 12" O.C.
	1/2" STRUCT. I PLYWD. W/104 @ 2" O.C. EDGES & 12" O.C. FIELD	1/4"x45" LAG @ 2" O.C.	A35 @ 6" O.C.



+ REQUIRED 3x STUD/BLKG. AT ABUTTING PLYWOOD PANEL JOINT

HORIZONTAL DIAPHRAGMS


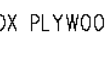

ROOF: 1/2" CDX PLYWOOD WITH 8d COMMON NAILS @ 4" O.C. BOUNDARY, 5" O.C. EDGES, AND 12" O.C. FIELD. (UNBLOCKED UNLESS OTHERWISE NOTED ON PLANS)

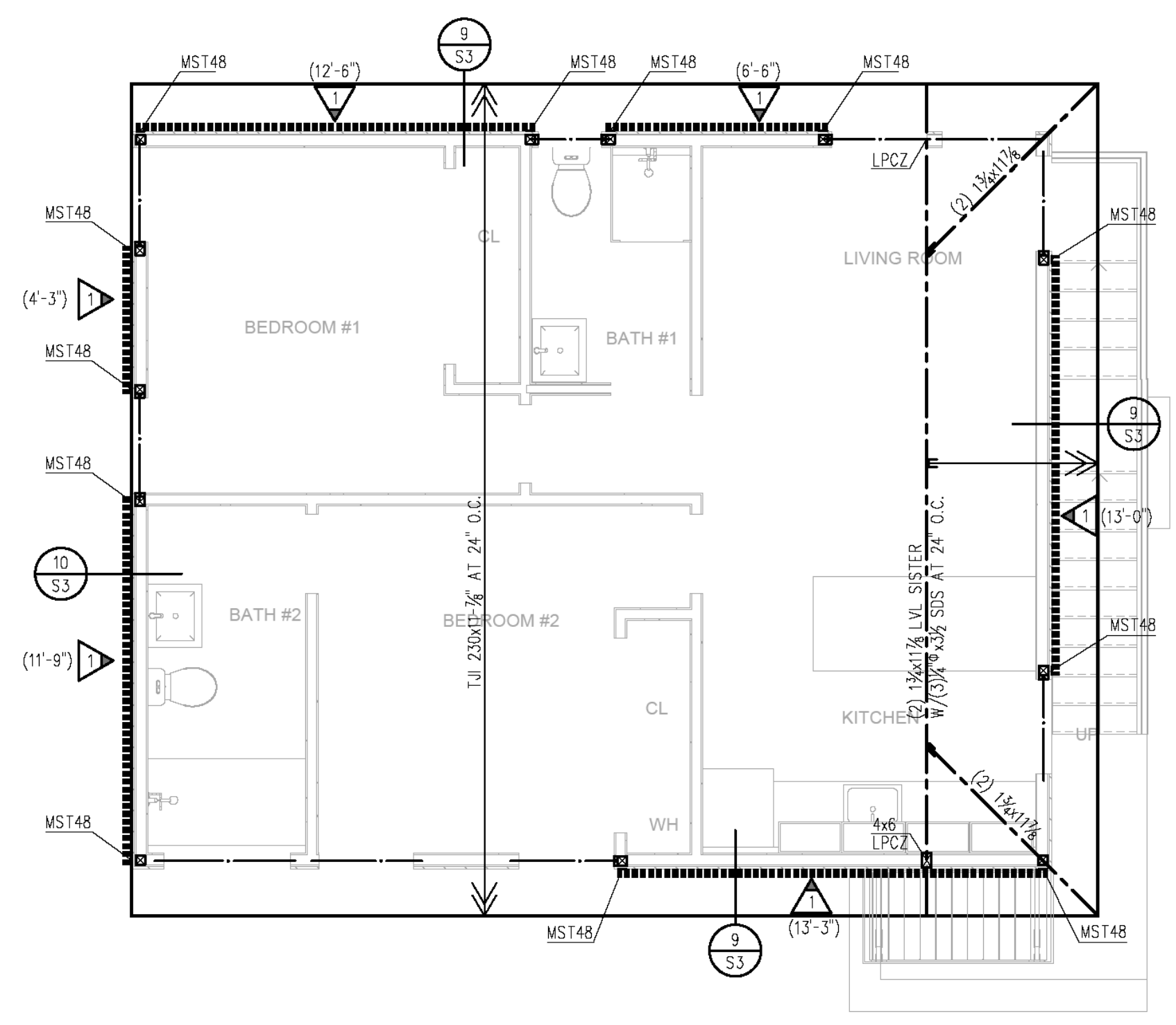
HORIZONTAL DIAPHRAGMS

FLOORS: 3/4" CDX PLYWOOD WITH 10d COMMON NAILS @ 4" O.C. BOUNDARY, 5" O.C. EDGES, AND 10" O.C. FIELD. (UNBLOCKED UNLESS OTHERWISE NOTED ON PLANS)

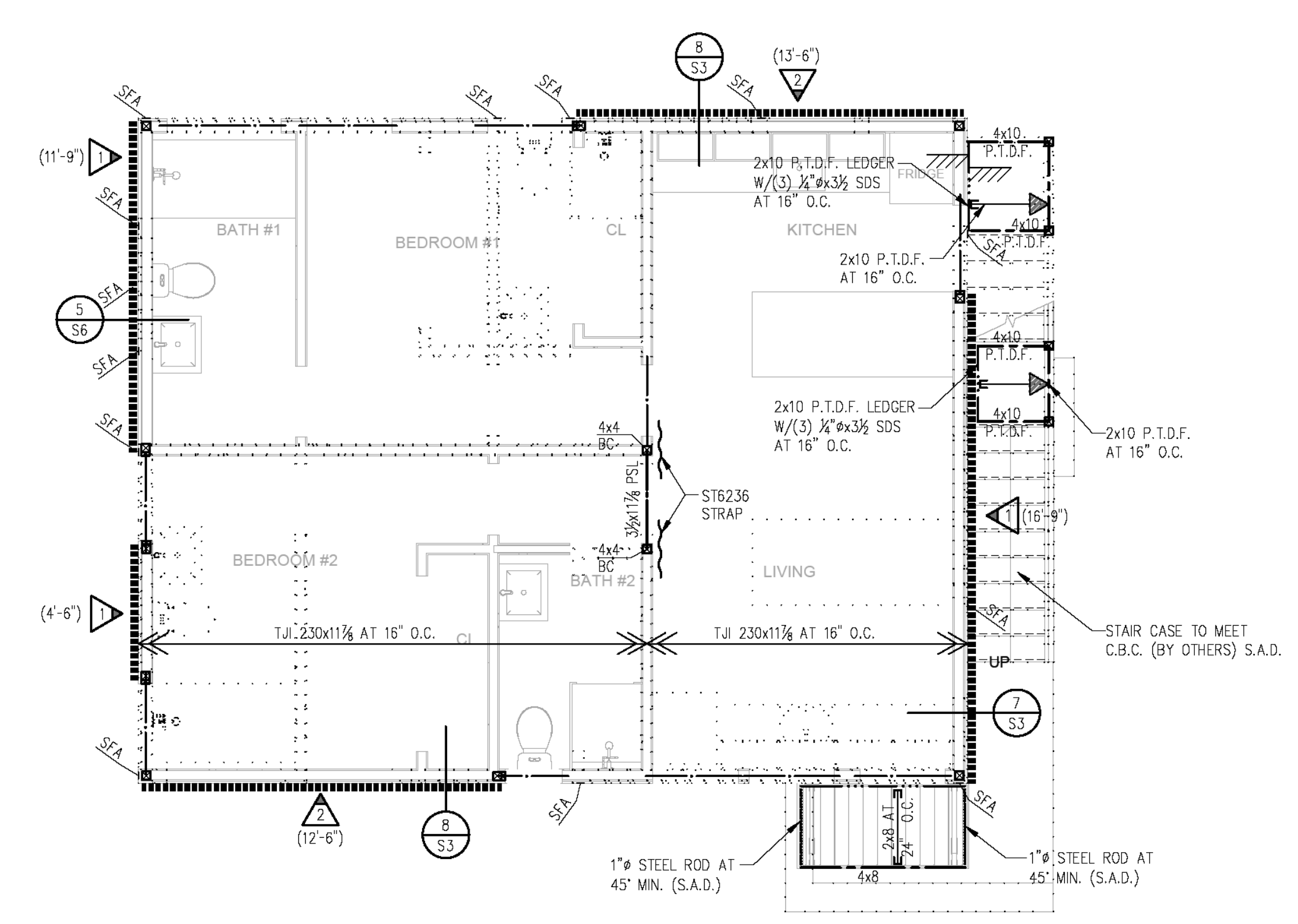
IF 1 1/8" THICK PLYWOOD IS USED FOR FLOOR DIAPHRAGM, USE SIMPSON 1/4"x4 1/2" LONG SDS SCREWS AT SILL PLATE NAILING FOR SHEARWALLS.  & 

SHEAR WALL NOTES

1. ALL EXTERIOR WALLS SHALL HAVE 1/2" CDX PLYWOOD WITH SHEAR  NAILING UNLESS OTHERWISE NOTED ON PLANS.
2. ALL EXTERIOR AND INTERIOR CRIPPLE WALLS SHALL HAVE 1/2" CDX PLYWOOD WITH SHEAR  NAILING UNLESS OTHERWISE NOTED ON PLANS.
3. ALL CRIPPLE WALLS, EXTERIOR OR INTERIOR, WITH TWO FLOORS OR STORES ABOVE, SHALL BE 2x6 STUD WALL WITH SHEAR  NAILING UNLESS OTHERWISE NOTED ON PLANS.
4. FRAMING AT ADJOINING PANEL EDGES SHALL BE 3" NOMINAL OR WIDER AND NAILS SHALL BE STAGGERED WHERE NAILS ARE SPACED 2" O.C.
5. WHERE PANELS ARE APPLIED ON BOTH FACES OF WALL AND NAIL SPACING IS LESS THAN 6" O.C. ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBER SHALL BE 3" NOMINAL OR THICKER AND NAILS ON EACH SIDE SHALL BE STAGGERED.
6. ALTERNATE TO CDX PLYWOOD, USE ORIENTED STRANDED BOARD (OSB).
7. ALL SHEARWALL NAILING SHALL BE COMMON NAILS.

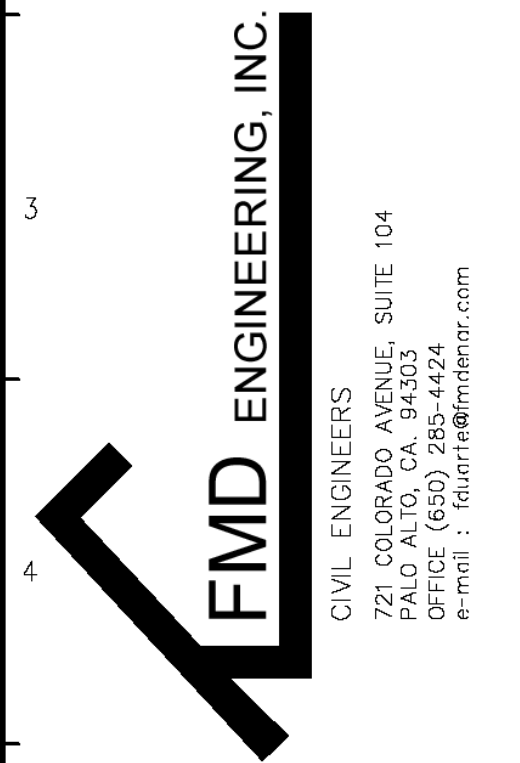


ROOF FRAMING PLAN
SCALE 1/4" = 1'-0"



SECOND FLOOR FRAMING PLAN
SCALE 1/4" = 1'-0"

NOTE:
ALL INDICATED DIMENSION SHALL TAKE PRECEDENCE OVER ANY SCALE MEASUREMENTS. DO NOT SCALE DRAWINGS.
REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ROOF/ATTIC VENTILATION.



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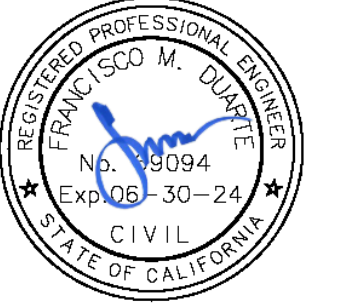
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Engineer: FD
 Drafter: FD
 Date: 01/02/2024
 Scale: AS NOTED
 Job No: 24003

SHEET
S2

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 PLOT DATE: 01-17-24 PLOTTED BY: efileo

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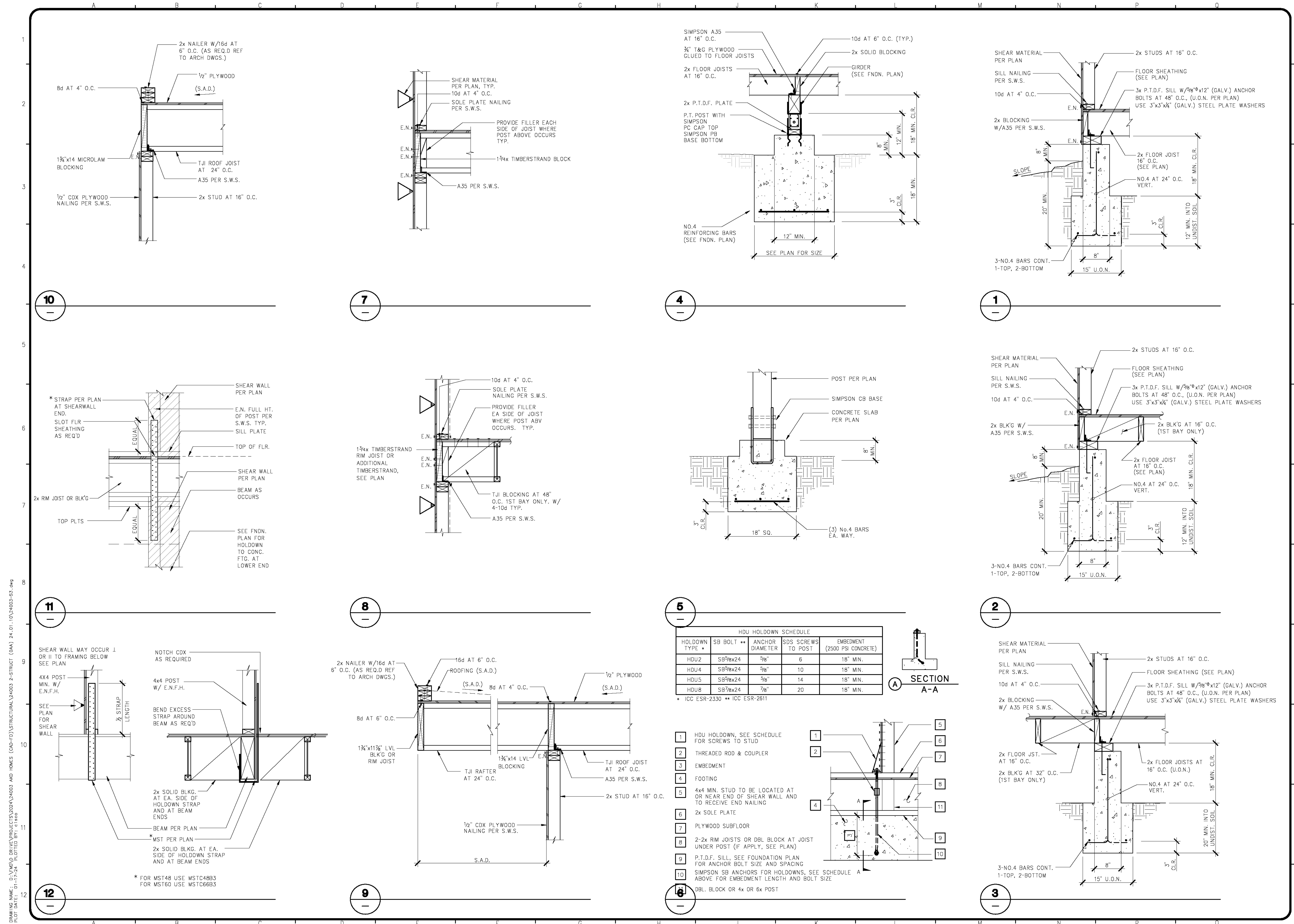
AKD HOMES
 1119 SHIRLEY DR.
 MILPITAS, CA 95035

REVISIONS/DATE BY

Engineer: FD
 Drafter: FD
 Date: 01/02/2024
 Scale: AS NOTED
 Job No: 24003

SHEET

S3



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 PLOT DATE: 01-17-24 PLOTTED BY: cfico

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
1119 SHIRLEY DR- ADU	1360	1	4	2	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	Status
ADU- 1st FLR	Conditioned	HVAC System 1	680	8.5	DHW System 1	New
ADU- 2nd FLR	Conditioned	HVAC System 1	680	8	DHW System 1	New

OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft ²)	Window and Door Area (ft ²)	Tilt (deg)
Exterior Wall	ADU- 1st FLR	2X6 R21	270	Front	246	55	90
Exterior Wall-2	ADU- 1st FLR	2X6 R21	0	Left	198	30	90
Exterior Wall-3	ADU- 1st FLR	2X6 R21	90	Back	246	38	90
Exterior Wall-4	ADU- 1st FLR	2X6 R21	180	Right	198	15	90
Exterior Wall-5	ADU- 2nd FLR	2X6 R21	270	Front	232	38	90
Exterior Wall-6	ADU- 2nd FLR	2X6 R21	0	Left	186.5	30	90
Exterior Wall-7	ADU- 2nd FLR	2X6 R21	90	Back	232	34	90
Exterior Wall-8	ADU- 2nd FLR	2X6 R21	180	Right	186.5	36	90
Floor Over Crawlspace 1	ADU- 1st FLR	R19 FLOOR	n/a	n/a	680	n/a	n/a
Interior Ceiling 1	ADU- 1st FLR	CEIL PART.	n/a	n/a	680	n/a	n/a
Interior Floor 1	ADU- 2nd FLR	FLR PARTITION	n/a	n/a	680	n/a	n/a

Registration Number: 224-P010010036A-000-000-0000000-0000 Registration Date/Time: 2024-01-23 09:03:47 HERS Provider: CalCERTS Inc.
 CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Report Generated: 2024-01-23 09:01:30
 Schema Version: rev 20220901

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
FLAT ROOF	ADU- 2nd FLR	R38 CEILING	90	Back	680	0	0.1	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
Window 15	Window	Exterior Wall-6	Left	0	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 16	Window	Exterior Wall-7	Back	90	2	2	1	4	0.3	NFRC	0.25	NFRC	Bug Screen
Window 17	Window	Exterior Wall-7	Back	90	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 11	Window	Exterior Wall-5	Front	270	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 12	Window	Exterior Wall-5	Front	270	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 13	Window	Exterior Wall-5	Front	270	4	2	1	8	0.3	NFRC	0.25	NFRC	Bug Screen
Window 14	Window	Exterior Wall-6	Left	0	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 9	Window	Exterior Wall-4	Right	180	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 10	Window	Exterior Wall-8	Right	180	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 1	Window	Exterior Wall	Front	270	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 2	Window	Exterior Wall	Front	270	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 3	Window	Exterior Wall	Front	270	2	2	1	4	0.3	NFRC	0.23	NFRC	Bug Screen
Window 4	Window	Exterior Wall-2	Left	0	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen

Registration Number: 224-P010010036A-000-000-0000000-0000 Registration Date/Time: 2024-01-23 09:03:47 HERS Provider: CalCERTS Inc.
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 Schema Version: rev 20220901

ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft ² - yr)	Standard Design TDV Energy (EDR2) (KTDV/ft ² - yr)	Proposed Design Source Energy (EDR1) (kBtu/ft ² - yr)	Proposed Design TDV Energy (EDR2) (KTDV/ft ² - yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	2.18	9.73	1.36	10.2	0.82	-0.47
Space Cooling	0.61	24.45	0.69	27.72	-0.08	-3.27
IAQ Ventilation	0.43	4.65	0.43	4.65	0	0
Water Heating	2.22	23.4	1.79	19.42	0.43	3.98
Self Utilization/Flexibility Credit			0			0
Efficiency Compliance Total	5.44	62.23	4.27	61.99	1.17	0.24
Photovoltaics	0	0	0	0		
Battery			0			0
Flexibility						
Indoor Lighting	0.77	7.62	0.77	7.62		
Appl. & Cooking	2.22	17.75	2.21	17.73		
Plug Loads	4.69	48.76	4.69	48.76		
Outdoor Lighting	0.19	1.75	0.19	1.75		
TOTAL COMPLIANCE	13.31	138.11	12.13	137.85		

Registration Number: 224-P010010036A-000-000-0000000-0000 Registration Date/Time: 2024-01-23 09:03:47 HERS Provider: CalCERTS Inc.
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 Schema Version: rev 20220901

ENERGY USE INTENSITY				
	Standard Design (kBtu/ft ² - yr)	Proposed Design (kBtu/ft ² - yr)	Compliance Margin (kBtu/ft ² - yr)	Margin Percentage
Gross EUI ¹	16.92	15.24	1.68	9.93
Net EUI ²	16.92	15.24	1.68	9.93

Notes
 1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.
 2. Net EUI is Energy Use Total (including PV) / Total Building Area.

REQUIRED PV SYSTEMS											
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 (%)
0		Standard (14-17%)	fixed	none	true	n/a	n/a	n/a	n/a	n/a	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.
 • PV exception 2: No PV required when minimum PV size (Section 150.1(c)(14)) < 1.8 kWdc (0 kW)
 • Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed

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
 • Quality insulation installation (QII)
 • Indoor air quality ventilation
 • Kitchen range hood
 • Verified Refrigerant Charge
 • Verified heat pump rated heating capacity

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GENERAL INFORMATION						
01	Project Name					
02	Run Title					
03	Project Location					
04	City	05	Standards Version			
06	Zip code	07	Software Version			
08	Climate Zone	09	Front Orientation (deg/ Cardinal)			
10	Building Type	11	Number of Dwelling Units			
12	Project Scope	13	Number of Bedrooms			
14	Addition Cond. Floor Area (ft ²)	15	Number of Stories			
16	Existing Cond. Floor Area (ft ²)	17	Fenestration Average U-factor			
18	Total Cond. Floor Area (ft ²)	19	Glazing Percentage (%)			
20	ADU Bedroom Count	21	ADU Conditioned Floor Area			
22	Fuel Type	23	No Dwelling Unit:			
	1119 SHIRLEY DR- ADU					
	NEW ADU					
	1119 SHIRLEY DR					
	MILPITAS, CA		2022			
	95035		CBECC-Res 2022.3.0			
	4		270			
	Single family		1			
	Newly Constructed		4			
	0		2			
	n/a		0.3			
	1360		17.21%			
	n/a		n/a			
	Natural gas		No Dwelling Unit: No			

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

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ENERGY DESIGN RATINGS						
	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)
Standard Design	40.4	44.2	54.9			
Proposed Design	36.9	44	54.8	3.5	0.2	0.1

RESULT³: PASS
¹Efficiency EDR includes improvements like a better building envelope and more efficient equipment
²Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries
³Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded
 • Standard Design PV Capacity: 0.00 kWdc


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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 1119 SHIRLEY DR- ADU
 Calculation Description: NEW ADU

Calculation Date/Time: 2024-01-23T09:00:59-08:00
 Input File Name: 1119 SHIRLEY DR- ADU.rbd22

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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: Sean Feurtado	Documentation Author Signature: <i>Sean Feurtado</i>
Company: Quest Energy Design	Signature Date: 2024-01-23 09:03:47
Address: 1700 North 1st St	CEA/HERS Certification Identification (if applicable): R19-19-30141
City/State/Zip: San Jose, CA 95112	Phone: 408-896-6018 8966018
	
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: Sean Feurtado	Responsible Designer Signature: <i>Sean Feurtado</i>
Company: Quest Energy Design	Date Signed: 2024-01-23 09:03:47
Address: 1700 North 1st St	License: N/A
City/State/Zip: San Jose, CA 95112	Phone: 408-896-6018 8966018



Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

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WATER HEATING SYSTEMS								
01	02	03	04	05	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)
DHW System 1	Domestic Hot Water (DHW)	Standard	Water Heater 1	1	n/a	None	n/a	Water Heater 1 (1)
WATER HEATERS - NEEA HEAT PUMP								
01	02	03	04	05	06	07	08	
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source	
Water Heater 1	1	50	A. O. Smith	HPTU SON 120 (50 gal)	Outside	Outside	Outside	
WATER HEATING - HERS VERIFICATION								
01	02	03	04	05	06	07		
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Shower Drain Water Heat Recovery		
DHW System 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required		
SPACE CONDITIONING SYSTEMS								
01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
HVAC System 1	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	n/a	Distribution System 1	Setback

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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 5	Window	Exterior Wall - 2	Left	0	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 6	Window	Exterior Wall - 3	Back	90	4	2	1	8	0.3	NFRC	0.25	NFRC	Bug Screen
Window 7	Window	Exterior Wall - 3	Back	90	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 8	Window	Exterior Wall - 3	Back	90	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
Window 18	Window	Exterior Wall - 7	Back	90	3	5	1	15	0.3	NFRC	0.25	NFRC	Bug Screen
OPAQUE DOORS													
01	02	03	04										
Name	Side of Building	Area (ft ²)	U-factor										
D2	Exterior Wall - 8	21	0.2										
D1	Exterior Wall	21	0.2										
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						
2X6 R21	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.064	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Sheathing / Insulation: Wood Siding/sheathing/decking Exterior Finish: All Other Siding						

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HVAC - HEAT PUMPS												
01	02	03	04	05	06	07	08	09	10	11	12	13
Name	System Type	Number of Units	Heating			Cooling			Zonally Controlled	Compressor Type	HERS Verification	
			Heating Efficiency Type	HSPF/HS PF2/COP	Cap 47	Cap 17	Cooling Efficiency Type	SEER/SE ER2				EER/EER 2/CEER
Heat Pump System 1	Ductless MiniSplit HP	1	HSPF	10.7	18900	12000	EERSEER	18.9	13	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump
HVAC HEAT PUMPS - HERS VERIFICATION												
01	02	03	04	05	06	07	08	09				
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17				
Heat Pump System 1-hers-htpump	Not Required	0	Not Required	Not Required	Yes	No	Yes	Yes				
HVAC - DISTRIBUTION SYSTEMS												
01	02	03	04	05	06	07	08	09	10	11	12	
Name	Type	Design Type	Duct Ins. R-value		Duct Location		Surface Area		Bypass Duct	Duct Leakage	HERS Verification	
			Supply	Return	Supply	Return	Supply	Return				
Distribution System 1	No ducts	Non-Verified	R-0.0	R-0.0			n/a	n/a	No Bypass Duct	Sealed and Tested	Distribution System 1-hers-dist	
INDOOR AIR QUALITY (IAQ) FANS												
01	02	03	04	05	06	07	08	09				
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE/ASRE	Includes Fault Indicator Display?	HERS Verification	Status				
SFam IAQVentRpt	76	0.35	Exhaust	No	n/a / n/a	No	Yes					

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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
R38 CEILING	Cathedral Ceilings	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-38	None / None	0.03	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-38 / 2x12 Inside Finish: Gypsum Board
R19 FLOOR	Floors Over Crawlspace	Wood Framed Floor	2x8 @ 16 in. O. C.	R-19	None / None	0.051	Floor Surface: Hardwood Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x8
FLR PARTITION	Interior Floors	Wood Framed Floor	2x12 @ 16 in. O. C.	R-19	None / None	0.047	Floor Surface: Hardwood Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x12 Ceiling Below Finish: Gypsum Board
CEIL PART.	Interior Ceiling	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-19	None / None	0.047	Floor Surface: Hardwood Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x12 Ceiling Below Finish: Gypsum Board
BUILDING ENVELOPE - HERS VERIFICATION							
01	02	03	04	05			
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50			
Required	Not Required	N/A	n/a	n/a			

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