

PARCEL MAP NTS

GENERAL NOTES

LIFE-SAFETY

Provide combustion air for all gas-fired appliances. (CMC Chapter 7) Vent dryer to outside of building (not to under-floor area). Vent length shall be 14' maximum or vent size shall be increased. (CMC 504.3)

ELECTRICAL

Do not install electrical panels larger than 16 square inches in rated fire walls. Never install electrical panels in closets. Maintain a clearance of 36" in front of the panels. (CEC 110.26) Provide a minimum of one 20 Amp receptacle in laundry areas. (CEC 210.52F)

LIGHT & VENTILATION

Provide ventilation for products of combustion to outside air. (CMC 801.1) Attic ventilation: 1/150 of attic area. If a Class I or II vapor barrier is applied to warm-in winter side of ceiling, or if 50%- 80% of the vents are at least 7' above the eaves and the remaining vents are in the eaves then the ratio may be reduced to 1/300.

HERS NOTE

HERS registered forms are required by installing mechanical contractor for the heat pump system. Installing contractor to register project with HERS provider and submit CP2F6 & CP2F8 to jurisdiction before beginning work; HERS certification is required for indoor air quality verification.

DOORS, STAIRWAYS AND LANDINGS

Stairways shall comply with CBC 1009 & CRC R311.7 Required egress door shall be side hinged and have a minimum net clear width of 32" and a minimum height of 78". There shall be a landing at each side of all doors.

GRADING NOTES

1 EXCAVATED MATERIAL SHALL BE PLACED IN THE FILL AREAS DESIGNATED OR SHALL BE HAULED AWAY FROM THE SITE. WHERE FILL MATERIAL IS TO BE PLACED ON NATURAL GRADE IT SHALL BE STRIPPED OF ALL VEGETATION.

WEATHER & CORROSION DAMAGE PREVENTION MEASURES

Naturally durable wood or preservative treated wood shall be required in the following locations: a. Wood joists and girders closer than 18" or 12" respectively, to the exposed ground.

PLUMBING

Fuel burning water heater is not allowed in bedroom or bathroom unless direct vent type or approved per CBC 605.1. Water closet shall be located in a space not less than 30" in width with 24" minimum clearance in front. (CFC 407.5)

GARAGE

Common wall between garage and dwelling shall have 5/8" gypsum board applied on the garage side. Garage ceiling with fire-rated space above shall have 5/8" type 'X' gypsum board applied to the ceiling. No openings may be provided between a garage and a sleeping room.

DEFERRED SUBMITTAL

SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD, WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING.

FIRE DEPARTMENT NOTES

These plans are in compliance with the California Building and Fire Codes (2019 edition) and Santa Clara County Central Fire Protection District Amendments. Occupancy Classification: R-3/ U; Building Construction: V-B; Fire Rating: High.

APPLICABLE CODES

ALL WORK INDICATED ON THE PLANS SHALL COMPLY WITH THE FOLLOWING GOVERNING CODES: 2019 CALIFORNIA BUILDING CODE, 2019 CALIFORNIA RESIDENTIAL CODE, 2019 CALIFORNIA ELECTRICAL CODE, 2019 CALIFORNIA PLUMBING CODES, 2019 CALIFORNIA MECHANICAL CODE, 2019 CALIFORNIA FIRE CODE, 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE, 2019 CALIFORNIA ENERGY CODE, 2019 CALIFORNIA FIRE CODE, 2019 CALIFORNIA COUNTY MUNICIPAL & FIRE CODE, SANTA CLARA COUNTY MUNICIPAL & FIRE CODE.

PROJECT CONSULTANTS

ARCHITECT: Michael Helm, Architect; Michael Helm & Associates; 200 Seventh Ave., #110 Santa Cruz, CA 95062; 831-476-5386. STRUCTURAL: George Reynolds, S. E.; 111 Younglove Ave. Santa Cruz, CA 95060; 831-426-9637.

Wildland Urban Interface Construction Codes and Standards

Roofs and Roof Edges: CBC 705A.1 / CRC R337.5. A non-combustible (tile or metal) or Class "A" roofing assembly is required in SRA - very high fire hazard severity zones. All other areas require Class "B" minimum roof assembly installation.

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STORMWATER MANAGEMENT & MAINTENANCE AGREEMENT NOTES

1 THERE ARE NO EXISTING STORMWATER (DRAINAGE) ISSUES ON OR NEAR THE SITE AND THERE ARE NO STORMWATER (DRAINAGE) ISSUES ANTICIPATED RESULTING FROM THE PROPOSED IMPROVEMENTS. 2 THE PROPOSED DEVELOPMENT WILL NOT CAUSE PROBLEMS TO THE NEARBY PROPERTIES.

MAINTENANCE SCHEDULE FOR ON-SITE DRAINAGE SYSTEMS AND STORMWATER MANAGEMENT FACILITIES

1 ROOF GUTTERS AND DOWNSPOUTS - SHALL BE CLEANED AS REQUIRED PRIOR TO RAINY SEASON ANNUALLY. 2 PERCOLATION TRENCHES - INSPECT VIA CLEAN-OUTS / INSPECTION PORTS, DRAIN PIPES AND OVERFLOW TRENDS PRIOR TO THE RAINY SEASON ANNUALLY TO ASSURE DRAINAGE PERCOLATION SYSTEMS FUNCTIONING PROPERLY.

ESTIMATED GRADING QUANTITIES

Table with columns: LOCATION, CUT, FILL, MAX. VERT. DEPTH. Includes rows for DRIVEWAY, GARAGE/SHOP, HOUSE, POOL CABANA, and TOTAL.

Note: 102 Cu. Yds. of CUT is to be exported from the site to an approved location.

IMPERVIOUS AREA SUMMARY

Table with columns: PAVING & PATIOS, HOUSE & COV. PORCHES, GARAGE, SHOP / STORAGE, POOL, DECKS, TOTAL IMPERVIOUS AREA.

TREE REMOVAL SUMMARY

Table with columns: TREE NUMBER, COMMON NAME, DBH, QUAN, LOCATION. Lists trees to be removed such as OAK, CEDAR, and UNK.



VICINITY MAP

PROJECT DATA

APN: 537-12-012
ADDRESS: 14500 Arnerich Hill Road, Los Gatos, CA
OWNER: Robert & Katrina Renfrew
ZONING: R-3/S
OCCUPANCY CONST. TYPE: V-B
FIRE RATING: Sprinklered
PARCEL SIZE: 390,298 SF = 9 Acres
BUILDING AREA: HOUSE - HEATED AREA, HOUSE - (E) LOWER FLOOR, HOUSE - (S) MAIN FLOOR, HOUSE - UPPER FLOOR, TOTAL HEATED AREA, (P) ADU, UNHEATED AREA, GARAGE, STORAGE, POOL CABANA, TOTAL UNHEATED AREA, HOUSE - (E) COV. PORCHES, FLOOR AREA RATIO, LOT COVERAGE, LOCATION, HOUSE, GARAGE + STORAGE, POOL, POOL CABANA, TOTAL LOT COVERAGE.

PROJECT DESCRIPTION

This project consists of remodeling an existing 5,065 SF Single Family Dwelling and constructing a new upper floor 3 bedroom, 3 bathroom addition of approximately 1,078 SF, resulting in a 6 bedroom, 6 bath SFD of approximately 6,143 SF. This project consists of remodeling an existing 840 SF detached 3-car garage and constructing an additional garage bay of approximately 281 SF, resulting in a 4-car garage of approximately 1,121 SF.

STORMWATER MANAGEMENT & MAINTENANCE AGREEMENT NOTES

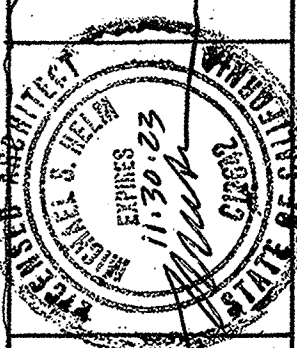
OWNER CONSENTS AND AGREES TO INSPECT AND MAINTAIN ANNUALLY PRIOR TO THE RAINY SEASON THE ON-SITE DRAINAGE SYSTEMS AND STORMWATER MANAGEMENT FACILITIES ON THE SUBJECT PROPERTY. MAINTENANCE SCHEDULE FOR ON-SITE DRAINAGE SYSTEMS AND STORMWATER MANAGEMENT FACILITIES

Table for Stormwater Management showing existing and proposed conditions for footcrops, structural slabs, and interior exterior walls. Includes columns for existing area, new/modified area, ratio, maximum, and resulting points.

1 Use Quality Checksheet per SCS 100-103.3
2 Use best management practices for site preparation, including erosion control measures, to prevent sedimentation and soil erosion.
3 Use best management practices for site preparation, including erosion control measures, to prevent sedimentation and soil erosion.

EXISTING WALLS - (EXTERIOR & INTERIOR @ LOWER AND MAIN FLOOR) = 1502 LF
DEMOLISHED WALLS - (EXTERIOR & INTERIOR @ MAIN FLOOR) = 90.5 LF
NEW WALLS - (EXTERIOR & INTERIOR @ MAIN & UPPER FLOOR) = 310 LF

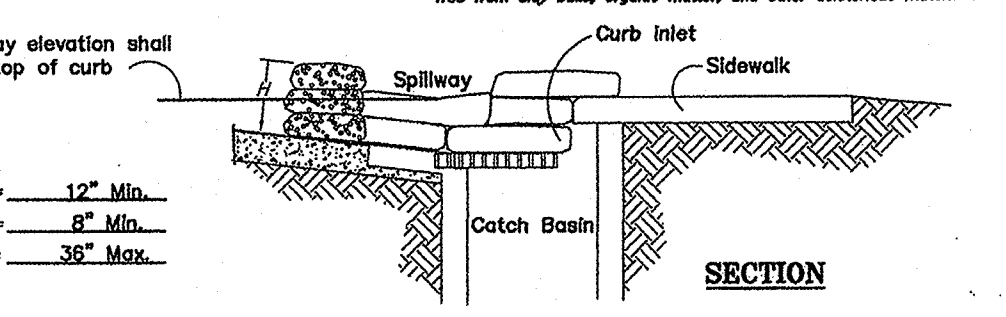
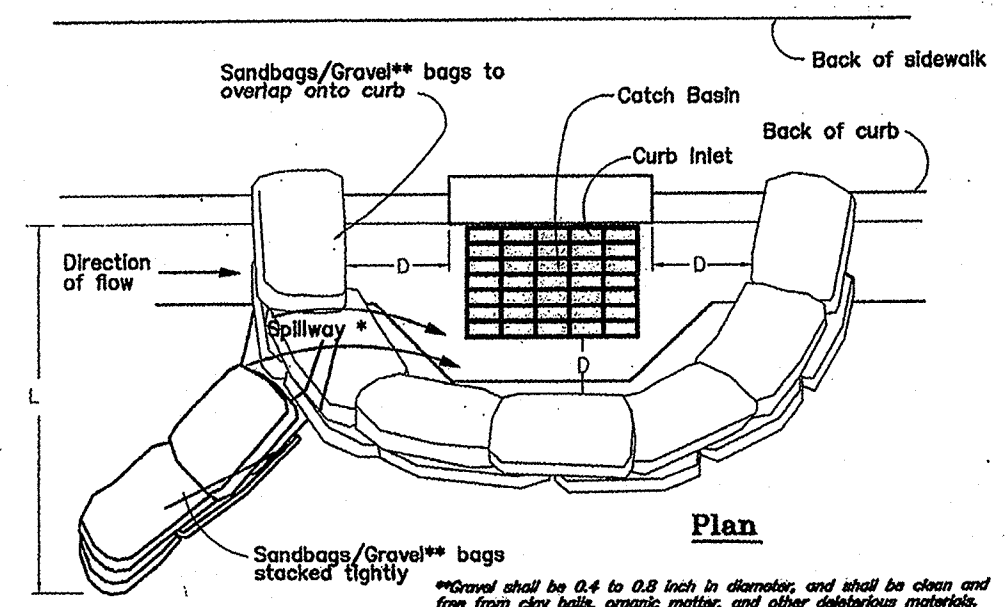
Michael Helm, AIA Architect & Associates
200 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 476-5386



REMODEL & ADDITIONS TO THE RENFREW RESIDENCE
14500 ARNERICH HILL ROAD - APR 537-12-012
LOS GATOS, CALIFORNIA

11-14-22

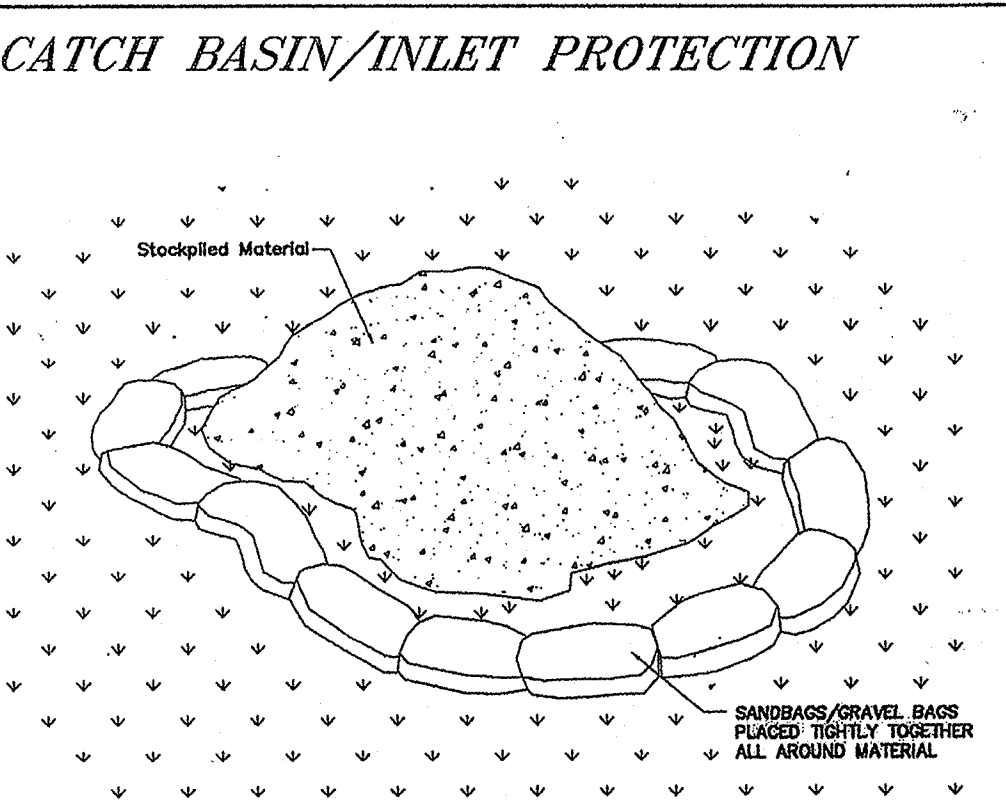
NTS
MHL
ZOB



**CATCH BASIN/INLET PROTECTION**

Notes:

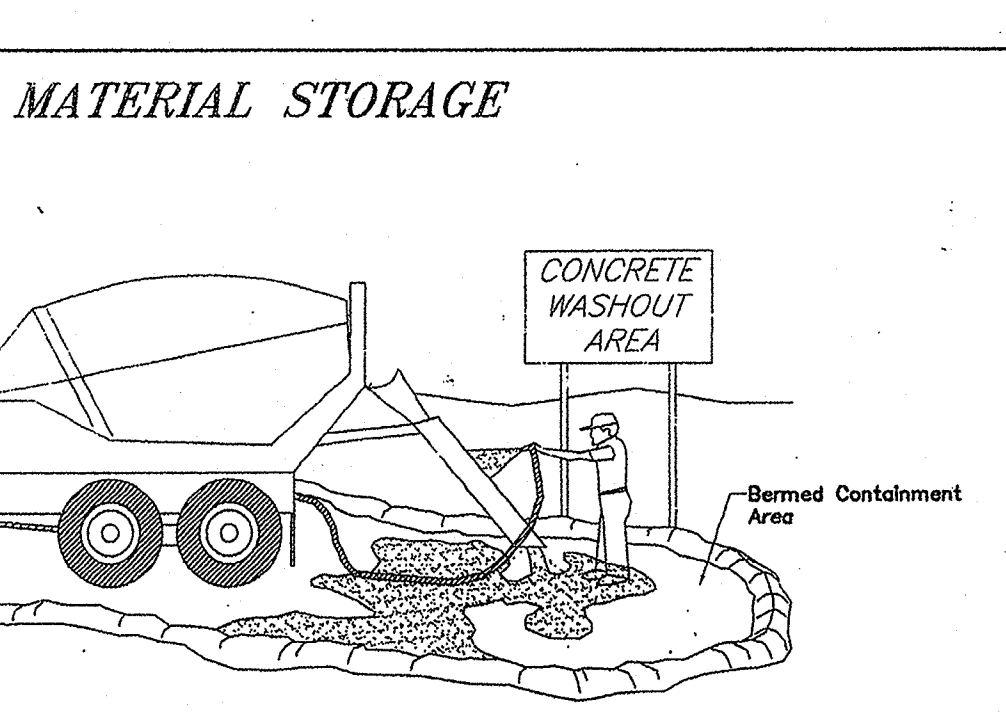
- Catch Basin/Inlet protection shall be installed wherever there is a potential of stormwater or non-stormwater being discharged into it.
- Inlet protection is required along with other pollution prevention measures such as erosion control, soil stabilization, and measures to prevent tracking onto paved surfaces.
- Modify inlet protection as needed to avoid creating traffic hazards.
- Include inlet protection measures at hillside -ditches and misc. drainage swales.
- Inlet protection shall be inspected and accumulated sediments removed. Sediment shall be disposed of properly and in a manner that assures that the sediment does not enter the storm drain system.
- Damaged bags shall be replaced immediately.
- Additional sandbag sediment traps shall be placed at intervals as indicated on site plan.



**MATERIAL STORAGE**

Notes:

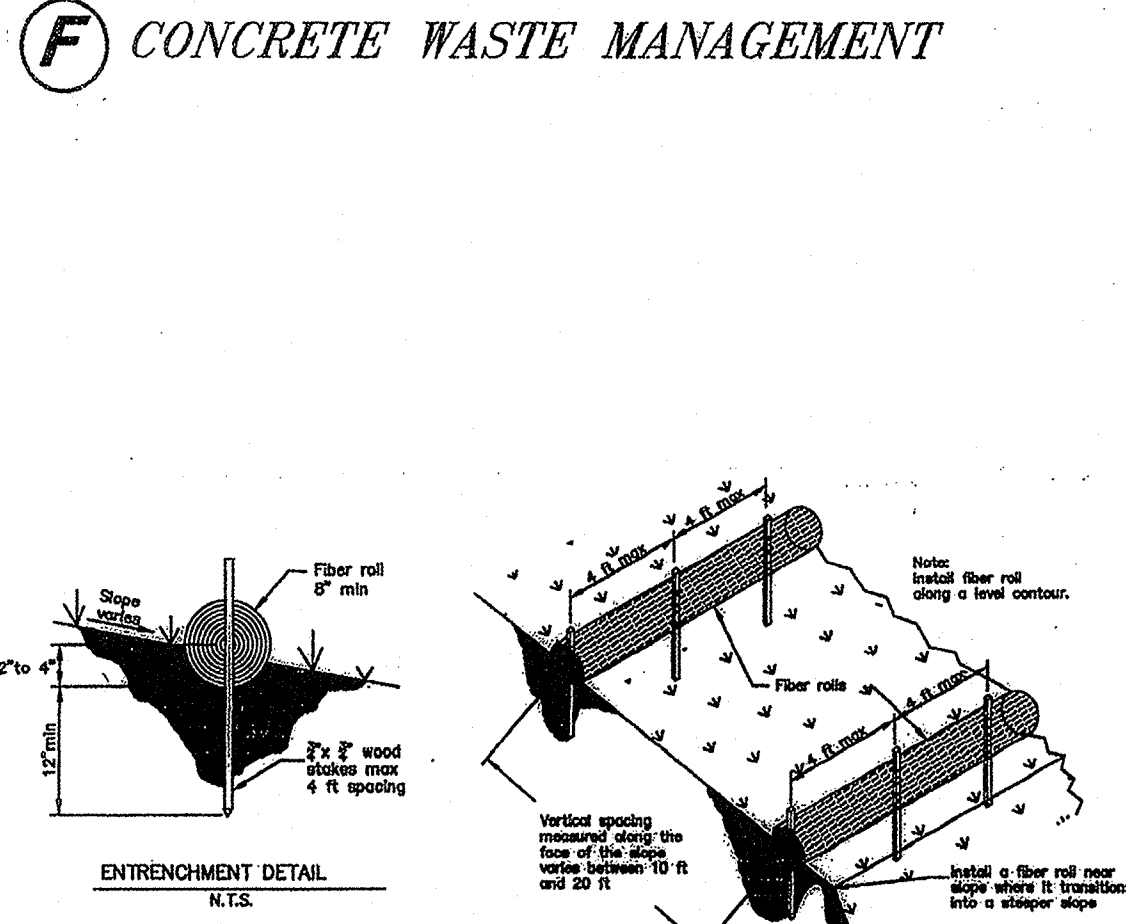
- Stockpile management procedures and practices are designed to reduce or eliminate air and storm water pollution from stockpiles of soil, and paving materials such as portland cement concrete (PCC) rubble, asphalt concrete (AC), aggregate concrete rubble, aggregate base, aggregate subbase or pre-mixed aggregate, asphalt binder (i.e. cold mix) and pressure treated wood.
- Protection of stockpiles is a year-round requirement.
- Locate stockpiles a minimum of 50 feet away from concentrated flows of storm water, drainage courses, and drain inlets.
- Implement wind erosion/transport control practices as appropriate.
- All stockpiles shall be covered, stabilized, or protected with a temporary linear barrier (i.e. sandbags, etc.) prior to the onset of precipitation.



**CONCRETE WASTE MANAGEMENT**

Notes:

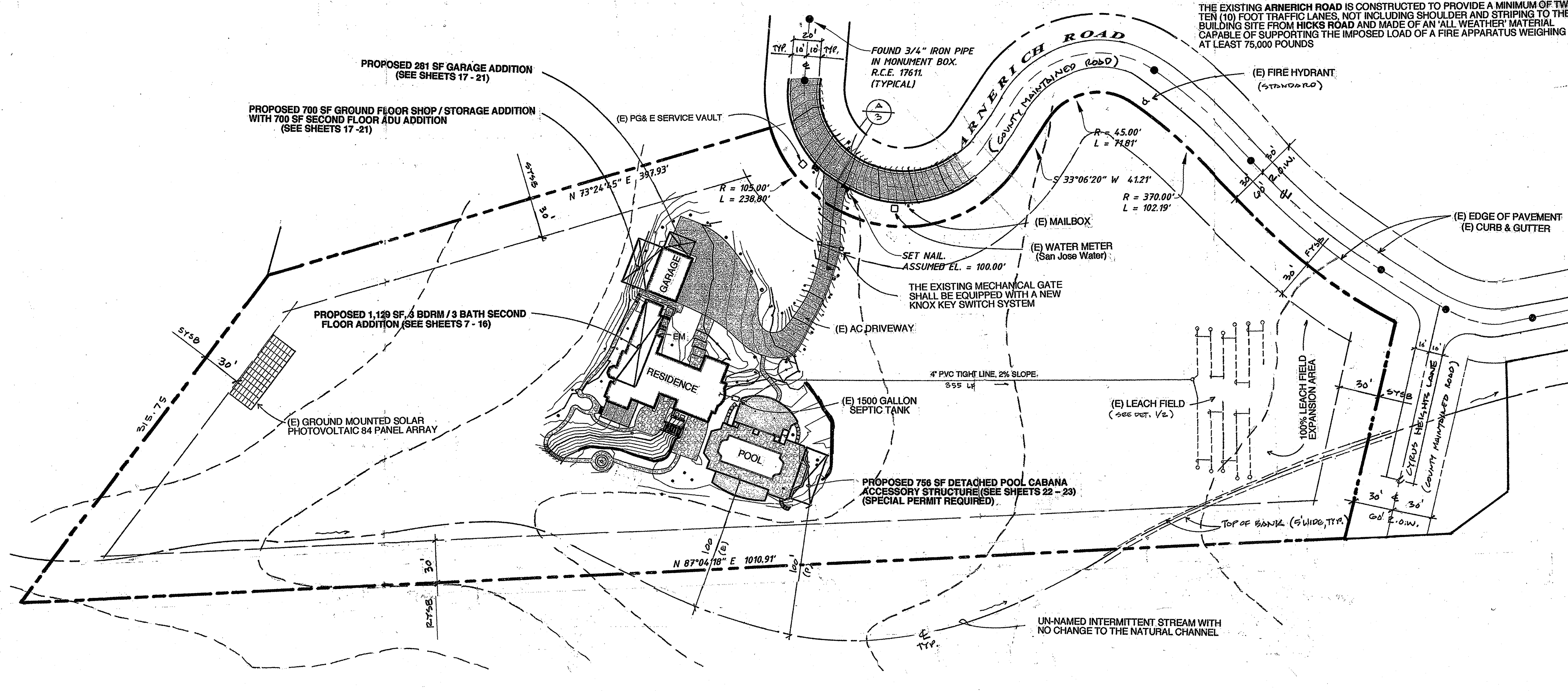
- Excess and waste concrete shall not be washed into the street or into a drainage system.
- For washout of concrete and mortar products, a designated containment facility of sufficient capacity to retain liquid and solid waste shall be provided on site and disposed of properly off site.
- Slurry from concrete and asphalt saw cutting shall be vacuumed or contained, dried, picked up and disposed of properly.



**FIBER ROLL**

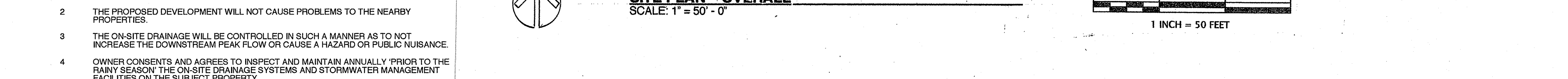
Notes:

- Place along the toe, top, face, and at grade breaks of exposed and erodible slopes.
- Place on the down-slope of exposed soil areas.
- Place around temporary stockpiles.
- Place along the perimeter of a project.
- Slopes greater than 1:5 may require the use of 20 inch diameter fiber rolls at the top of slopes.
- Fiber rolls shall be either prefabricated or rolled tubes of erosion control blankets with a minimum 8 inch diameter.
- Slopes 1:4 or flatter require fiber rolls to be placed no more than 20 feet apart.
- Slopes 1:4 to 1:2 require fiber rolls to be placed no more than 15 feet apart.
- Slopes 1:2 or greater require fiber rolls to be placed no more than 10 feet apart.
- Fiber rolls shall be placed in a 2 to 4 inch deep trench.
- Wooden commercial grade stakes, 3" x 4", shall be used to secure the fiber roll to the ground surface. Stakes shall be a minimum length of 24 inches and driven a minimum of 12 inches.
- A single-stake installation requires the stakes to be placed no more than 2 feet apart.
- If more than one fiber roll is placed in a row, the rolls shall be overlapped, not abutted, a minimum of 1 foot.



**STORMWATER MANAGEMENT & MAINTENANCE AGREEMENT NOTES**

- THERE ARE NO EXISTING STORMWATER (DRAINAGE) ISSUES ON OR NEAR THE SITE AND THERE ARE NO STORMWATER (DRAINAGE) ISSUES ANTICIPATED RESULTING FROM THE PROPOSED IMPROVEMENTS.
- THE PROPOSED DEVELOPMENT WILL NOT CAUSE PROBLEMS TO THE NEARBY PROPERTIES.
- THE ON-SITE DRAINAGE WILL BE CONTROLLED IN SUCH A MANNER AS TO NOT INCREASE THE DOWNSTREAM PEAK FLOW OR CAUSE A HAZARD OR PUBLIC NUISANCE.
- OWNER CONSENTS AND AGREES TO INSPECT AND MAINTAIN ANNUALLY PRIOR TO THE RAINY SEASON THE ON-SITE DRAINAGE SYSTEMS AND STORMWATER MANAGEMENT FACILITIES ON THE SUBJECT PROPERTY.



**MAINTENANCE SCHEDULE FOR ON-SITE DRAINAGE SYSTEMS AND STORMWATER MANAGEMENT FACILITIES**

- ROOF GUTTERS AND DOWNSPOUTS - SHALL BE CLEANED AS REQUIRED PRIOR TO RAINY SEASON ANNUALLY.
- PERCOLATION TRENCHES - INSPECT VIA CLEAN-OUTS / INSPECTION PORTS. DRAIN PIPES AND OVERFLOW RISERS PRIOR TO THE RAINY SEASON ANNUALLY TO ASSURE DRAINAGE PERCOLATION SYSTEMS FUNCTIONS PROPERLY.

**ABLE SEPTIC TANK SERVICE**

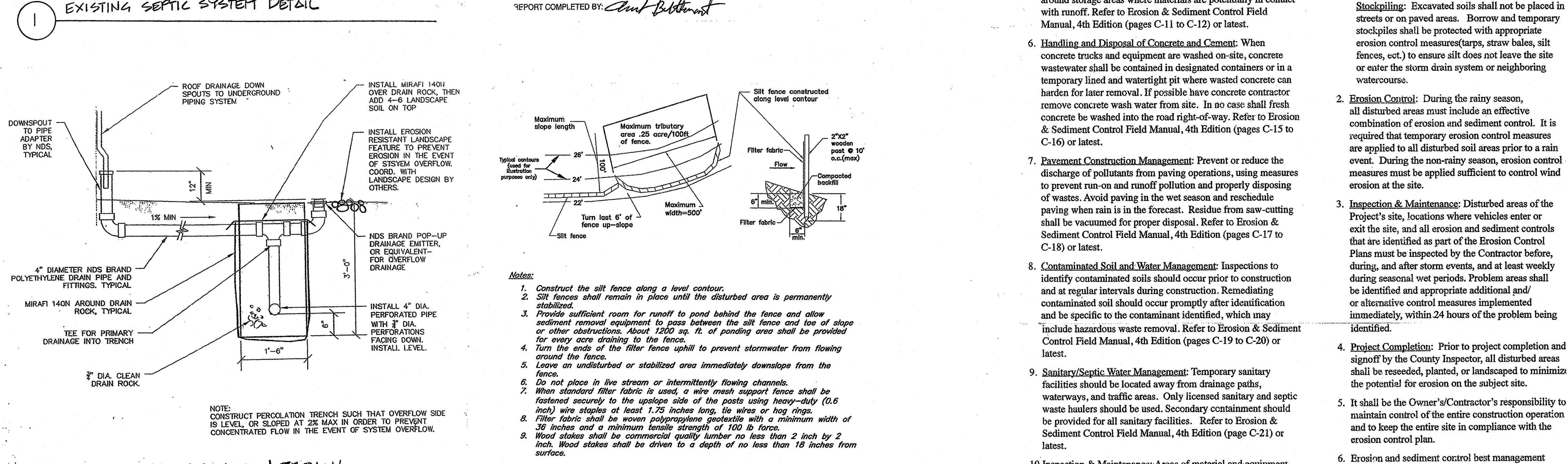
1000 Red Drive  
San Jose, California 95110  
Office (408) 377-9889  
Fax (408) 481-0508  
24 Hour Emergency Service (408) 388-8900

**SEPTIC TANK INSPECTION REPORT**

DATE: 08-26-22      INVOICE NO: 68774  
JOB SITE: 14500 Americh Rd, Los Gatos, Ca. 95032  
BUYERS: n/a      Licensed Owners: Rob & Katrina Renton  
REALTY COMPANY: n/a      AGENT: n/a      PHONE: n/a  
ADDRESS: n/a      FAX: n/a  
CUSTOMER HAS CESSPOOL ( )      SUMP ( )      SEPTIC TANK ( )  
IS UNIT ALL CONCRETE ( )      CONCRETE WITH WOOD ( )      TANK ALL WOOD ( )  
IF TANK HAS WOOD TOP, HOW MANY LAYERS:      ONE ( )      TWO ( )  
CONDITION OF WOOD: n/a      GOOD ( )      FAIR ( )      ROTTEN ( )  
INLET/OUTLET (ELBOWS): GOOD ( )      IF BROKEN WHICH: INLET ( )      OUTLET ( )  
DOES UNIT NEED PUMPING: YES ( )      NO ( )      ESTIMATED GALLONS: 1,500  
DOES LIQUID LEVEL INDICATE LEAKING APPEARS TO BE IN WORKING ORDER: YES ( )  
FAILED ( ) OR QUESTIONABLE ( )  
ANY EVIDENCE OF SEWAGE OR SEWER WATER BREAKING OUT OF GROUND: YES ( )      NO ( )  
MAP LOCATION OF SEPTIC TANK:      Septic Tank #      Front of House #

COMMENTS, IF ANY:      THIS IS NO GUARANTEE ON HOW LONG SYSTEM WILL LAST  
Septic tank is in working condition. Leach field passed 30 minute water test. As of 08-26-22 at 10:30 A.M. Septic tank passed inspection.

REPORT COMPLETED BY: Clint Baberost

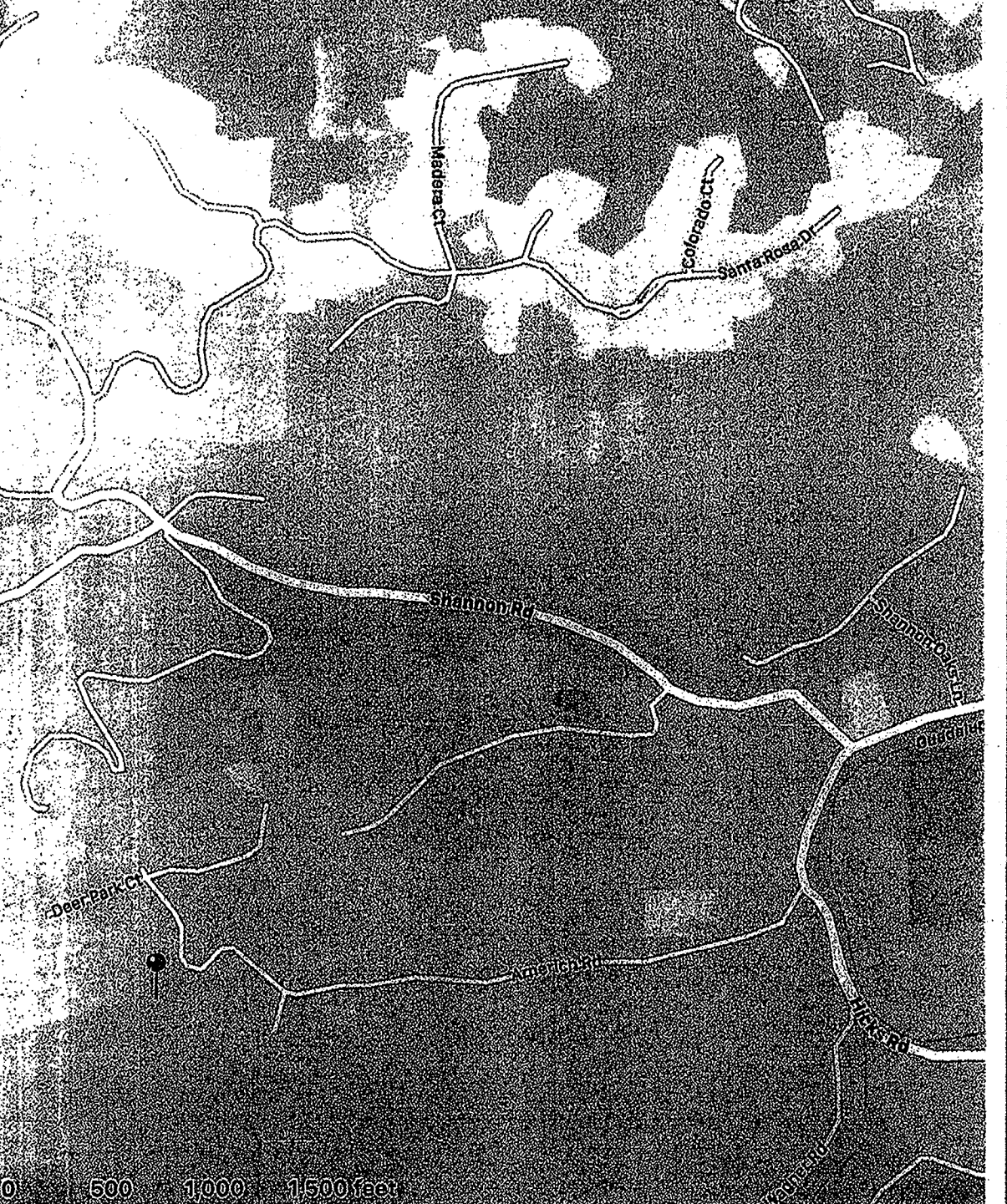


**DOWNSPUT TO PERCOLATION TRENCH**

**SILT FENCE**

Notes:

- Construct the silt fence along a level contour.
- 300 fence shall remain in place until the disturbed area is permanently stabilized.
- Provide sufficient room for runoff to pond behind the fence and allow sediment removal equipment to pass between the silt fence and toe of slope or other obstructions. About 1200 sq. ft. of ponding area shall be provided for every core draining to the fence.
- Turn the ends of the filter fence uphill to prevent stormwater from flowing around the fence.
- Leave an undisturbed or stabilized area immediately downlope from the fence.
- Do not place in live stream or intermittently flowing channels.
- When standard filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the silt fence using heavy-duty (0.6 inch) wire staples at least 1.75 inches long, 16 wires or hog rings.
- Filter fabric shall be woven polypropylene geotextile with a minimum width of 36 inches and a minimum tensile strength of 100 lb force.
- Wood stakes shall be commercial quality number no less than 2 inch by 2 inch. Wood stakes shall be driven to a depth of no less than 18 inches from surface.



**VICINITY MAP**

**PROJECT DATA**

APN: 587-12-012  
ADDRESS: 14500 Americh Hill Road, Los Gatos, CA  
OWNER: Robert & Katrina Renton  
ZONING: RHS-208-d1  
OCCUPANCY CONST. TYPE: V-B  
FIRE RATING: Sprinklered  
SPA: 756  
PARCEL SIZE: 380,298 SF = 9 Acres

HOUSE - HEATED AREA	EXISTING	PROPOSED
HOUSE - (E) LOWER FLOOR	1387.27	1387.27
HOUSE - (E) MAIN FLOOR	3877.81	3877.81
HOUSE - (E) UPPER FLOOR	0	1078.62
TOTAL HEATED AREA	5066.08 SF	6143.7 SF

UNHEATED AREA	EXISTING	PROPOSED
GARAGE	840	1121
SRP	0	350
STORAGE	0	350
POOL CABANA	0	200
TOTAL UNHEATED AREA	840 SF	2121 SF
HOUSE - (E) COV. PORCHES	374	374 SF

FLOOR AREA RATIO: (E) 6278.08 + (P) 3085.82 = 9364.7 SF / 380,298 SF = 2.3%

**LOT COVERAGE**

LOCATION	EXISTING	PROPOSED
HOUSE	4238.69	4238.69
GARAGE	840	1121
SHOP + STORAGE	0	700
POOL	1000	1000
POOL CABANA	0	200
TOTAL LOT COVERAGE	6078.69 SF	7534.69 SF

Areas disturbed during Construction shall be restored to be consistent with native vegetation species and patterns.

**EROSION CONTROL NOTES**

- Erosion control planting or permanent landscaping shall be completed by October 15.
- Permanent landscape areas require auto-irrigation.
- Hydro-mulching is the best effective seeding method for large areas. Seed mix for planting is September-October, unless there is a sprinkler system.
- Broadcast is approved for small areas. In this case apply fertilizer before seeding, after seeding apply straw or hay mulch.
- Apply erosion control material on all drainage swales, curb and fill, also any location where any existing vegetation has been removed.
- If mulching, seeding, or fertilizing manually, mulch with straw or hay at 4000 lbs/acre. Fertilize with Ammonium Phosphate with Sulphur (16-20-0) at 350 lbs/acre. If hydro-mulching, use wood fiber mulch at 2000 lbs/acre.

**GRASS/LEGUME SEED MIX FOR EROSION CONTROL**

Seed Mix	Rate of Application
Bland Bromine	15 lbs/acre
Rose Clover	12 lbs/acre
Zorro Annual Fescue	5 lbs/acre
Creeping Red Fescue	5 lbs/acre
Apply seed mix at rate of	35 lbs/acre gr. 3 lbs/10,000 sq. ft. 3 lbs/1000 sq. ft.
Fertilizer (16-20-0)	350 lbs/acre or 3 lbs/1000 sq. ft.

**Construction Materials**

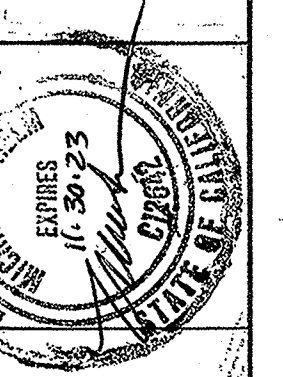
- All loose stockpiled construction materials that are not actively being used (i.e. soils, aggregates, by-products, hydraulic lime, etc.) shall be covered and stored.
- All chemicals shall be stored in locked containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).
- Explosion of construction materials to precipitation shall be minimized. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bridges, etc.).
- Best Management Practices to prevent the off-site tracking of loose construction and landscape materials shall be implemented.

**Waste Management**

- Disposal of any rags or wash water or materials on impervious or pervious site surfaces or into the storm-drainage system shall be prohibited.
- Sanitation facilities shall be installed (e.g. portable toilets) to prevent discharge of pollutants to the storm water drainage system or receiving water, and shall be located a minimum of 20 feet away from an inlet, street or driveway, stream, riparian area or other drainage facility.
- Sanitation facilities shall be inspected regularly for leaks and spills and cleaned or replaced as necessary.
- Cover waste disposal containers at the end of every business day and during a rain event.
- Discharges from waste disposal containers to the storm water drainage system or receiving water shall be prohibited.
- Stockpiled waste materials shall be contained and securely protected from wind and rain at all times unless actively being used.
- Procedures that effectively address hazardous and non-hazardous spills shall be implemented.
- Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately.
- Concrete washout areas and other washout areas that may contain additional pollutants shall be contained so there is no discharge into this underlying soil and onto the surrounding areas.

**Vehicle Storage and Maintenance**

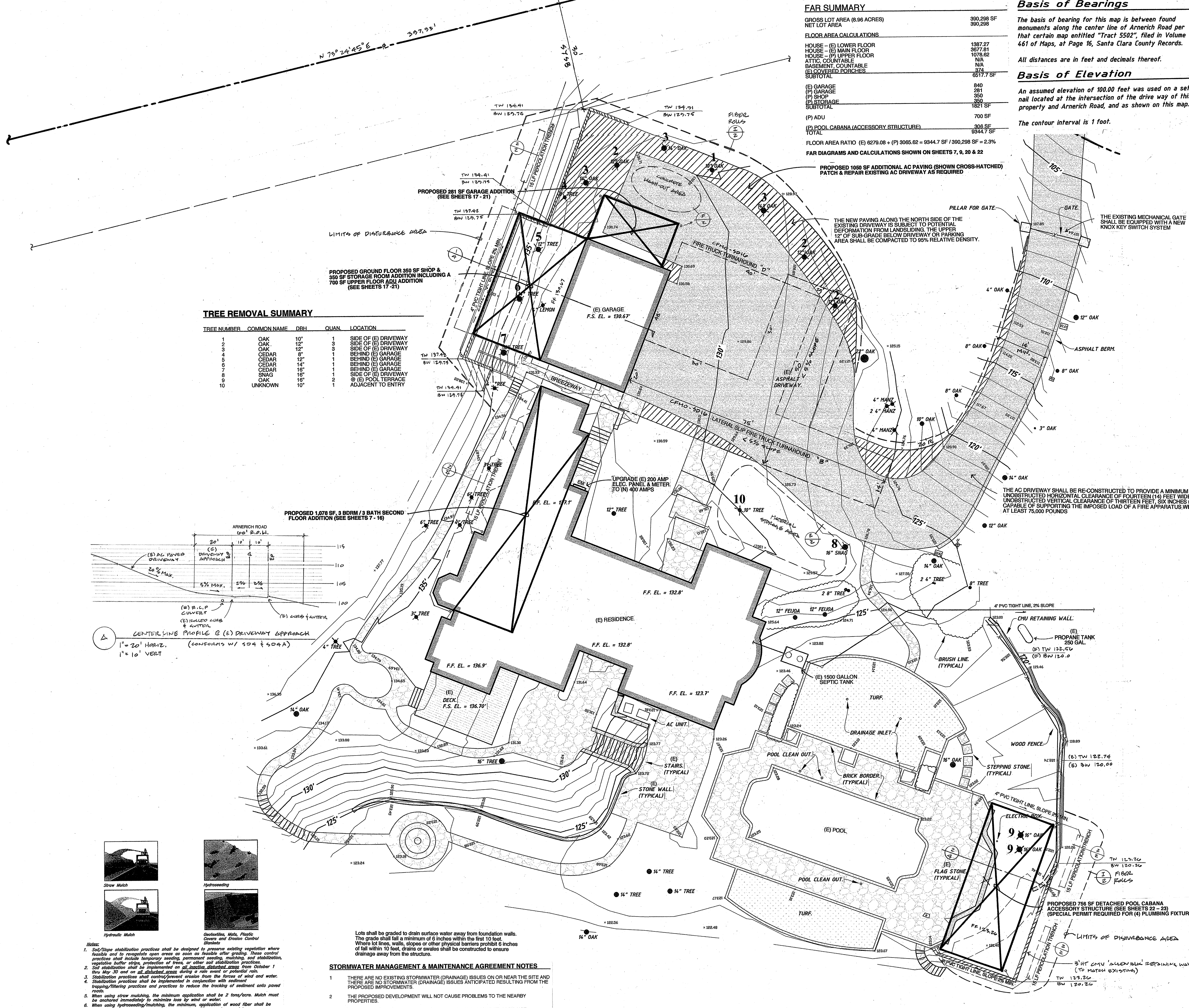
- Measures shall be taken to prevent oil, grease, or fluid to leak to the ground, storm drains or surface waters.
- All equipment or vehicles which are to be fueled, maintained and stored onsite shall be in a designated area fitted with appropriate BMPs.
- Leaks shall be immediately cleaned and leaked materials shall be disposed of properly.



REMODEL & ADDITIONS TO THE:  
**RENEW RESIDENCE**  
14500 AMERICHIHILL RD, LOS GATOS, CALIFORNIA 95032

11-14-22  
1" = 50'-0"  
MSL  
2108

2



**FAR SUMMARY**

GROSS LOT AREA (8.96 ACRES)	390,298 SF
NET LOT AREA	390,298
<b>FLOOR AREA CALCULATIONS</b>	
HOUSE - (E) LOWER FLOOR	1387.27
HOUSE - (E) MAIN FLOOR	3877.81
HOUSE - (E) UPPER FLOOR	1078.82
ATTIC, COUNTABLE	N/A
BASEMENT, COUNTABLE	N/A
(E) COVERED PORCHES	374
SUBTOTAL	6517.7 SF
(E) GARAGE	840
(P) SHOP	350
(P) STORAGE	350
SUBTOTAL	1540 SF
(P) ADU	700 SF
(P) POOL CABANA (ACCESSORY STRUCTURE)	308 SF
TOTAL	9344.7 SF
FLOOR AREA RATIO (E) 8279.08 + (P) 3065.62 = 9344.7 SF / 390,298 SF = 2.3%	

FAR DIAGRAMS AND CALCULATIONS SHOWN ON SHEETS 7, 9, 20 & 22

**Basis of Bearings**

The basis of bearing for this map is between found monuments along the center line of Arnerich Road per that certain map entitled "Tract 5502", filed in Volume 461 of Maps, at Page 16, Santa Clara County Records.

All distances are in feet and decimals thereof.

**Basis of Elevation**

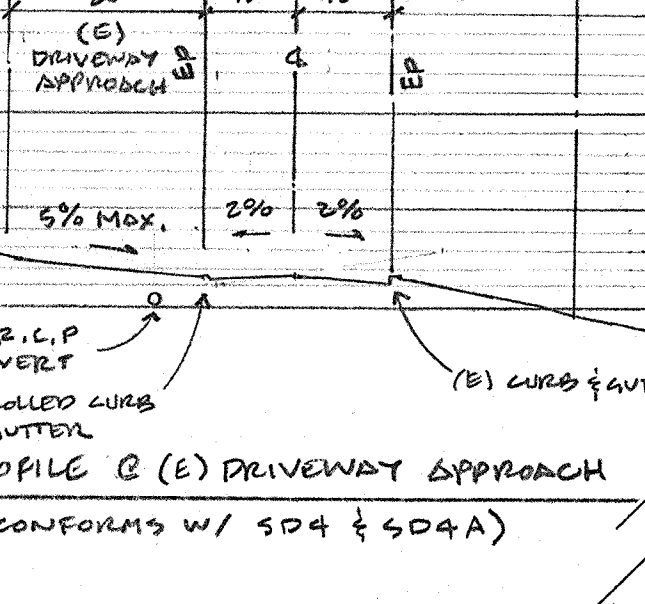
An assumed elevation of 100.00 feet was used on a set nail located at the intersection of the driveway of this property and Arnerich Road, and as shown on this map.

The contour interval is 1 foot.

**TREE REMOVAL SUMMARY**

TREE NUMBER	COMMON NAME	DBH	QUAN.	LOCATION
1	OAK	10"	1	SIDE OF (E) DRIVEWAY
2	OAK	12"	3	SIDE OF (E) DRIVEWAY
3	OAK	12"	1	BEHIND (E) GARAGE
4	CEDAR	8"	1	BEHIND (E) GARAGE
5	CEDAR	12"	1	BEHIND (E) GARAGE
6	CEDAR	14"	1	BEHIND (E) GARAGE
7	CEDAR	18"	1	BEHIND (E) GARAGE
8	SNAG	18"	1	SIDE OF (E) DRIVEWAY
9	OAK	18"	2	© (E) POOL TERRACE ADJACENT TO ENTRY
10	UNKNOWN	10"	1	

**CENTER LINE PROFILE OF (E) DRIVEWAY APPROACH**



**STORMWATER MANAGEMENT & MAINTENANCE AGREEMENT NOTES**

- THERE ARE NO EXISTING STORMWATER (DRAINAGE) ISSUES ON OR NEAR THE SITE AND THERE ARE NO STORMWATER (DRAINAGE) ISSUES ANTICIPATED RESULTING FROM THE PROPOSED IMPROVEMENTS.
- THE PROPOSED DEVELOPMENT WILL NOT CAUSE PROBLEMS TO THE NEARBY PROPERTIES.
- THE ON-SITE DRAINAGE WILL BE CONTROLLED IN SUCH A MANNER AS TO NOT INCREASE THE DOWNSTREAM PEAK FLOW OR CAUSE A HAZARD OR PUBLIC NUISANCE.
- OWNER CONSENTS AND AGREES TO INSPECT AND MAINTAIN ANNUALLY PRIOR TO THE RAINY SEASON THE ON-SITE DRAINAGE SYSTEMS AND STORMWATER MANAGEMENT FACILITIES ON THE SUBJECT PROPERTY.

**MAINTENANCE SCHEDULE FOR ON-SITE DRAINAGE SYSTEMS AND STORMWATER MANAGEMENT FACILITIES**

- ROOF GUTTERS AND DOWNSPOUTS - SHALL BE CLEANED AS REQUIRED PRIOR TO RAINY SEASON ANNUALLY.
- PERCOLATION TRENCHES - INSPECT VIA CLEAN-OUTS / INSPECTION PORTS, DRAIN PIPES AND OVERFLOW PIPES PRIOR TO THE RAINY SEASON ANNUALLY TO ASSURE DRAINAGE PERCOLATION SYSTEMS FUNCTIONS PROPERLY.

**EROSION CONTROL**

- Soil Slope stabilization practices shall be designed to preserve existing vegetation where feasible and to revegetate open areas as soon as feasible after grading. These control practices shall include temporary seeding, permanent seeding, mulching, and stabilization, vegetative buffer strips, protection of trees, or other soil stabilization practices.
- Soil stabilization shall be implemented on all exposed disturbed areas from October 1 thru May 30 and on all disturbed areas during a rain event or potential rain.
- Stabilization practices shall control/prevent erosion from the forces of wind and water.
- Stabilization practices shall be implemented in conjunction with sediment trapping/retention practices and practices to reduce the tracking of sediment onto paved roads.
- When using straw mulching, the minimum application shall be 2 tons/acre. Mulch must be anchored immediately to minimize loss by wind or water.
- When using hydroseeding/mulching, the minimum application of wood fiber shall be 1,500 lbs/acre that does not contain more than 50 percent newspaper.
- For seeding recommendations, contact: USDA, Natural Resources Conservation Service at 5000 California Avenue, Berkeley, CA 94705-1226. Phone: (916) 336-0967.
- When using hydraulic mulch, the application shall be between 1 to 2 tons per acre.
- Contour lines, plastic covers and erosion control blankets should be considered when disturbed soils may be particularly difficult to stabilize.
- For geotextiles, mats, and erosion control blankets, installation should be in accordance with manufacturer's recommendations. Typically overlaps of geotextiles/mats edges is 2 to 3 in. and spaced every 6 in. When blankets are to be spaced, place blankets end-to-end (single edge) with 6 in. overlap and staple through overlapped area, approximately 12 in. apart.

**LOT COVERAGES**

LOCATION	EXISTING	PROPOSED
HOUSE	4238.69	4238.69
GARAGE	840	1121
SHOP + STORAGE	0	700
POOL	1000	1000
POOL CABANA	0	756
TOTAL LOT COVERAGE	6078.69 SF	7534.69 SF

**PROJECT DESCRIPTION**

This project consists of remodeling an existing 5,065 SF Single Family Dwelling and constructing a new upper floor 3 bedroom, 3 bathroom addition of approximately 1,078 SF, resulting in a 5 bedroom, 6 bath SFD of approximately 6,143 SF.

This project consists of remodeling an existing 840 SF detached 3-car garage and constructing an additional garage bay of approximately 281 SF, resulting in a 4-car garage of approximately 1,121 SF.

This project consists of a new ground floor shop addition of approximately 350 SF and storage addition of approximately 350 SF to the rear of the existing garage with a new upper floor ADU of approximately 700 SF that includes a music/guest room with bathroom.

This project consists of a new detached accessory structure for a non-heated pool cabana of approximately 786 SF that includes of a covered sitting area, bathroom, mechanical storage room and outdoor kitchen with BBQ.

All construction will be predominately of wood frame and will comply.

**ESTIMATED GRADING QUANTITIES**

LOCATION	CUT	FILL	MAX. VERT. DEPTH
DRIVEWAY	8	8	3 FT
GARAGE/SHOP	108	0	8 FT
HOUSE	0	0	0
POOL CABANA	0	0	2 FT
TOTAL	116 Cu. Yds.	14 Cu. Yds.	

Note: 102 Cu. Yds. of CUT is to be exported from the site to an approved location.

**IMPERVIOUS AREA SUMMARY**

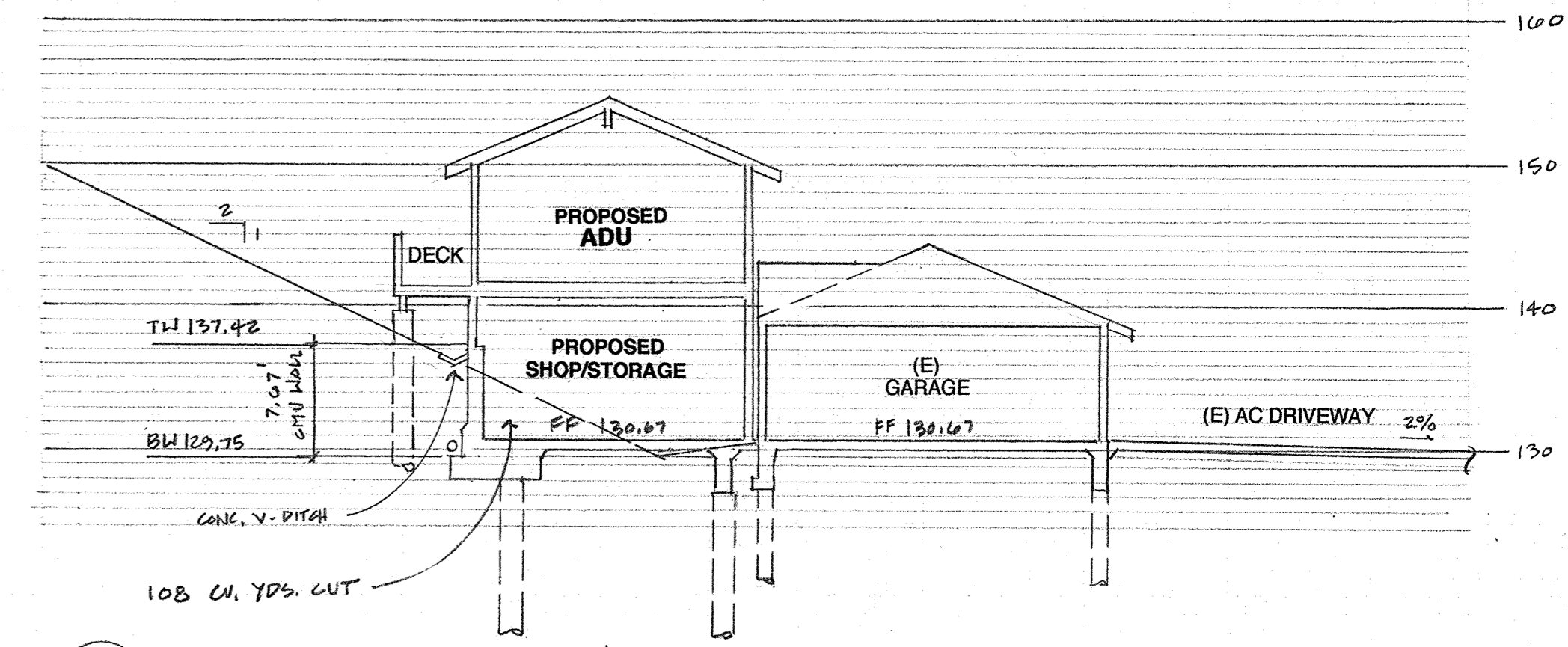
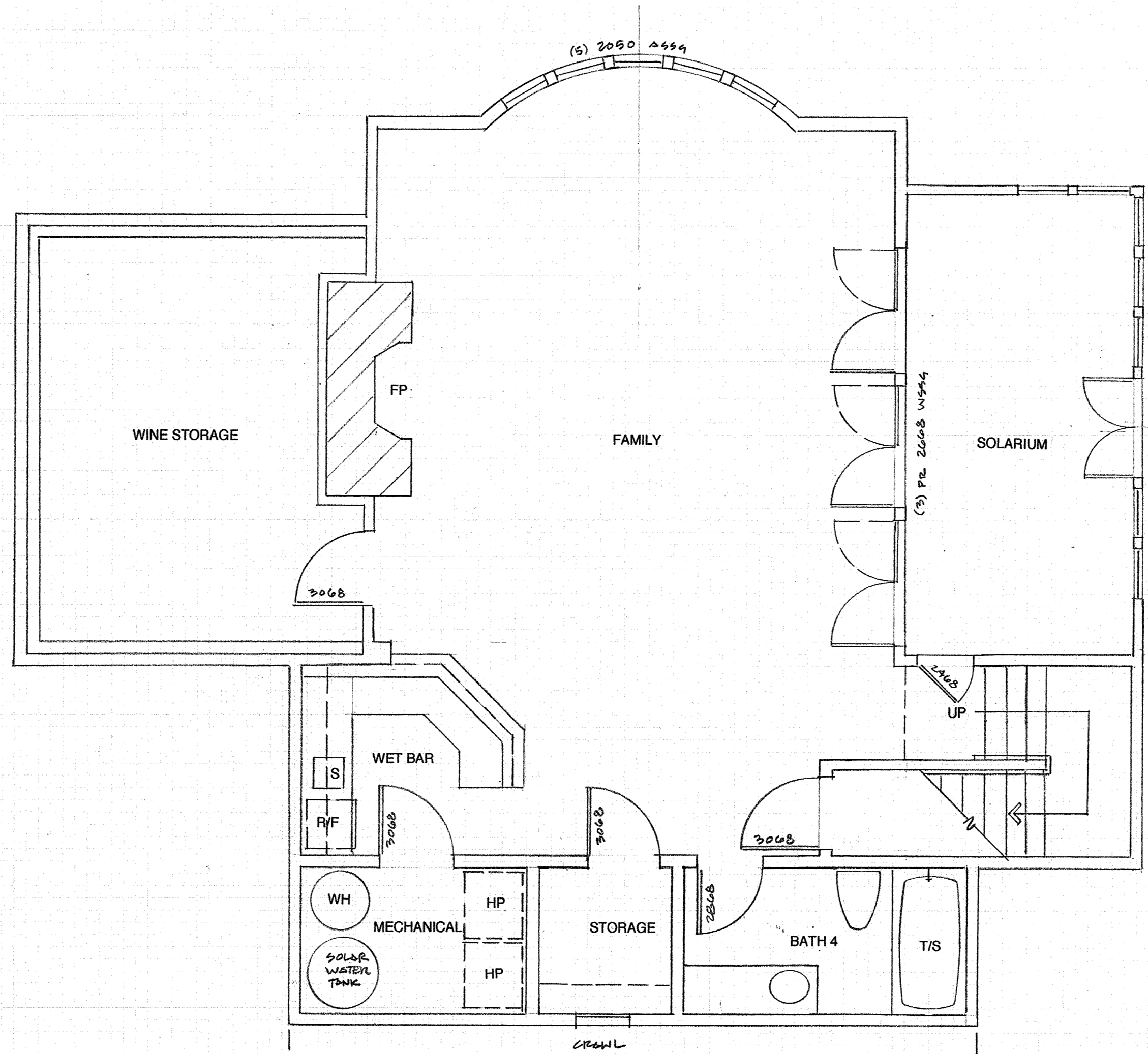
LOCATION	EXISTING	PROPOSED
PAVING & PATIOS	8405	9455
HOUSE & COV. PORCHES	4238	4238
GARAGE	840	1121
SHOP / STORAGE	0	700
POOL	1000	1000
DECKS	175	175
TOTAL IMPERVIOUS AREA	14488 SF	16689 SF (+2206 SF)

**Michael Helm, AIA Architect & Associates**  
200 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 476-5386

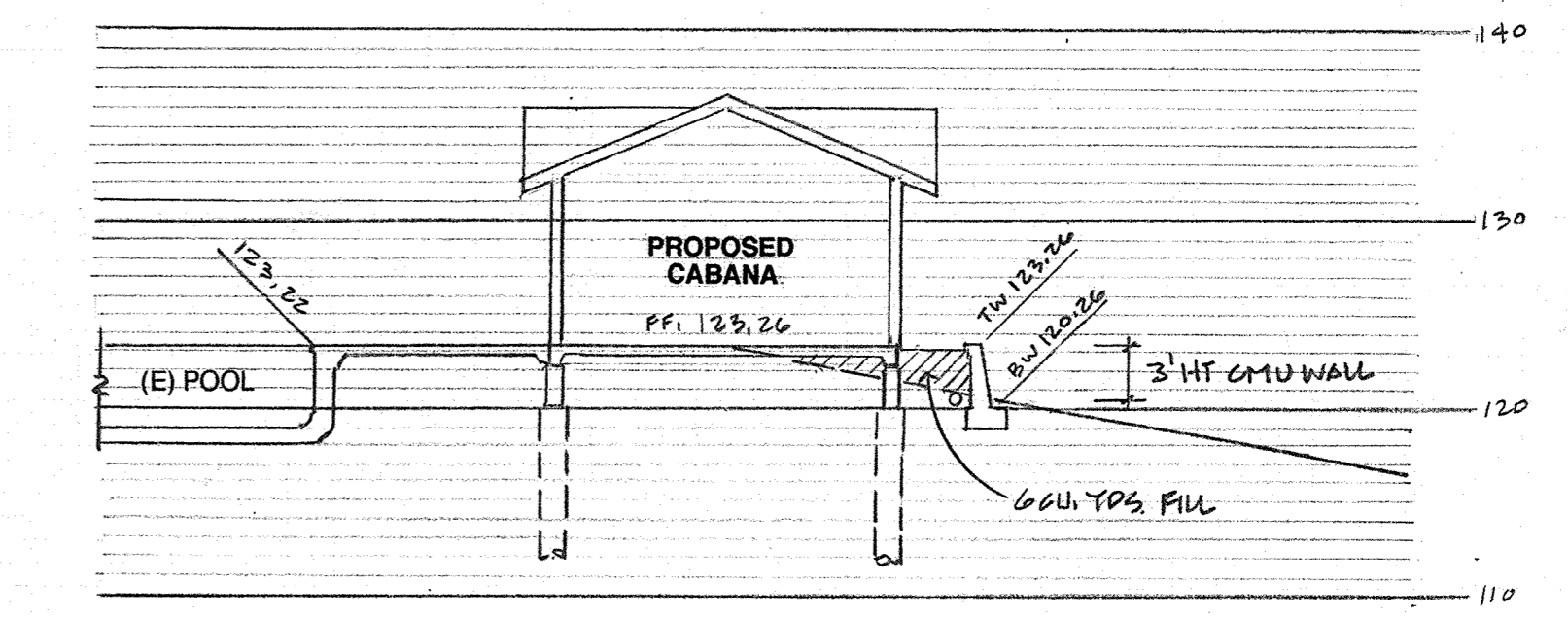
**HANAGAN LAND SURVEYING**  
300-G SOQUEL AVE., SANTA CRUZ, CA 95062 PHONE (831) 469-9451

**REMODEL & ADDITIONS TO THE: RENEW RESIDENCE**  
14500 ARNERICH HILL ROAD, SAN JOSE, CA 95137-1202 LOS GATOS, CALIFORNIA

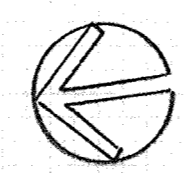
11-14-22  
1"=10' 0"  
MHL  
Z108  
3



1 SECTION C (E) DRIVEWAY & PROPOSED SHOP/STORAGE/ADU ADDITION  
1" = 10' HORIZ. & VERT.



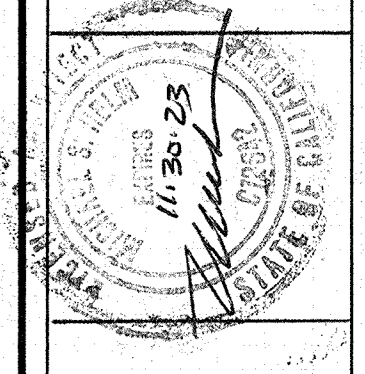
2 SECTION C (E) POOL & PROPOSED CABANA  
1" = 10' HORIZ. & VERT.



EXISTING - LOWER FLOOR PLAN  
SCALE: 1/4" = 1'-0"

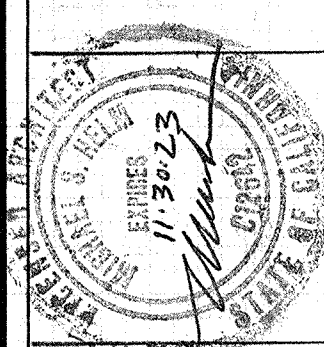
REVISIONS	BY

Michael Helm, AIA Architect & Associates  
210 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 476-5386



REMODEL & ADDITIONS TO THE:  
**RENFREW RESIDENCE**  
14500 ARNERICH HILL ROAD - APN 1537-12-012  
LOS GATOS, CALIFORNIA

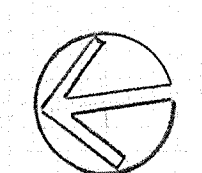
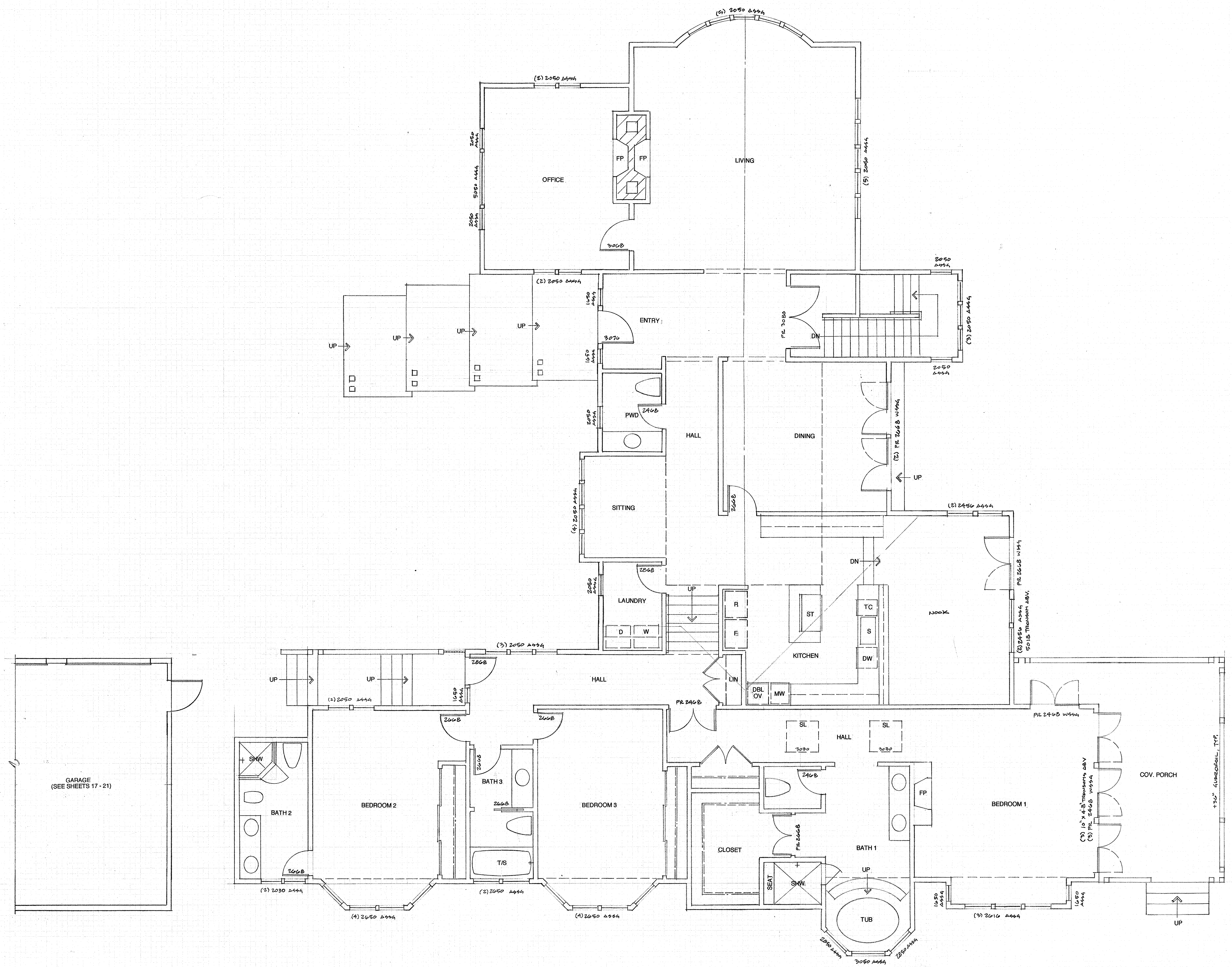
EXISTING - LOWER FLOOR PLAN
DATE 11.14.22
SCALE 1/4" = 1'-0"
DRAWN M.H.
JOB 2108
SHEET 4
OF SHEETS



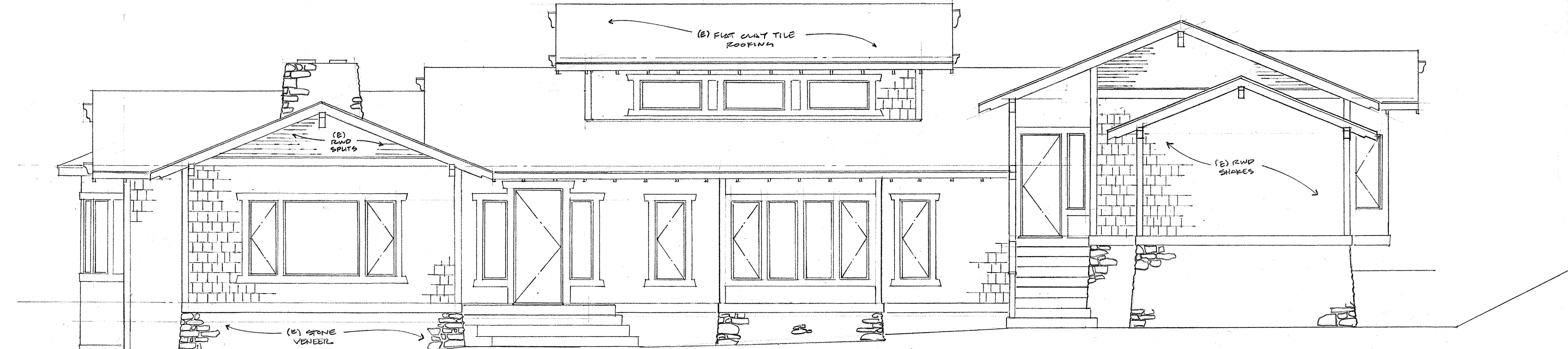
Michael Helm, AIA Architect & Associates  
 200 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 476-5386

REMODEL & ADDITIONS TO THE:  
**RENFREW RESIDENCE**  
 14500 ARNERICH HILL ROAD - APR 1537-12-012  
 LOS GATOS, CALIFORNIA

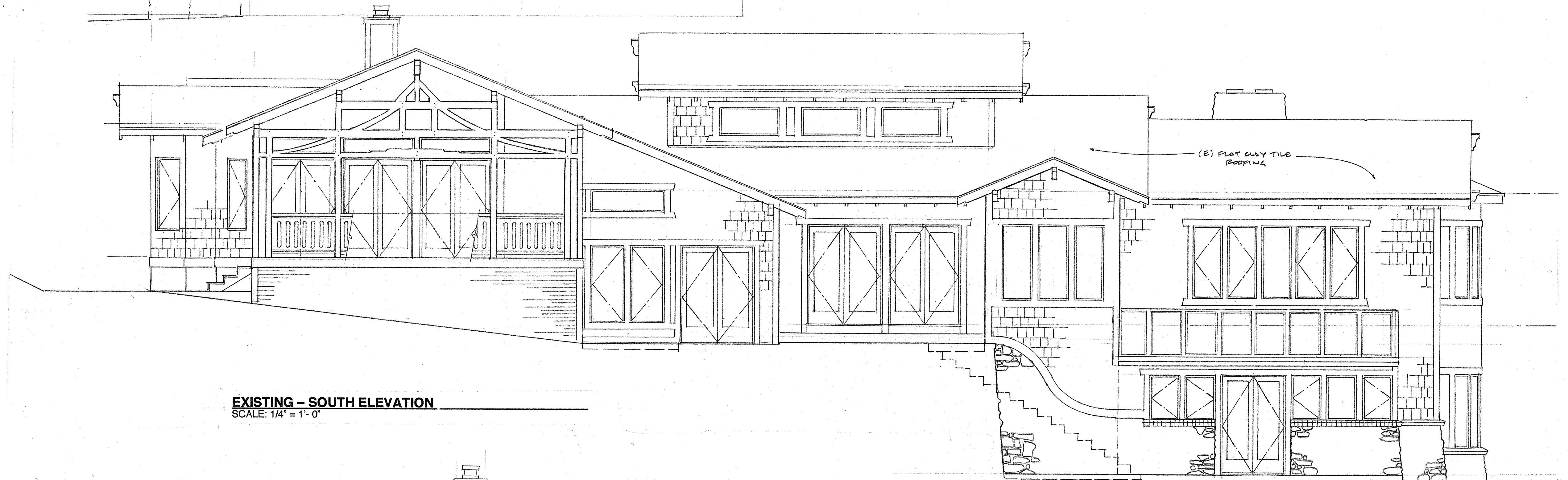
SH18714 - Main Floor Plan  
 DATE 11.14.22  
 SCALE 1/4" = 1'-0"  
 DRAWN MHL  
 JOB 2108  
 SHEET 5  
 OF SHEETS



**EXISTING - MAIN FLOOR PLAN**  
 SCALE: 1/4" = 1'-0"



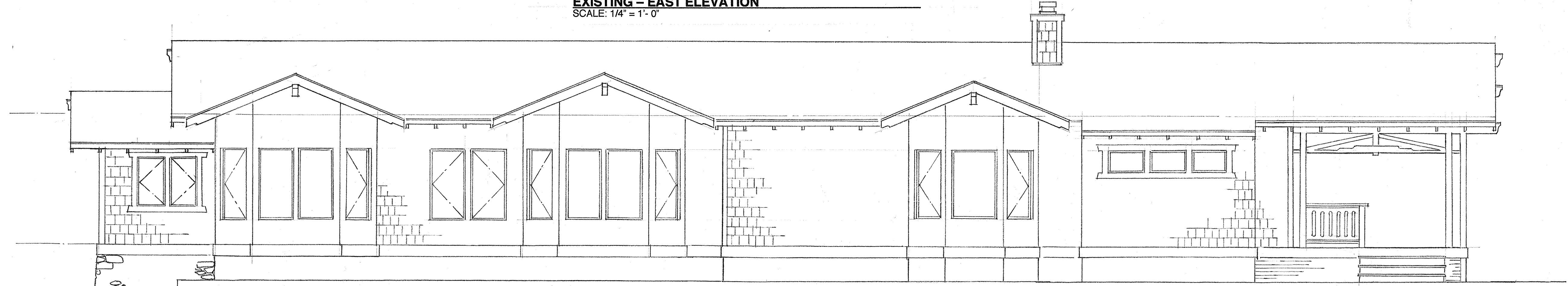
**EXISTING - NORTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**EXISTING - SOUTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**EXISTING - EAST ELEVATION**  
SCALE: 1/4" = 1'-0"

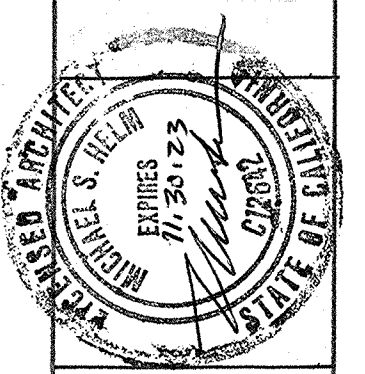


**EXISTING - WEST ELEVATION**  
SCALE: 1/4" = 1'-0"

**EXISTING - MATERIALS SCHEDULE**

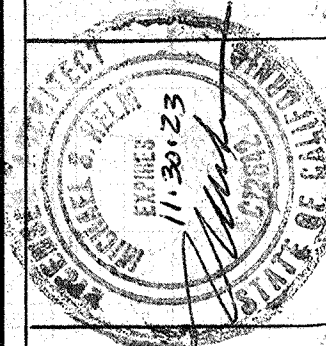
FOUNDATIONS	8" wide perimeter concrete stem wall with 15" wide footing & 12" diameter redundant piers 8' deep @ ± 7 feet o.c.
CONCRETE SLABS	4" thick concrete slab w/ 6X6 10/10 wire mesh on 2" sand on 10 mil vapor barrier on 4" crushed rock.
FLOORS	2X10FJs @ 16" o.c., with 3/4" T&G plywood subfloor glued and nailed w/ 10d @ 8" o.c. edges & 10" o.c. field, U.N.O. with R-19 batt insulation.
WALLS	Hand sawn redwood shingles on Dbl. layer 15 lb. felt on 3/8" CDX plywood sheathing, nailed w/ 8d @ 8" o.c. edges and 12" o.c. field, U.N.O., on 2 X 4 studs @ 16" o.c. with R-11 high density batt insulation, 1/2" gypsum wallboard interior finish, typical. Battered river rock stone veneer at foundation.
ROOF	Flat clay tile over Dbl. layer 30 lb. felt on 5/8" CDX plywood sheathing nailed w/ 10d @ 8" o.c. edges and 12" o.c. field, U.N.O., to 2 X 8 Rafter @ 16" o.c. with R-19 batt insulation.
GUTTERS & DOWNSPOUTS	16 oz. copper beveled gutters w/ 2" X3" rectangular downspouts deposit into existing landscaped areas.
ROOF / WALL FLASHINGS	16 oz. copper where shown or required. Pan flash @ ext. door sills with 16 oz. copper solder all joints, typical.
WINDOWS & EXT. GLASS DRS.	Aluminum sash with single glazed leaded art glass with screens at all operable windows.
INSULATION	FLOORS R-19 fiberglass batts EXT. WALLS R-11 high density fiberglass batts INT. WALLS 3-1/2" fiberglass sound batts ROOFS R-19 fiberglass batts

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REMODEL & ADDITIONS TO THE:  
**RENEW RESIDENCE**  
 14500 ARNERICH HILL ROAD - APRN 537-12-012  
 LOS GATOS, CALIFORNIA

EXISTING - EXTERIOR ELEVATIONS  
 11-14-22  
 1/4" = 1'-0"  
 MHL  
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**6**



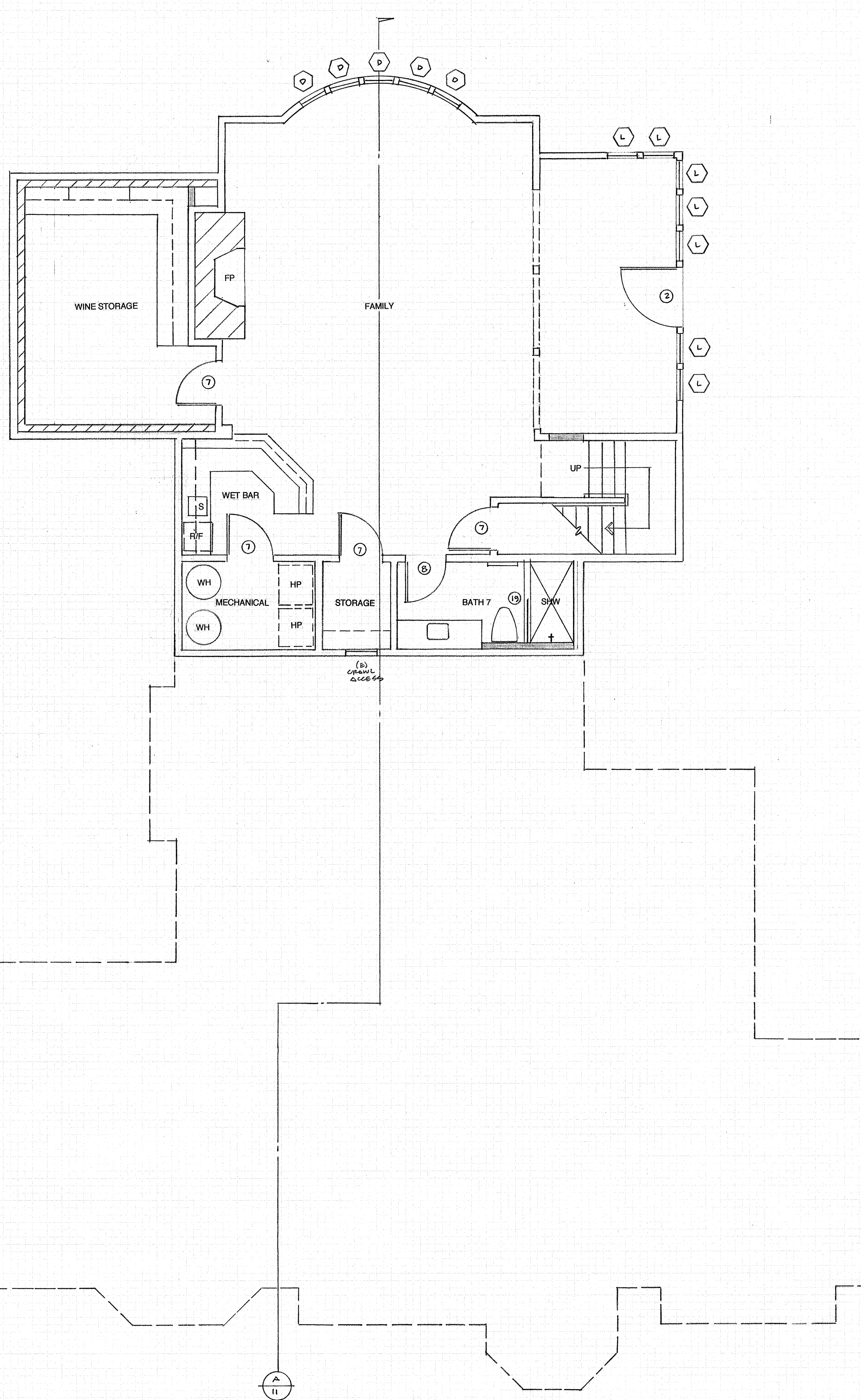
**DOOR SCHEDULE - HOUSE ADDITION**

SYM	SIZE	TYPE	QUAN	REMARKS
1	3076	Exterior, Custom Entry door	1	Stain Grade, Low-E dbl. insulated Tempered glass
2	4068	Exterior, Custom door	1	Paint Grade, Low-E dbl. insulated Tempered glass
3	2868	Exterior single lite French door	1	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
4	Pair 2668	Exterior single lite French doors	3	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
5	4W 3080	Exterior single lite XCOX Sliding Patio doors	1	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
6	Pair 2868	Exterior single lite XO Sliding Patio door	2	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
7	3088	Interior S.C., 3-Panel	9	Stain Grade, by Sun Mountain, Inc.
8	2868	Interior S.C., 3-Panel	12	Stain Grade, by Sun Mountain, Inc.
9	Pair 2668	Interior S.C., 3-Panel	1	Stain Grade, by Sun Mountain, Inc.
10	Pair 2268	Interior S.C., 3-Panel	1	Stain Grade, by Sun Mountain, Inc.
11	Pair 1868	Interior S.C., 3-Panel	1	Stain Grade, by Sun Mountain, Inc.
12	4W 2668	Interior S.C., 3-Panel Sliding Bi-pass Closet doors	1	Stain Grade, by Sun Mountain, Inc. Use heavy duty track & rollers
13	3W 2668	Interior S.C., 3-Panel Sliding Bi-pass Closet doors	2	Stain Grade, by Sun Mountain, Inc. Use heavy duty track & rollers
14	3W 2668	Interior S.C., 3-Panel Sliding Bi-pass Closet doors	1	Stain Grade, by Sun Mountain, Inc. Use heavy duty track & rollers
15	6070	BI-Pass Sliding Shower Doors	1	3/8" Clear "Frameless" Tempered glass. Provide shop drawings for approval
16	5670	BI-Pass Sliding Shower Doors	1	3/8" Clear "Frameless" Tempered glass. Provide shop drawings for approval
17	6076	Custom Shower Enclosure	1	3/8" Clear "Frameless" Tempered glass. Provide shop drawings for approval
18	4070	Custom Shower Enclosure	2	3/8" Clear "Frameless" Tempered glass. Provide shop drawings for approval
19	3076	Custom Shower Screen	1	3/8" Clear "Frameless" Tempered glass. Provide shop drawings for approval

**WINDOW SCHEDULE - HOUSE ADDITION**

SYM	SIZE	TYPE	QUAN	REMARKS
A	2456	Casement	4	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
B	2850	Casement	2	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
C	2650	Casement	4	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
D	2050	Casement	26	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
E	1650	Casement	2	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
F	2630	Casement	4	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
G	2840	Casement	2	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
H	2640	Casement	3	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
I	2040	Casement	4	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
J	2636	Casement	10	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
K	2426/2426 2450/2450	Fixed Transom over Dbl. Casement	1	Clad/Wood Sash, Low-E dbl. insulated Tempered glass Mull'd together
L	2030	Casement	7	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
M	5050	Fixed	1	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
N	4650	Fixed	1	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
O	3050	Fixed	1	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
P	2050	Fixed	5	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
Q	1650	Fixed	3	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
R	2616	Fixed	3	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
S	5018	Fixed	1	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
T	4020	Fixed	6	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
U	5018	Fixed	1	Clad/Wood Sash, Low-E dbl. insulated Tempered glass

Note: All units are Gold Label tested & certified with label attached to frame per AAMA standards per CRC, Section 609.3, Installation per AAMA 2400.  
 a. All units are Gold Label tested & certified with label attached to frame per AAMA standards per CRC, Section 609.3, Installation per AAMA 2400.  
 b. All insulated glass units conform to ASTM E2188 / E2190, NFRC certified and labeled.  
 c. Safety Glazing testing and labeling per CRC, Sections 303.1 & 303.4.  
 d. Energy testing and certification per CENL, Section 110.6.  
 e. Verify rough openings and window / door sizes prior to ordering.  
 Note: The NFRC label which states the required U-value and SGHC for all fenestration products shall not be removed prior to inspection or the removal by a building inspector and shall reflect the values listed in the energy report.



**FAR SUMMARY - HOUSE - LOWER FLOOR**  
 1/8" = 1' - 0"

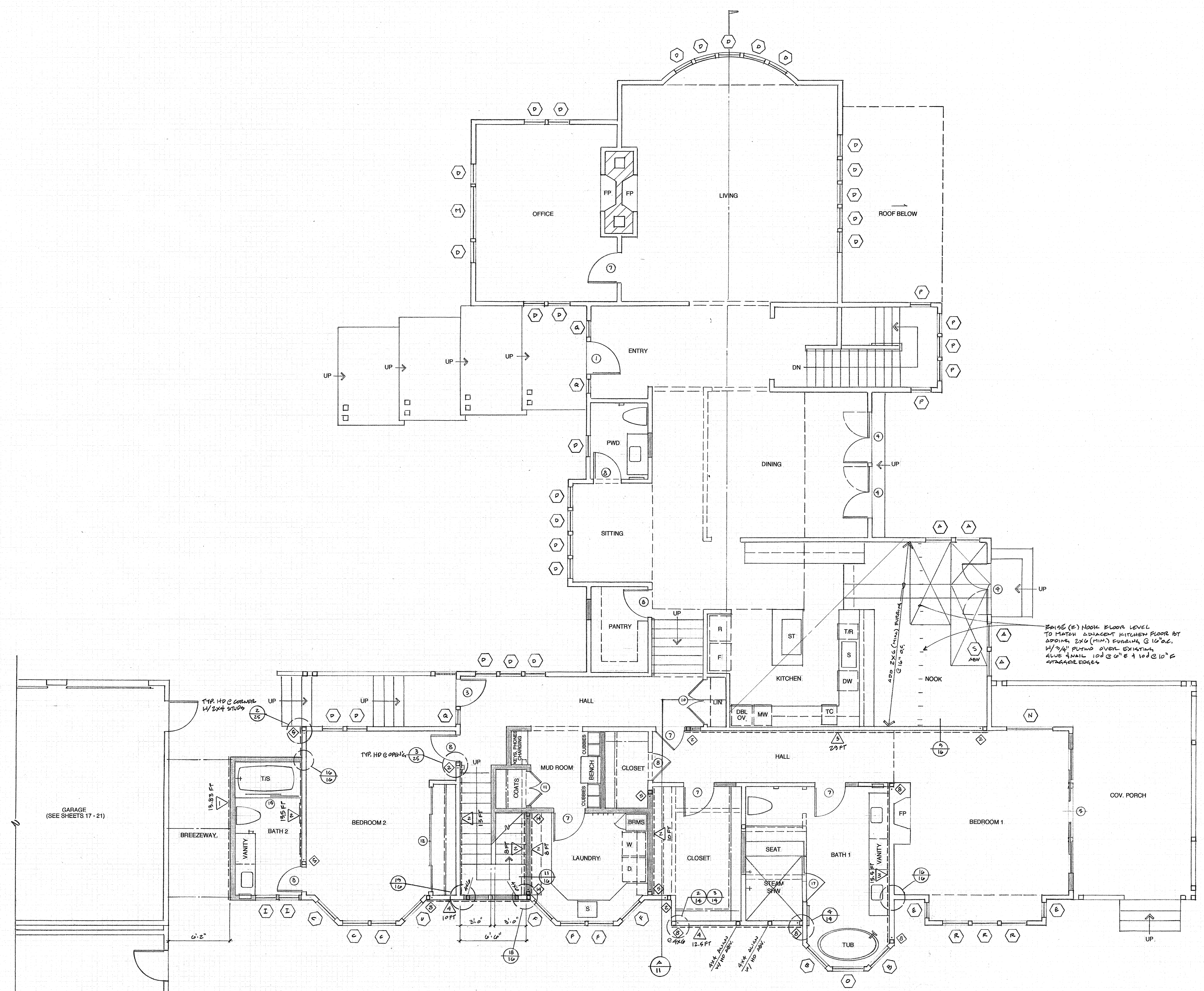
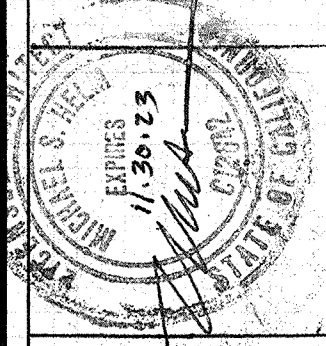
POLYGON / AREA DESIGNATION	DIMENSIONS	AREA (SF)
A BAY WINDOW	1'-9" X 13'-2"	21.94
B WINE	14'-2" X 18'-3"	258.54
C FAMILY	22'-2" X 21'-6"	476.58
D SOLARIUM	8'-8" X 19'-4"	166.88
E BAR / STAIR	8'-10" X 34'-9"	306.55
F MECH / BATH	7' X 28'	196
TOTAL		1387.27 SF

**FAR SUMMARY - HOUSE - MAIN FLOOR**  
 1/8" = 1' - 0"

POLYGON / AREA DESIGNATION	DIMENSIONS	AREA (SF)
A BAY WINDOW	1'-9" X 13'-2"	21.94
B OFFICE	14'-2" X 18'-3"	258.54
C LIVING	22'-2" X 21'-6"	476.58
D ENTRY	8'-10" X 21'-6"	189.91
E SITTING	1'-10" X 10'-6"	19.25
F DINING / KITCHEN	23' X 35'-5"	910
G NOOK	11'-8" X 18'-5"	214.86
H HALL	5'-4" X 12'-5"	68
I BATH 2	7' X 13'-10"	96.83
J BEDROOM 2 / LAUNDRY	16'-10" X 35'-10"	603.19
K BATH 1 / CLOSET	13'-4" X 21'-8"	419.88
L BEDROOM 1	16'-10" X 17'-8"	297.38
M BAY WINDOW	2'-8" X 12'	30
N BAY WINDOW	2'-8" X 8'-6"	21.25
O BAY WINDOW	2'-8" X 8'-6"	21.25
P BAY WINDOW	1'-9" X 8'-10"	15.45
Q BAY WINDOW	2'-4" X 8'-6"	15.16
R COVERED PORCH	12' X 21'-6"	258
S COVERED PORCH	4'-8" X 6'	36
T COVERED PORCH	5'-4" X 15'	80
TOTAL		4051.81 SF

UPGRADE (E) 200 AMP  
 ELEC. PANEL & METER  
 TO (N) 400 AMPS

**PROPOSED - LOWER FLOOR PLAN**  
 SCALE: 1/4" = 1' - 0"



BRING (E) NOOK FLOOR LEVEL TO MATCH ADJACENT KITCHEN FLOOR BY ADDING 2x6 (MIN) FLOORING @ 16" OC. W/ 3/4" PUTS OVER EXISTING. ALSO BRING 100 @ 6" & 100 @ 10" STRAIGHT EDGES

4 FT Δ INDICATES DESIGN SHEARWALL W/ MIN. LENGTH, SEE SHT. 24  
 □ INDICATES HOLDOWN BRACKET, ANCHOR & POST, SEE SHT. 24

**PROPOSED - MAIN FLOOR PLAN**  
 SCALE: 1/4" = 1'-0"

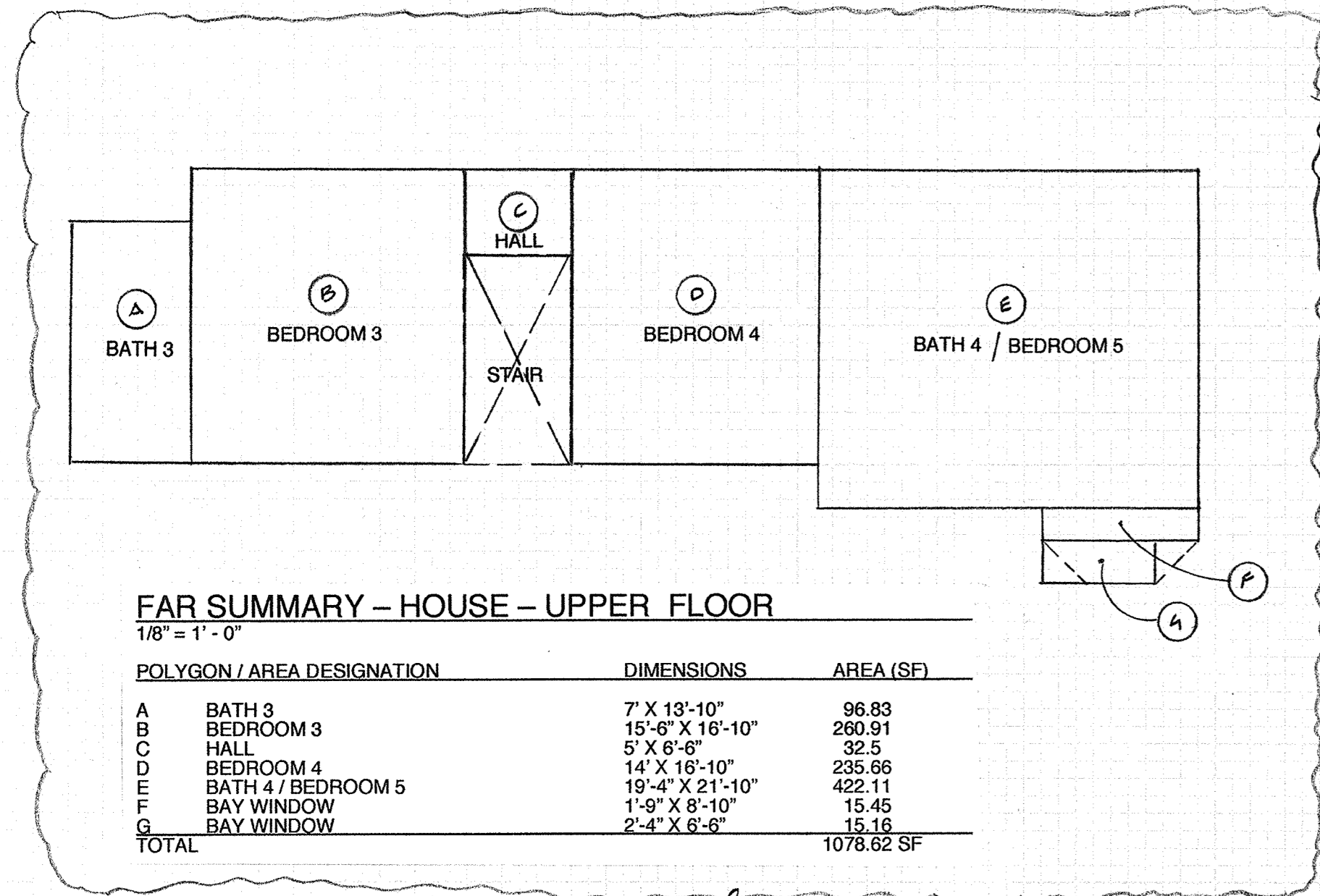
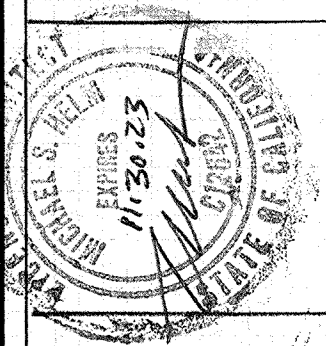
REMODEL & ADDITIONS TO THE:  
**RENFREW RESIDENCE**  
 14500 ARNERICH HILL ROAD - APRN 837-12-012  
 LOS GATOS, CALIFORNIA

Proposed - Main Floor Plan  
 DATE 11.14.22  
 SCALE 1/4" = 1'-0"  
 DRAWN [Signature]  
 JOB 2108  
 SHEET 8 OF SHEETS



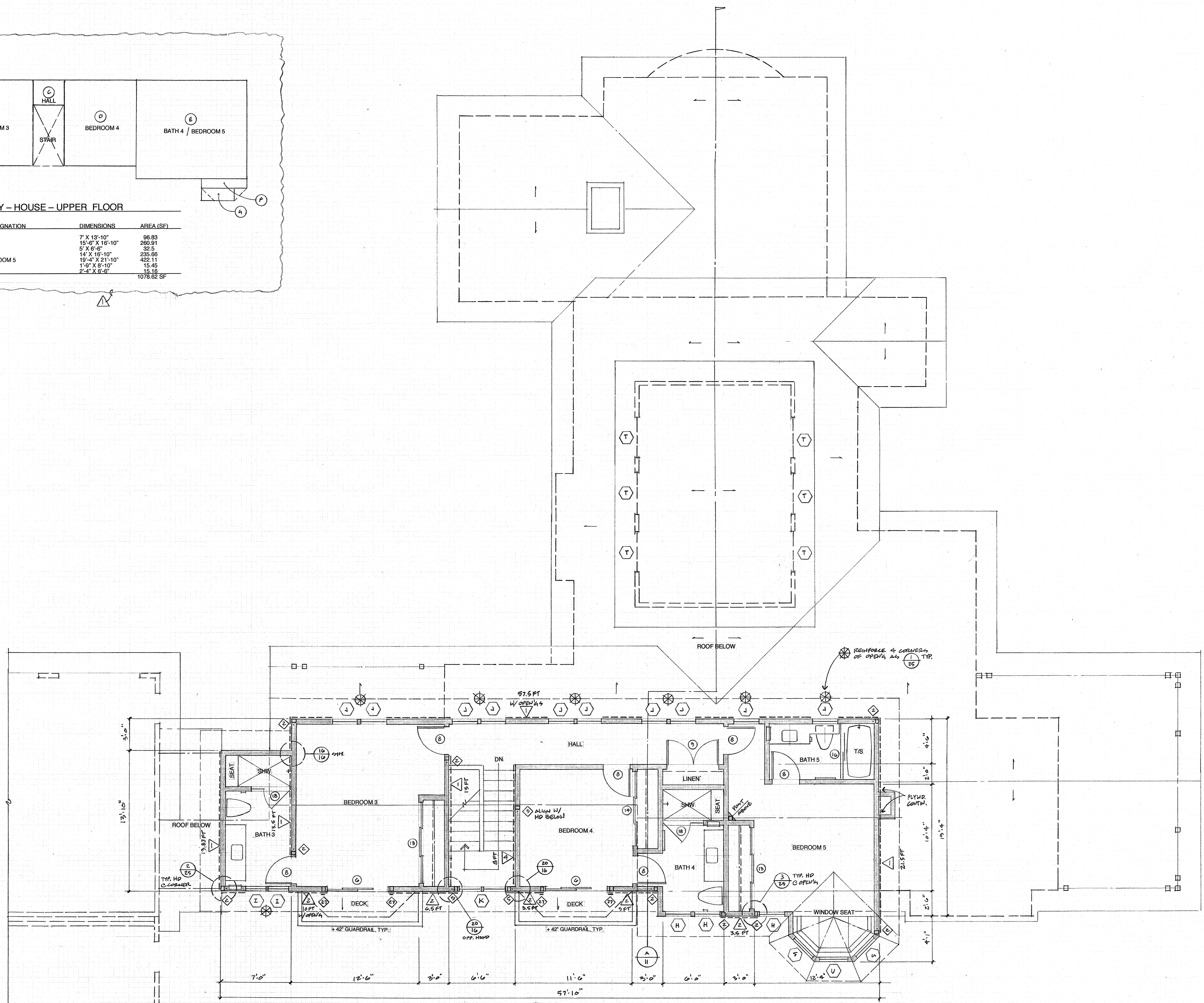
REVISIONS	BY
1	MM
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19	MM
20	MM
21	MM
22	MM

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 200 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 475-5386



**FAR SUMMARY - HOUSE - UPPER FLOOR**  
 1/8" = 1'-0"

POLYGON / AREA DESIGNATION	DIMENSIONS	AREA (SF)
A BATH 3	7' X 13'-10"	96.83
B BEDROOM 3	15'-6" X 18'-10"	280.91
C HALL	8' X 8'-7"	68.5
D BEDROOM 4	14' X 18'-10"	255.86
E BATH 4 / BEDROOM 5	19'-4" X 21'-10"	422.11
F BAY WINDOW	1'-9" X 8'-10"	15.45
G BAY WINDOW	2'-4" X 8'-6"	15.16
TOTAL		1078.82 SF



**PROPOSED - UPPER FLOOR PLAN**  
 SCALE: 1/4" = 1'-0"

REMODEL & ADDITIONS TO THE  
**RENEW RESIDENCE**  
 14500 ATHERICH HILL ROAD - APRN 537-12012  
 LOS GATOS, CALIFORNIA

Proposed - Upper Floor Plan

DATE	11-14-22
SCALE	1/4" = 1'-0"
DRAWN	MJH
JOB	2108
SHEET	9
OF SHEETS	



**PROPOSED - NORTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**PROPOSED - SOUTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**PROPOSED - WEST ELEVATION**  
SCALE: 1/4" = 1'-0"

**STANDING SEAM METAL ROOFING**

Peterson Aluminum Corp., PAC-CLAD 18" wide snap-clad 24 gauge Standing Seam Metal Roofing, UL-580 Class 90 wind uplift, UL-Class A fire rated, installation per mfg. Specs over Dbl layer 30 lb. felt over 5/8" CDX plywood sheathing nailed w/ 10d @ 6" o.c. edges and 12" o.c. field, U.N.O., to 2X Rafter @ 24" o.c. or 2X Prefabricated trusses @ 24" o.c. with R-30 closed cell polyurethane spray foam insulation. Underlayment shall comply with ASTM D226 Type I; ASTM Type I, II, III or IV; ASTM D6757, and shall bear a label indicating compliance to the standard designation. Eave construction shall meet SFM 12-7A-3 requirements.

**CONSTRUCTION SCHEDULE - HOUSE ADDITION**

- FOUNDATIONS** 24" wide X 24" deep concrete grade beam with 2 - #5 bars T & B w/ #3 ties @ 12" o.c.  
CONCRETE SLABS: 5" thick concrete slab w/ #4 bars @ 16" o.c. each way, on 15 mil vapor barrier on 6" crushed rock.  
CONCRETE MIX: Substitute Portland Cement with recycled flyash, 35% by volume, typical. Keep receipts for inspector verification.  
TREATED LUMBER: Substitute ACO pressure treatment for CCA products, typical.  
FORM BOARDS: Clean and re-use for scaffolding, forms, blocking, etc...  
FORM RELEASE AGENT: Use Non-toxic soy based 0-VOC form release agent by BIO-GUARD CO. or Architect approved equal.
- FLOORS** TJI's @ 16" o.c. with 1/2" T&G plywood subfloor glued and nailed w/ 10d @ 6" o.c. edges & 10" o.c. field, U.N.G. with R-19 batt insulation.
- WALLS** 5/16" James Hardie fiber cement horizontal siding or shingles over TYVEK house wrap on 5/8" Type 'X' exterior gypsum sheathing on 7/16" CDX plywood or OSB sheathing, nailed w/ 10d @ 6" o.c. edges and 12" o.c. field, U.N.O., on 2 X 6 studs @ 16" o.c. with R-23 high density batt insulation, 1/2" gypsum wallboard interior finish, typical. Use low/No VOC exterior/interior paints. Wall construction shall meet SFM12-7A-1 requirements.
- ROOF** Class B (min.) flat clay tile (to match existing), install per mfg. specs over Dbl. layer 30 lb. felt over 5/8" CDX plywood sheathing nailed w/ 10d @ 6" o.c. edges and 12" o.c. field, U.N.O., to 2X Rafter @ 24" o.c. with R-30 closed cell polyurethane spray foam insulation. Underlayment shall comply with ASTM D226 Type I; ASTM Type I, II, III or IV; ASTM D6757, and shall bear a label indicating compliance to the standard designation. Eave construction shall meet SFM 12-7A-3 requirements.
- GUTTERS & DOWNSPOUTS** 16 oz. copper beveled gutters w/ 2" diameter round downspouts deposit into existing landscaped areas. Gutters shall be provided with leaf/debris protection.
- ROOF/WALL FLASHINGS** 16 oz. copper where shown or required. Pan flash all ext. door sills with 16 oz. copper solder all joints, typical.
- WINDOWS & EXT. GLASS DRS.** Jeld-Wen - Alum. Clad/Wood sash with Dbl. Insulated Tempered Low-E glass, provide screens at all operable windows. Exterior door assemblies shall conform to SFM 12-7A-1 requirements.
- INSULATION** FLOORS: R-19 fiberglass batts  
EXT. WALLS: R-23 high density fiberglass batts  
INT. WALLS: R-12 fiberglass sound batts  
ROOFS: R-30 closed cell polyurethane spray foam
- ROOF JACKS** Provide neoprene gaskets and 16 oz. copper roof jack / rain cap, typical. All exhaust vents shall be located a min. of 4' from or 1' above all roof or wall openings per CMC. All plumbing vents shall be located a min. of 10' from or 3' above all roof or wall openings per CPC.
- WALL PENETRATIONS** Use weatherproofing wall jacks by QUICKFLASH or approved equal for plumbing, electrical and mechanical penetrations.
- PAINTS, STAINS, ADHESIVES & SEALERS** Use Low / No VOC, water based products and solvent-free adhesives, typical.
- PLUMBING** Install Low-flow toilets. Install Low-flow shower heads with chlorine filters.
- CABINETS & TRIM** Use formaldehyde-free particle board and MDF by MEDITE or approved equal for all cabinets and trim applications.

14500 ARNHEIM RD., LOS GATOS AR 22 - 2476  
Project Address 537-12-012 Project File Number  
APN

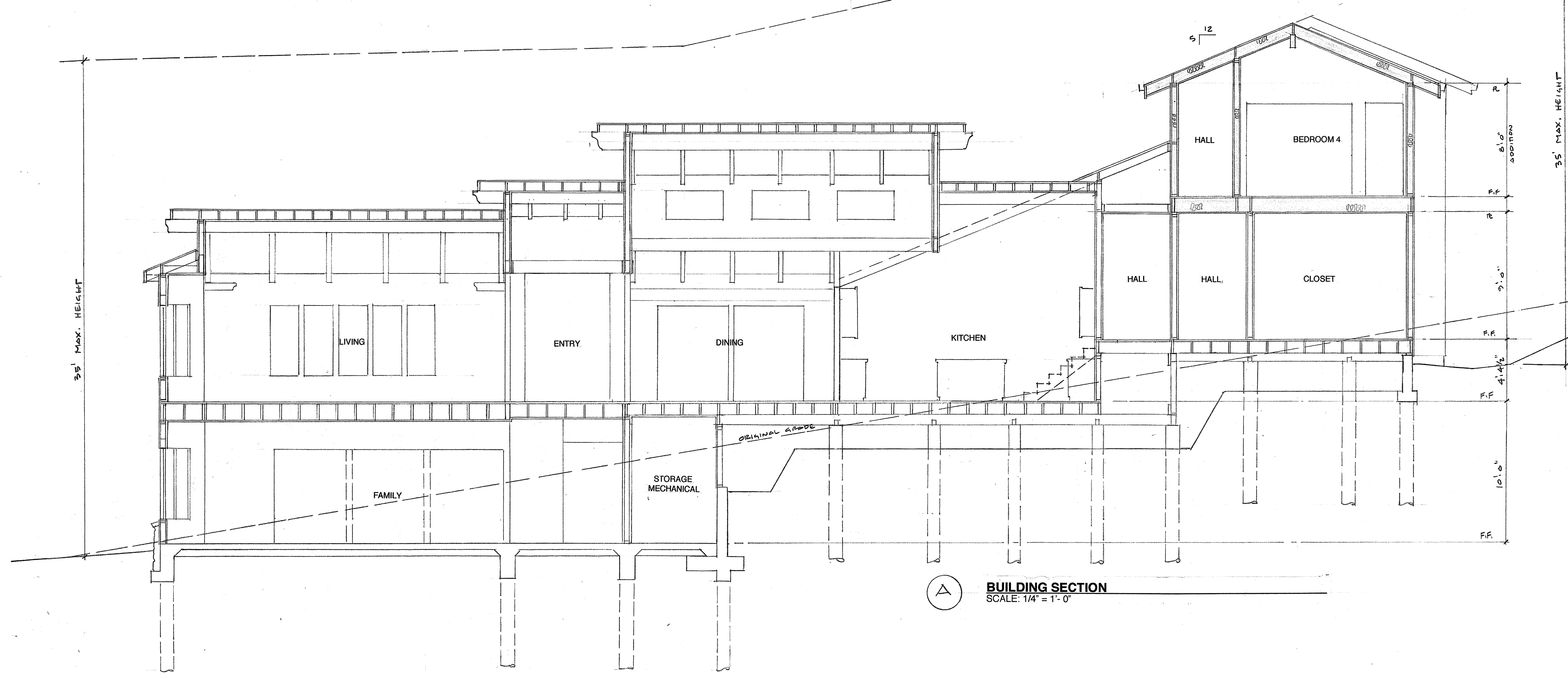
**Color/Materials Board**

- Roof** PETERSON ALUM. CLAD, 18" WIDE, 24 GA., PAC-CLAD STANDING SEAM METAL ROOFING  
Manufacture / Material DARK BRONZE  
Product Name, Number REFLECTIVITY 0.19
- Door & Window Frames, Railings** JELD-WEN CLAD WOOD  
Manufacture / Number CHESTNUT BRONZE  
Color Name, LRV LRV 65%
- Trim** JAMES HARDIE - FIBER CEMENT - PAINTED  
Manufacture / Number SHERWIN WILLIAMS  
Color Name, LRV OLIVE SW 1166, LRV 30%
- Exterior Walls** JAMES HARDIE - FIBER CEMENT  
HORIZONTAL LAP OR SHINGLE SIDING - PAINTED  
Manufacture / Number SHERWIN WILLIAMS  
Color Name, LRV CAPRAMOM SW 2727, LRV 7%
- Architectural Accents (Ex. Stone Vener)** TAHOE RIVER ROCK (EXISTING TO REMAIN)  
Manufacture / Number N/A  
Color Name, LRV N/A
- Retaining Walls** (E) RIVER ROCK (SEE ABOVE)  
(P) STUCCO FINISH - PAINTED  
Manufacture / Number SHERWIN WILLIAMS  
Color Name, LRV OLIVE SW 1166, LRV 30%

11-28-22 MSJ  
 Michael Helm, AIA Architect & Associates  
 200 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 476-5386  
 REMODEL & ADDITIONS TO THE: RENEW RESIDENCE  
 14500 ARNHEIM HILL ROAD, APN 537-12-012  
 LOS GATOS, CALIFORNIA  
 Proposed - Exterior Elevations  
 11.14.22  
 1/4" = 1'-0"  
 MSJ  
 2108  
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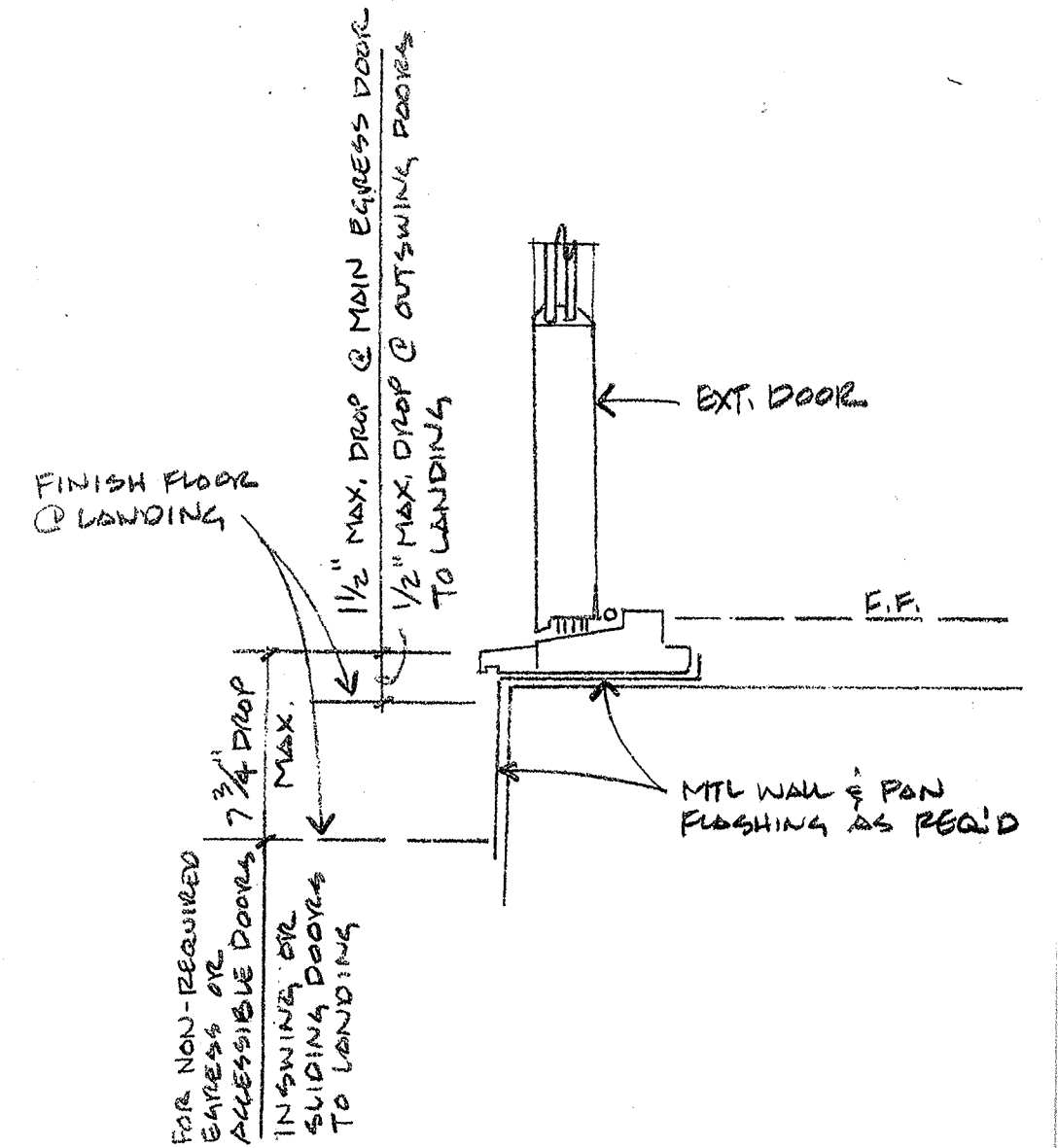
**PROPOSED - EAST ELEVATION**  
SCALE: 1/4" = 1'-0"



**BUILDING SECTION**  
SCALE: 1/4" = 1'-0"

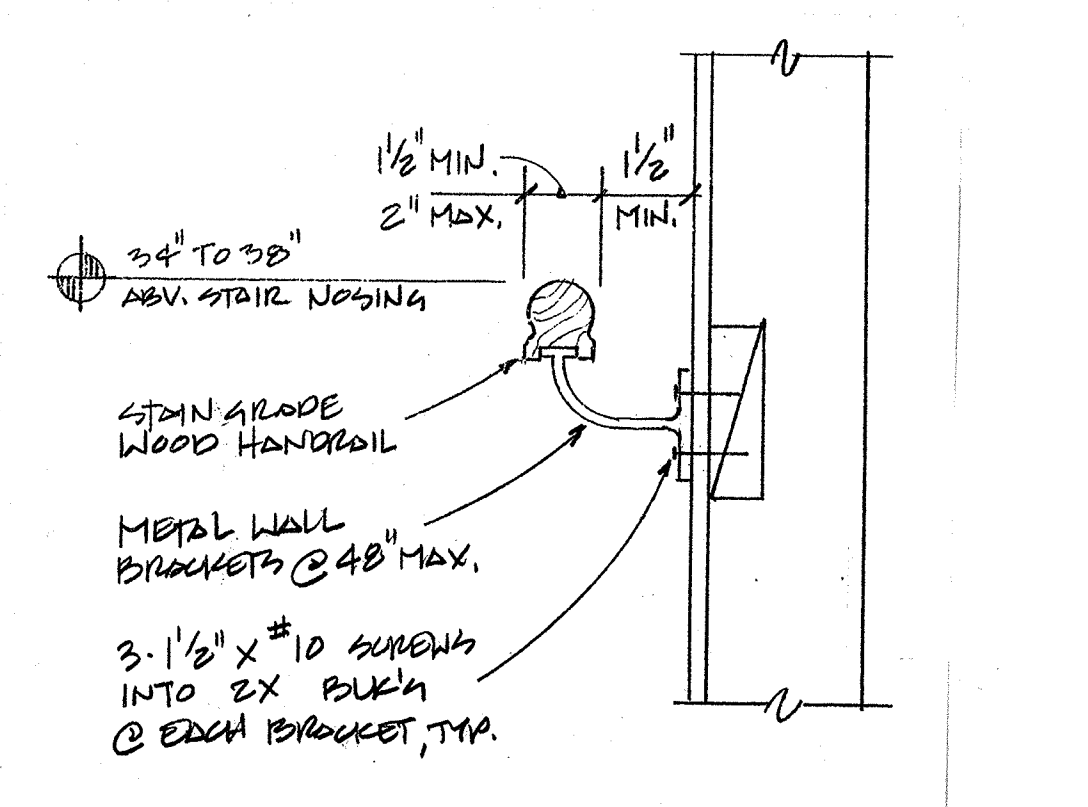
**CONSTRUCTION SCHEDULE - HOUSE ADDITION**

- FOUNDATIONS** 24" wide X 24" deep concrete grade beam with 2 - #5 bars T & B w/ #3 ties @ 12" o.c.  
CONCRETE SLABS: 5" thick concrete slab w/ #4 bars @ 16" o.c. each way, on 15 mil vapor barrier on 6" crushed rock.  
CONCRETE MIX: Substitute Portland Cement with recycled flyash, 35% by volume, typical. Keep receipts for inspector verification.  
TREATED LUMBER: Substitute ACO pressure treatment for CCA products, typical.  
FORM BOARDS: Clean and re-use for scaffolding, forms, blocking, etc..  
FORM RELEASE AGENT: Use Non-toxic soy based 0-VOC form release agent by BIC-GUARD CO. or Architect approved equal.
- FLOORS** TJI's @ 16" o.c. with 3/4" T&G plywood subfloor glued and nailed w/ 10d @ 6" o.c. edges & 10" o.c. field, U.N.O. with R-19 batt insulation.
- WALLS** 5/16" James Hardie fiber cement horizontal siding or shingles over TYVEK house wrap on 5/8" Type X exterior gypsum sheathing on 7/16" CDX plywood or OSB sheathing, nailed w/ 10d @ 6" o.c. edges and 12" o.c. field, U.N.O. on 2 X 8 studs @ 16" o.c. with R-23 high density batt insulation, 1/2" gypsum wallboard interior finish, typical. Use low/No VOC exterior/interior paints. Wall construction shall meet SFM12-7A-1 requirements.
- ROOF** Class B (min.) flat clay tile (to match existing), install per mfg. specs over Dbl. layer 30 lb. felt over 5/8" CDX plywood sheathing nailed w/ 10d @ 6" o.c. edges and 12" o.c. field, U.N.O., to 2X Rafters @ 24" o.c. with R-30 closed cell polyurethane spray foam insulation. Underlayment shall comply with ASTM D226 Type I; ASTM Type I, II, III or IV; ASTM D6757, and shall bear a label indicating compliance to the standard designation. Eave construction shall meet SFM 12-7A-3 requirements.
- GUTTERS & DOWNSPOUTS** 16 oz. copper beveled gutters w/ 2" diameter round downspouts deposit into existing landscaped areas. Gutters shall be provided with leaflets protection.
- ROOF / WALL FLASHINGS** 16 oz. copper where shown or required. Pan flash all ext. door sills with 16 oz. copper solder all joints, typical.
- WINDOWS & EXT. GLASS DRS.** Jeld-Wen - Alum. Clad/Wood sash with Dbl. Insulated Tempered Low-E glass, provide screens at all operable windows. Exterior door assemblies shall conform to SFM 12-7A-1 requirements.
- INSULATION** FLOORS: R-19 fiberglass batts  
EXT. WALLS: R-23 high density fiberglass batts  
INT. WALLS: 3-1/2" fiberglass sound batts  
ROOFS: R-30 closed cell polyurethane spray foam
- ROOF JACKS** Provide neoprene gaskets and 16 oz. copper roof jack / rain cap, typical. All exhaust vents shall be located a min. of 4" from or 1" above all roof or wall openings per CMC. All plumbing vents shall be located a min. of 10" from or 3" above all roof or wall openings per CPC.
- WALL PENETRATIONS** Use weatherproofing wall jacks by QUICKFLASH or approved equal for plumbing, electrical and mechanical penetrations.
- PAINTS, STAINS, ADHESIVES & SEALERS** Use Low / No VOC, water based products and solvent-free adhesives, typical.
- PLUMBING** Install Low-flow toilets. Install Low-flow shower heads with chlorine filters.
- CABINETS & TRIM** Use formaldehyde-free particle board and MDF by MEDITE or approved equal for all cabinets and trim applications.



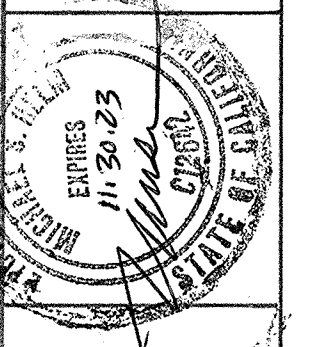
NOTE: EVERY LANDING SHALL HAVE A DIMENSION OF 36 INCHES MINIMUM IN THE DIRECTION OF TRAVEL. THE FINISHED SURFACE OF THE EXTERIOR LANDING AT THE MAIN EGRESS DOOR SHALL NOT BE GREATER THAN 1-1/2 INCHES BELOW THE TOP OF THE THRESHOLD. EXTERIOR LANDINGS AT DOORS THAT ARE NOT THE MAIN EGRESS SHALL NOT BE MORE THAN 7/8 INCHES BELOW THE TOP OF THE THRESHOLD, 1/2 INCH MAXIMUM DROP AT OUTSWING DOORS.

**1 EXTERIOR THRESHOLD**



**2 INTERIOR HANDRAIL**

APR 11 22 22 MSJ  
Michael Helm, AIA Architect & Associates  
200 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 476-5386



REMODEL & ADDITIONS TO THE:  
**RENFREW RESIDENCE**  
14500 ARNERICH HILL ROAD - APN 537-12-012  
LOS GATOS, CALIFORNIA

PROPOSED - EXTERIOR ELEVATIONS  
BUILDING SECTIONS  
11.14.22  
1/4" = 1'-0"  
MSJ  
2108

**ELECTRICAL NOTES**

**General**

- All Electrical work to comply with the latest adopted edition of the California Electrical Code.
- Electrical contractor to submit load calculations and panel diagrams to the Building Department prior to beginning work.
- Do not install electrical panels larger than 16 square inches in rated fire walls. Maintain a clearance of 36" in front of the panels.
- Bond all metal gas and water pipes to ground. All ground clamps must be accessible and of an approved type. (CEC 255.104)
- All joints and penetrations to be caulked and sealed.

**Circuits**

- Central heating equipment shall be supplied by an individual branch circuit. Verify electrical requirements for all mechanical equipment.
- All exterior, garage, kitchen and bathroom circuits shall be on GFCI circuits. Combination AFCI/GFCI outlets are required at kitchen and laundry areas.
- All branch circuits that supply 125-volt, single-phase, 15- and 20-ampere outlets (i.e. receptacles, lights, smoke alarms, etc.) to be protected by Arc-Fault Circuit Interrupter (AFCI) listed to provide protection of the entire branch circuit per CEC 210-12(B) in kitchens, laundry rooms, family rooms, dining rooms, living rooms, bedrooms, closets, hallways, and similar living spaces. CEC 210.12
- One 20A circuit shall be provided to supply the bathroom receptacle outlets. Such circuit shall have no other outlets CEC 210.11(C).

**Switches**

- Wall switches to be 42" @ centerline above finish floor. All outlets to be 12" @ centerline above finish floor, unless noted otherwise.
- Dimmers or vacancy sensors shall control all luminaires required to have light source compliant with Reference Joint Appendix JA8 per Table 150.0-A. Exceptions are provided for closets smaller than 70 sq. ft. floor area and light fixtures in hallways per CA Energy 150.0(A). At least one luminaire in bathrooms, garages, laundry rooms, and utility rooms shall be controlled by a vacancy sensor. (CEC 150.0(K)(2))
- Exterior lighting attached to any building shall be high efficacy, controlled by a manual ON and OFF switch that does not override to ON, and controlled by a motion sensor with photo-control, or other methods allowed by CEC 150.0(K)(3)

**Receptacles**

- Receptacles on 125-volt 15 & 20 amp circuits shall be listed tamper resistant. (CEC 406.12) Except when located more than 5.5' above the floor, within cabinets or cupboards, or when part of a luminaire or appliance. (CEC 210.52)
- Receptacles must be installed at 12" o.c. maximum in walls. Walls longer than 2 feet and halls longer than 10' must have a receptacle. A receptacle must be provided within 3' of bathroom sinks. (CEC 210.52). Spacing of kitchen and dining room countertop receptacles shall meet minimum requirements of CEC 210.52(C), Parts 1-5.
- Ground-Fault Circuit-Interrupter (GFCI) protected receptacles shall be installed in bathrooms, garages, outdoors, crawl spaces, kitchens, unfinished basements, and receptacles within 6 ft. of the outside edge of laundry, utility, and wet sinks. All dwellings must have at least one exterior outlet at the front and the back of the dwelling. (CEC 210.52(E))
- GFCI outlets are required for all kitchen receptacles that are designed to serve countertop surfaces, in a bathroom, in under-floor spaces or below grade level, in exterior outlets, and in all garage outlets not dedicated to a single device or appliance. (CEC 210.52)
- Arc-Fault Circuit-Interrupter (AFCI) protected receptacles shall be installed in all rooms not requiring GFCI protection. The maximum length of the branch circuit to the AFCI is 50 feet for 14 AWG conductors or 70 feet for a 12 AWG conductor. Arc-fault circuit interrupter protection must be provided in accordance with CEC 210.12(A), (B) and (C). AFCI devices shall be installed in readily accessible locations. All branch circuits that supply 125 volt, single phase, 15 ampere and 20 ampere outlets (i.e. receptacles, lights, smoke alarms, etc.) to be protected by Arc-Fault Circuit Interrupter (AFCI) listed to provide protection of the entire branch circuit per CEC 210-12(B) in kitchens, family rooms, dining rooms, living rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar living spaces. Cabinetry or being dedicated to appliances does not exempt requirement.
- Exterior Outlets @ Grade: At least one readily accessible outlet from grade and not more than 6-1/2 feet above grade level shall be installed at the front and back of dwelling, be GFCI protected, and have a weatherproof enclosure.
- Exterior Outlets @ Balconies, Decks, and Porches: Each balcony, deck, and porch shall have at least one readily accessible outlet not more than 6-1/2 feet above the walking surface, be GFCI protected, and have a weatherproof enclosure.

**Light Fixtures**

- All new light fixtures must be high efficacy. Bathroom lighting and closet lighting are not exempt. Lighting in bathrooms, garages, laundry rooms & utility rooms must be controlled by a vacancy sensor or dimmer switch per CA Energy Standard 150.0(K)(1A).
- Dimmers or vacancy sensors shall control all luminaires. Exceptions are provided for closets smaller than 70 sq. ft. floor area and light fixtures in hallways per CA Energy 150.0(K)(3). At least one of the high efficacy light fixtures in bathrooms shall be controlled by a vacancy sensor and the other(s) shall be high efficacy. Exterior lighting shall be high efficacy or controlled by a photo-motion sensor per CEC 150.0(K)(3A)
- All LED lighting shall be California Energy Commission certified to qualify as high efficacy.
- All recessed light fixtures shall be IC listed per CEC 150.0(K)(8)
- Fixtures installed in wet or damp locations shall be installed so that water cannot enter or accumulate in wiring compartments, lamp holders, or other electrical parts. Fixtures in wet or damp locations will be marked for such use. Lighting fixtures located within 3 feet horizontally and 8 feet vertically of the bathtub rim or shower stall threshold shall be tested for a damp location, or listed for wet locations where subject to shower spray per CEC 410.10

**Alarms**

- Contractor must install or verify the existence of smoke alarms and carbon monoxide alarms outside each bedroom as well as one on every level. An additional smoke alarm is required inside each bedroom. Alarms in existing areas where access to the area above the ceiling is not possible may be powered by a D/C battery source. In the areas of new construction or existing rooms where the area above the ceiling is accessible, alarms must be powered by an A/C power source with a battery back-up and be interconnected. (CRC 314, 315).
- Smoke detector/alarms are to be provided with battery back-up and audible in all sleeping areas and shall be hard-wired and inter-connected per CRC R314.5. Smoke alarms shall be located more than 36 inches clear from heating supply registers per NFPA 72, Section 29.8.3.4 (6), and bathroom doors per NFPA 72, Section 29.8.3.4 (5), CRC R314.3.3.
- An approved carbon monoxide alarm shall be installed in dwellings in which fuel-burning appliances are installed and in dwellings with an attached garage. Carbon monoxide detector alarms on all habitable levels and shall be hard-wired and inter-connected per CRC R315.1.
- Where more than one smoke alarm is required to be installed within an individual dwelling unit in accordance with CRC R314.3, the alarm devices shall be inter-connected in such a manner that the actuation of one alarm will activate all of the alarms in the individual dwelling unit. Physical inter-connection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm. The alarms shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

**HVAC**

- Provide exhaust fans in kitchen and each bathroom vented to outside and sized as follows. Kitchen: >= 100 CFM intermittent, >= 5 ACH continuous with a tested static pressure of .25 wc, rated @ <= C3 zones. Fans to be attached to a minimum 5" diameter smooth duct, <70 in. ft. subtract 15' of allowed length for each elbow. Bathroom: >= 50 CFM intermittent, >= 20 CFM continuous with a tested static pressure of .25 wc, rated @ <= C3 zones. Fans to be attached to a minimum 4" diameter smooth duct, <70 in. ft. subtract 15' of allowed length for each elbow. Exhaust fan ratings to be <= 1 zone continuous, <= 3 zones intermittent. Bath fans to be Energy Star compliant and equipped with humidistat controls for adjustment of relative humidity from 50 to 80%, per CalGreen code 4.506.1.
- Bathroom exhaust fans shall be switched separately from lighting system per CA Energy Code 150.0(K)(2B).
- Provide a whole-building mechanical exhaust system to outdoor air at the minimum rate of 70 CFM with a tested static pressure of .25 wc, rated @ <= C3 zones. Fans to be attached to a minimum 5" diameter smooth duct, <70 in. ft. subtract 15' of allowed length for each elbow. System to have an accessible off/on switch that is properly labeled. Covers and louvers for the whole house ventilation fan(s) shall be provided so that they close when the system is turned off. Covers or louvers shall have min. R 4.2 insulation value. Switch for fan must be labeled such as "Fan is to be left on to ensure indoor air quality".

**VENTILATION NOTES**

- All bathroom fans are to be used for Local Ventilation Exhaust. Minimum 50 CFM fan tested at a static pressure of .25 wc and rated @ 3 zones or less required to be installed. Fan must be attached to a minimum 5" duct and not longer than 70' of flex duct. Subtract 15' of allowed length for each elbow.
- All kitchen range hoods are to be used for Local Ventilation Exhaust. Minimum 100 CFM tested at a static pressure of .25 wc and rated @ 3 zones or less required to be installed. Fan must be attached to a minimum 5" smooth duct and not longer than 85'. Subtract 15' of allowed length for each elbow.
- This fan is to be used for Whole Building Ventilation. Minimum 70 CFM fan tested at a static pressure of .25 wc and rated @ 1 zone or less required to be installed. Fan must be attached to a minimum 5" duct and not longer than 70'. Subtract 15' of allowed length for each elbow. Switch for fan must be labeled to indicate the fan's required function such as "Fan is to be left on to ensure indoor air quality".

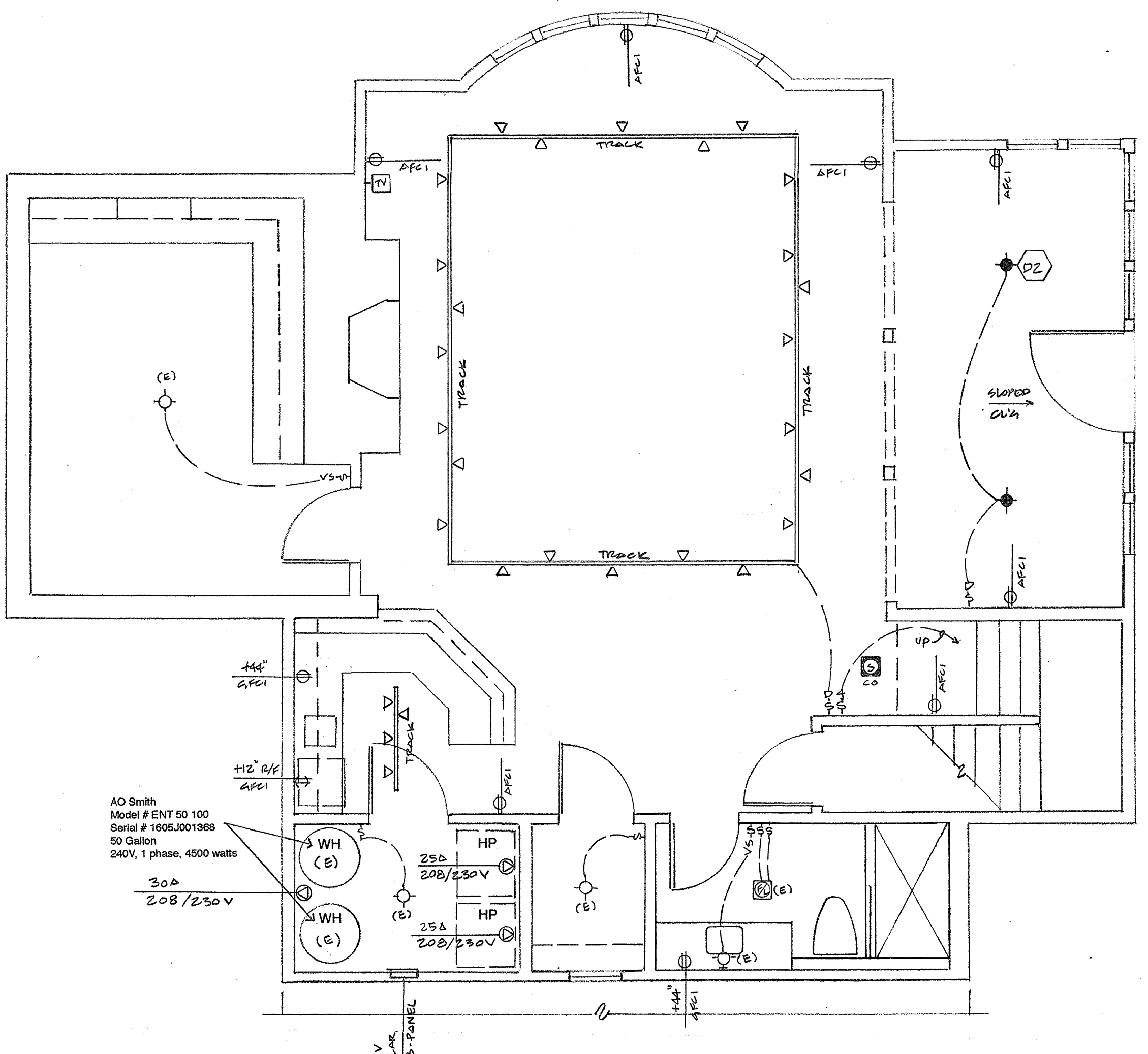
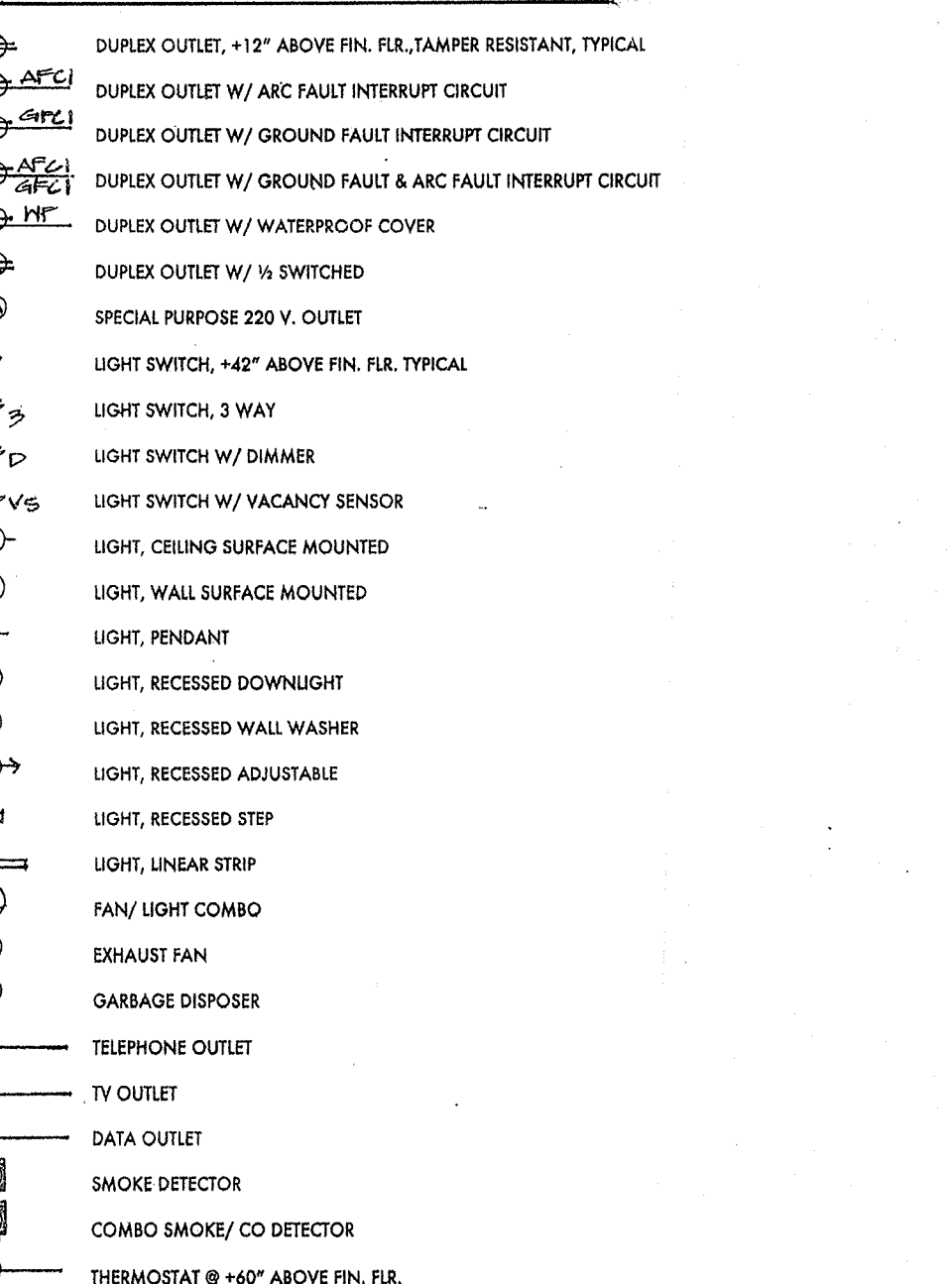
**WHOLE HOUSE VENTILATION CALCULATION per CEC 150.0(C) & ASHRAE 62.2**

$0.03 \times 7101 \text{ SF Htd. Area} + 7.5 \times (5 \text{ bedrooms} + 1) = 2.5 \text{ CFM req'}$

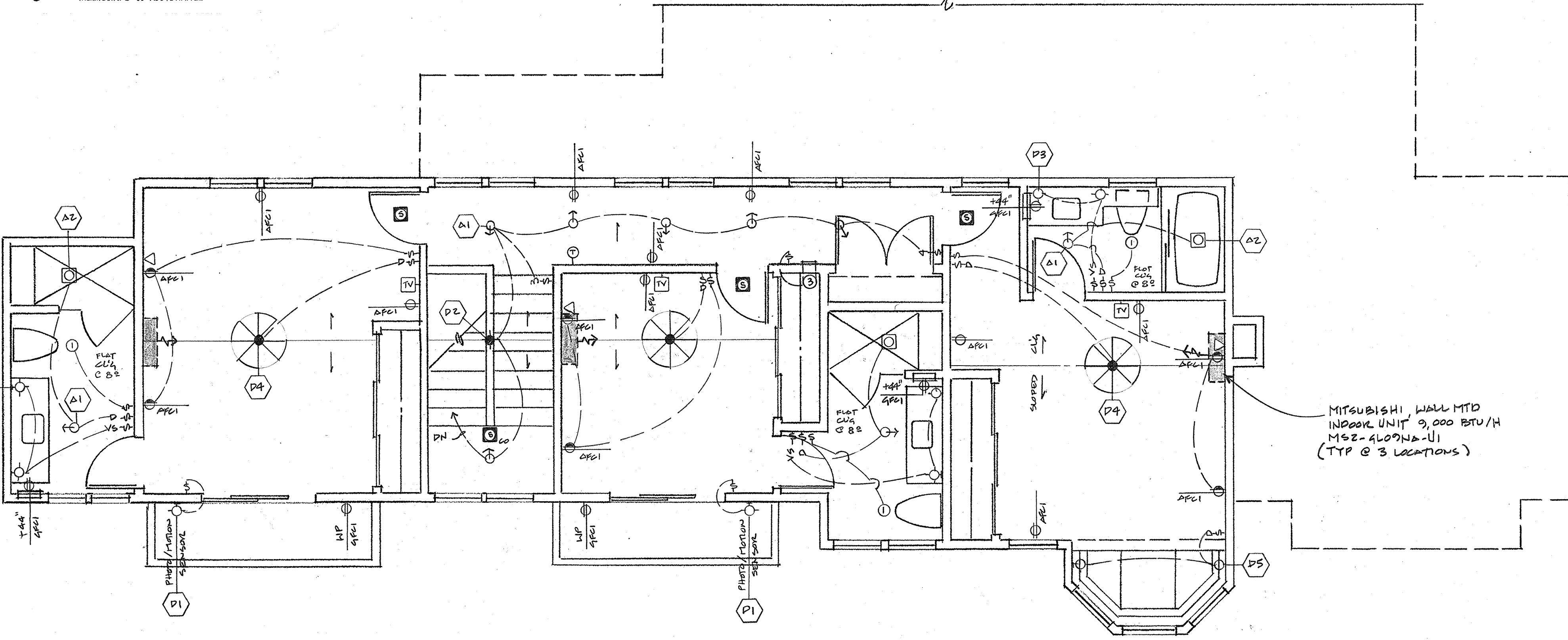
The thermal capacity of electric floor warming mats in bathrooms shall not exceed 2 kilowatts or 7,000 BTU/HR and shall be controlled by a time-limiting device not exceeding 30 minutes. Provide a dedicated circuit with GFCI protection.

Furnaces installed in attics and crawl spaces must have an access platform (catwalk in attic), light, light switch, and receptacle in the space.

**ELECTRICAL SYMBOL LEGEND**



**LOWER FLOOR - ELECTRICAL / LIGHTING SCHEMATIC**  
SCALE: 1/4" = 1'-0"



**UPPER FLOOR - ELECTRICAL / LIGHTING SCHEMATIC**  
SCALE: 1/4" = 1'-0"

**M-SERIES SUBMITTAL DATA: MSZ-GLO9NA-U1**

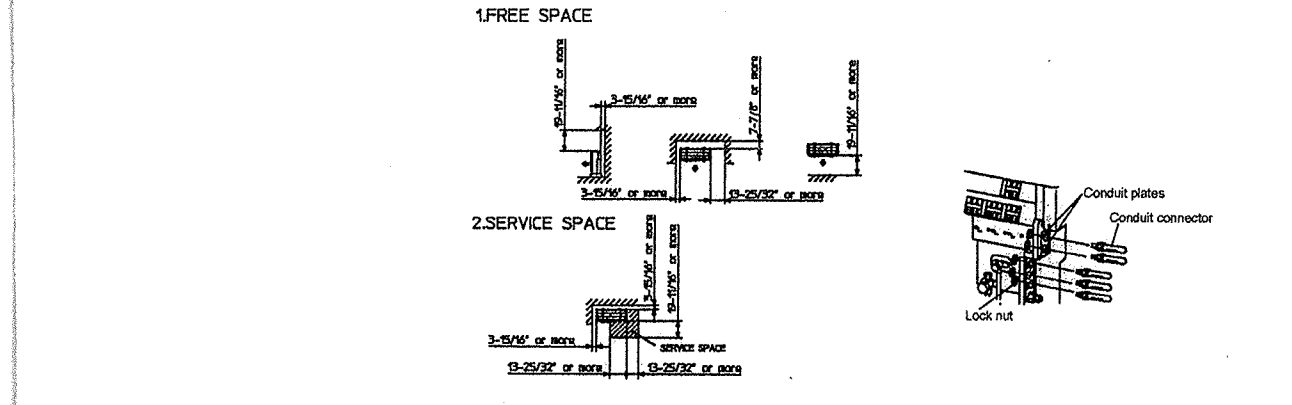
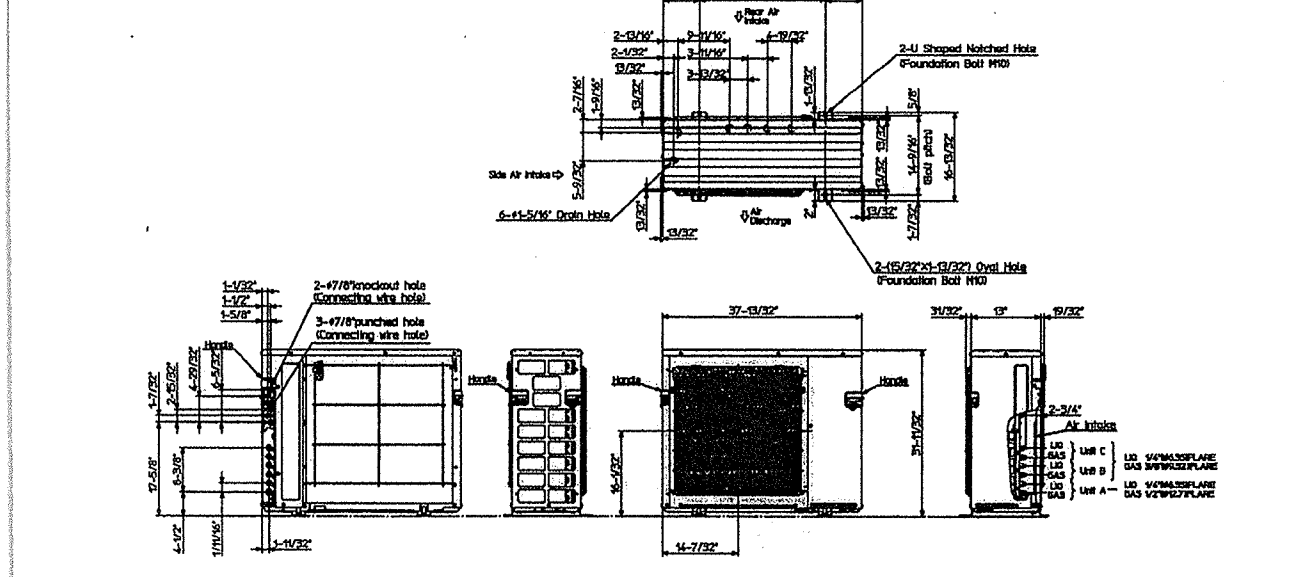
Unit Type	Model	Capacity	Power
Cooling	MSZ-GLO9NA-U1	9,000 BTU/H	12,000 VA
Heating	MSZ-GLO9NA-U1	9,000 BTU/H	12,000 VA

Specification	Value
Minimum Capacity	9,000 BTU/H
Maximum Capacity	12,000 BTU/H
Rated Capacity	9,000 BTU/H
Rated Total Input	12,000 VA
Rated Capacity	9,000 BTU/H
Rated Total Input	12,000 VA
Rated Capacity	9,000 BTU/H
Rated Total Input	12,000 VA
Rated Capacity	9,000 BTU/H
Rated Total Input	12,000 VA

Operating Range	Outdoor	Indoor
Cooling	14 to 115°F (-10 to 47°C) DB	68 to 86°F (20 to 30°C) WB
Heating	14 to 67°F (-10 to 19°C) WB	68 to 86°F (20 to 30°C) DB

Efficiency Type	SEER	EER	HSPF	CRP @ 47°F	CRP @ 57°F
Non-ducted (9+ 8+ 6+)	19.0	10.6	10.6	3.90	2.77
Ducted and Non-ducted	17.8	10.1	10.1	3.77	2.78
Ducted (9+ 8+ 6+)	16.2	9.9	9.9	3.64	2.78

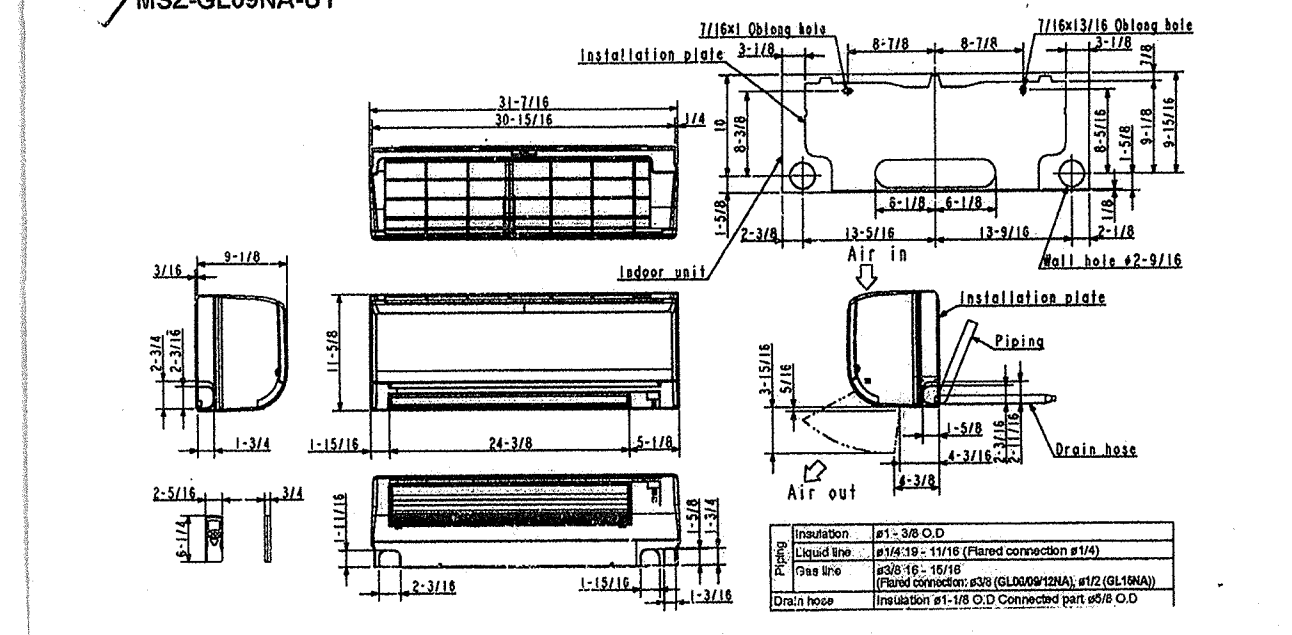
NOTES:  
 - Minimum of two indoor units must be connected to the MSZ-GLO9NA-U1.  
 - Minimum installed capacity cannot be less than 12,000 Btu/h.  
 - Total connected capacity must not exceed 120% of outdoor air capacity.  
 - System can operate with only one indoor unit turned on.  
 - For refrigerant, see the MSZ-GLO9NA-U1 Service Manual.  
 - MSZ-G Technical & Service Manual for detailed specifications and additional information per Indoor Unit Combination.



**M-SERIES SUBMITTAL DATA: MSZ-GLO9NA-U1**

Specification	Value
Rated Capacity	9,000 BTU/H
Rated Total Input	12,000 VA
Rated Capacity	9,000 BTU/H
Rated Total Input	12,000 VA

Accessories	Part Number
Condensate Pump (Blue Diamond)	MD-11172 (115/220V)
Condensate Pump (Blue Diamond)	MD-11173 (115/220V)
Anti-Freeze Glycol (Blue Diamond)	MD-11174 (115/220V)
Platinum Carbon Deodorizing Filter (Blue Diamond)	MD-11175
Drain Pan Level Sensor (Blue Diamond)	MD-11176



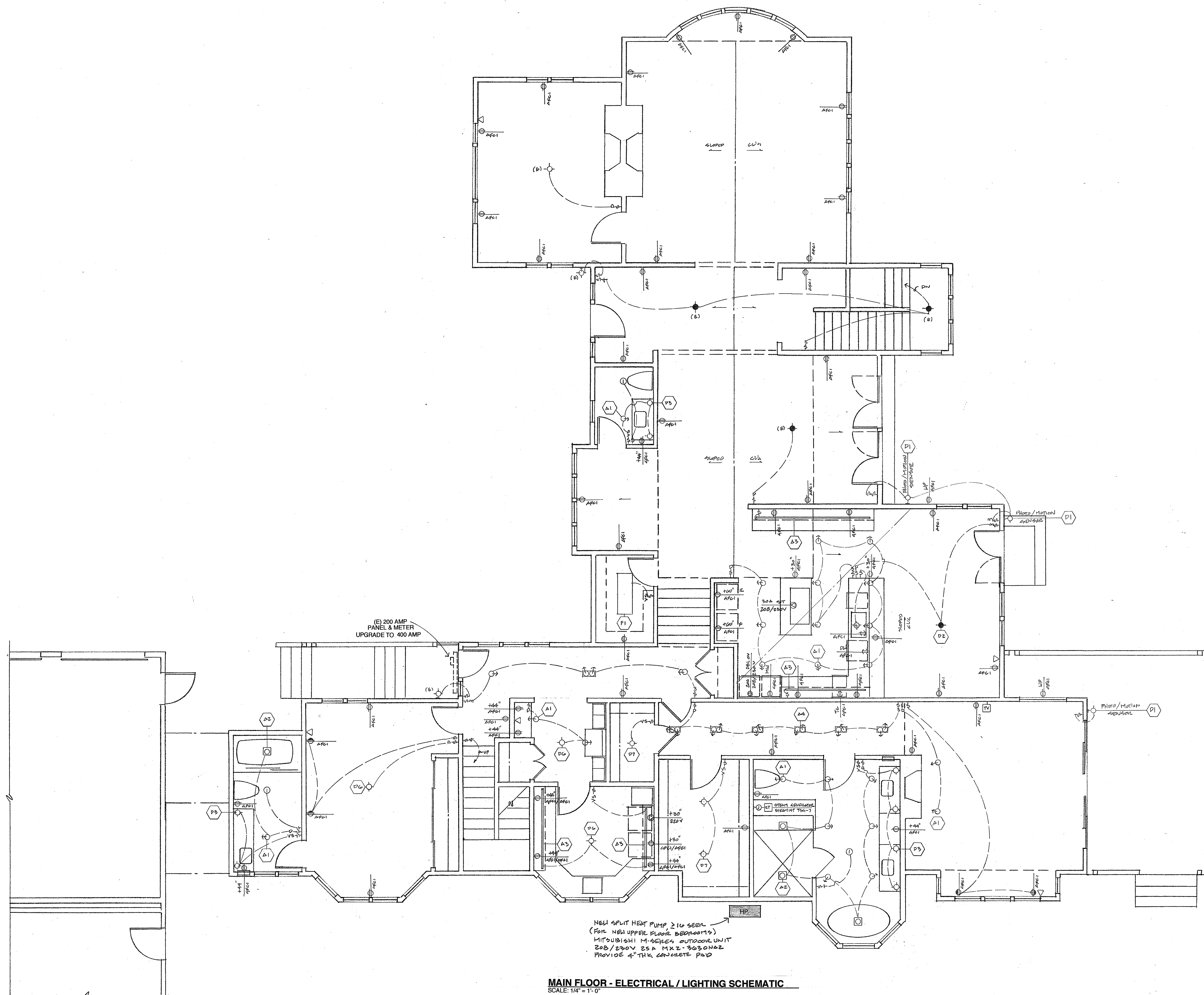
REMODEL & ADDITIONS TO THE:  
**RENFREW RESIDENCE**  
 14500 ARNERICHI HILL ROAD - APN 537-12-012  
 LOS GATOS, CALIFORNIA



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 200 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 476-5586

11.14.22  
 1/4" = 1'-0"  
 MSJ  
 2108

LOWER FLOOR - ELECTRICAL SCHEMATIC  
 VREB SPACE - ELECTRICAL SCHEMATIC



**MAIN FLOOR - ELECTRICAL / LIGHTING SCHEMATIC**  
SCALE: 1/4" = 1'-0"

**LIGHTING FIXTURE SCHEDULE - HOUSE**

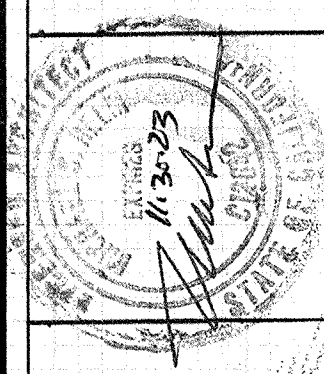
Tag	Description
A1	Recessed 4" adjustable retractable LED downlight. Manufacturer: WAC Lighting, Precision Multiples, 3000K Housing: MT-4LD116N-S-30-5K Trim: MT-4LD416T-WT Order with bar hangers
A2	Recessed 4" LED shower light. Manufacturer: Halo, <b>To be determined</b> Lamp & Mfg: 3000K Remarks: Order with bar hangers
A3	Surface mounted under cabinet task LED light. Manufacturer: WAC Lighting, Lina, 3000K Lamp & Mfg: 30° LN-LED30-30AL 24" LN-LED24-30-AL 12.25" LN-LED12-30-AL
A4	Recessed adjustable retractable multiple LED downlights. Manufacturer: WAC Lighting, Precision Multiples, 3000K Housing: MT-4LD116N-S-30-5K Trim: MT-4LD416T-WT Order with bar hangers
F1	Surface Mounted 1.5' X 4' LED Wrap Around Manufacturer: Lithonia, LBL4 LP835 Lamp & Mfg: 3500K, 41 watt light engine, 4564 Nom. Lumens
D1	Wall mounted LED exterior light fixture. Manufacturer: <b>To be determined by Owner</b> Remarks: Provide photo/motion sensor on exterior circuits, Verify location of sensor prior to installation, <b>Owner approval required prior to ordering.</b>
D2	Pendant mounted LED decorative light fixture. Manufacturer: <b>To be determined by Owner</b>
D3	Wall mounted LED decorative bath strip light. Manufacturer: WAC Lighting, Bink, WS-77618-AL Remarks: Mount vertically, <b>To be Owner Approved</b>
D4	Pendant mounted ceiling fan. Manufacturer: <b>To be determined by Owner</b>
D5	Wall mounted LED decorative sconce light fixture. Manufacturer: <b>To be determined by Owner</b>
D6	Ceiling surface mounted LED decorative light fixture. Manufacturer: <b>To be determined by Owner</b>
D7	Ceiling surface mounted LED decorative light fixture. Manufacturer: <b>To be determined by Owner</b>



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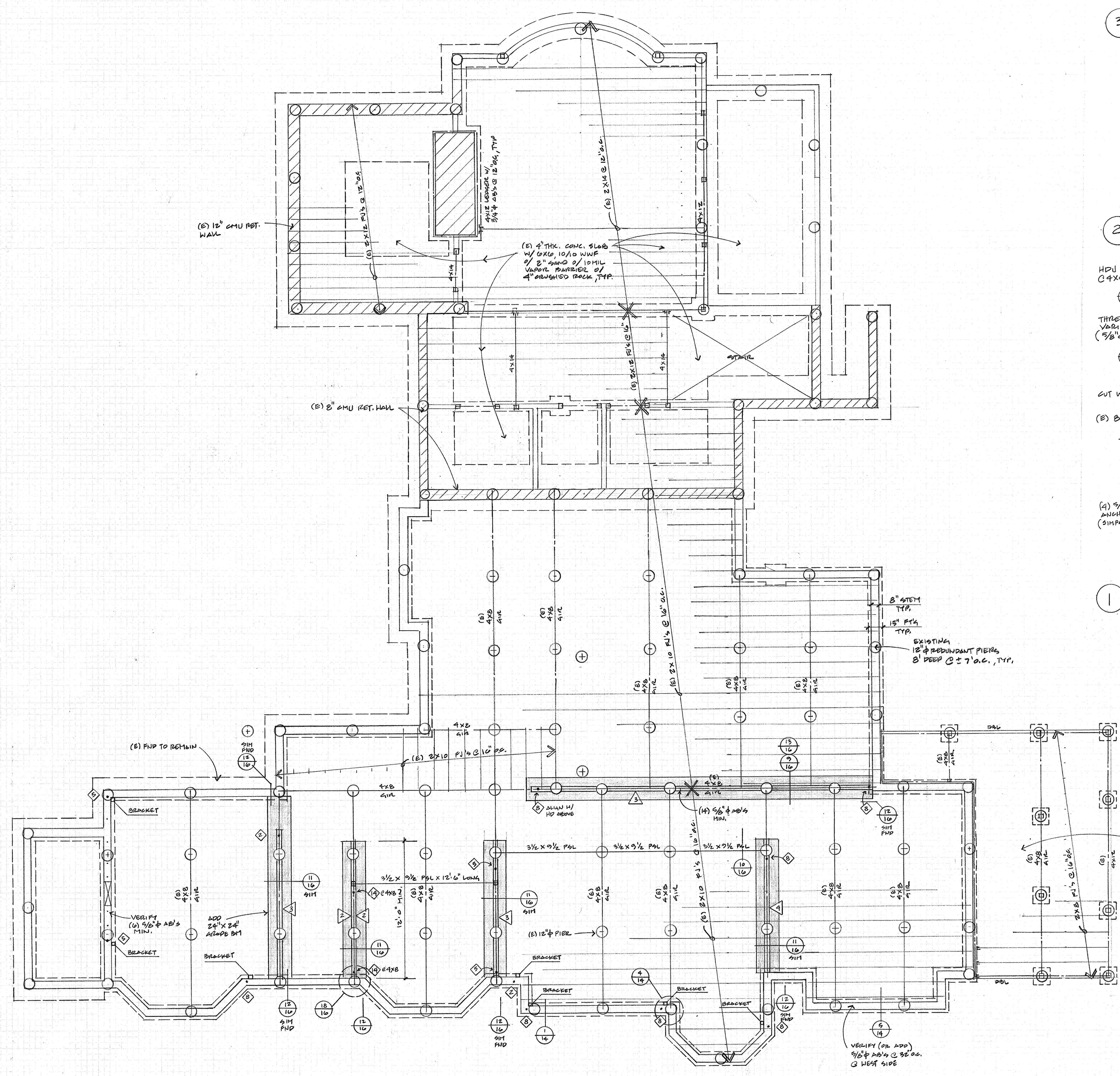
REMODEL & ADDITIONS TO THE:  
**RENFREW RESIDENCE**  
14500 ARNERICH HILL ROAD - APN 587-12-012  
LOS GATOS, CALIFORNIA

11.14.23  
1/4" = 1'-0"  
Mell  
2108



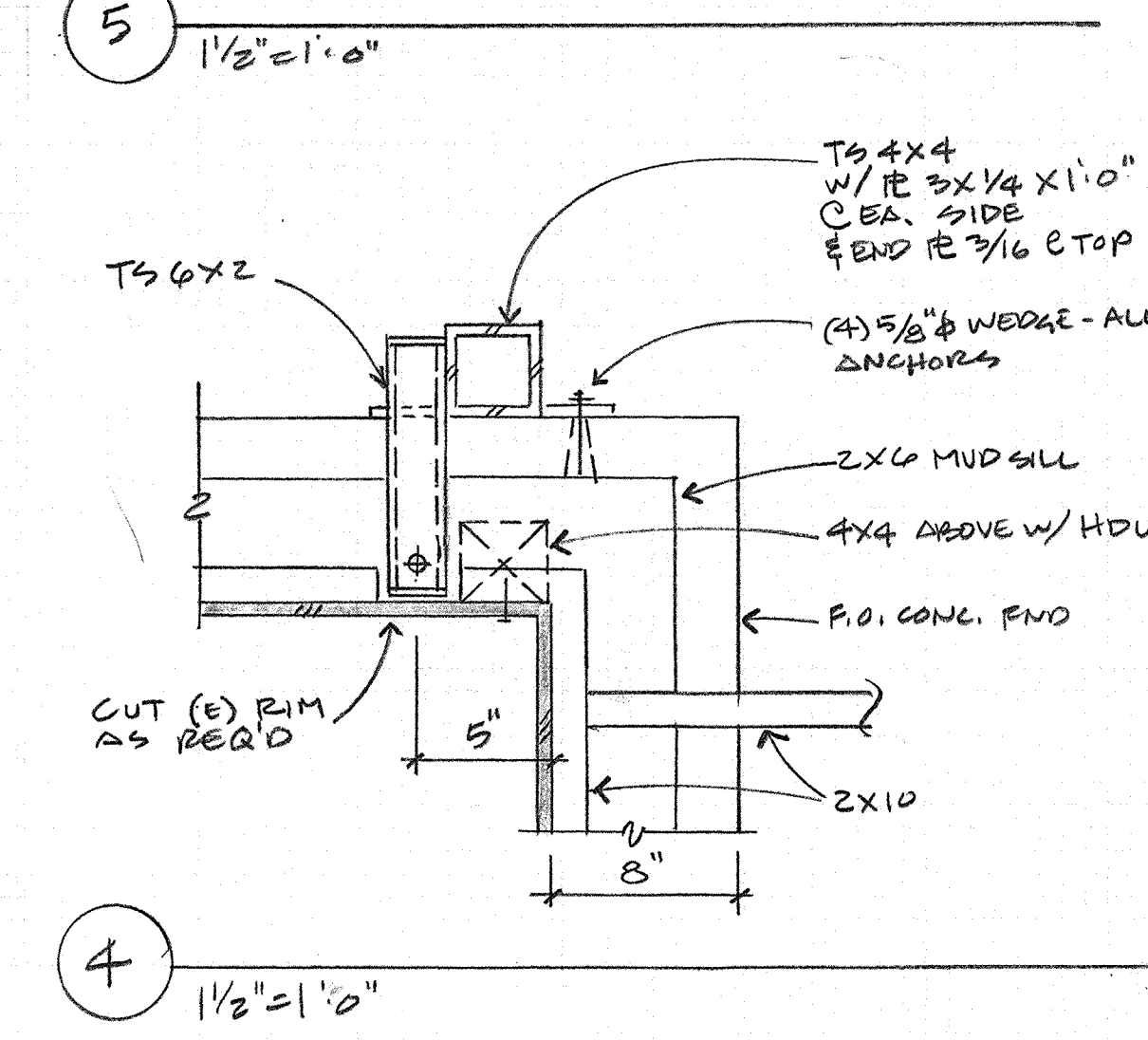
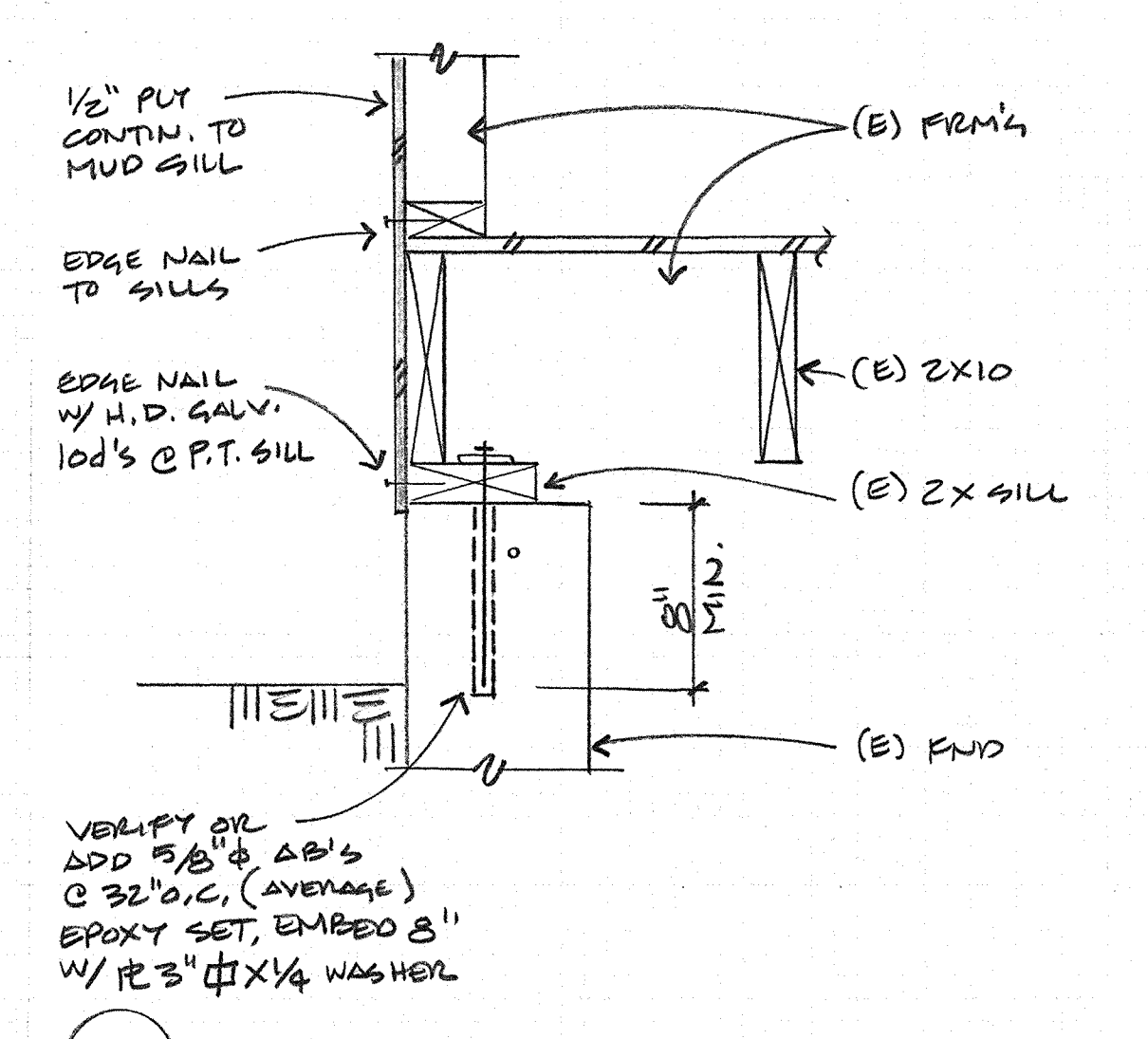
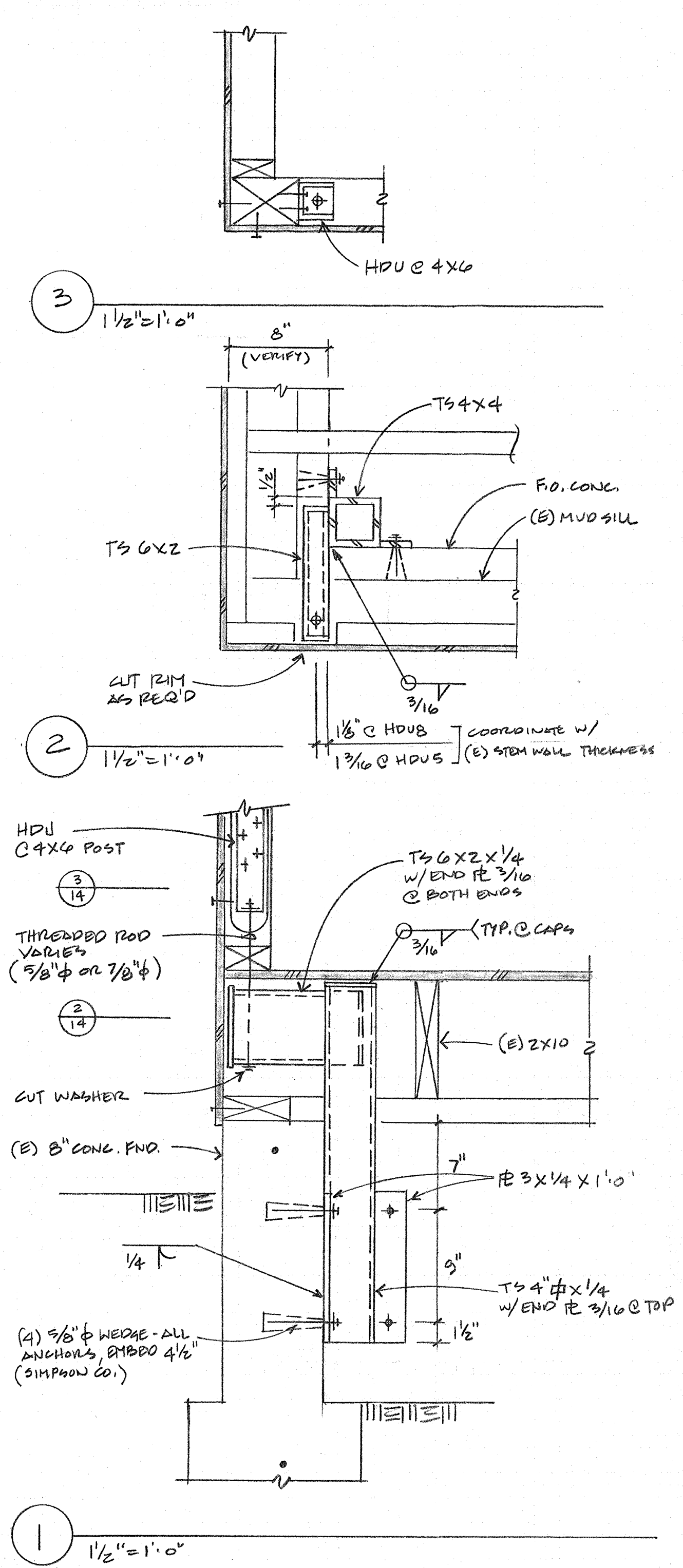
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**RENFREW RESIDENCE**  
 14500 ARNERA HILL ROAD, APTN 537-12-012  
 LOS GATOS, CALIFORNIA

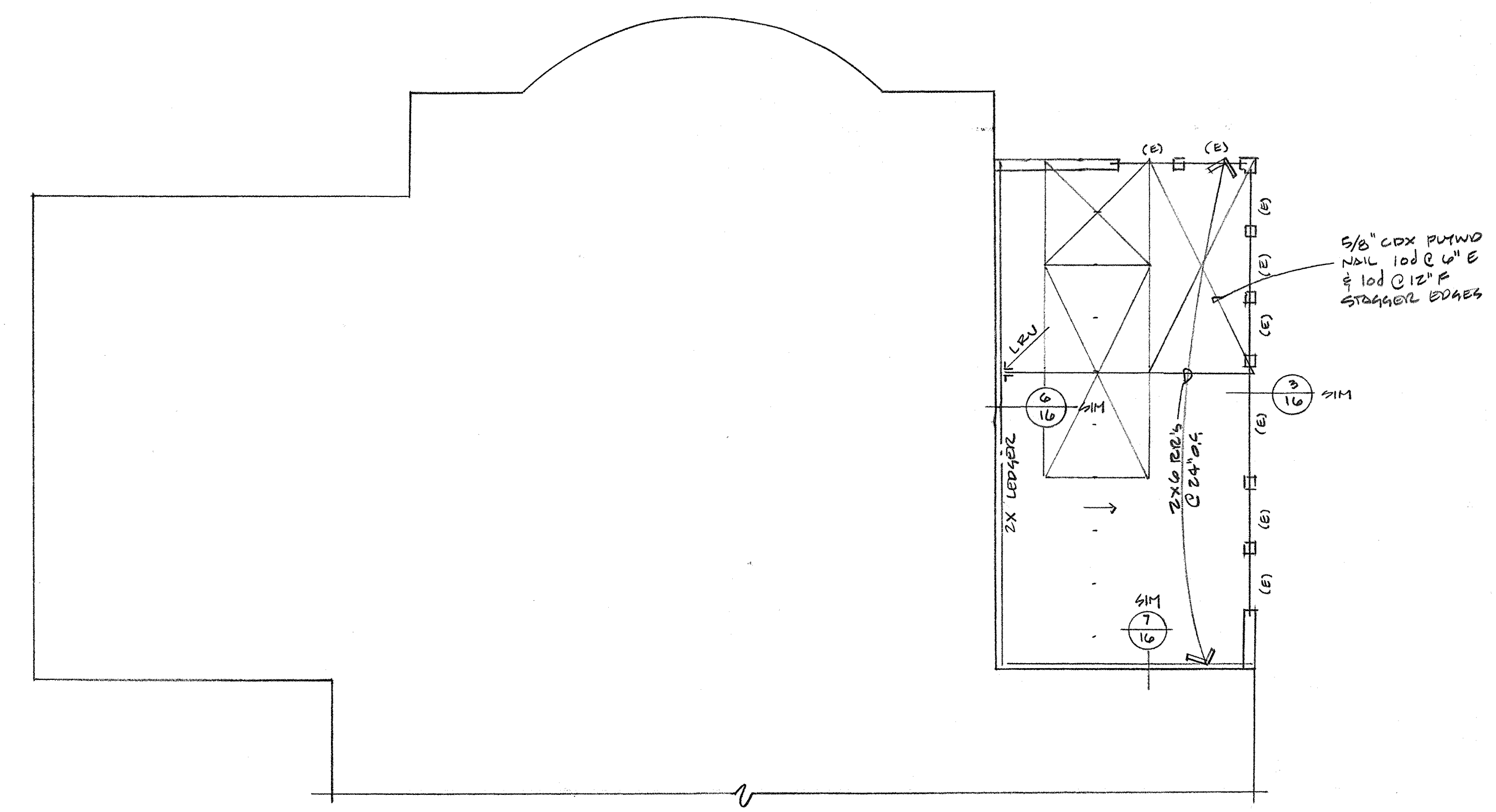
Foundation/Floor Framing Plan  
 DATE 11.14.22  
 SCALE 1/4" = 1'-0"  
 DRAWN [Signature]  
 JOB 2108  
 SHEET



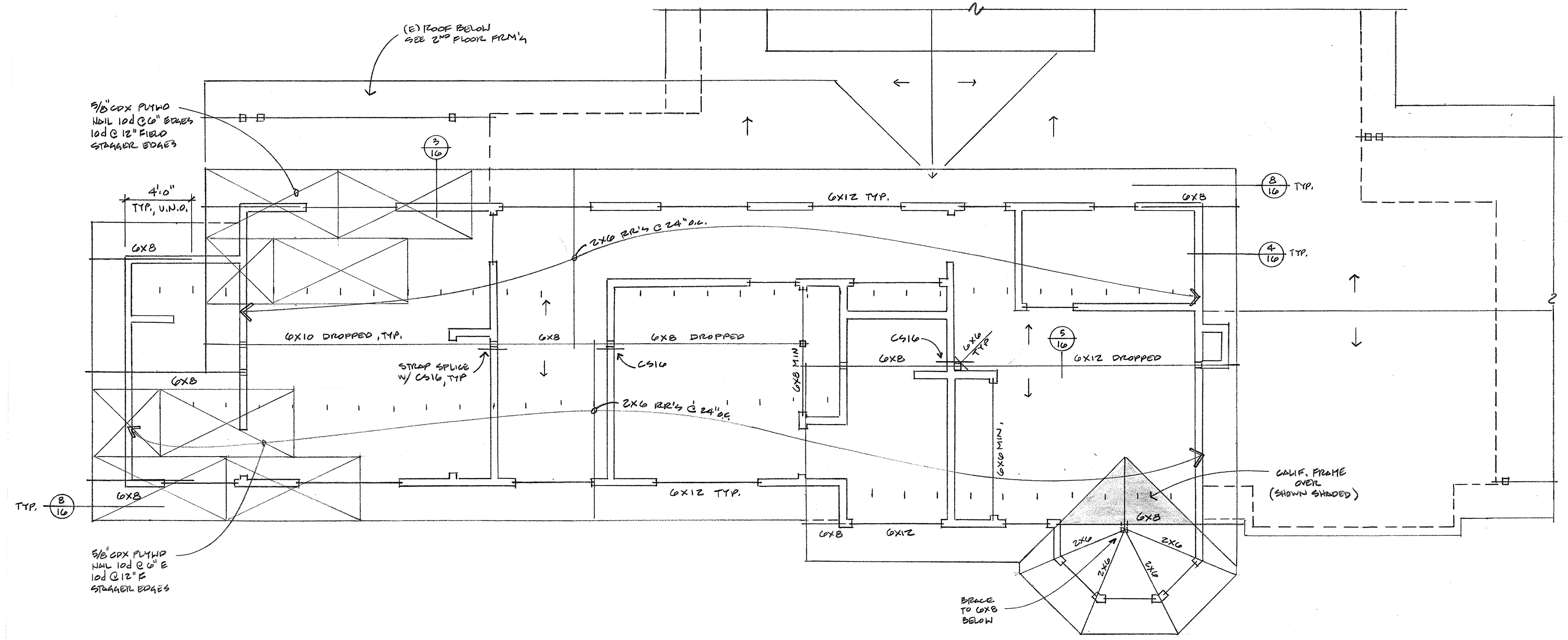
**FOUNDATION / FLOOR FRAMING PLAN**  
 SCALE: 1/4" = 1'-0"

ALL SOILS WORK AND FOUNDATION PLACEMENT SHALL COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL INVESTIGATION BY C2EARTH, PROJECT NO. 21137C-01F1, DATED JULY 29, 2022.

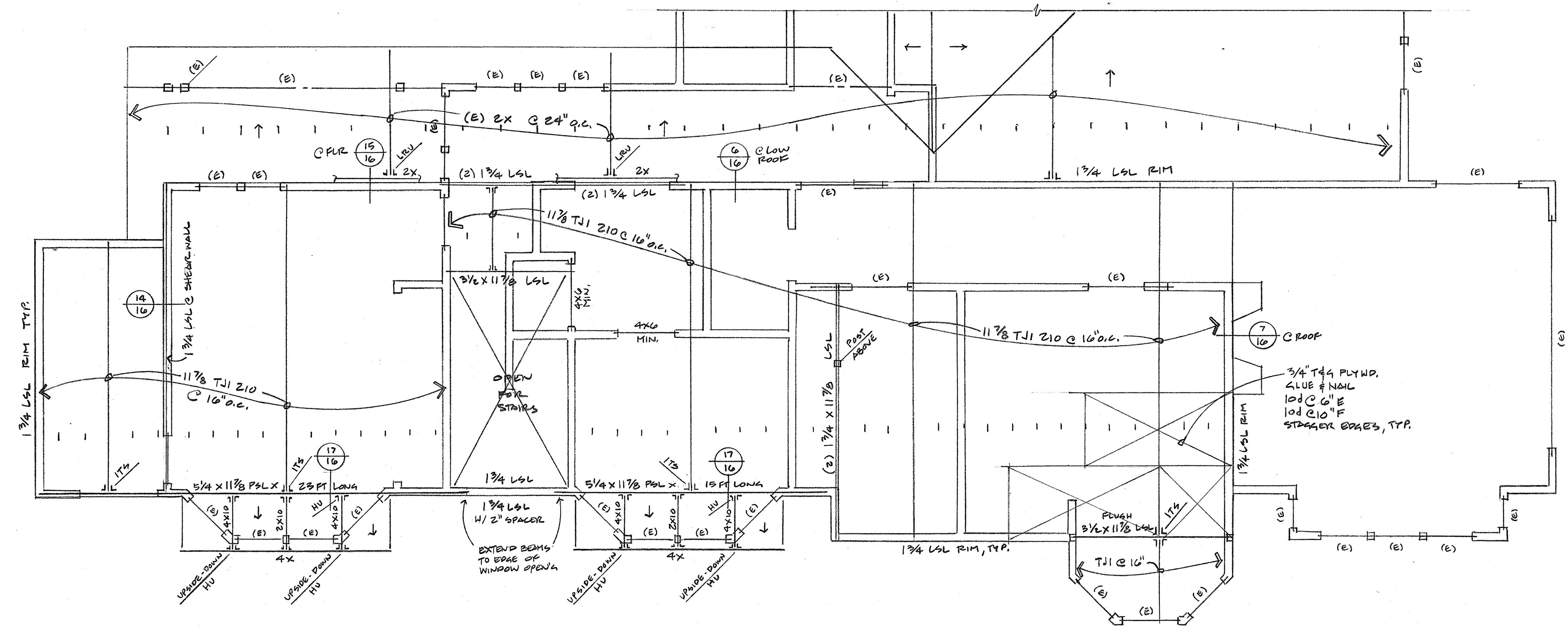




**ROOF FRAMING PLAN**  
SCALE: 1/4" = 1'-0"

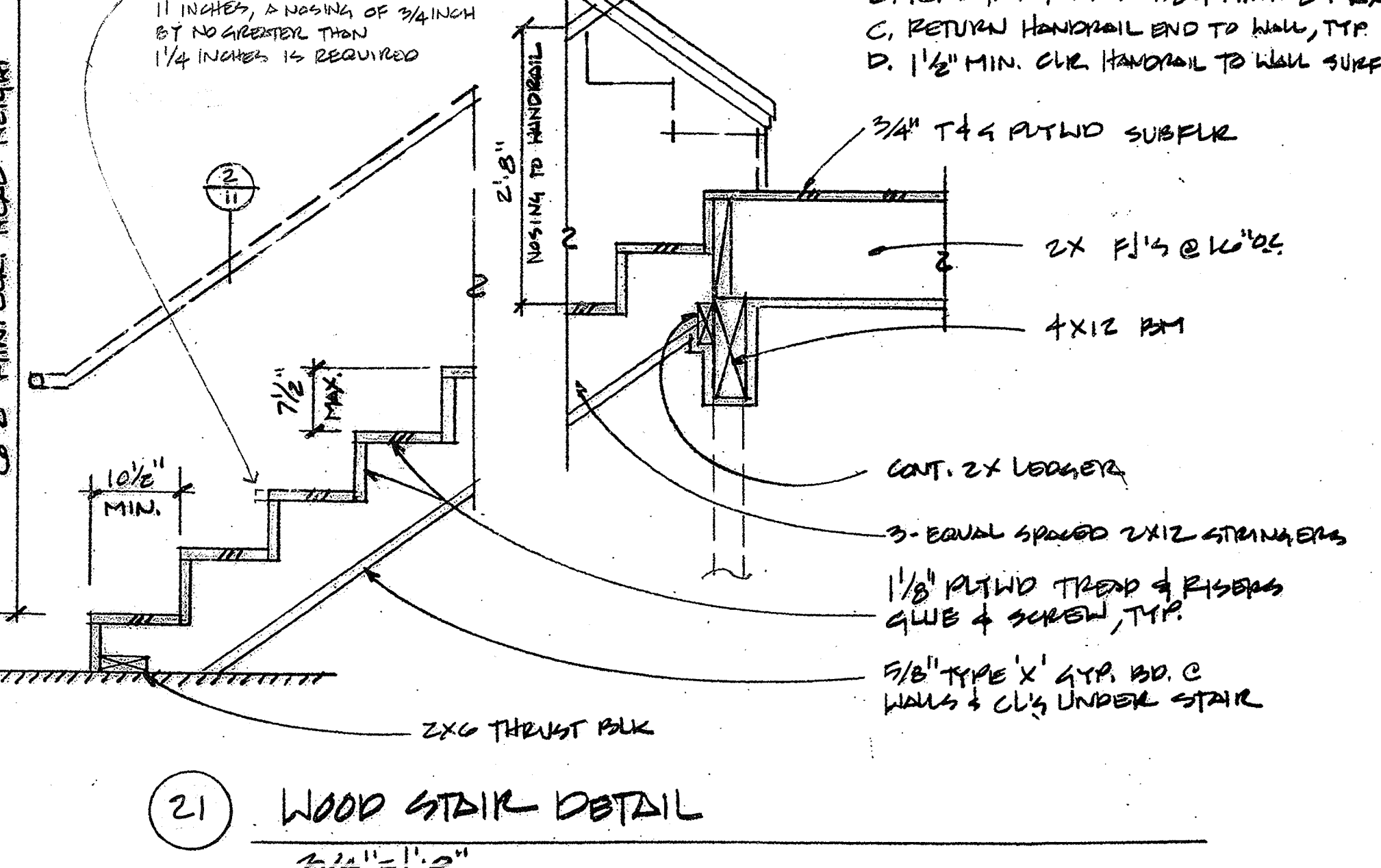
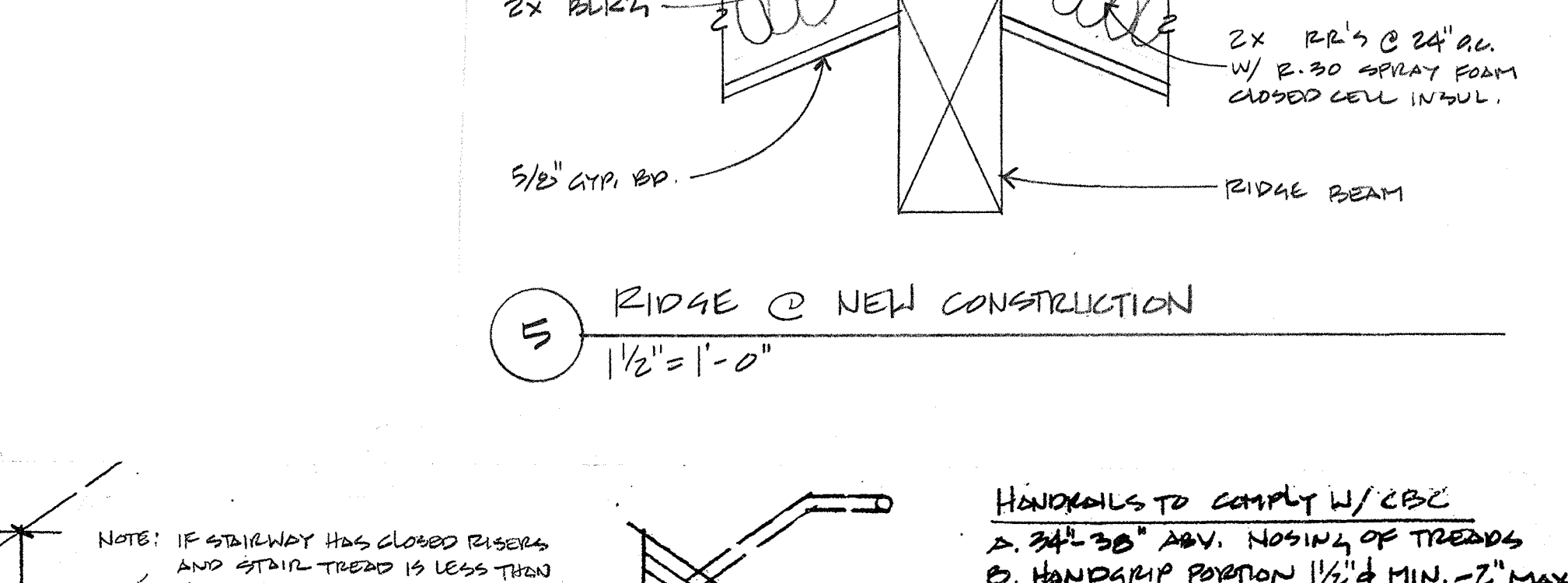
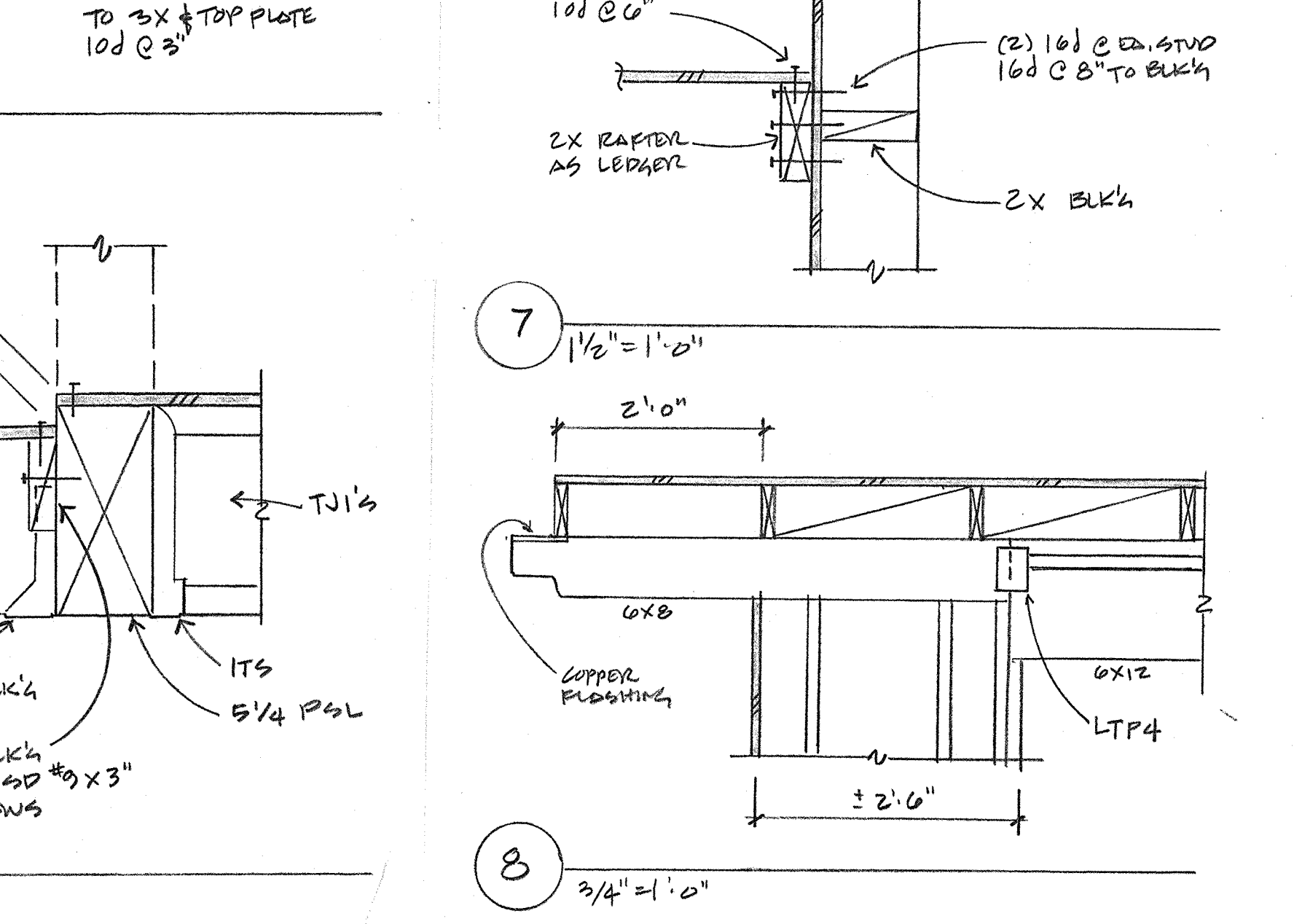
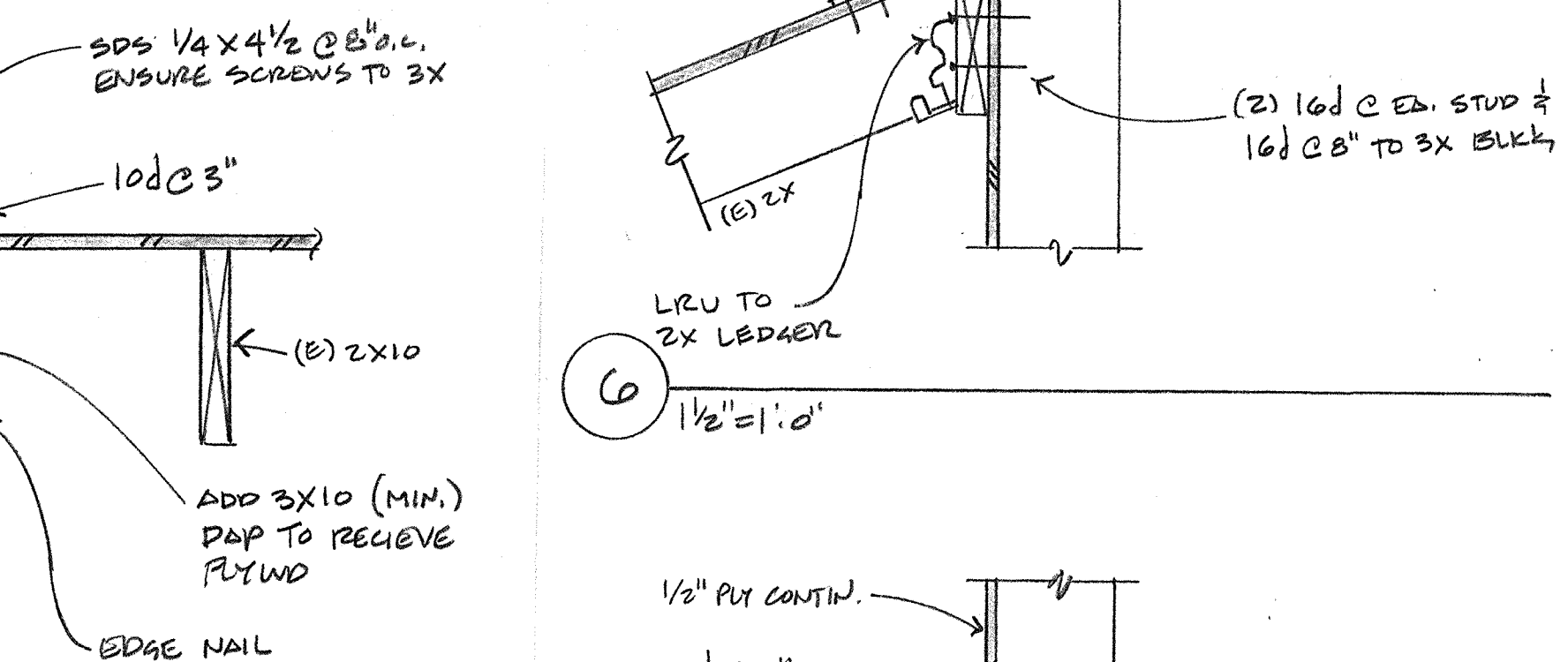
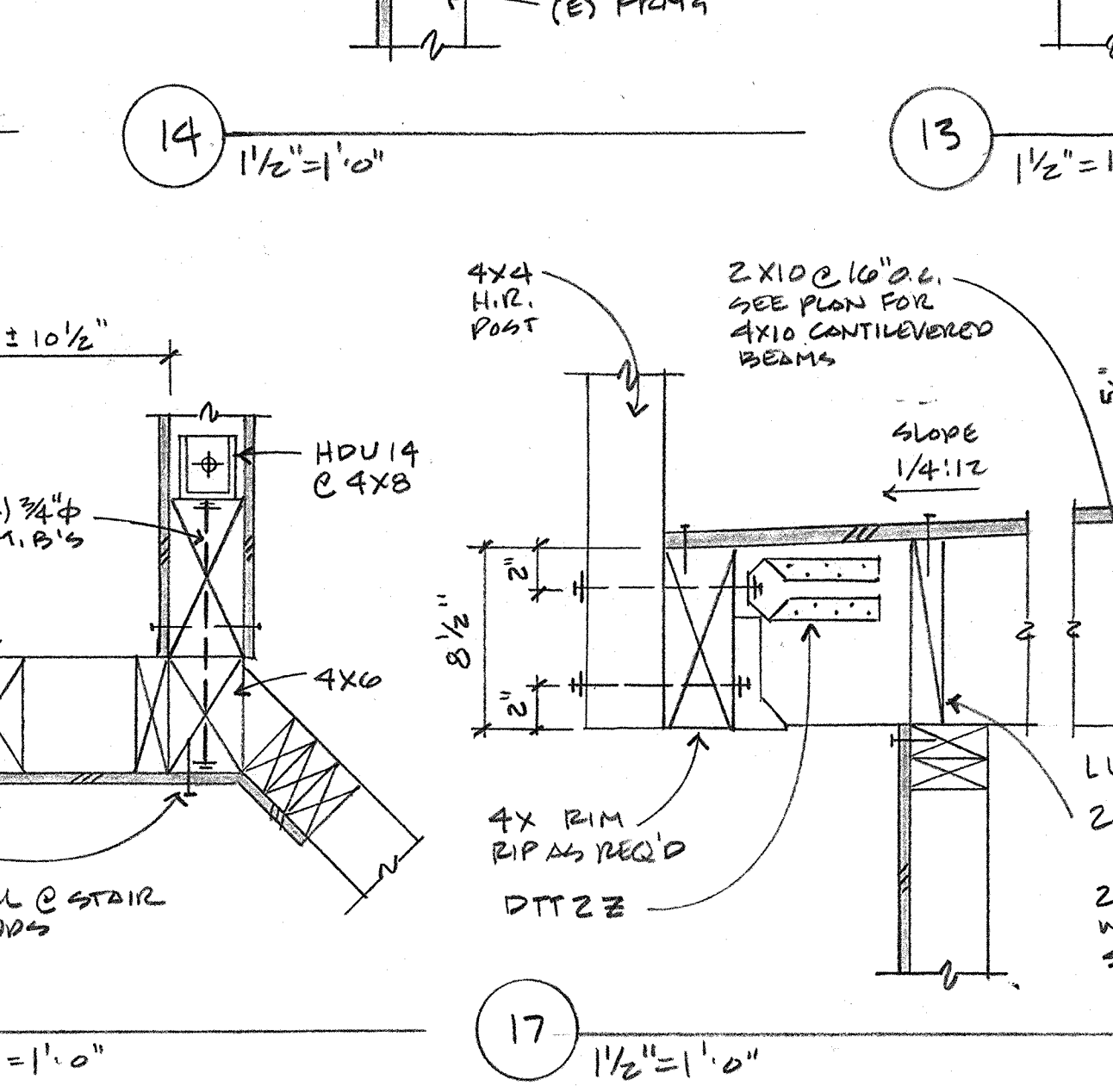
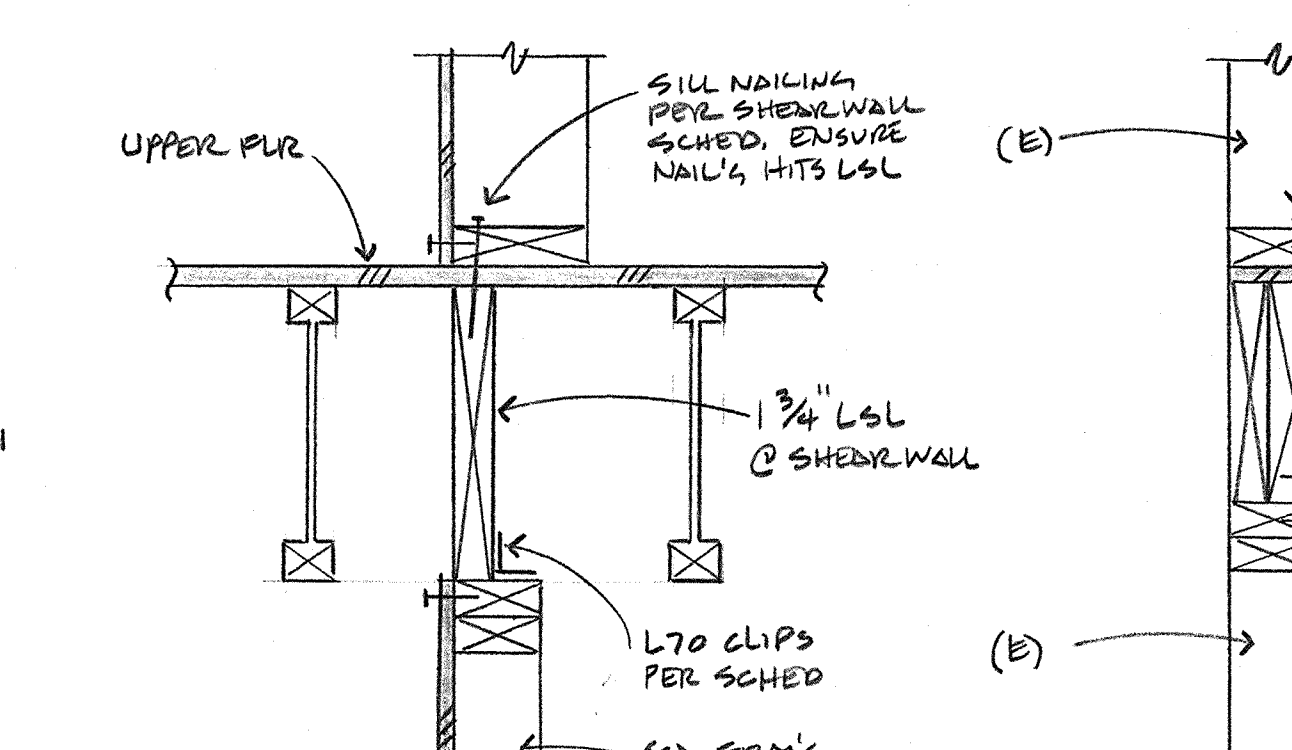
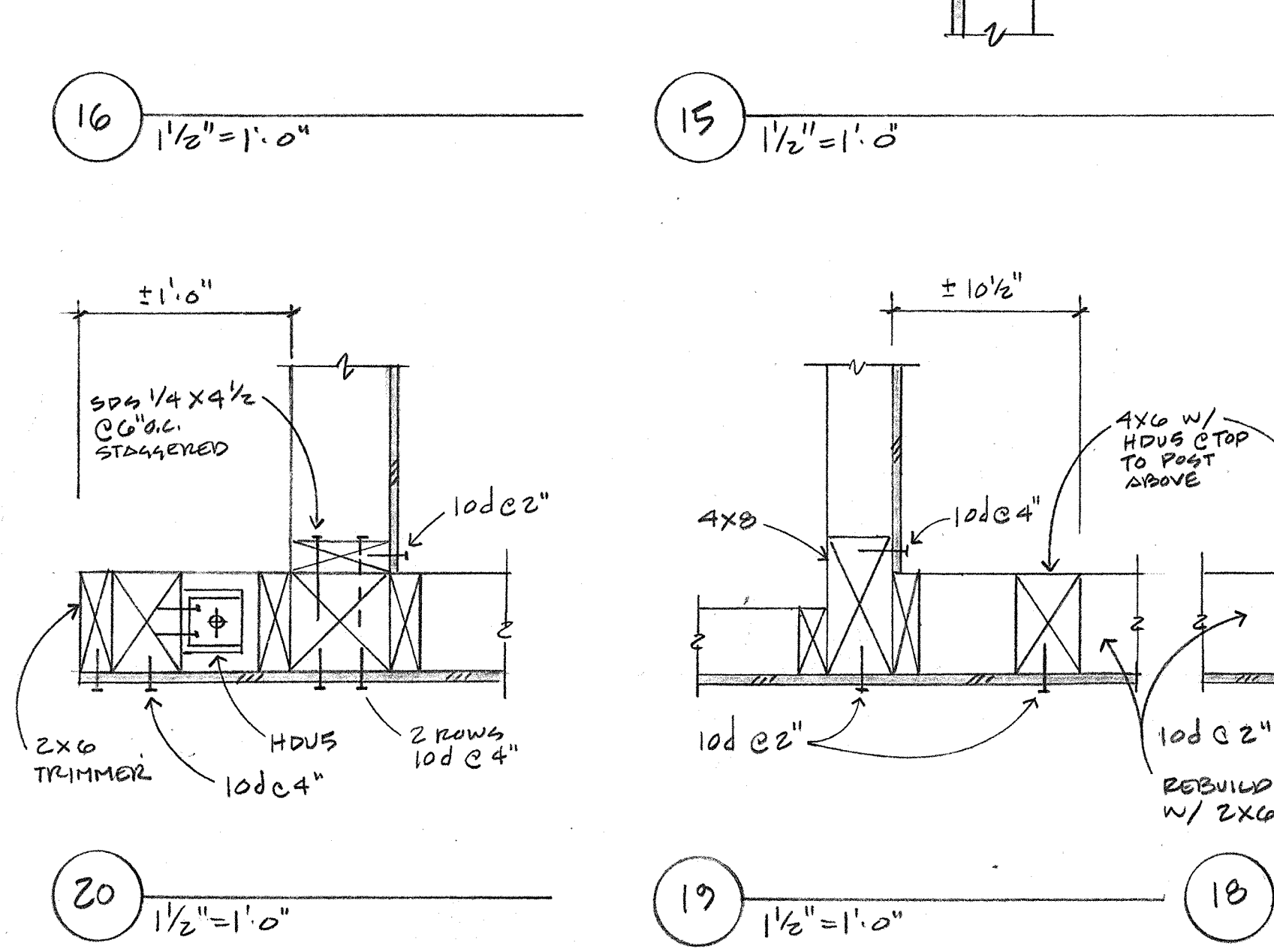
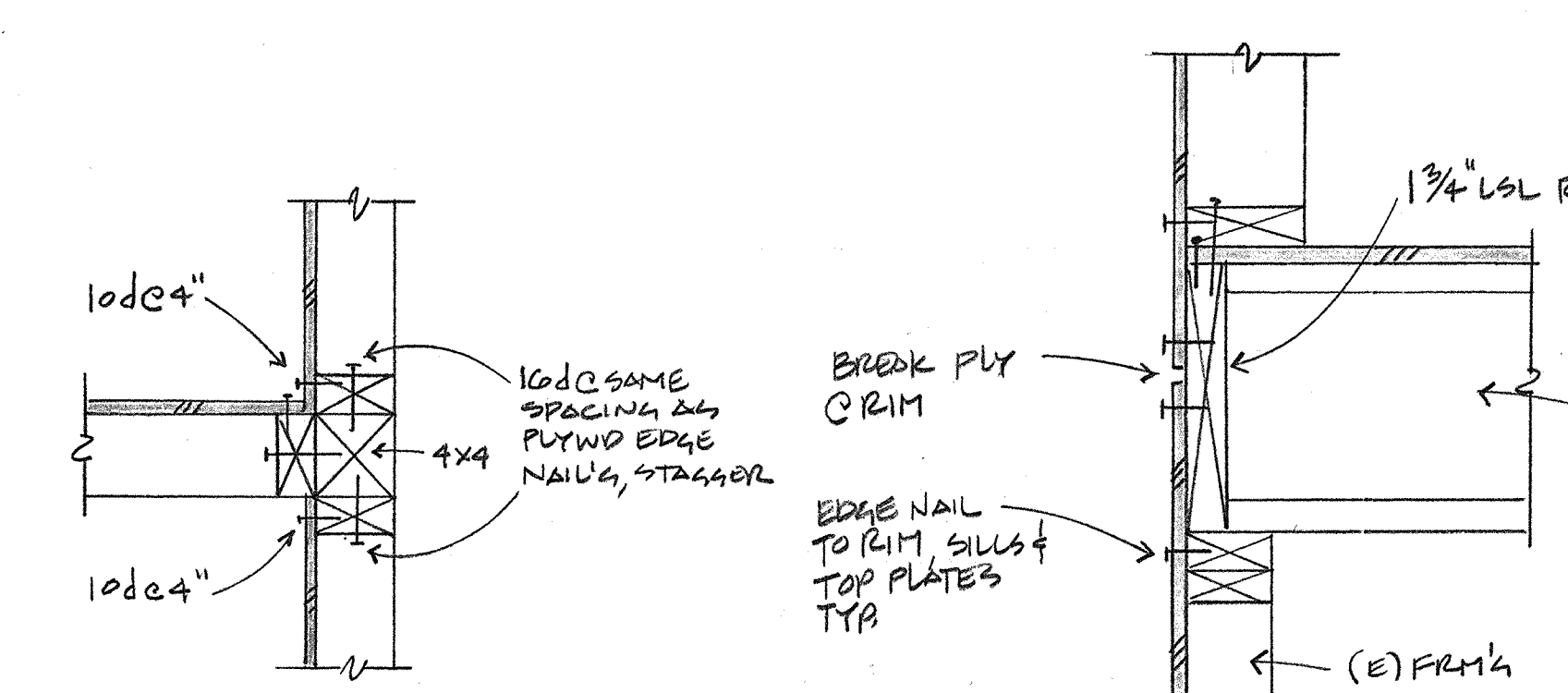
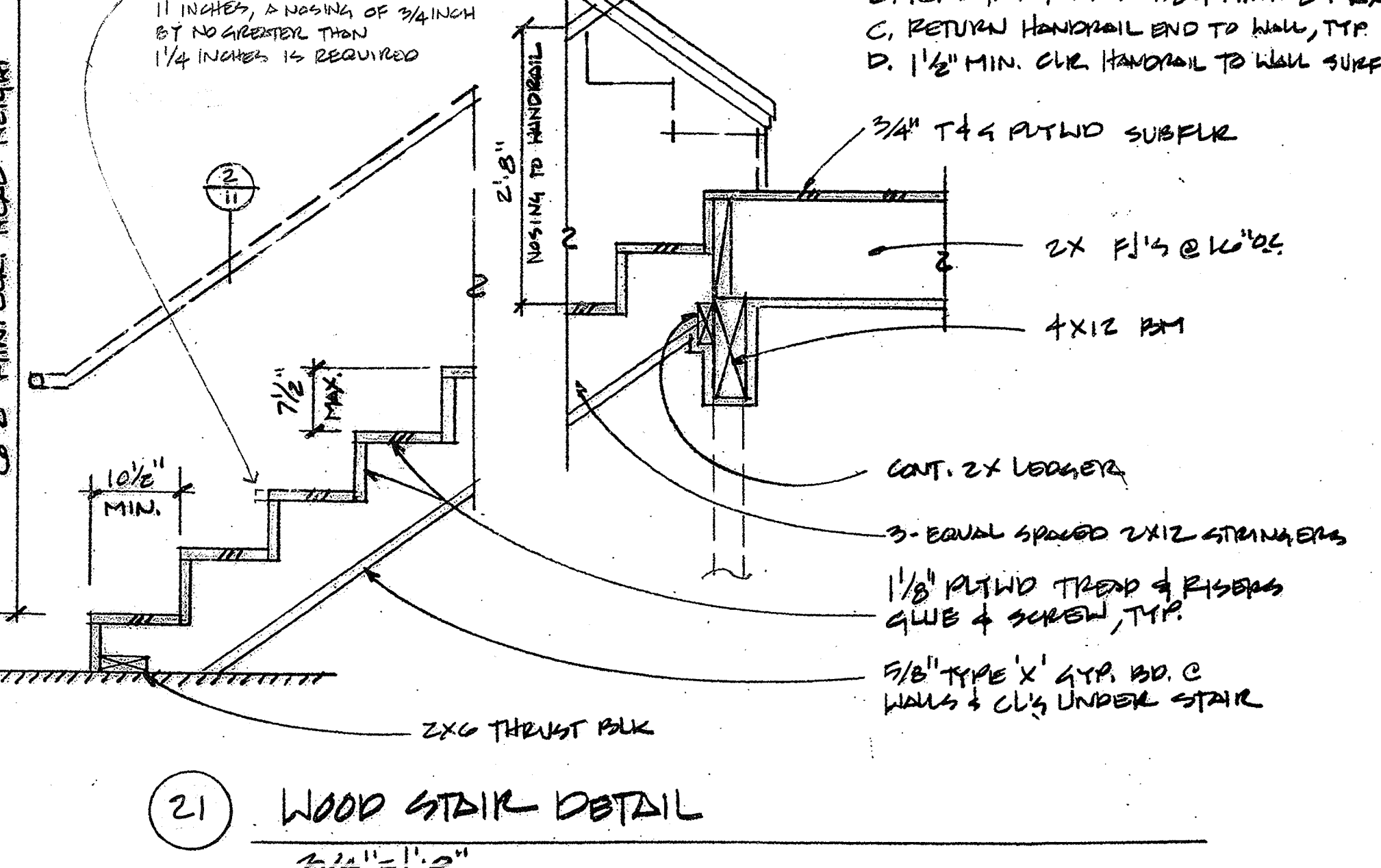
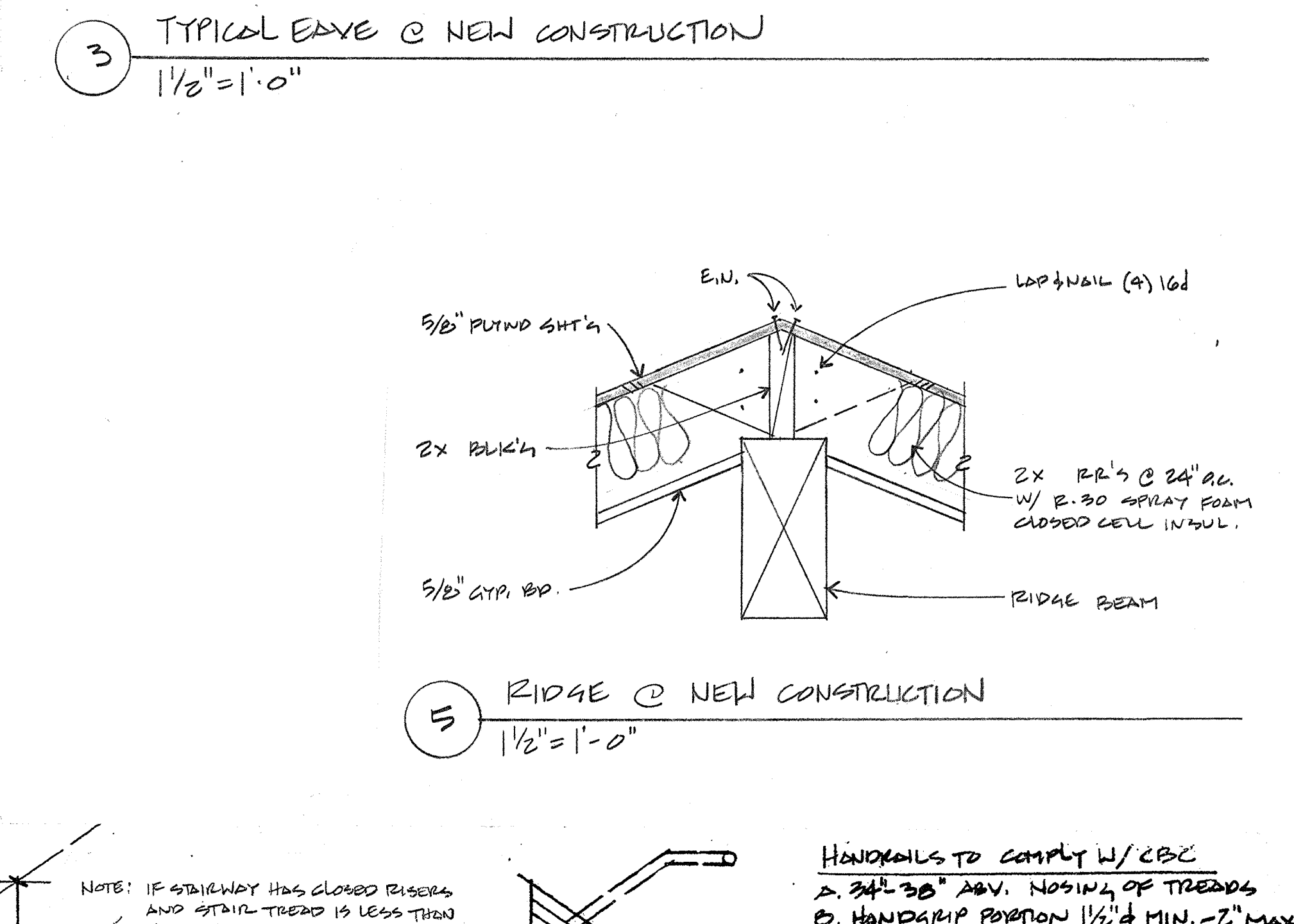
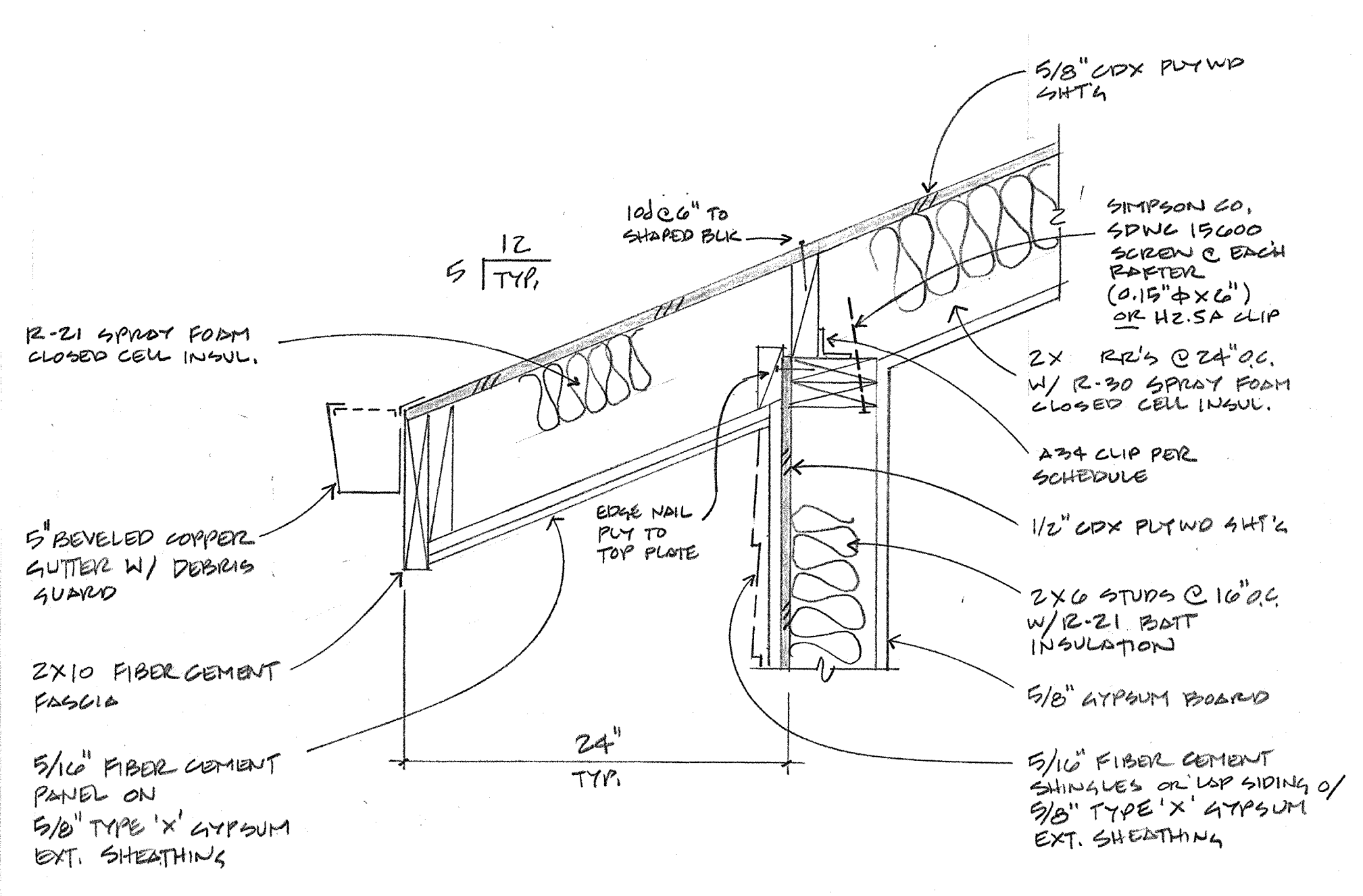
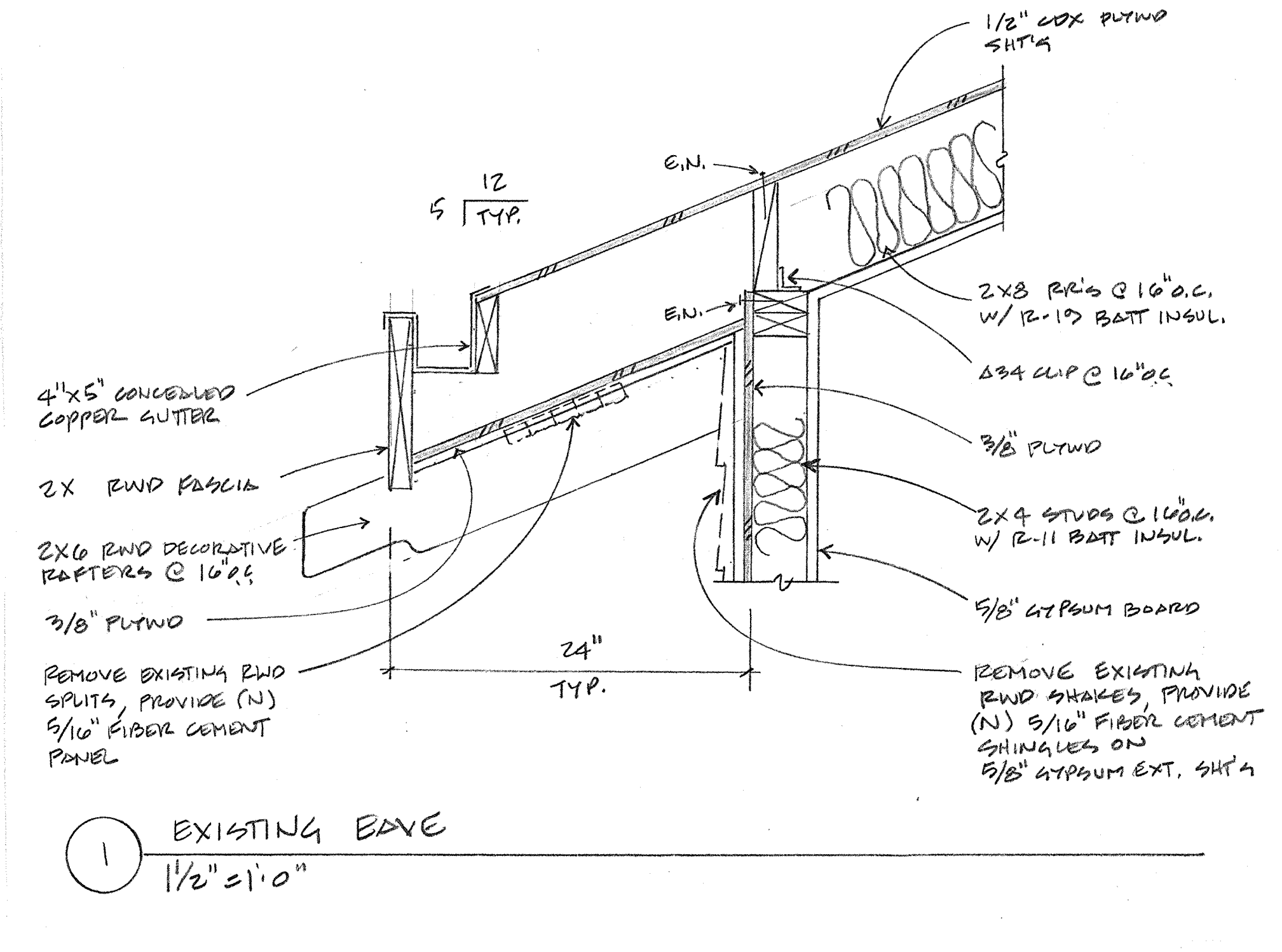
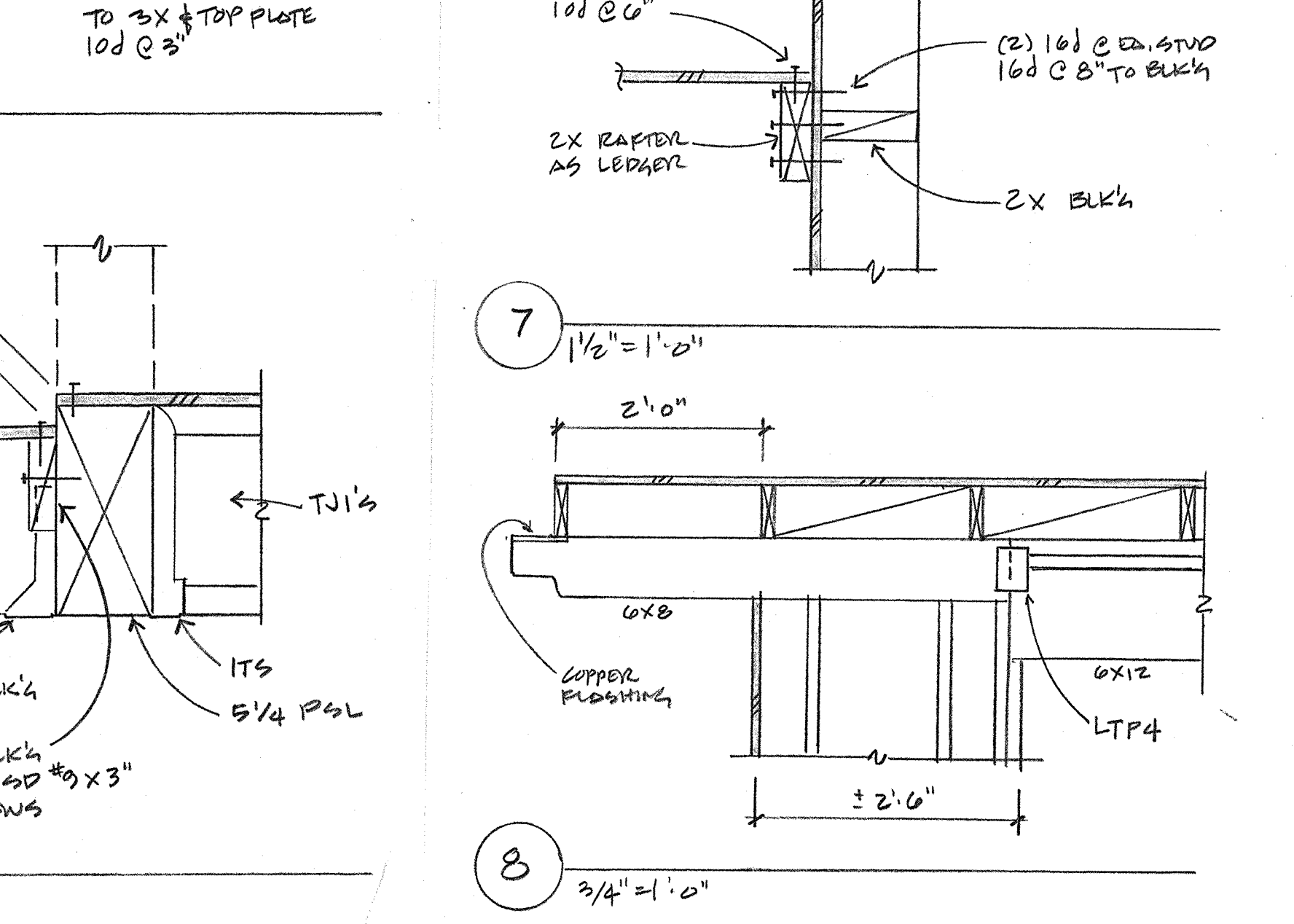
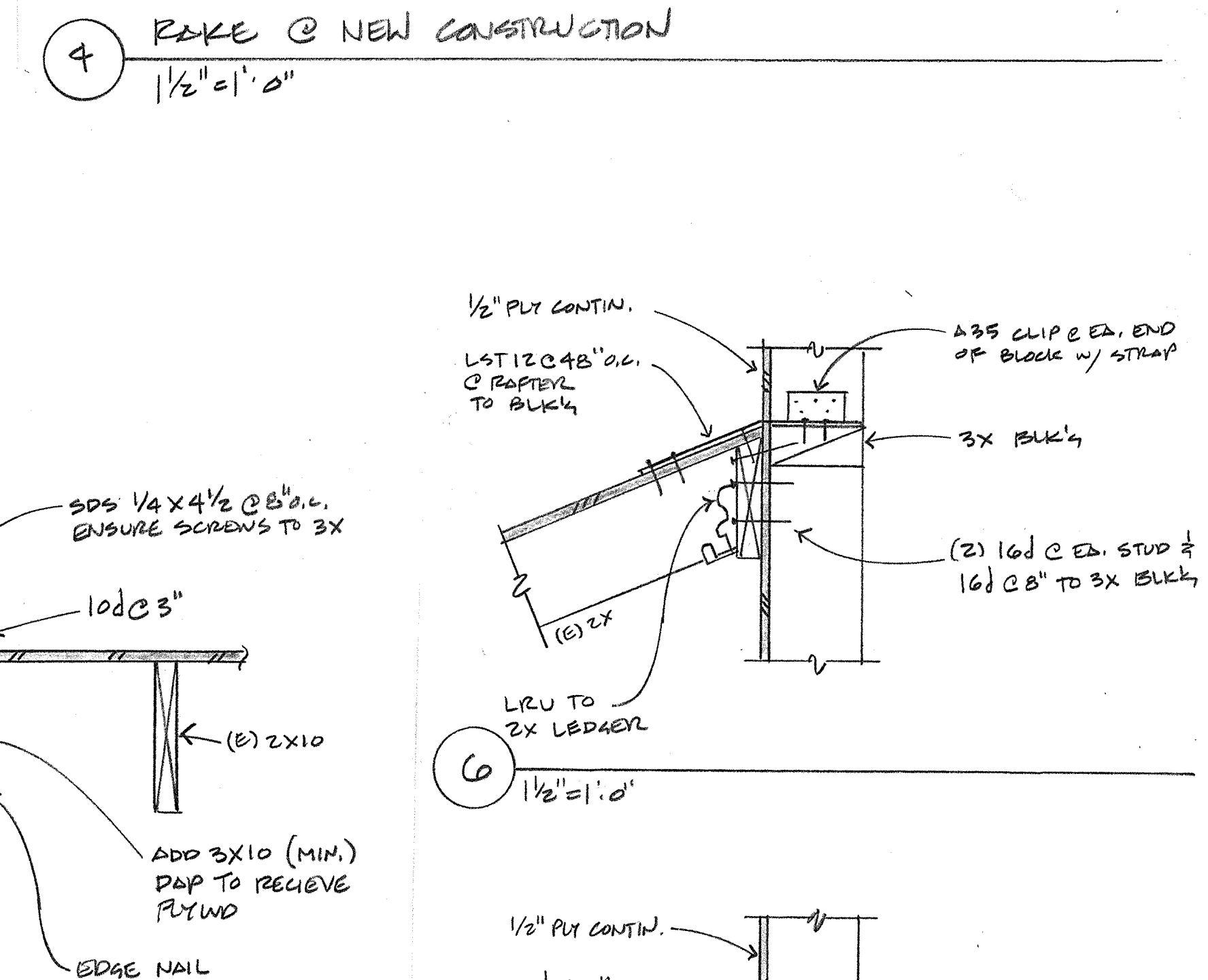
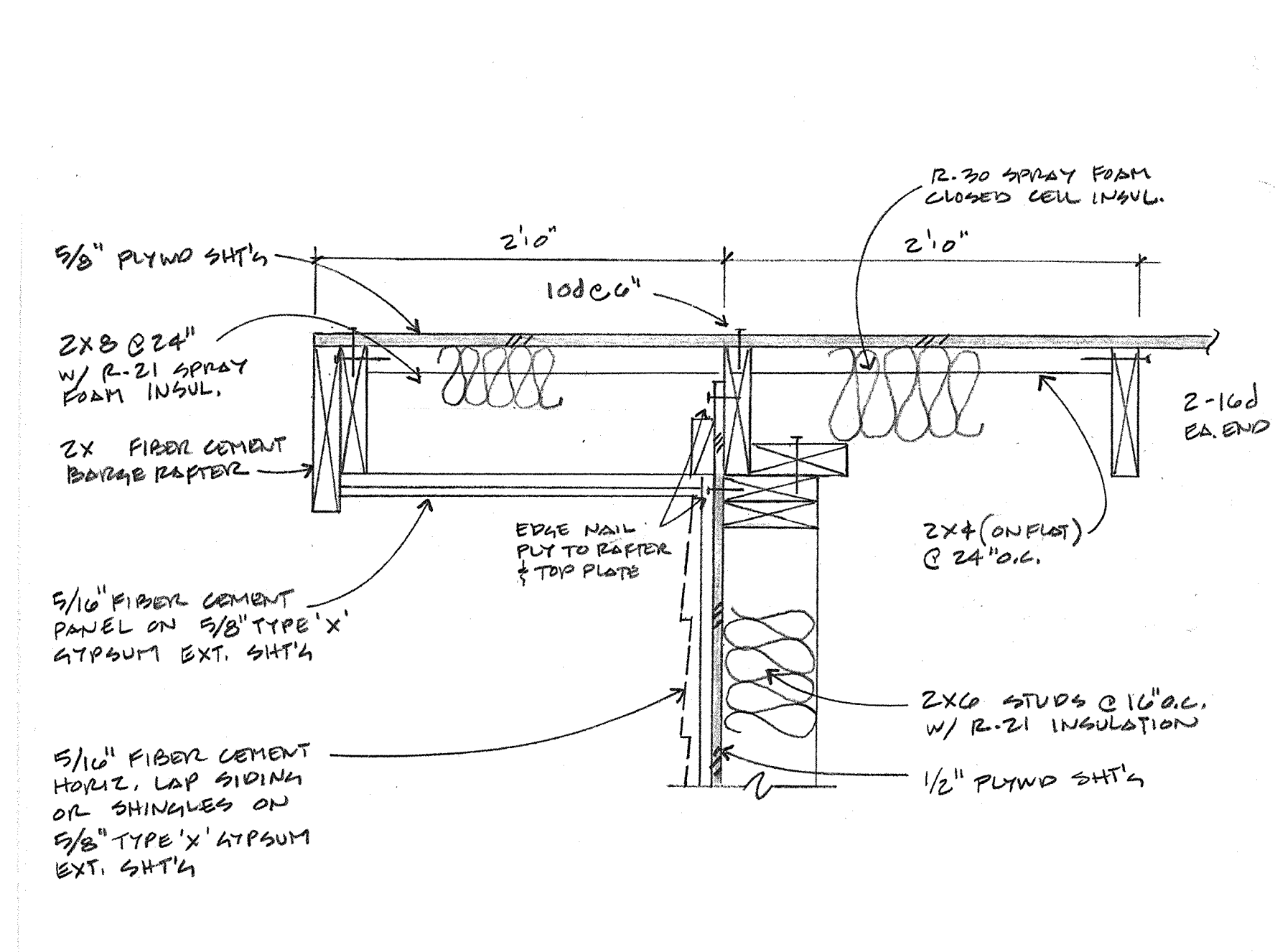
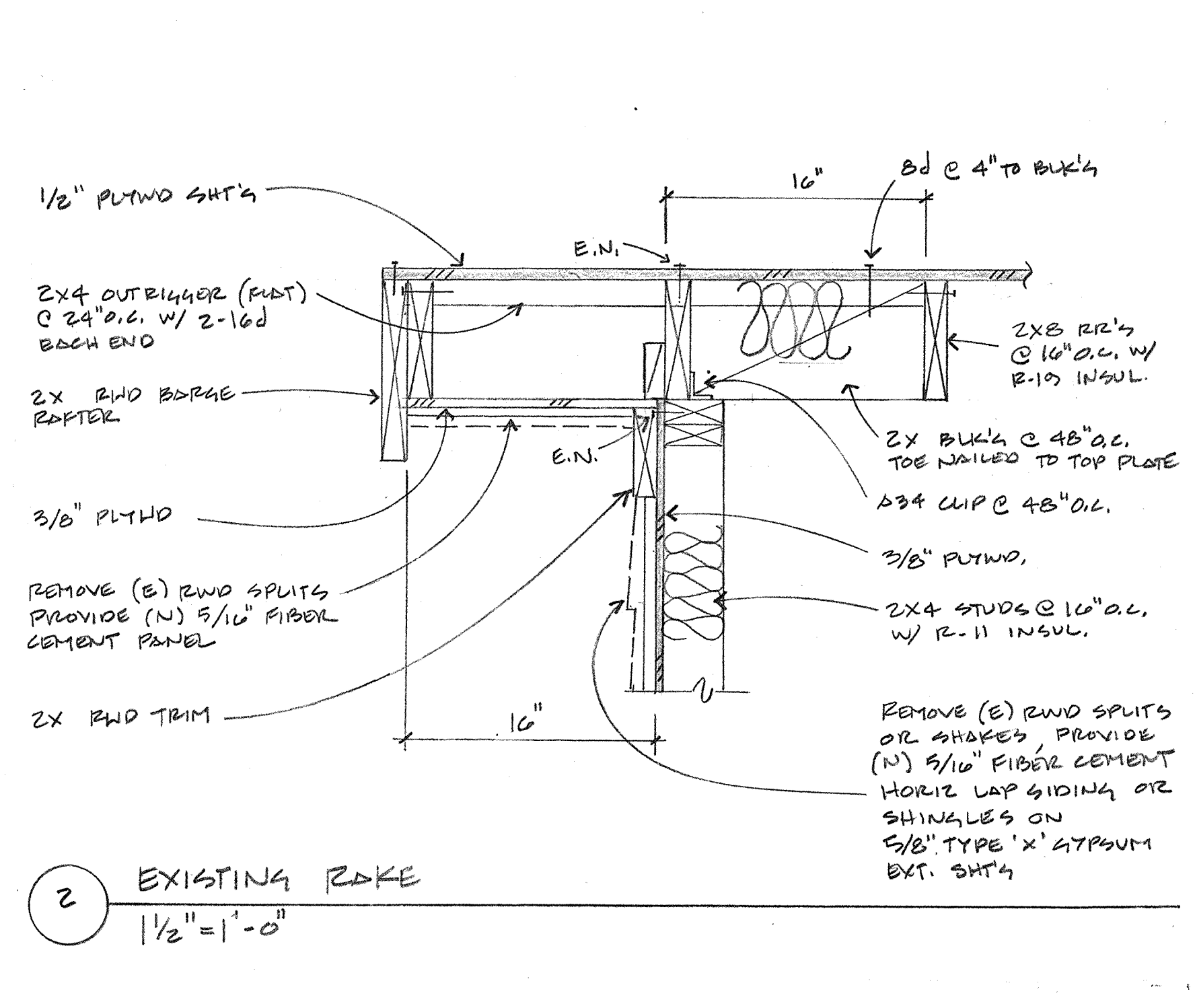
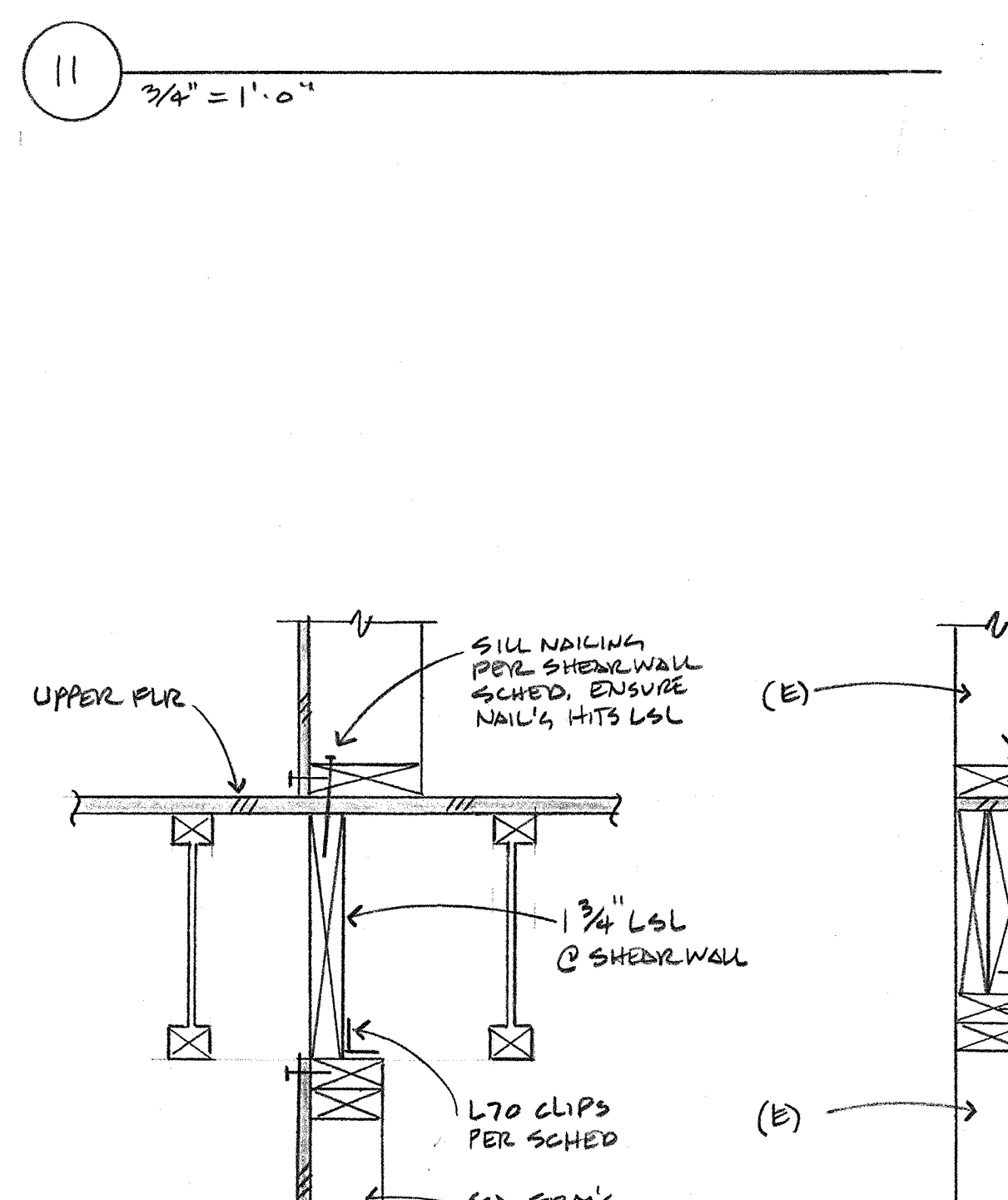
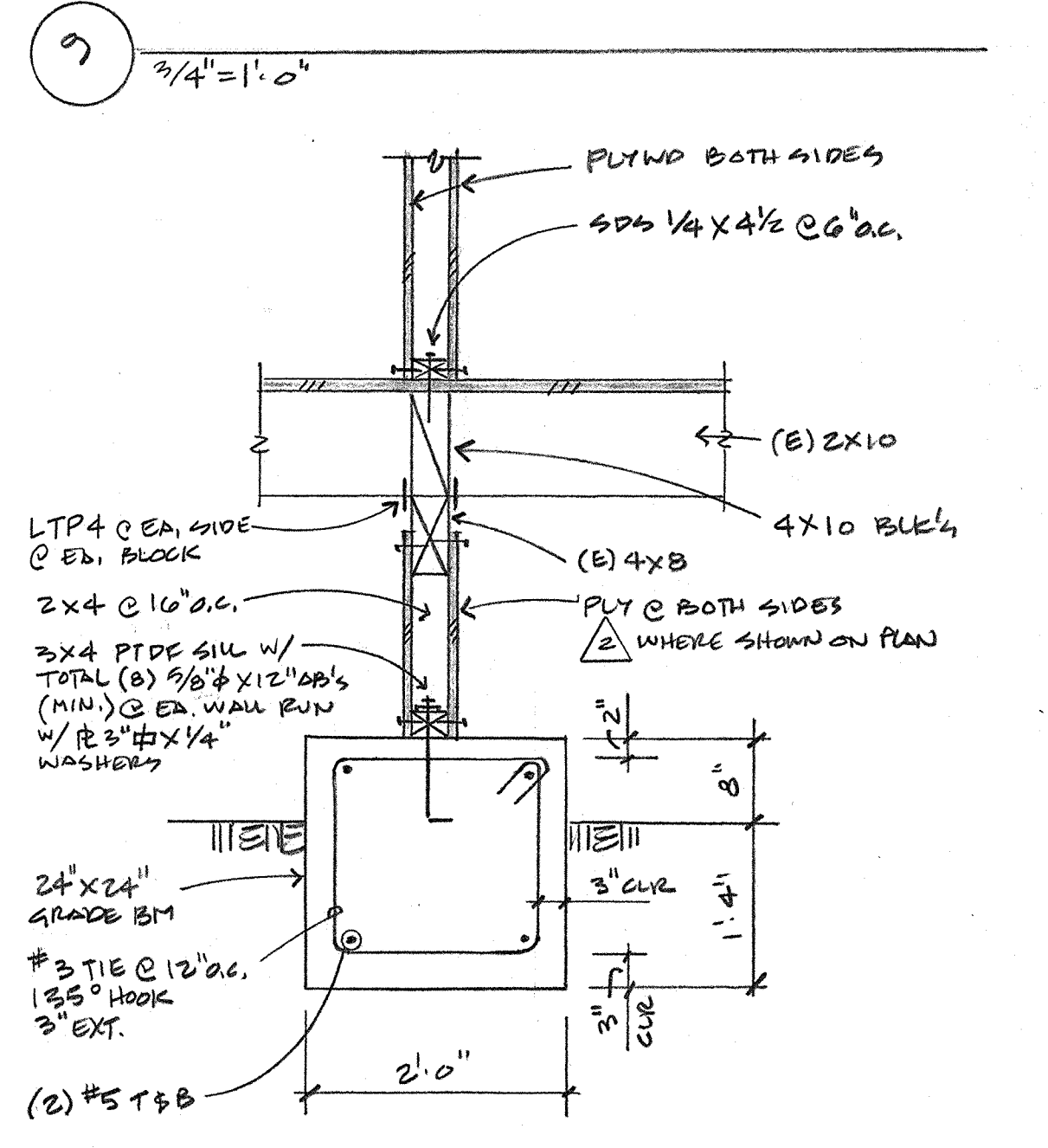
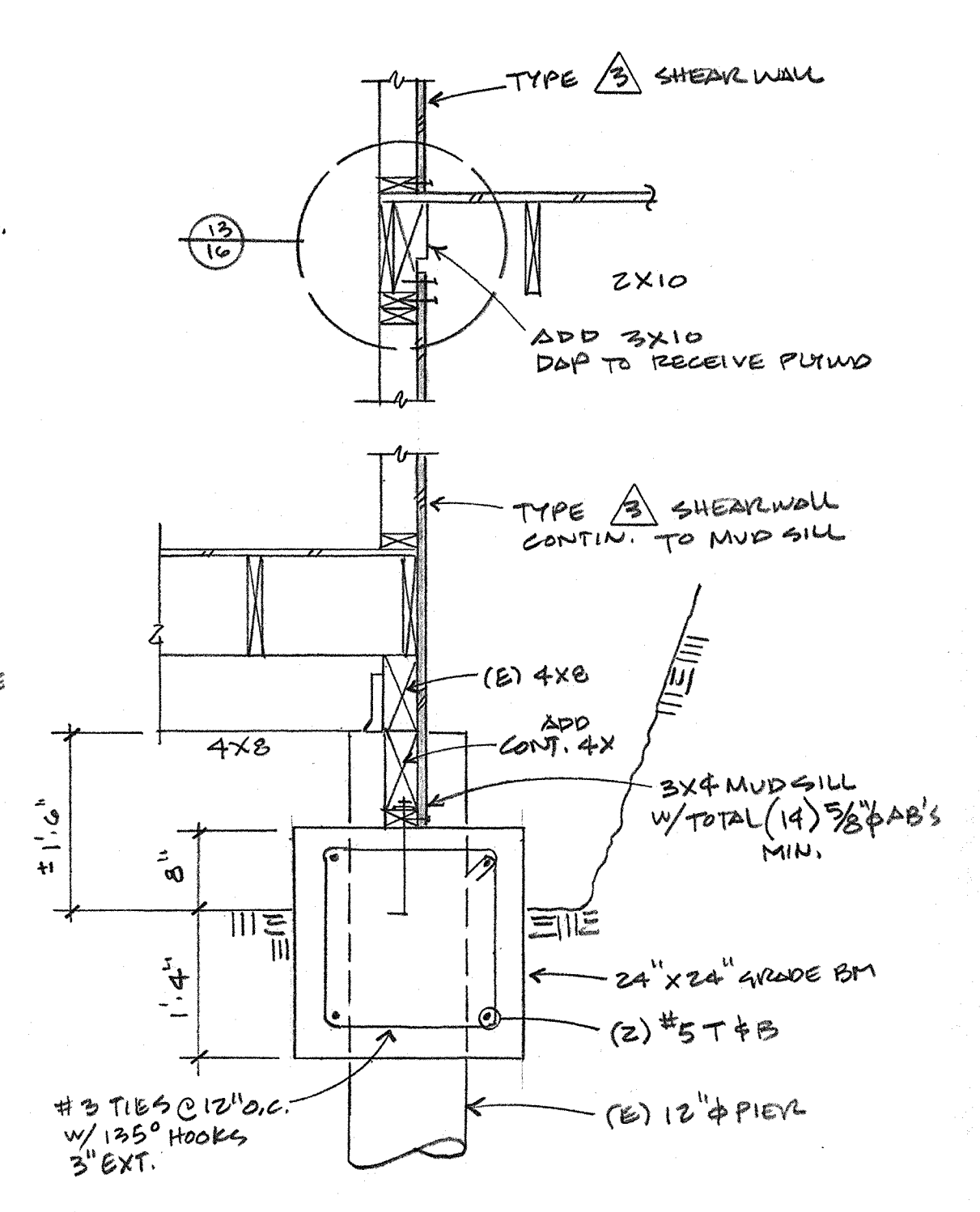
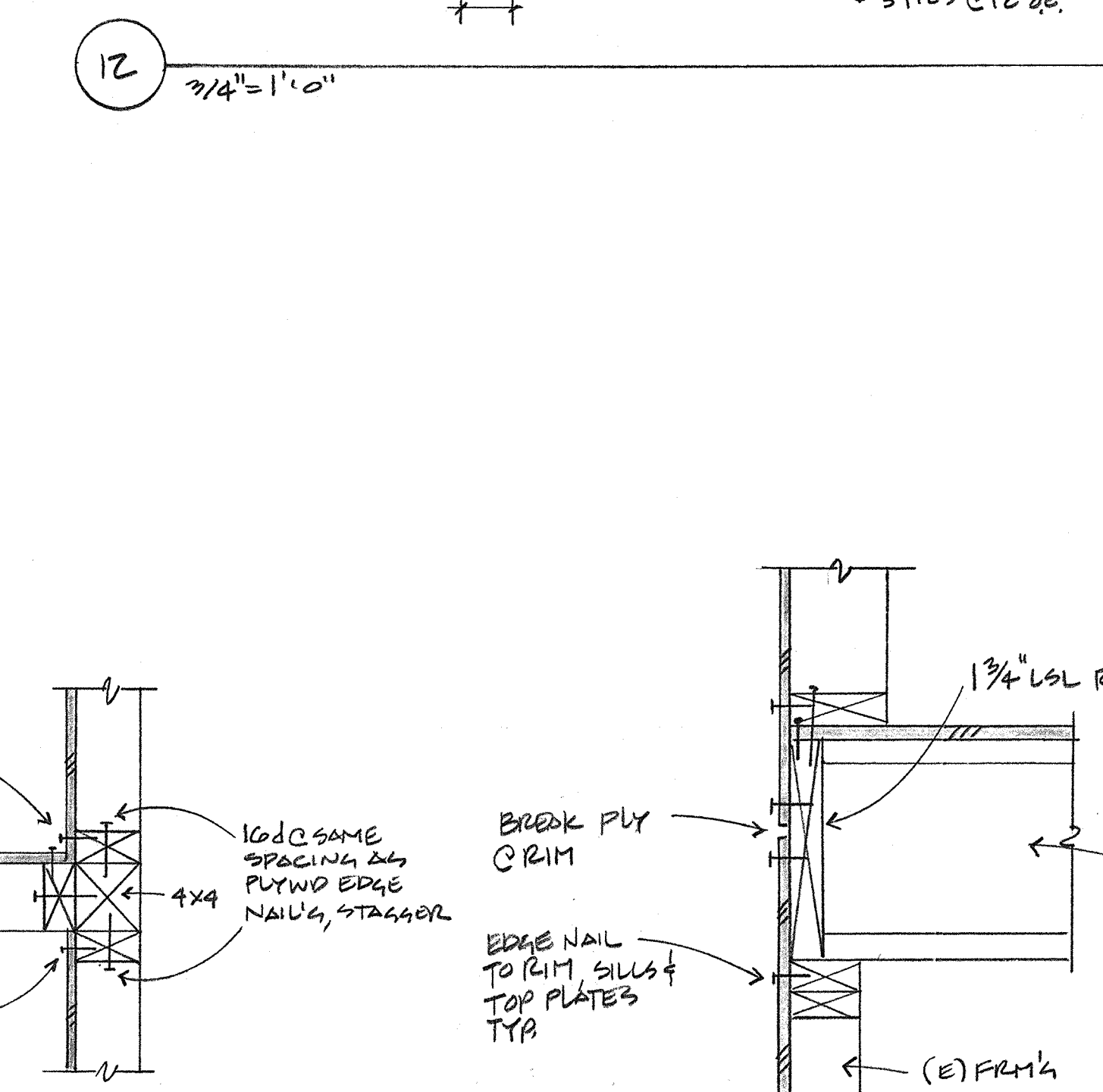
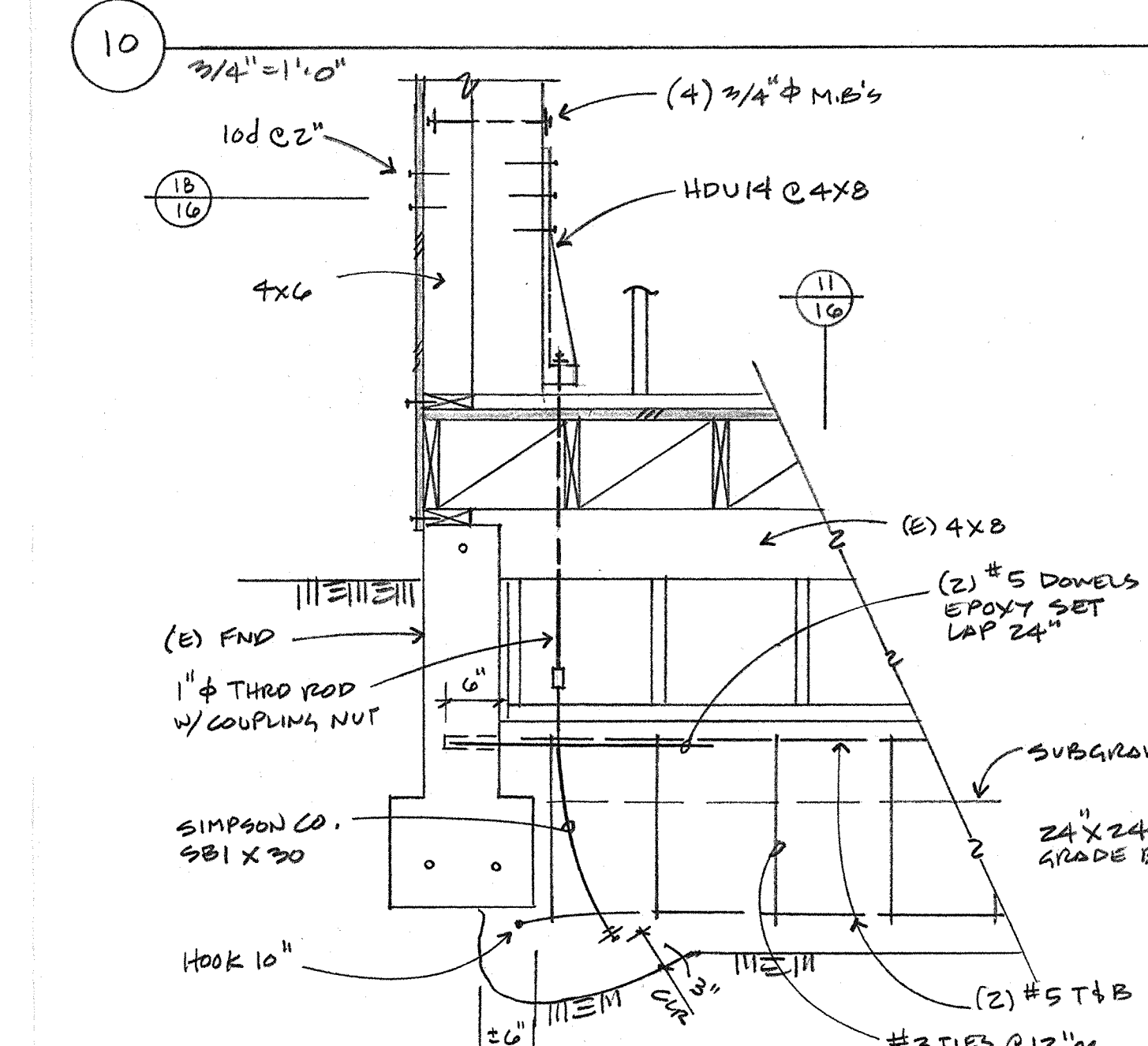
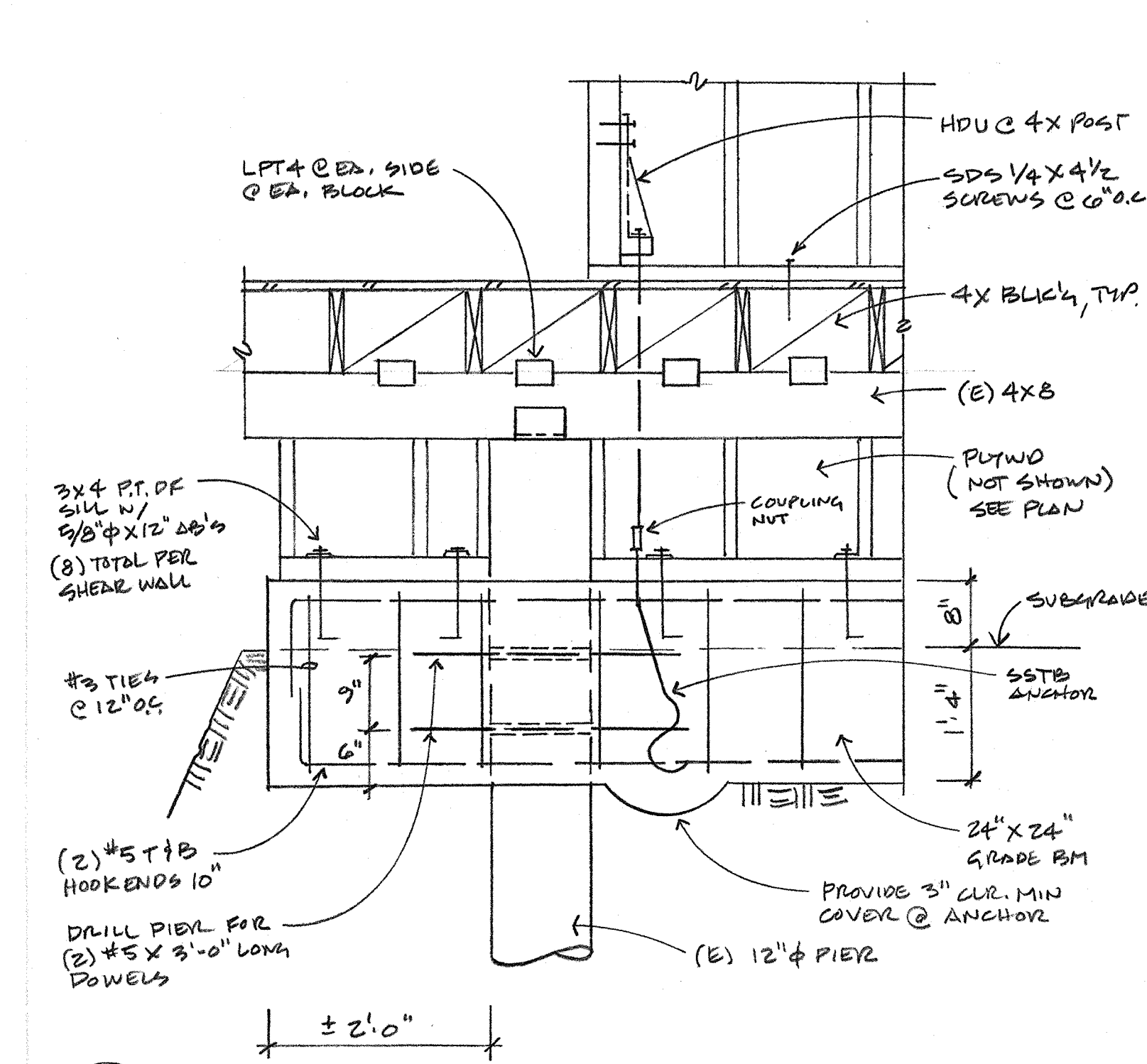


**ROOF FRAMING PLAN**  
SCALE: 1/4" = 1'-0"

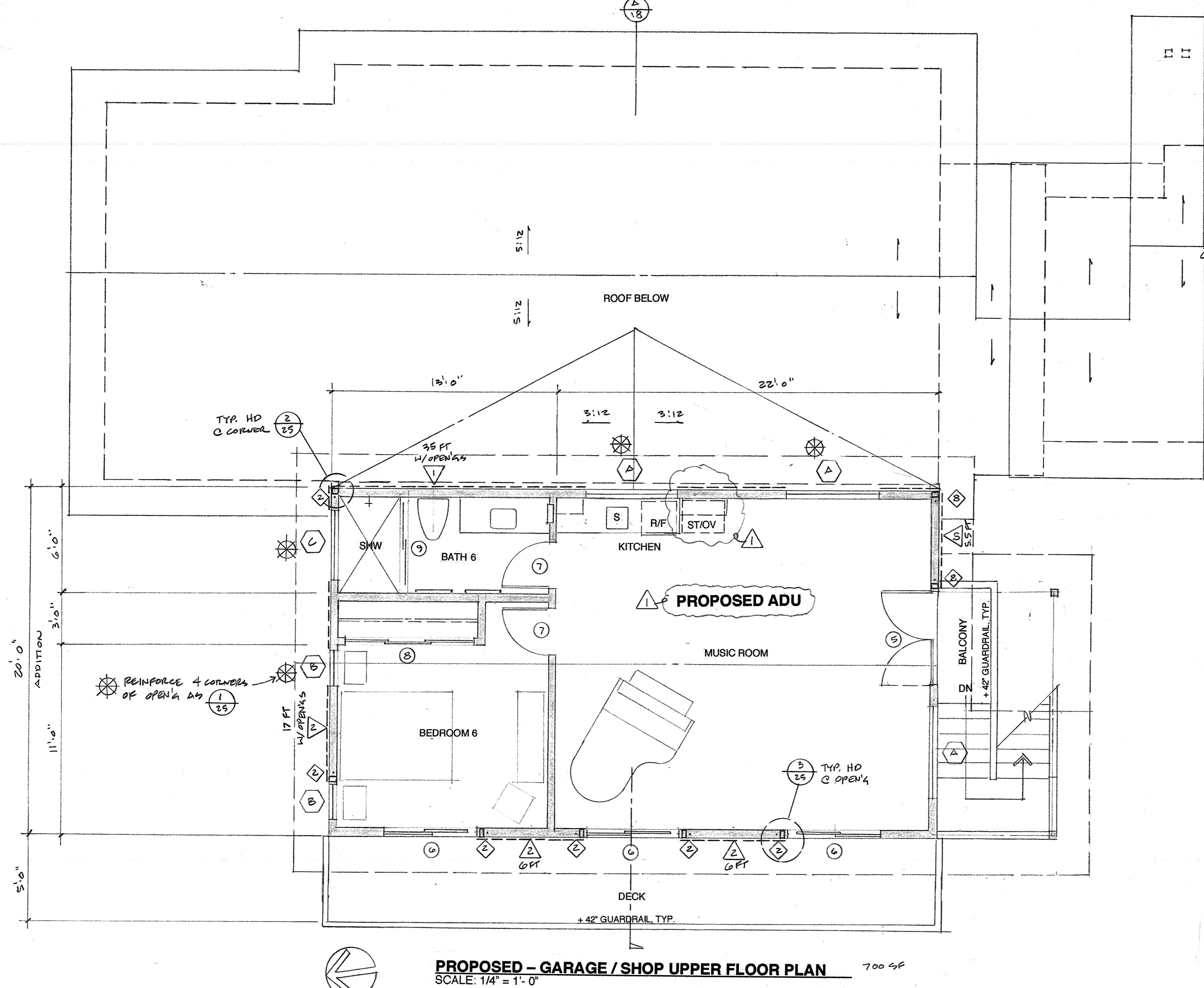


**UPPER FLOOR FRAMING PLAN**  
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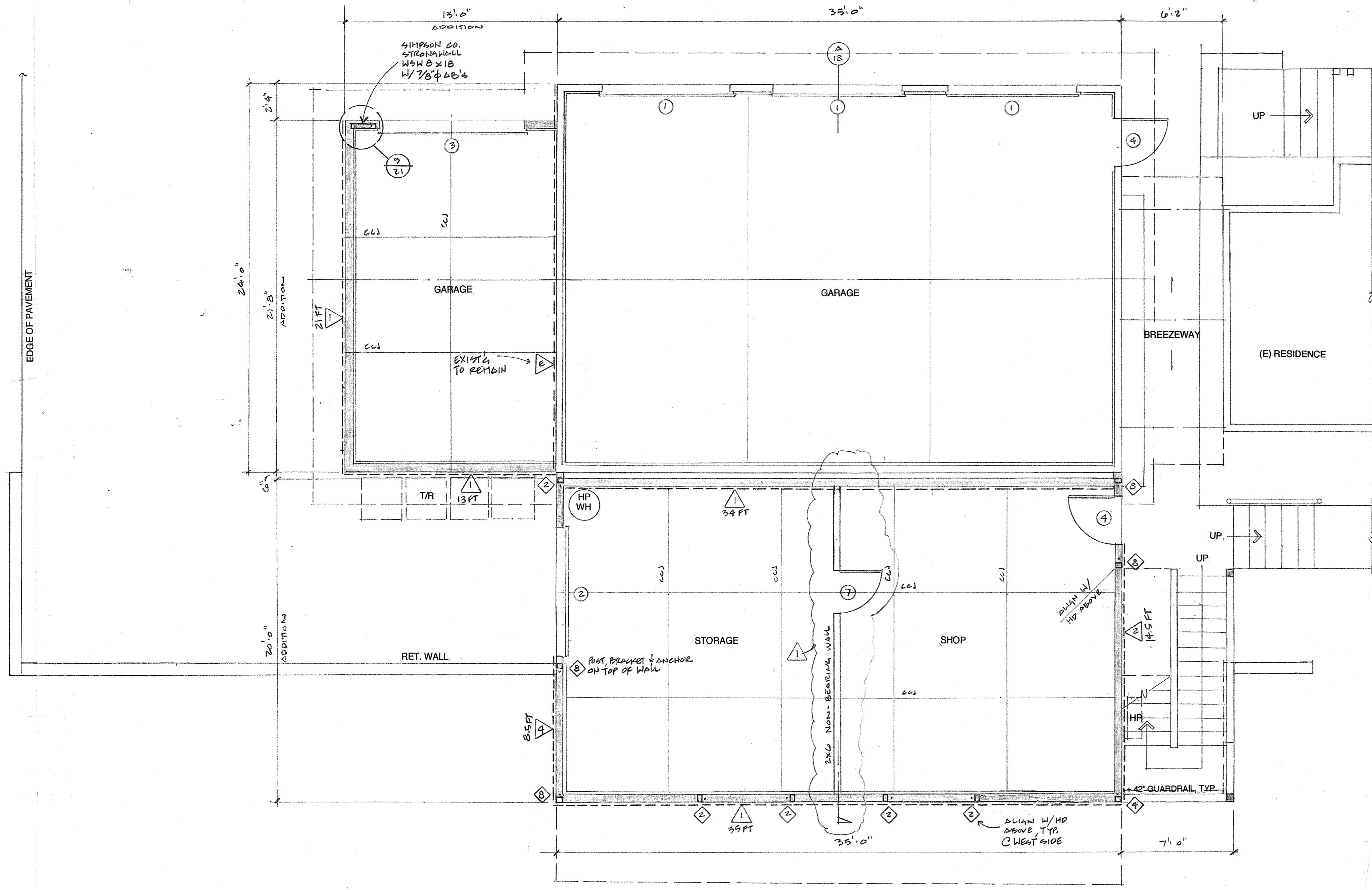


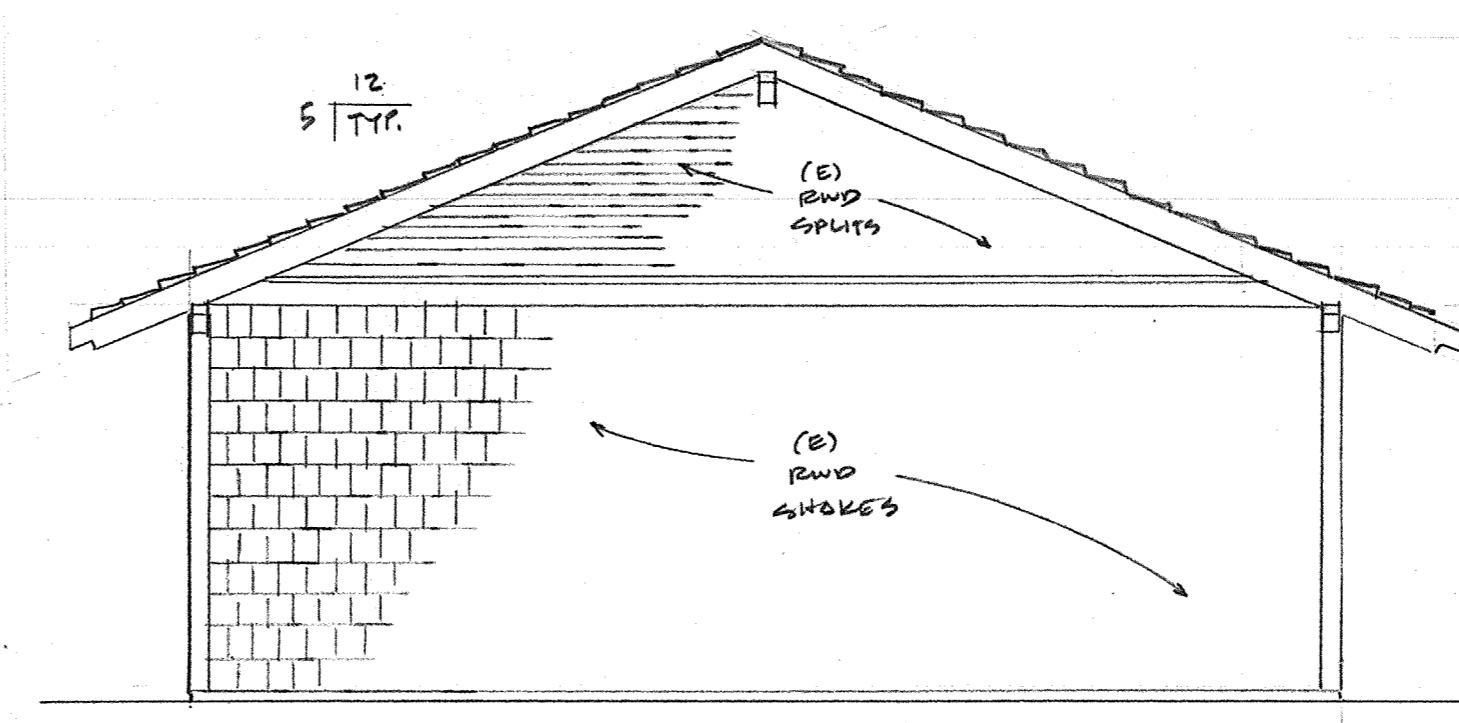




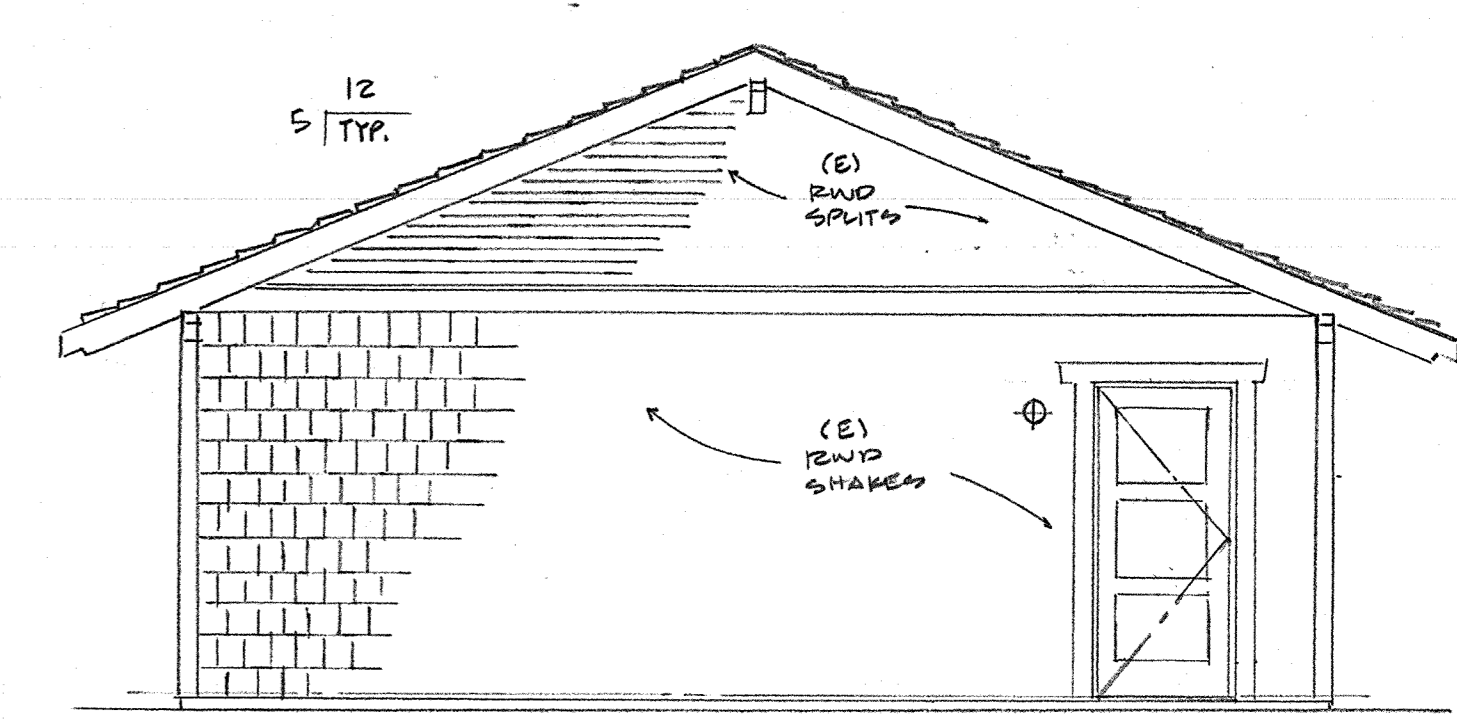
**PROPOSED - GARAGE / SHOP UPPER FLOOR PLAN**  
SCALE: 1/4" = 1'-0" 700 SF



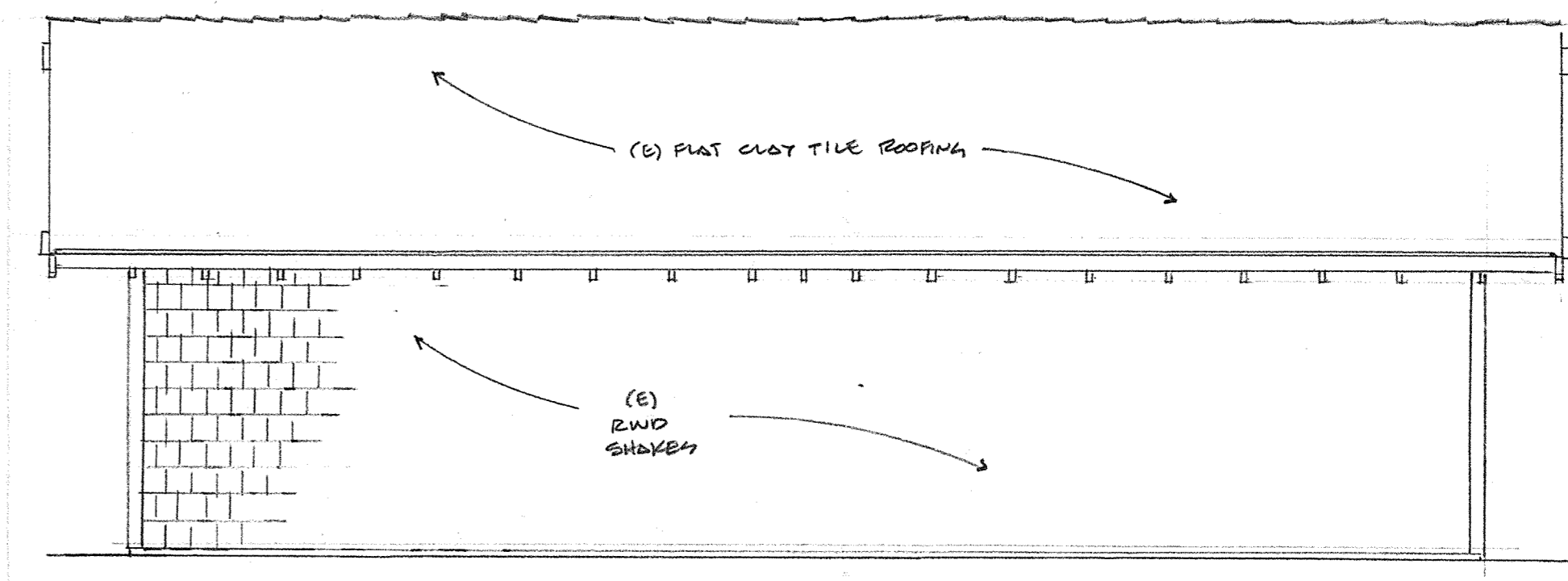
**PROPOSED - GARAGE / SHOP LOWER FLOOR PLAN**  
SCALE: 1/4" = 1'-0" 700 SF



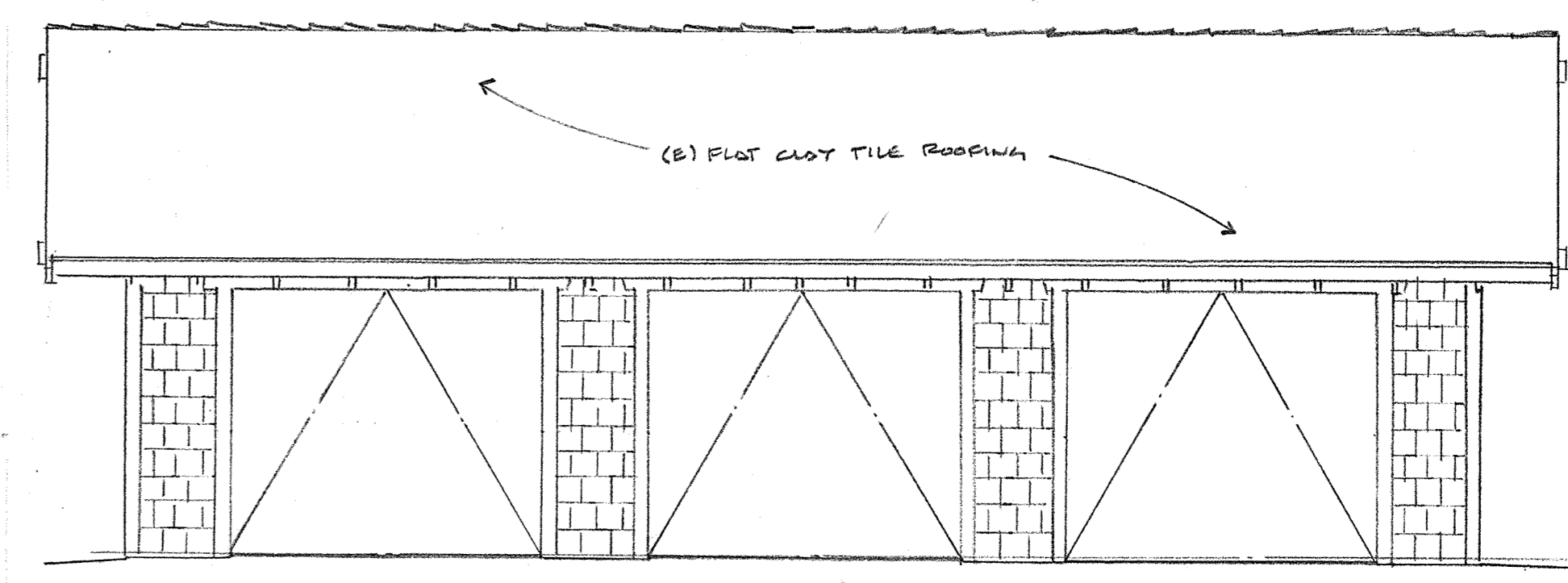
**EXISTING - NORTH ELEVATION**  
SCALE: 1/4" = 1'-0"



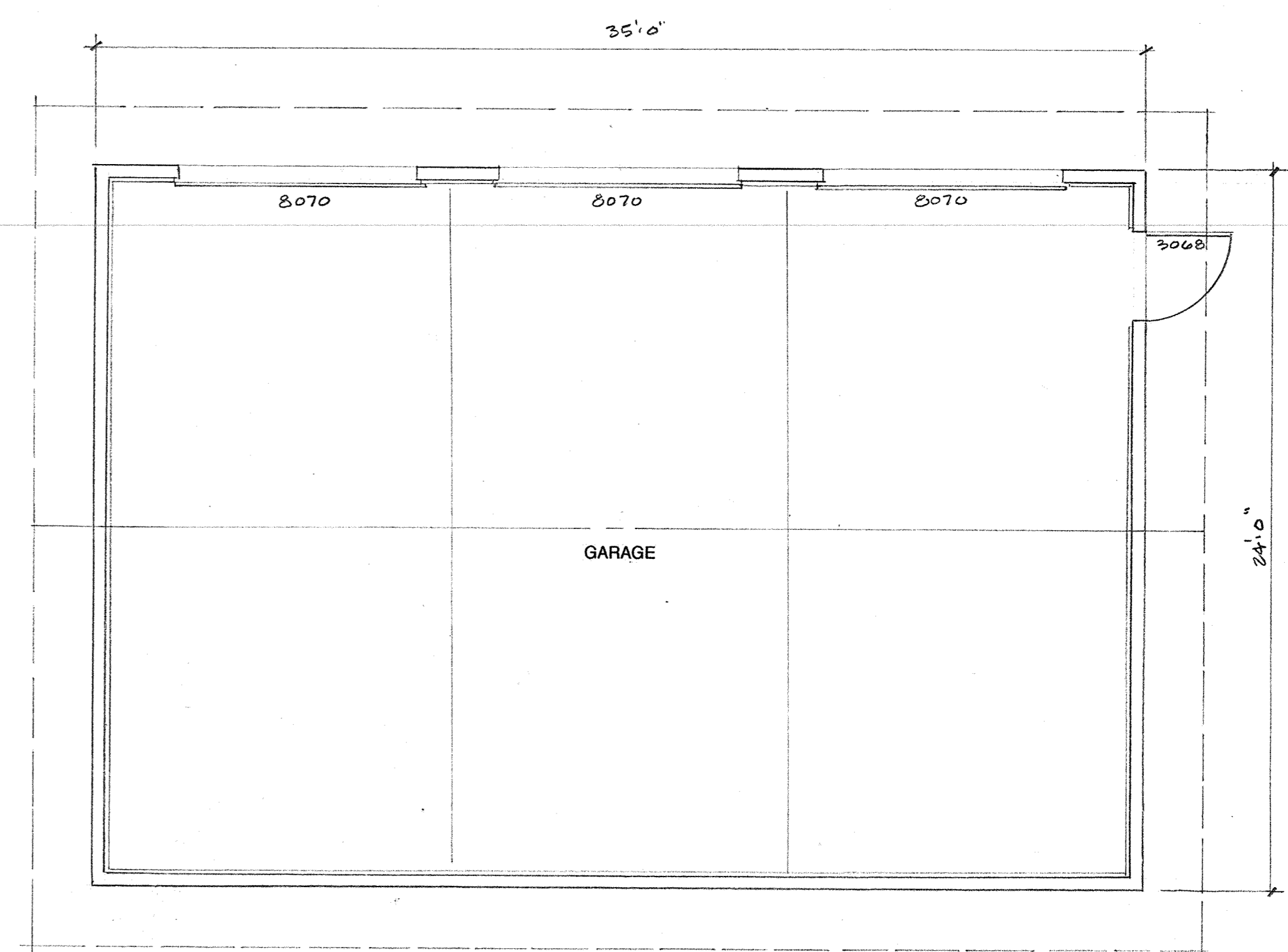
**EXISTING - SOUTH ELEVATION**  
SCALE: 1/4" = 1'-0"



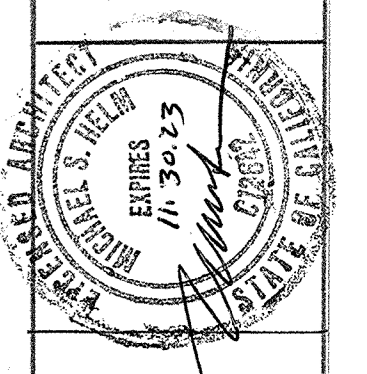
**EXISTING - WEST ELEVATION**  
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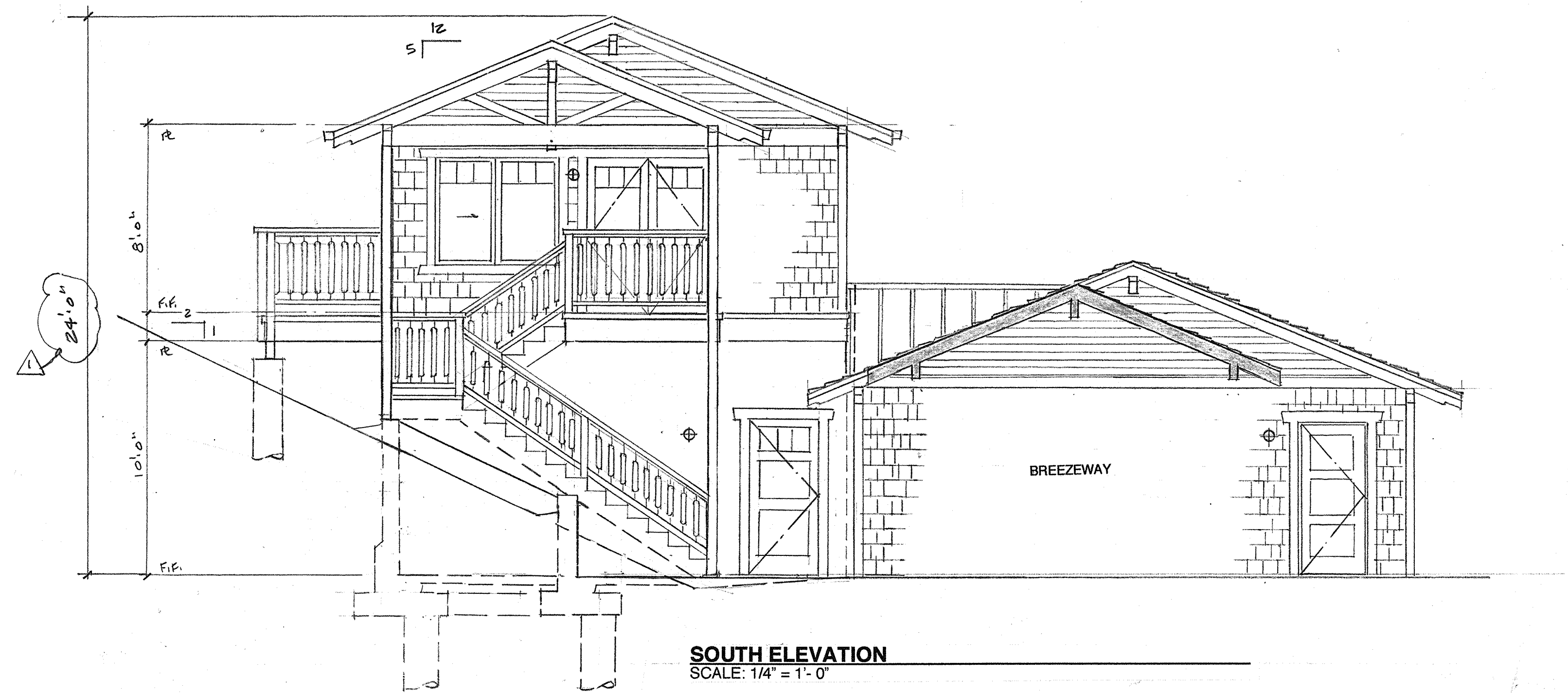
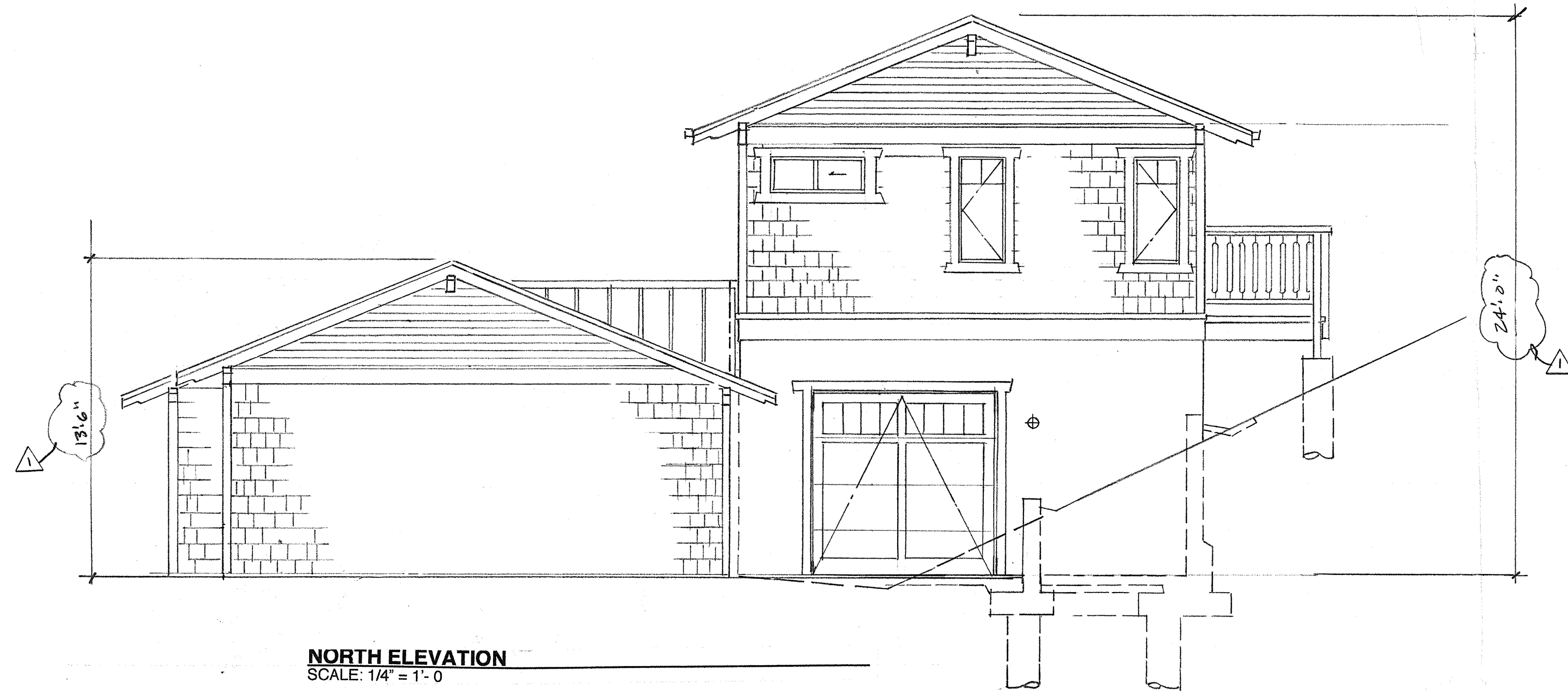


**EXISTING - EAST ELEVATION**  
SCALE: 1/4" = 1'-0"



**EXISTING - GARAGE FLOOR PLAN**  
SCALE: 1/4" = 1'-0"



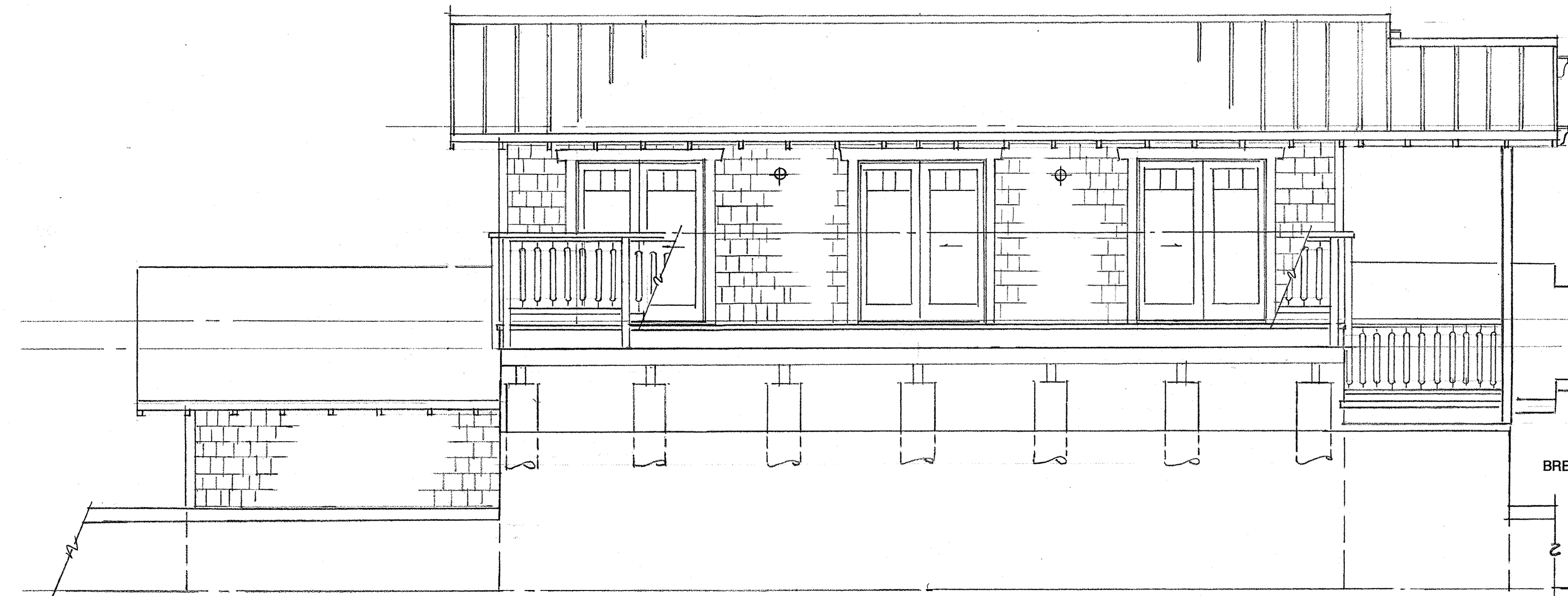


**STUCCO NOTE**

3 coat, 7/8" Stucco finish over two layers of grade 'D' paper on 'TYVEK' house wrap on 7/16" CDX plywood or OSB sheathing, nailed w/10d @ 6" o.c. edges and 12" o.c. field, U.N.O., on 2 X 8 studs @ 16" o.c. with R-21 high density batt insulation. Provide a minimum 26 gauge galvanized corrosion resistant weep screed with a minimum vertical attachment of 3-1/2" provided at or below the foundation plate line at the exterior walls. The screed shall be placed a minimum of 4 inches above earth or 2 inches above paved areas. Wall construction shall meet SFM12-7A-1 requirements.

**STANDING SEAM METAL ROOFING**

Peterson Aluminum Corp., PAC-CLAD 18" wide snap-clad 24 gauge Standing Seam Metal Roofing, UL-580 Class 50 wind uplift, UL-Class A fire rated, installation per mfg. Specs over Dbl layer 30 lb. Felt over 5/8" CDX plywood sheathing nailed w/10d @ 6" o.c. edges and 12" o.c. field, U.N.O., to 2X Rafter @ 24" o.c. or 2X Pre-fabricated trusses @ 24" o.c. with R-30 closed cell polyurethane spray foam insulation. Underlayment shall comply with ASTM D226 Type I; ASTM Type II, III or IV; ASTM D6757, and shall bear a label indicating compliance to the standard designation. Eave construction shall meet SFM 12-7A-3 requirements.



**Color/Materials Board**

**Roof** PETERSON ALUM. CORP., 18" WIDE, 24 GA. PAC-CLAD STANDING SEAM METAL ROOFING  
 Manufacture & Material: PAC-CLAD STANDING SEAM METAL ROOFING  
 Product Name, Number: PAC-CLAD STANDING SEAM METAL ROOFING, 0.24

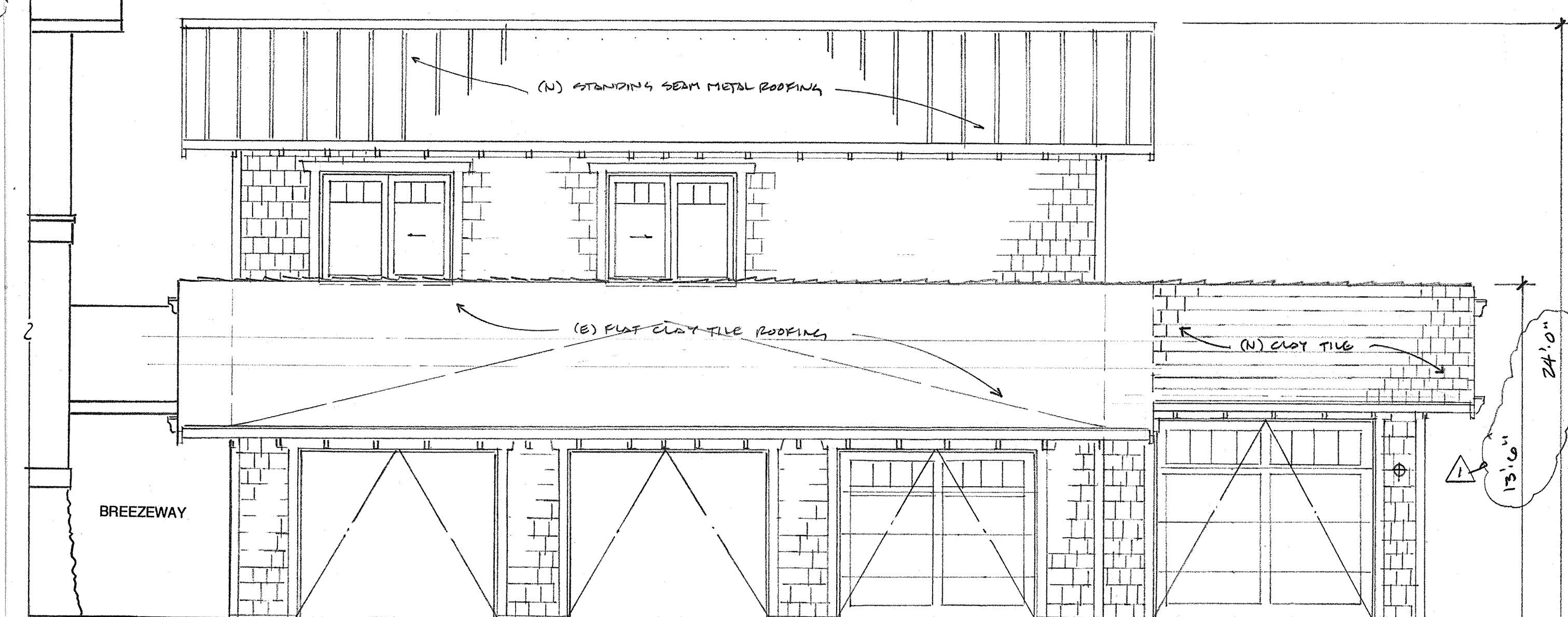
**Door & Window Frames, Railings**  
 JELD-WEN CLAD-WOOD  
 Manufacture/Number: JELD-WEN CLAD-WOOD  
 Color Name, LRV: CHESTNUT BROWN, LRV 67%

**Trim** JAMES HARDIE - FIBER CEMENT - PAINTED  
 Manufacture/Number: JAMES HARDIE - FIBER CEMENT - PAINTED  
 Color Name, LRV: OLIVE SW 1166, LRV 30%

**Exterior Walls** JAMES HARDIE - FIBER CEMENT  
 HORIZONTAL LAP OR SHINGLE SIDING - PAINTED  
 Manufacture/Number: JAMES HARDIE - FIBER CEMENT  
 Color Name, LRV: CARMON SW 2727, LRV 7%

**Architectural Accents (Ex. Stone Veneer)**  
 TAHE BAVEN ROCK (EXISTING TO REMAIN)  
 Manufacture/Number: N/A  
 Color Name, LRV: N/A

**Retaining Walls** (E) BRICK (SEE ABOVE)  
 (F) STUCCO FINISH - PAINTED  
 Manufacture/Number: JAMES HARDIE - FIBER CEMENT  
 Color Name, LRV: OLIVE SW 1166, LRV 30%



**PLUMBING FIXTURE MAXIMUM FLOW RATES**

TOILET	1.28 GPF
LAVATORY FAUCETS	1.2 GPM @ 60 PSI
TUB / SHOWER VALVES	1.8 GPF @ 80 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI

**PLUMBING FIXTURE CONNECTION SCHEDULE**

SYMBOL	TYPE	WASTE	VENT	HOT	COLD
LV	LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WC	TOILET	3"	2"	-	1/2"
T/SH	TUB / SHOWER	2"	1-1/2"	1/2"	1/2"
KS	KITCHEN SINK	2"	1-1/2"	1/2"	1/2"
WS	WASHER	1-1/2"	1-1/2"	1/2"	1/2"
HB	HOSE BIBB				3/4"

**FINISH SCHEDULE NOTES**

- VERIFY ALL FINISHES WITH OWNER
- ALL CLOSET FLOORING AND BASEBOARDS SHALL MATCH THE ADJACENT ROOM
- PROVIDE A SMOOTH, HARD, NON-ABSORBENT SURFACE OVER MOISTURE RESISTANT UNDERLAYMENT TO A HEIGHT OF 72" ABOVE THE DRAIN OUTLET IN ALL SHOWER AND TUB LOCATIONS.
- UNDERLYING BASE FOR ALL TILE SHALL BE CEMENT, FIBER-CEMENT OR GLASS MAT GYPSUM BACKER BOARDS IN COMPLIANCE WITH ASTM C1178, C1288 OR C1325 AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. IT SHALL BE USED AS A BASE FOR WALL TILE IN TUB AND SHOWER AREAS AND AS CEILING PANELS IN SHOWER AREAS.

**VENTILATION NOTES**

- All bathroom fans are to be used for Local Ventilation Exhaust. Minimum 50 CFM fan tested at a static pressure of 25 wc and rated @ 3 zones or less required to be installed. Fan must be attached to a minimum 4" duct and no longer than 70' of flex duct. Subtract 15' of allowed length for each elbow.

**DOOR SCHEDULE - SHOP / GARAGE**

SYM.	SIZE	TYPE	QUAN.	REMARKS
①	8070	'Carriage Style' Sectional Garage Door	3	Paint Grade w/ 4-lite Tempered glass panel w/ elec. auto opener
②	8080	'Carriage Style' Sectional Garage Door	1	Paint Grade with Tempered glass panel w/ elec. auto opener
③	9080	'Carriage Style' Sectional Garage Door	1	Paint Grade with Tempered glass panel w/ elec. auto opener
④	3068	Exterior S.C., 3-Panel	2	Paint Grade, with Tempered glass panel
⑤	Pair 2868	Exterior single lite French doors	1	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
⑥	5488	Exterior single lite OX Sliding Patio Doors	3	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
⑦	2868	Interior S.C., 3-Panel	3	Stain Grade, by Sun Mountain, Inc.
⑧	3W - 2868	Interior S.C., 3-Panel Sliding Bi-pass Closet Doors	1	Stain Grade, by Sun Mountain, Inc.
⑨	5670	Bi-Pass Sliding Shower Doors	1	3/8" Clear 'Frameless' Tempered glass, Provide shop drawings for approval

**WINDOW SCHEDULE - SHOP / GARAGE**

SYM.	SIZE	TYPE	QUAN.	REMARKS
A	2046	OX Slider	3	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
B	2046	Casement	2	Clad/Wood Sash, Low-E dbl. insulated Tempered glass
C	4016	OX Slider	1	Clad/Wood Sash, Low-E dbl. insulated Tempered glass

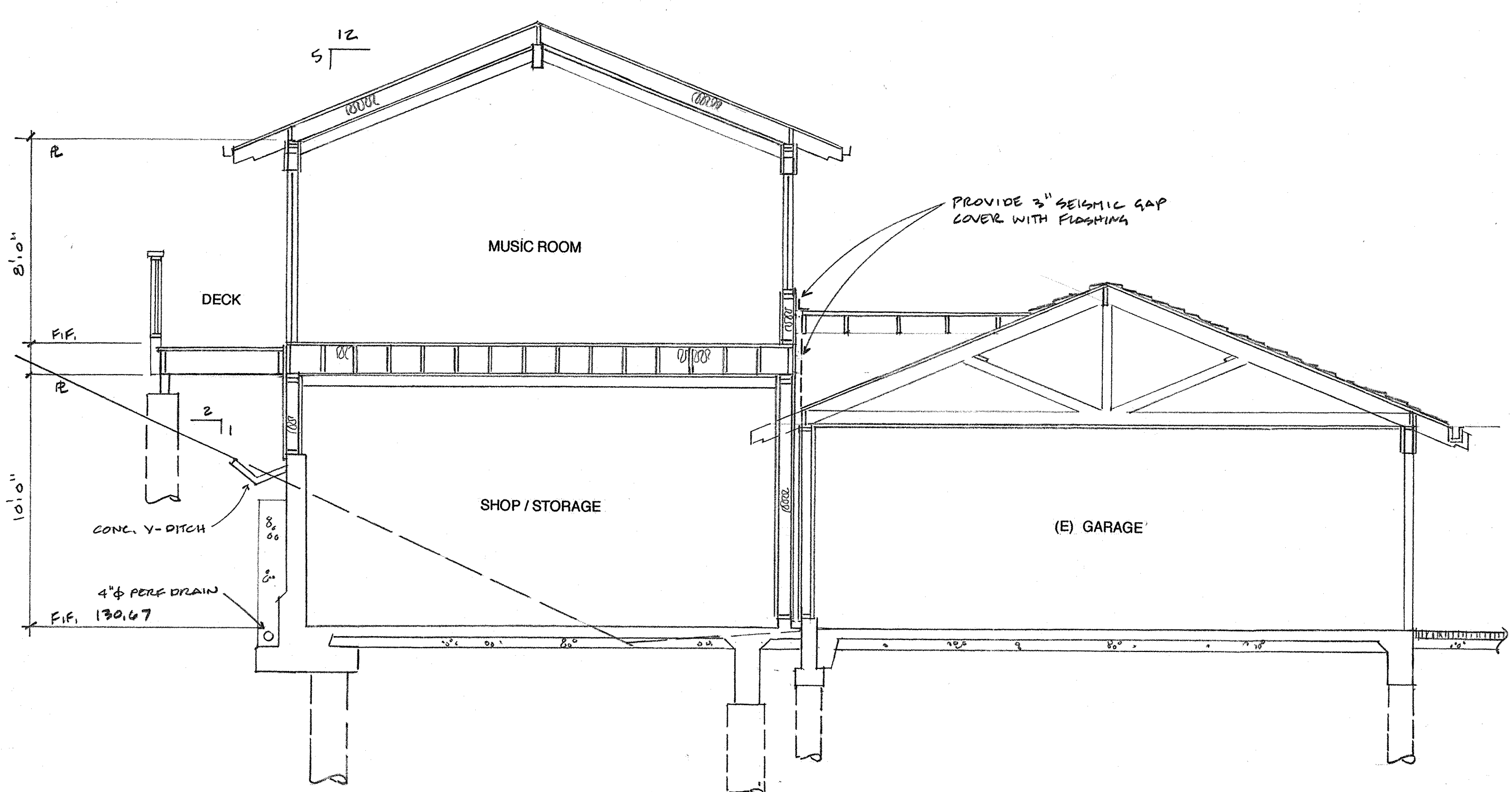
Jeld-Wen - Clad Wood sash windows & doors overall standards comply with ANSI/AAMA/WDMA/CSA101/11, S.2 / A440-05 / A440-08 / A40-11

- All units are Gold Label tested & certified with label attached to frame per AAMA standards per CFC, Section 600.3, installation per AAMA 2400
- All insulated glass units conform to ASTM E2198 / E2190, NFRC certified and labeled.
- Safety Glazing testing and labeling per CFC, Sections 308.1 & 308.4
- Energy testing and certification per CFC, Section 110.6
- Verify rough openings and window / door sizes prior to ordering.

Note: The NFRC label which states the required U-value and SGHC for all fenestration products shall not be removed prior to inspection or the removal by a building inspector and shall reflect the values listed in the energy report.

**CONSTRUCTION SCHEDULE - GARAGE / SHOP**

<b>FOUNDATIONS</b>	12" wide X 27" deep concrete grade beam with 2- #5 bars T & B w/ #3 ties @ 6" o.c. on 18" diameter drilled piers X 8' deep (min.) CONCRETE SLAB: 3" thick concrete slab w/ #4 bars @ 18" o.c. each way, on 15 mil vapor barrier (Slope Wrap or equal) on 6" crushed rock. CONCRETE MIX: Substitute Portland Cement with recycled flyash, 35% by volume, typical. Keep receipts for Inspector verification. TREATED LUMBER: Substitute ACQ pressure treatment for CCA products, typical. FORM BOARDS: Clean and re-use for scaffolding, forms, blocking, etc... FORM RELEASE AGENT: Use Non-toxic soy based 0-VOC form release agent by BIO-GUARD CO. or Architect approved equal.
<b>FLOORS</b>	TJ's @ 16" o.c., with 3/4" T&G plywood subfloor glued and nailed w/ 10d @ 6" o.c. edges & 10" o.c. field, U.N.O. with R-19 batt insulation.
<b>LOWER WALLS</b>	7/8" Stucco finish over two layers of grade 'D' paper on 'TYVEK' house wrap on 7/16" CDX plywood or OSB sheathing, nailed w/10d @ 6" o.c. edges and 12" o.c. field, U.N.O., on 2 X 8 studs @ 16" o.c. with R-21 high density batt insulation, 1/2" gypsum wallboard interior finish, typical. Use low/No VOC exterior/interior paints. Wall construction shall meet SFM12-7A-1 requirements.
<b>UPPER WALLS</b>	5/16" James Hardie fiber cement horizontal siding or shingles over 'TYVEK' house wrap on 5/8" Type 'X' exterior gypsum sheathing on 7/16" CDX plywood or OSB sheathing, nailed w/10d @ 6" o.c. edges and 12" o.c. field, U.N.O., on 2 X 8 studs @ 16" o.c. with R-21 high density batt insulation, 1/2" gypsum wallboard interior finish, typical. Use low/No VOC exterior/interior paints. Wall construction shall meet SFM12-7A-1 requirements.
<b>ROOF</b>	Class B (min) standing seam metal roofing, install per mfg. specs over Dbl. layer 30 lb. felt over 5/8" CDX plywood sheathing nailed w/ 10d @ 6" o.c. edges and 12" o.c. field, U.N.O., to 2X Pre-fabricated trusses @ 24" o.c. with R-30 closed cell polyurethane spray foam insulation. Underlayment shall comply with ASTM D226 Type I; ASTM Type II, III or IV; ASTM D6757, and shall bear a label indicating compliance to the standard designation. Eave construction shall meet SFM 12-7A-3 requirements.
<b>GUTTERS &amp; DOWNSPOUTS</b>	16 oz. copper beveled gutters w/ 2" diameter round downspouts deposit into existing landscaped areas. Gutters shall be provided with leaf/debris protection.
<b>ROOF / WALL FLASHINGS</b>	16 oz. copper where shown or required. Pan flash all ext. door sills with 16 oz. copper solder all joints, typical.
<b>WINDOWS &amp; EXT. GLASS DRs.</b>	Jeld-Wen - Alum. Clad/Wood sash with Dbl. insulated Tempered Low-E glass, provide screens at all operable windows. Exterior door assemblies shall conform to SFM 12-7A-1 requirements.
<b>INSULATION</b>	FLOORS: R-19 fiberglass batts EXT. WALLS: R-23 high density fiberglass batts INT. WALLS: 3-1/2" fiberglass sound batts ROOFS: R-30 closed cell polyurethane spray foam
<b>ROOF JACKS</b>	Provide neoprene gaskets and 16 oz. copper roof jack / rain cap, typical. All exhaust vents shall be located a min. of 4" from or 1' above all roof or wall openings per CMC. All plumbing vents shall be located a min. of 10' from or 3' above all roof or wall openings per CPC.
<b>WALL PENETRATIONS</b>	Use weatherproofing wall jacks by QUICKFLASH or approved equal for plumbing, electrical and mechanical penetrations.
<b>PAINTS, STAINS, ADHESIVES &amp; SEALERS</b>	Use Low / No VOC, water based products and solvent-free adhesives, typical.
<b>PLUMBING</b>	Install low-flow toilets. Install low-flow shower heads with chlorine filters.
<b>CABINETS &amp; TRIM</b>	Use formaldehyde-free particle board and MDF by MEDITE or approved equal for all cabinets and trim applications



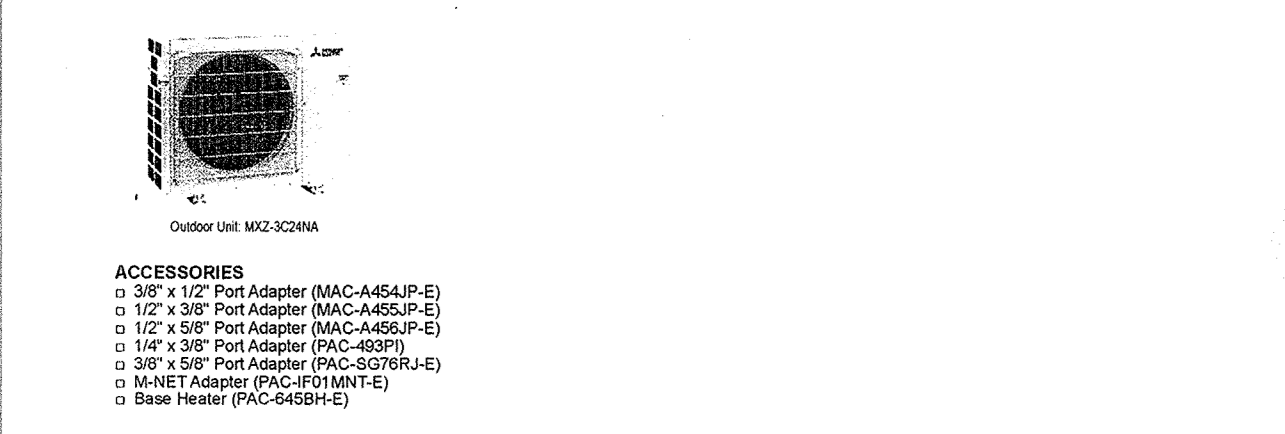


Table with columns: Specifications, Unit Type, and Unit Capacity. Rows include Cooling, Heating at 47°F, Heating at 47°F (Non-ducted), and Electrical Requirements.

Table with columns: Operating Range, Indoor Unit Type, SEER, EER, HSPF, COP @ 47°F, and COP @ 57°F. Rows include Cooling and Heating.

- NOTES: Minimum of two Indoor Units must be connected to the MSZ-C302NA2. Minimum installed capacity cannot be less than 12,000 Btu/h.

- INVERTER CONNECTION RULES: Only 1 MVZ may be used on any system. When an MVZ is connected, total operating capacity must be 100% or less.

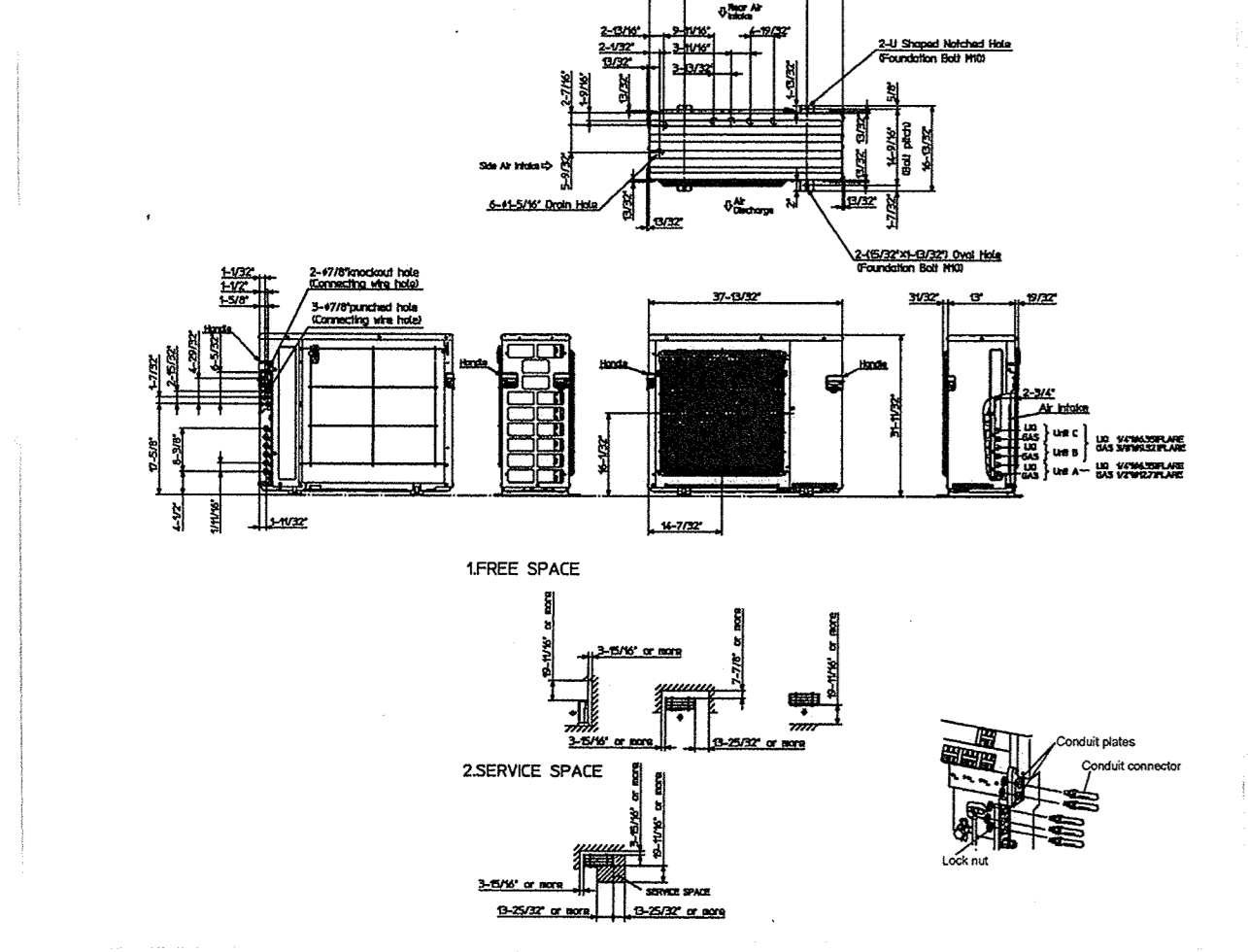
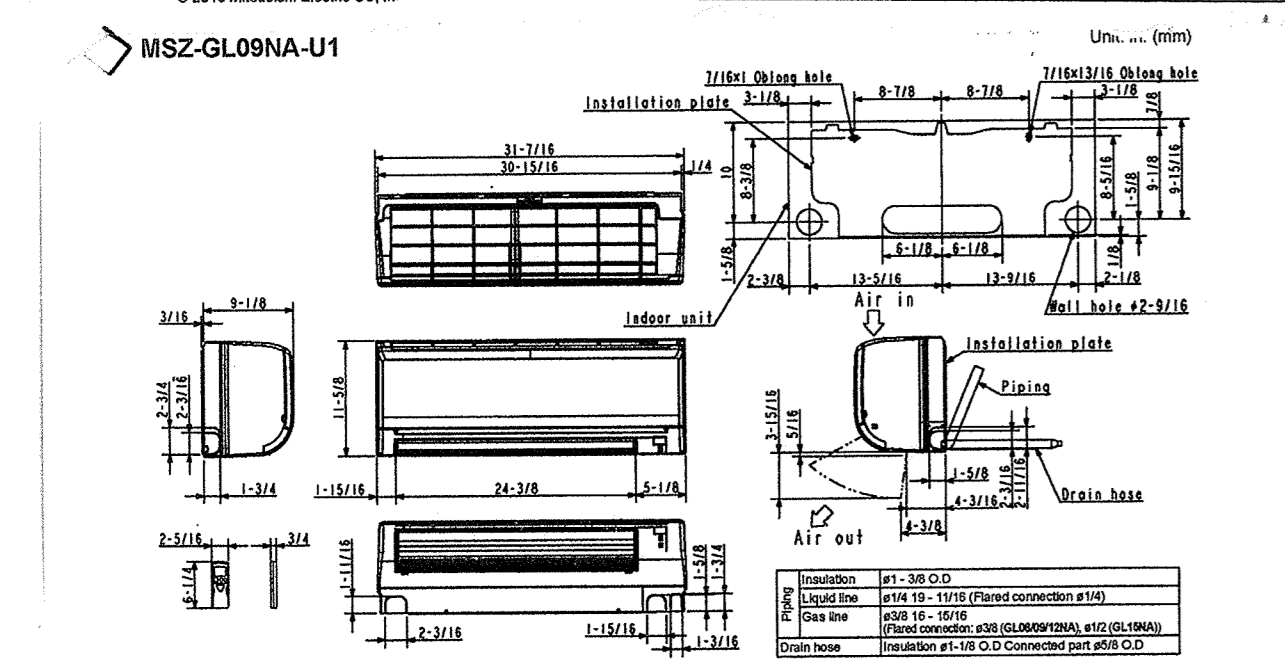
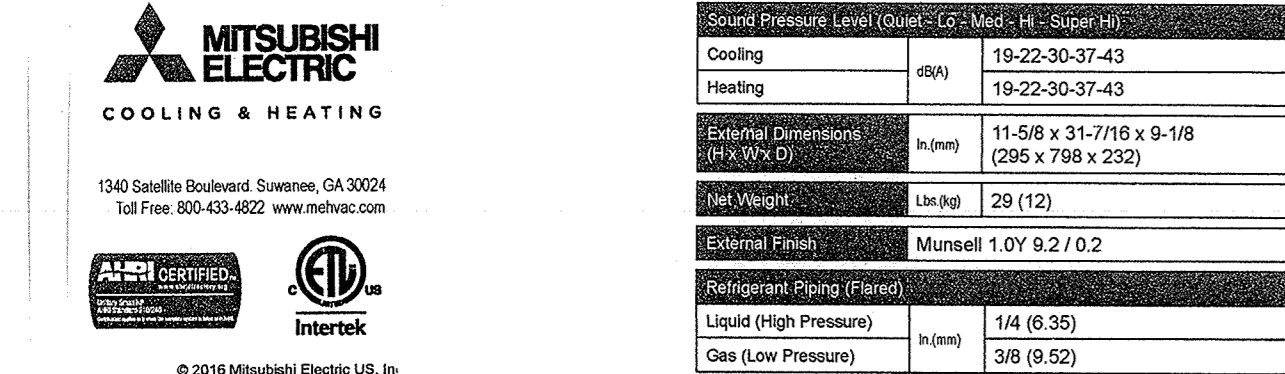


Table with columns: Specifications, Unit Type, and Unit Capacity. Rows include Cooling and Heating.

Table with columns: Accessories, Model, and Description. Lists various optional components like condensate pumps and filters.



VOITEX® HYBRID ELECTRIC HEAT PUMP WATER HEATER

The Voltex Hybrid Electric heat pump water heater from A. O. Smith is the most cost effective energy-efficient option available for consumers who want to save money on their utility bills.

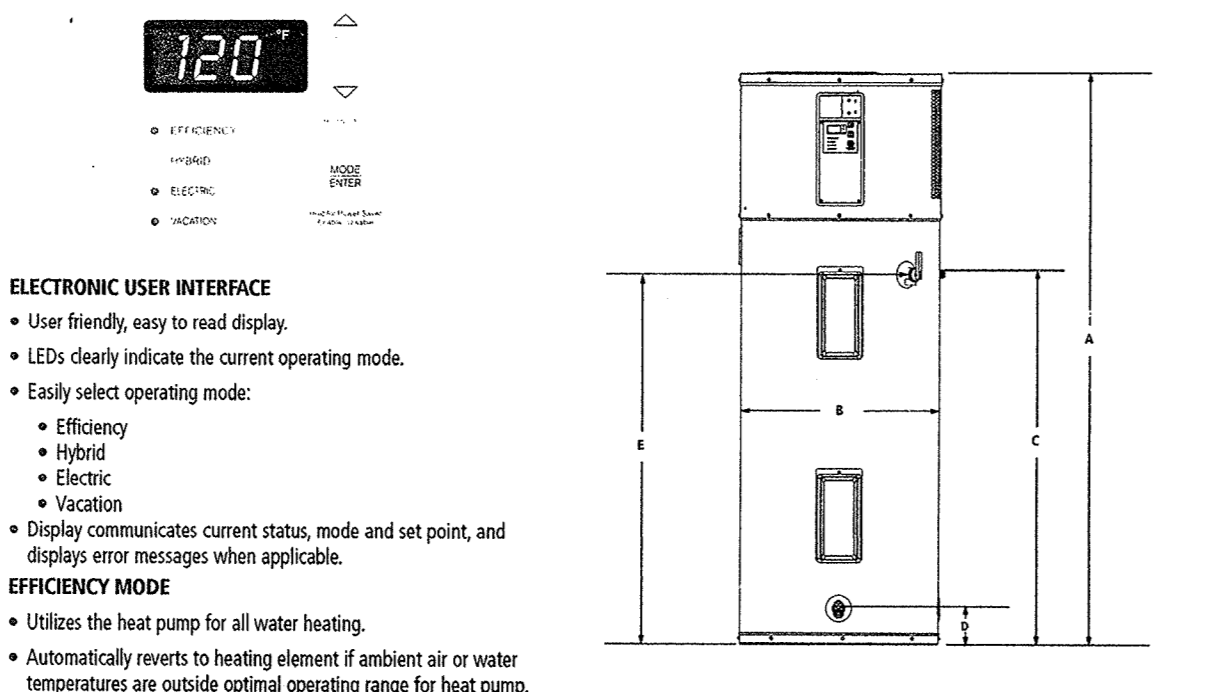
HOW DO THEY WORK? About 90% of the heat for the water is generated by the heat pump, which extracts heat from the surrounding air.

QUALITIES FOR MANY STATE AND LOCAL UTILITY REBATES - CHECK YOUR LOCAL UTILITY. Improved efficiency designed in, to ensure available hot water at the lowest possible cost.

CHOICE OF OPERATING MODES - Select from Efficiency, Hybrid, or Electric mode to match heating requirements to environmental conditions.

BACKUP ELECTRIC ELEMENTS - Long lasting backup heating elements help heat water according to environmental conditions, demand, and the chosen operating mode.

Table with columns: Model Number, Standard Capacity, and Dimensions. Lists various models and their specifications.



ELECTRIC USER INTERFACE - User friendly, easy to read display. LEDS clearly indicate the correct operating mode.

EFFICIENCY MODE - Utilizes the heat pump for all water heating. Automatically reverts to heating element if ambient air or water temperatures are outside optimal operating range for heat pump.

HYBRID MODE - Utilizes the heat pump or heating element, depending on demand. Standard electric water heater operation.

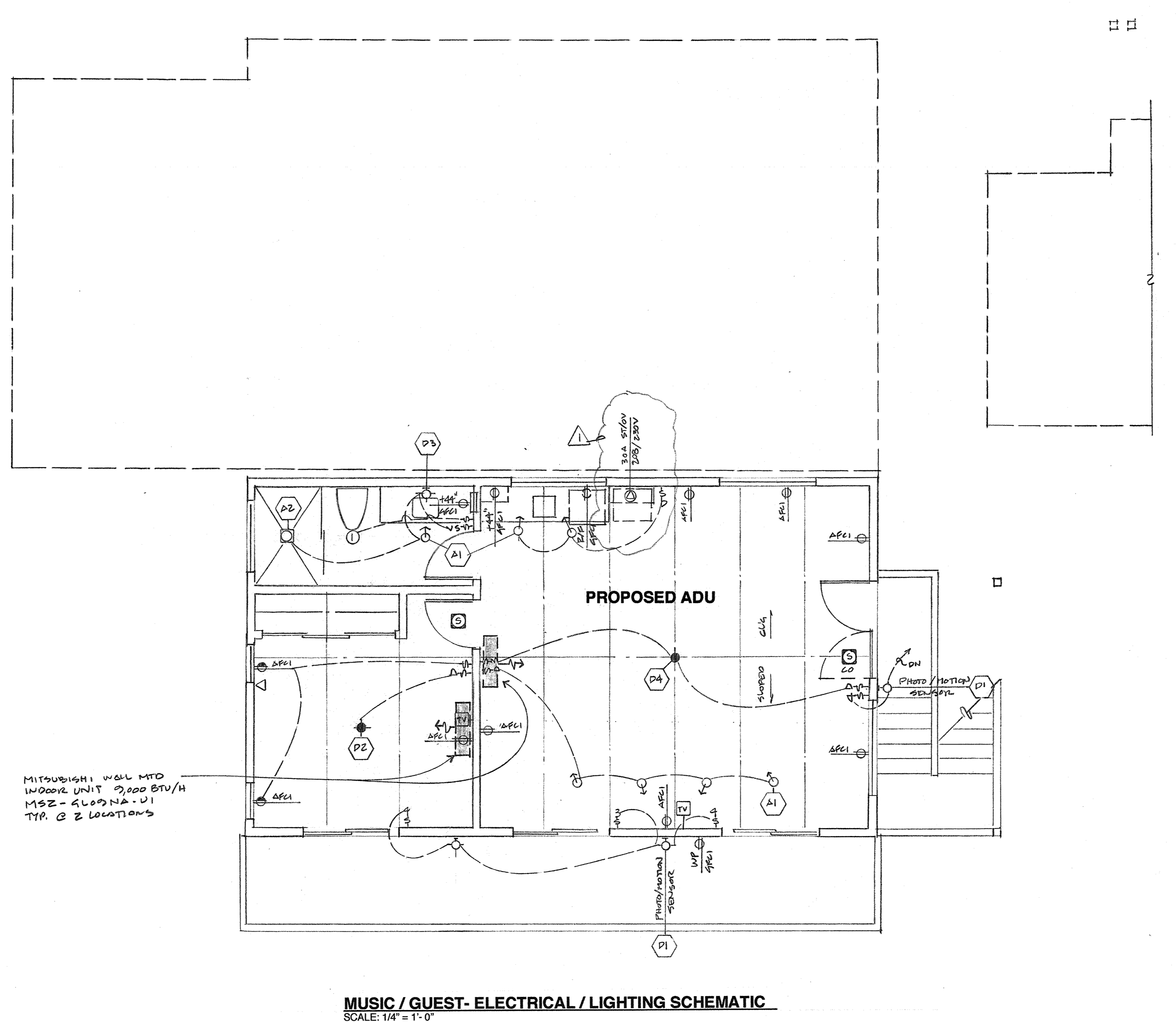
VACATION MODE - One touch operation maintains tank temperature of 60°F (15.6°C) during vacation or extended absence to reduce operating costs and provide freeze protection.

OTHER FEATURES: Sacrificial anode to protect against tank corrosion. Environmentally friendly non-CFC foam insulation.

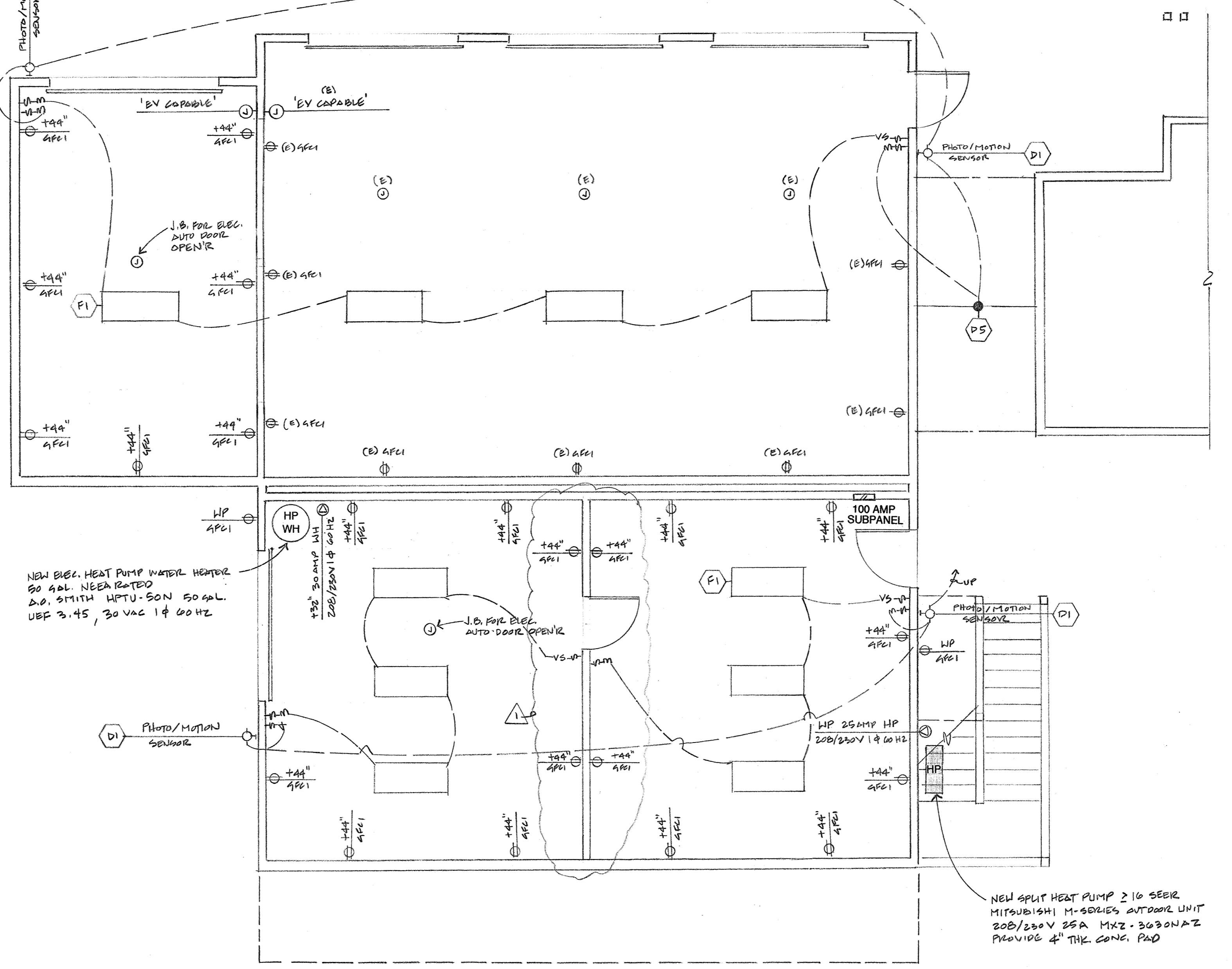
OPERATING REQUIREMENTS: Requires provision for condensate draining if a suitable drain is not available, a condensate pump is required.

PROGRAMMABLE UP TO 99 DAYS. For complete information, consult written warranty or go to aoh.com.

APRIL 2019 A. O. Smith Corporation All Rights Reserved. Model number MSZ-GLO9NA-U1.



MUSIC / GUEST- ELECTRICAL / LIGHTING SCHEMATIC SCALE: 1/4" = 1'-0"

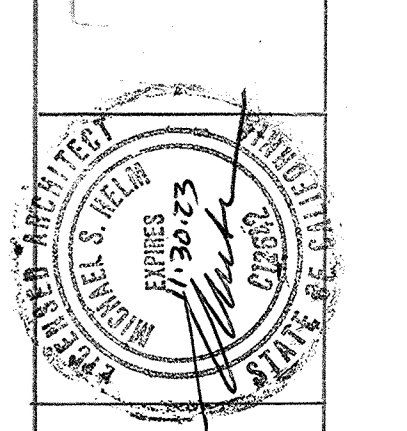


GARAGE / SHOP- ELECTRICAL / LIGHTING SCHEMATIC SCALE: 1/4" = 1'-0"

LIGHTING FIXTURE SCHEDULE

Table with columns: Tag, Description, Manufacturer, and Remarks. Lists lighting fixtures A1 through D5 with their specifications.

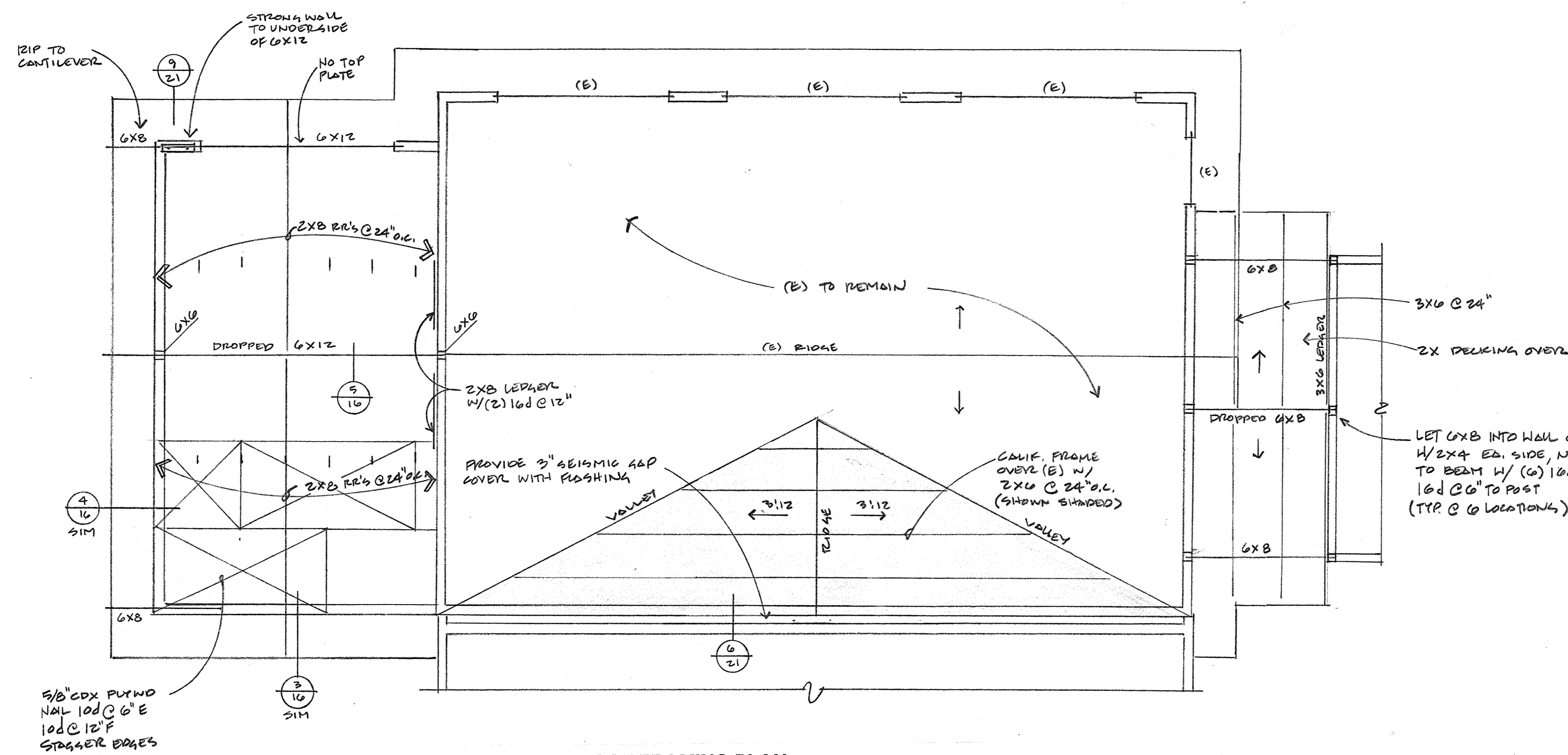
Michael Helm, AIA Architect & Associates 200 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 476-5886



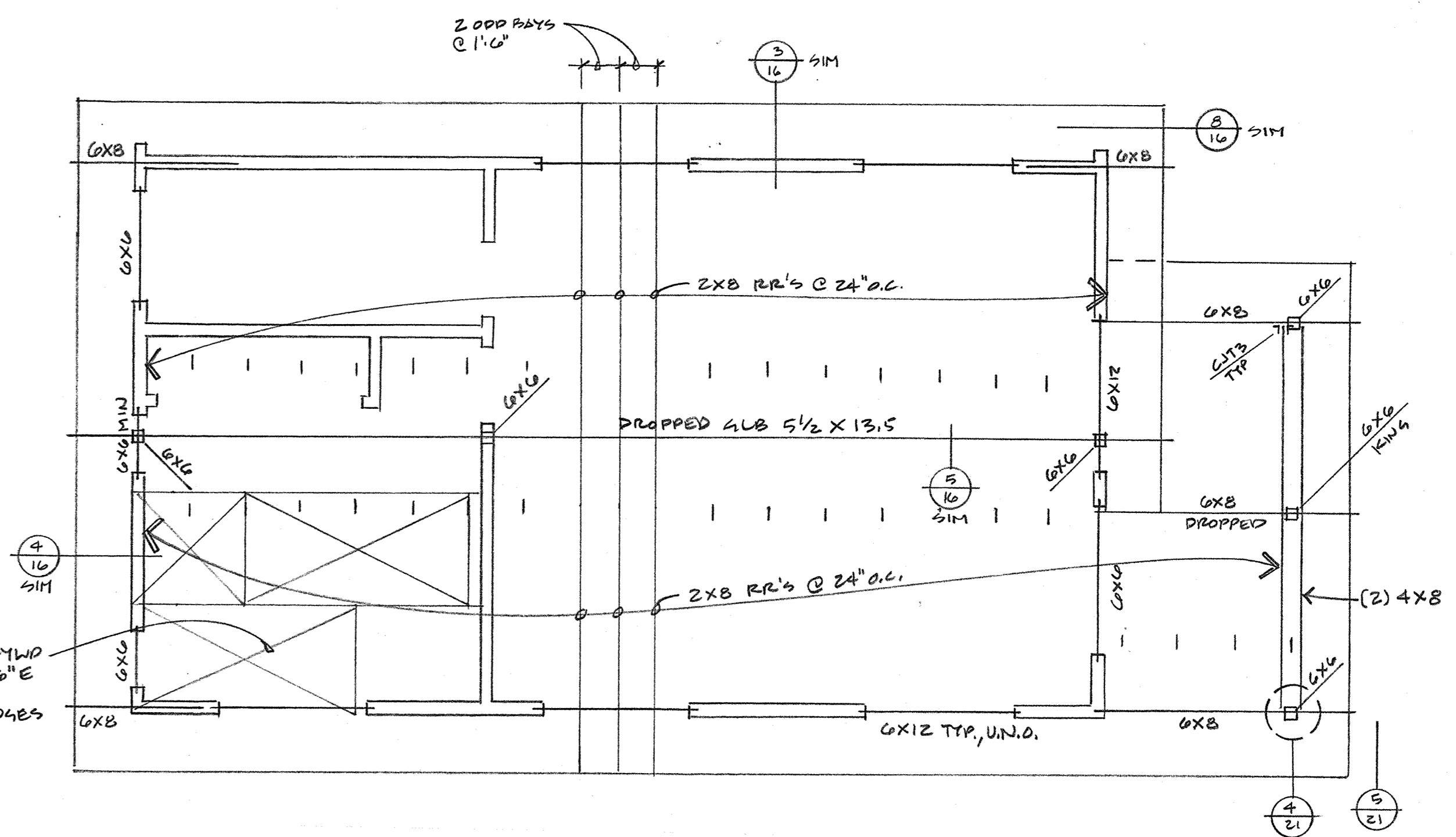
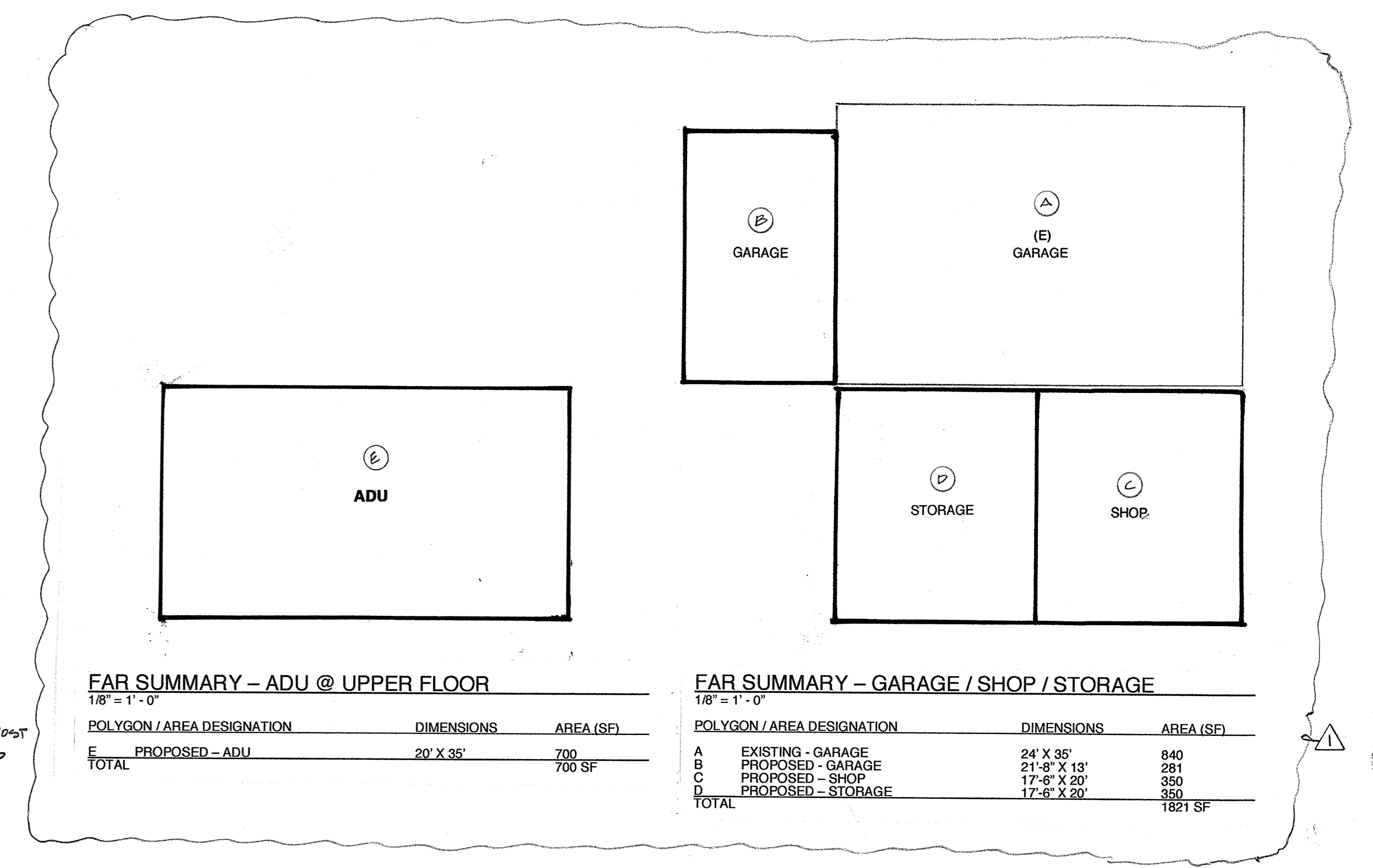
REMODEL & ADDITIONS TO THE: RENFREW RESIDENCE 14500 ARNERICH HILL ROAD - APTN 537-12-012 LOS GATOS, CALIFORNIA

DATE: 11.14.22 1/4" = 1'-0" MSJ ZIOB

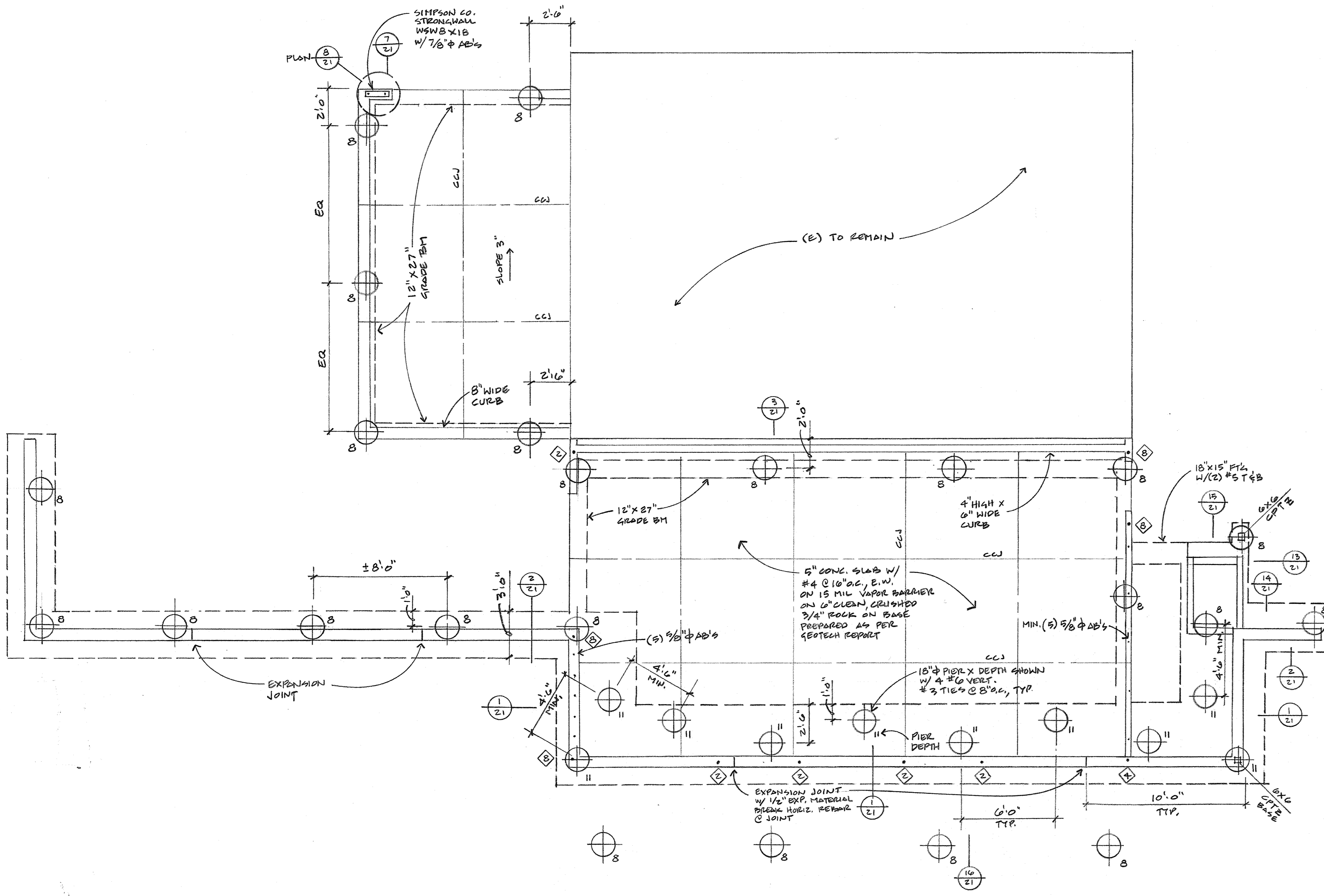
PROVIDE A LISTED RACEWAY TO ACCOMMODATE A DEDICATED 208/240-VOLT BRANCH CIRCUIT FOR ELECTRIC VEHICLE CHARGING NOT LESS THAN 1" NOMINAL INSIDE DIAMETER.



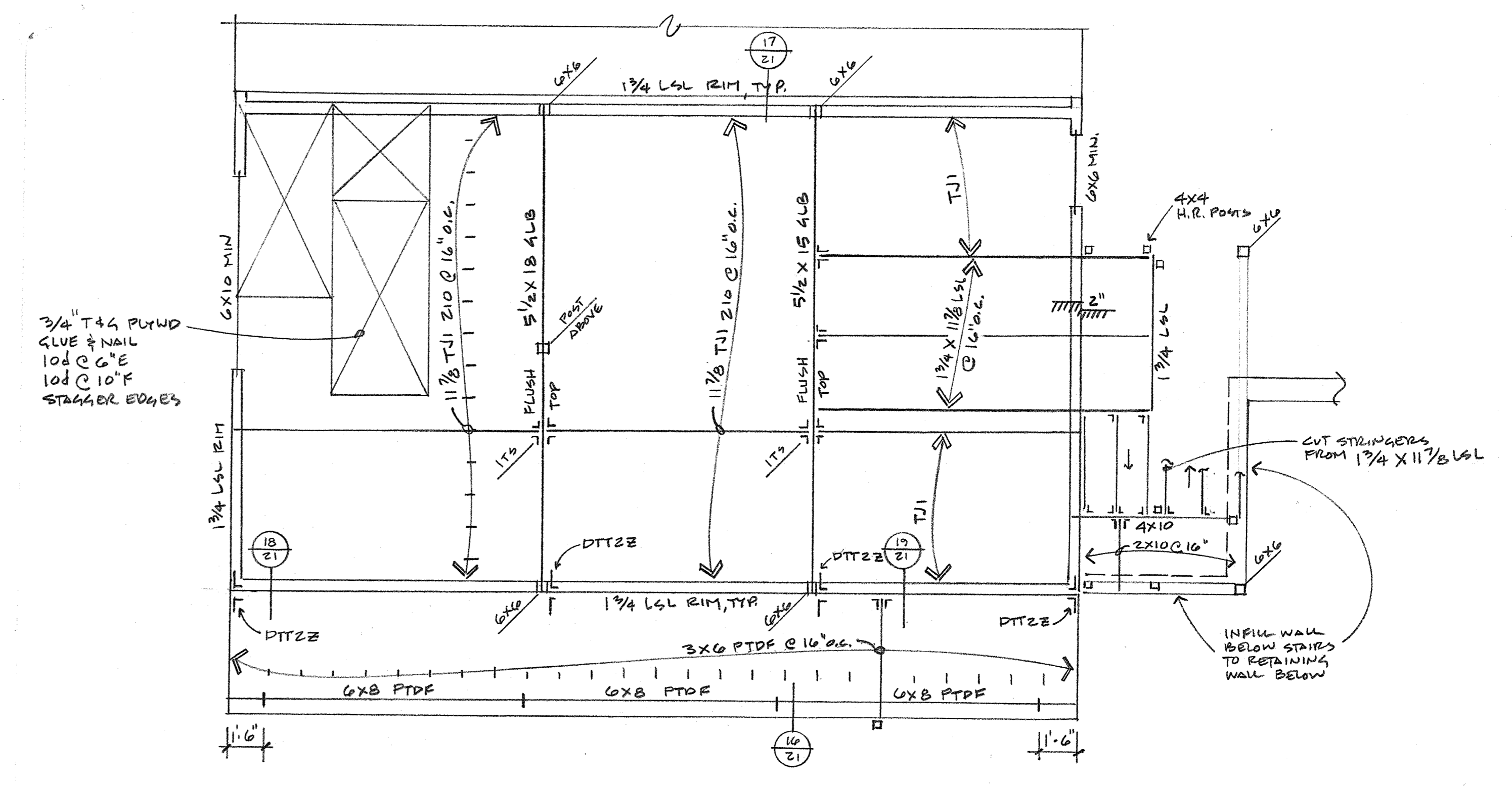
**GARAGE - ROOF FRAMING PLAN**  
SCALE: 1/4" = 1'-0"



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

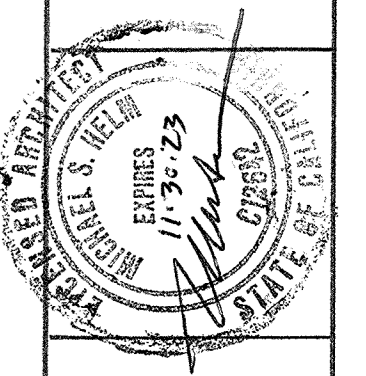


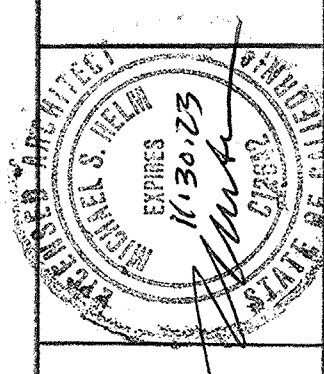
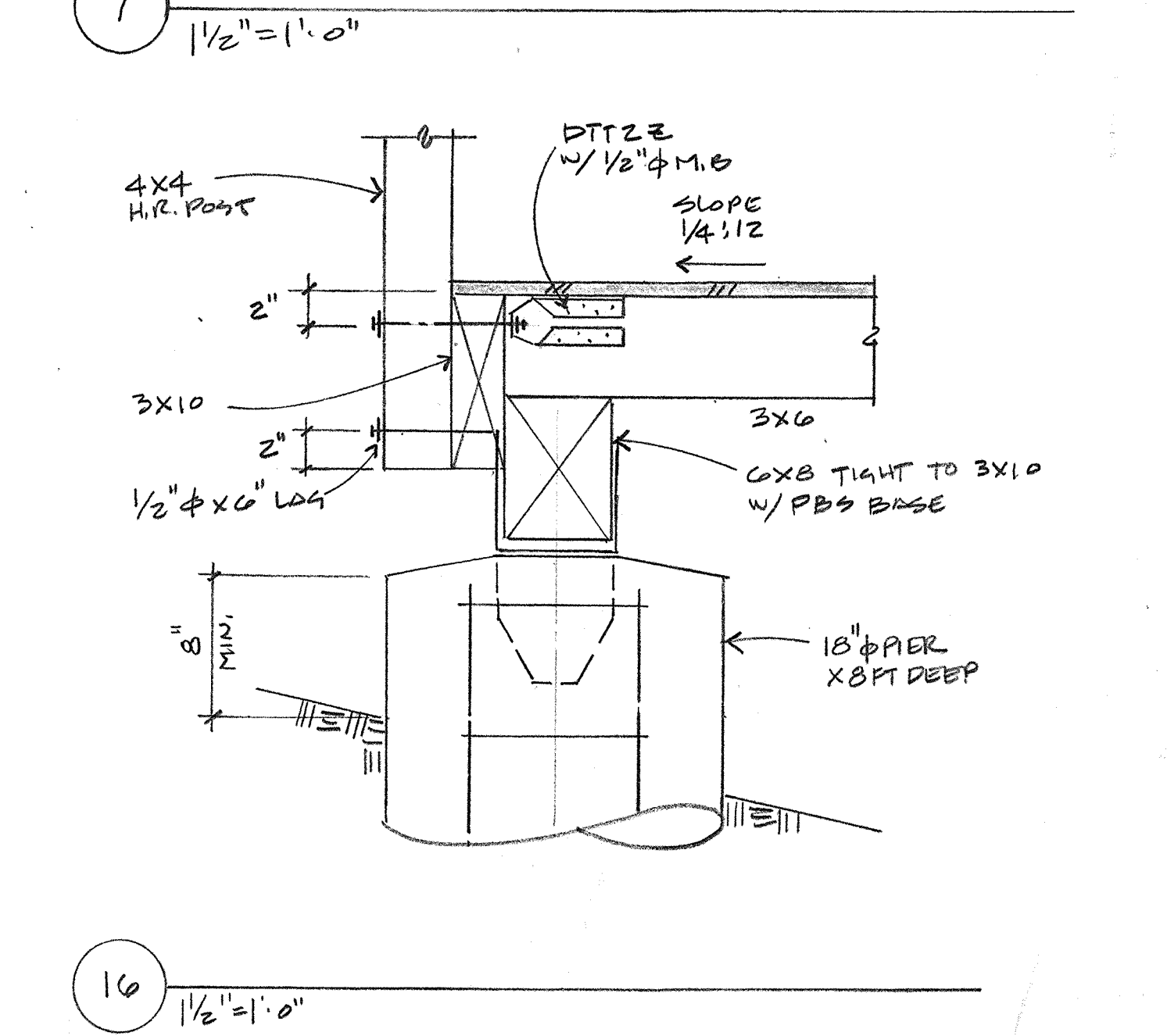
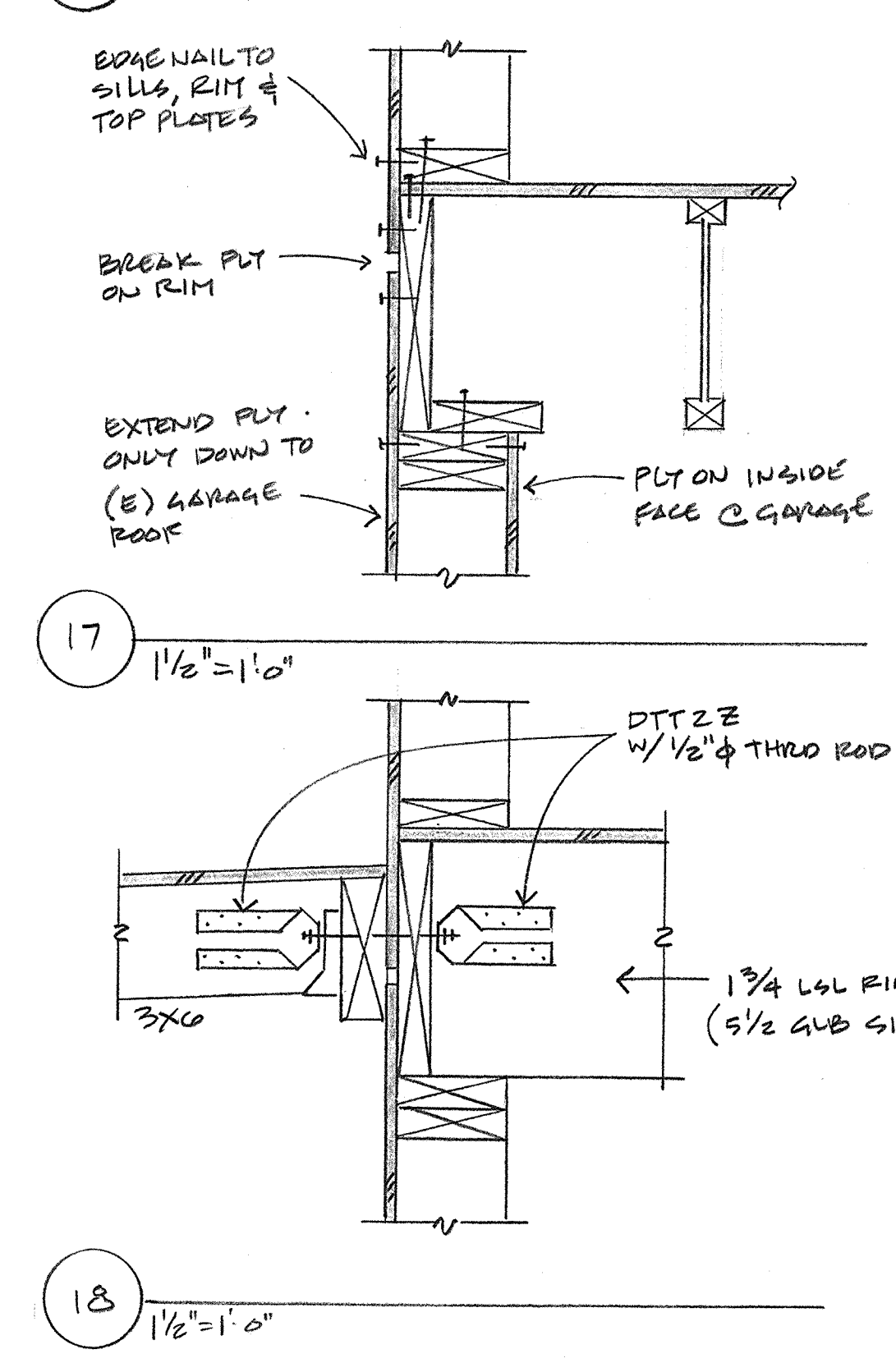
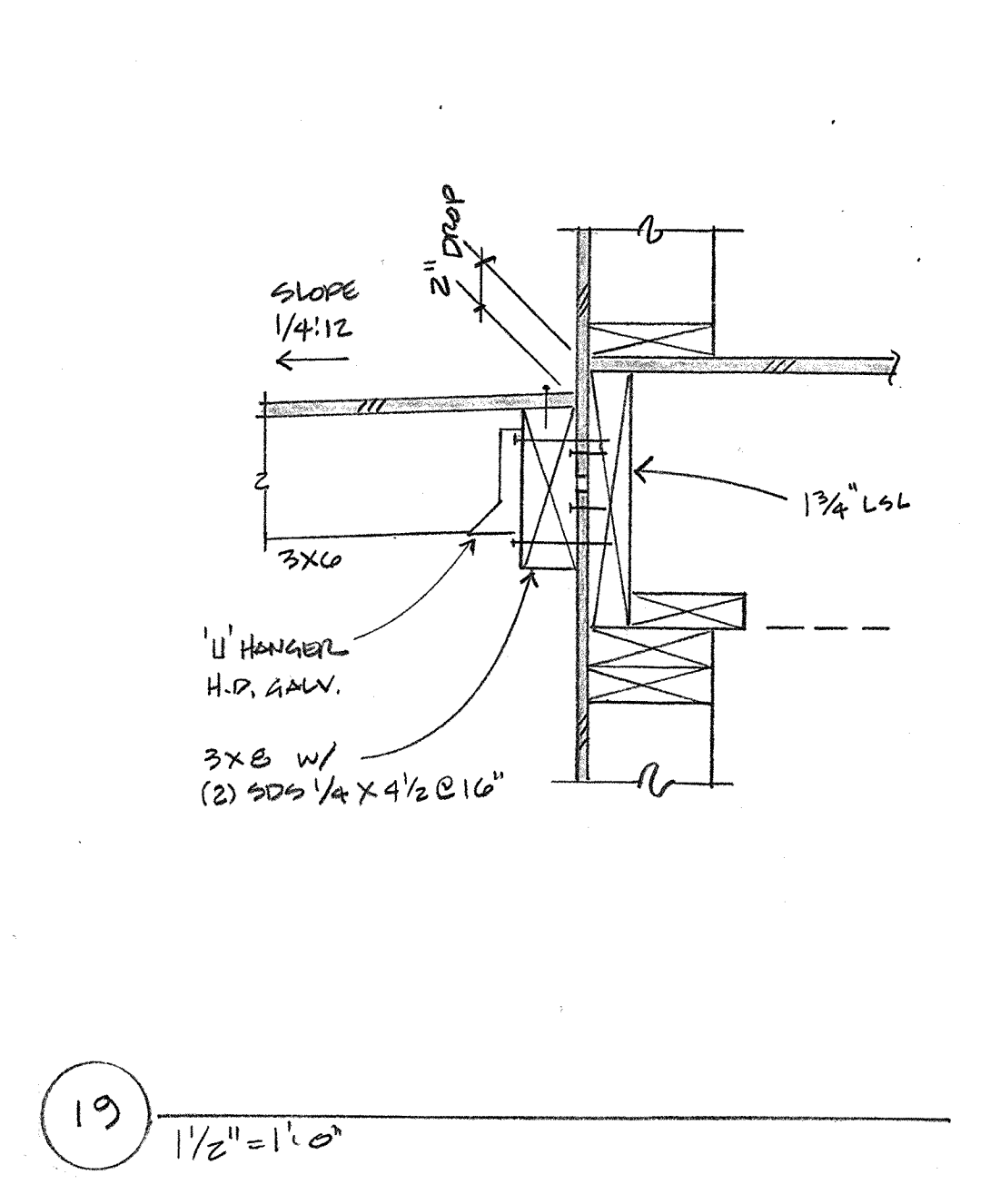
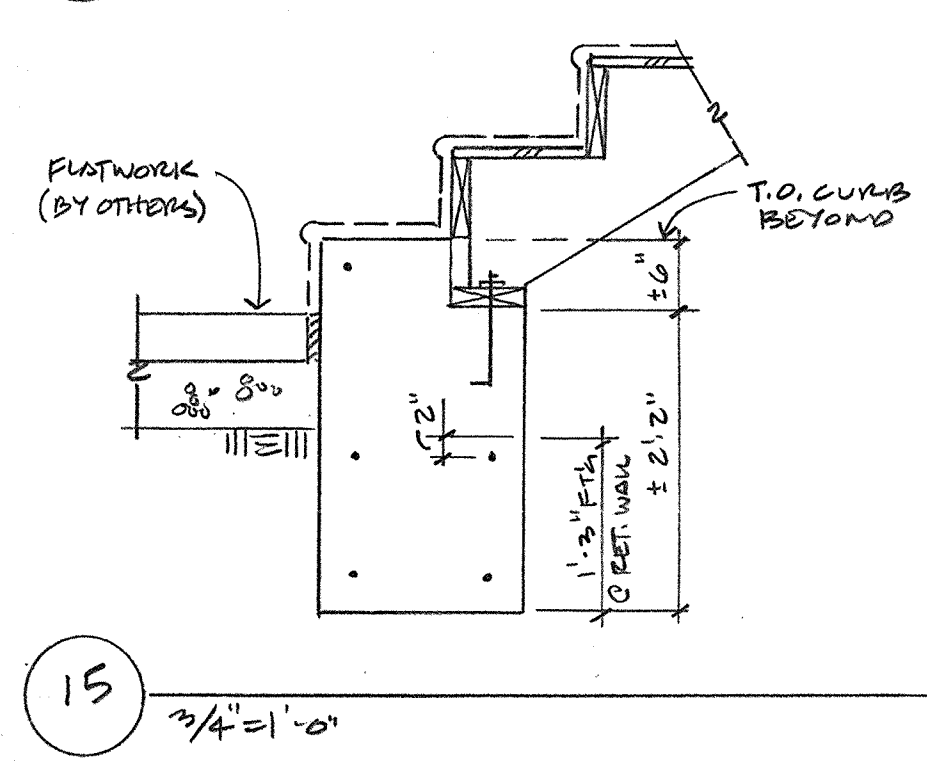
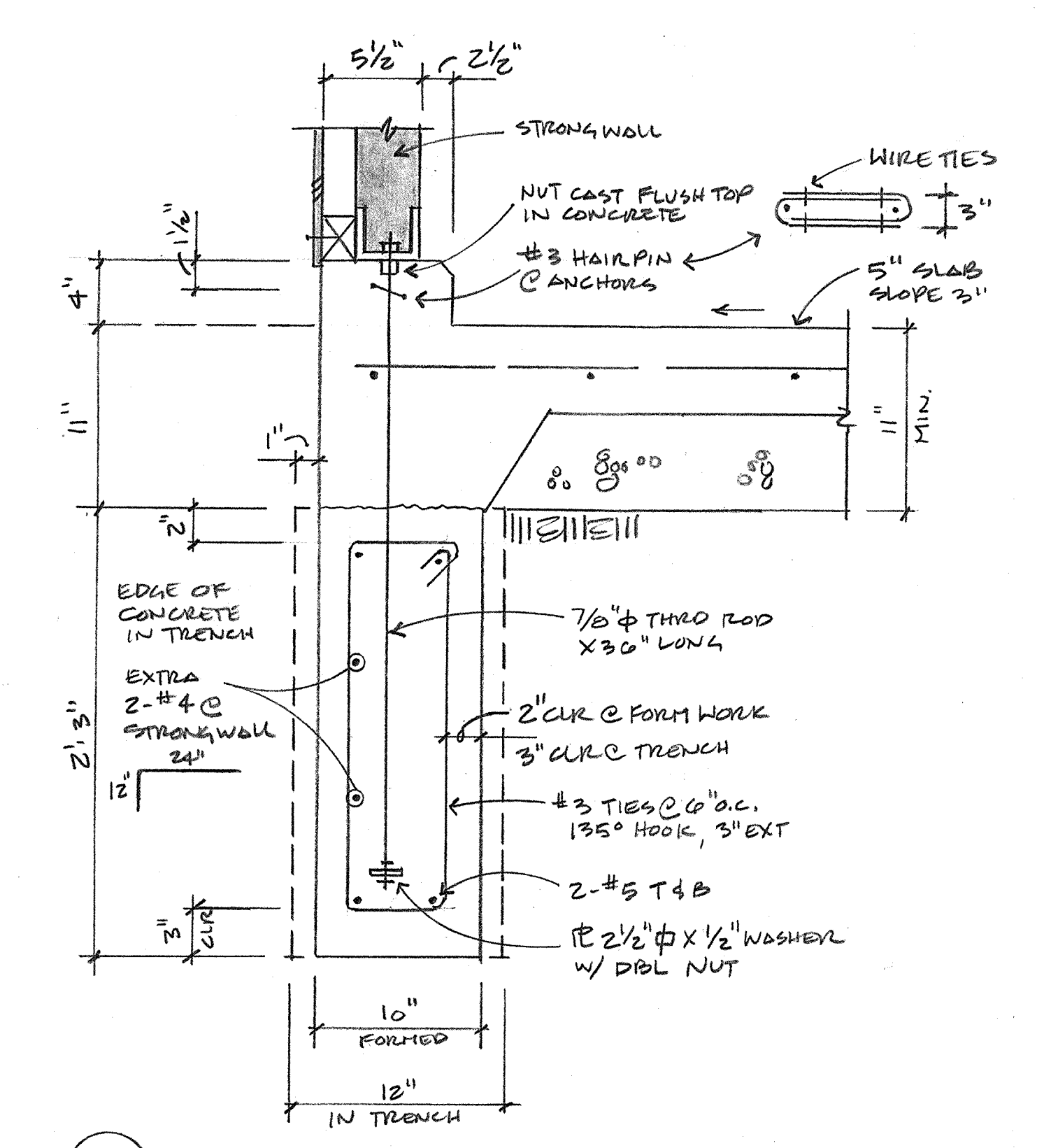
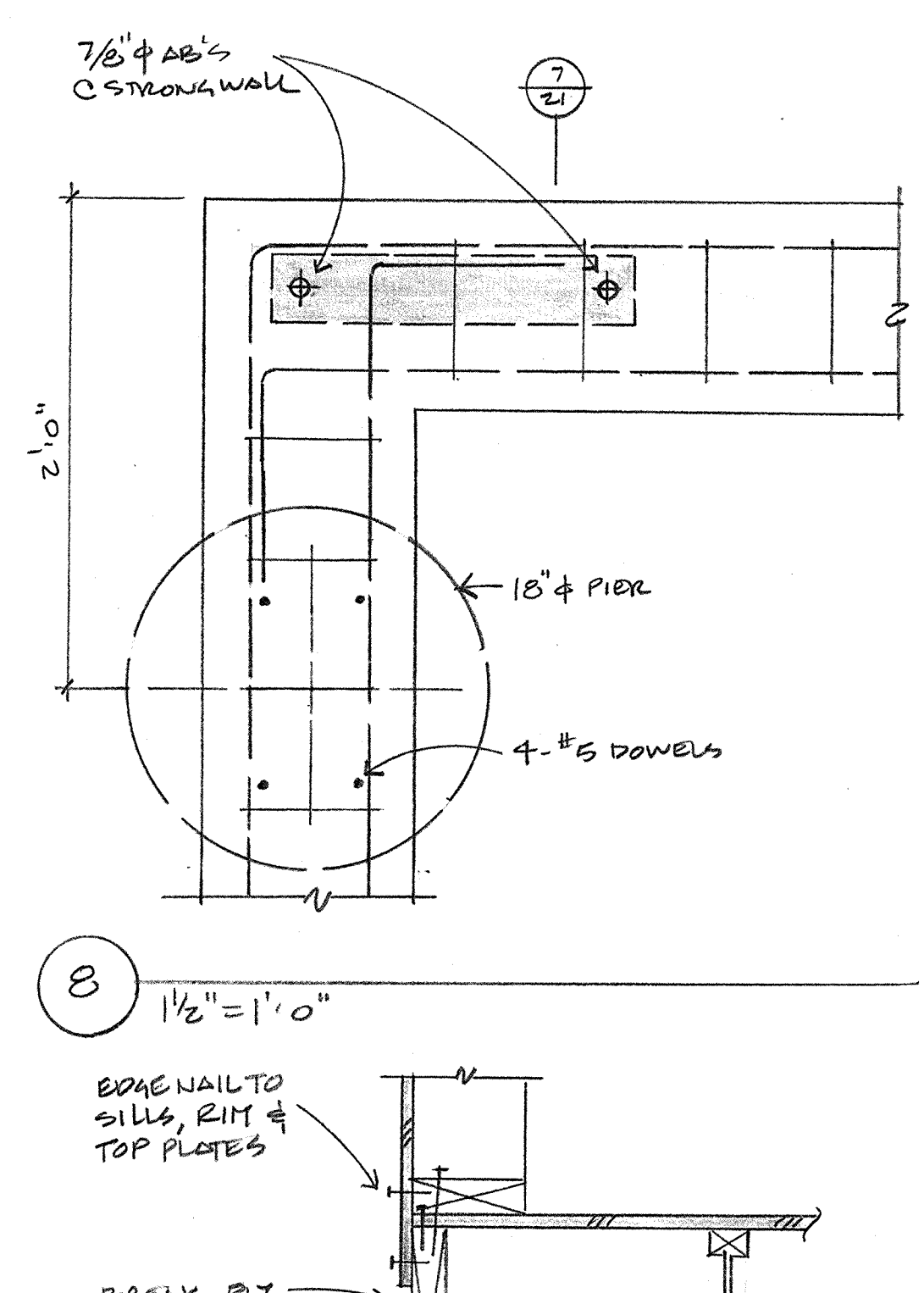
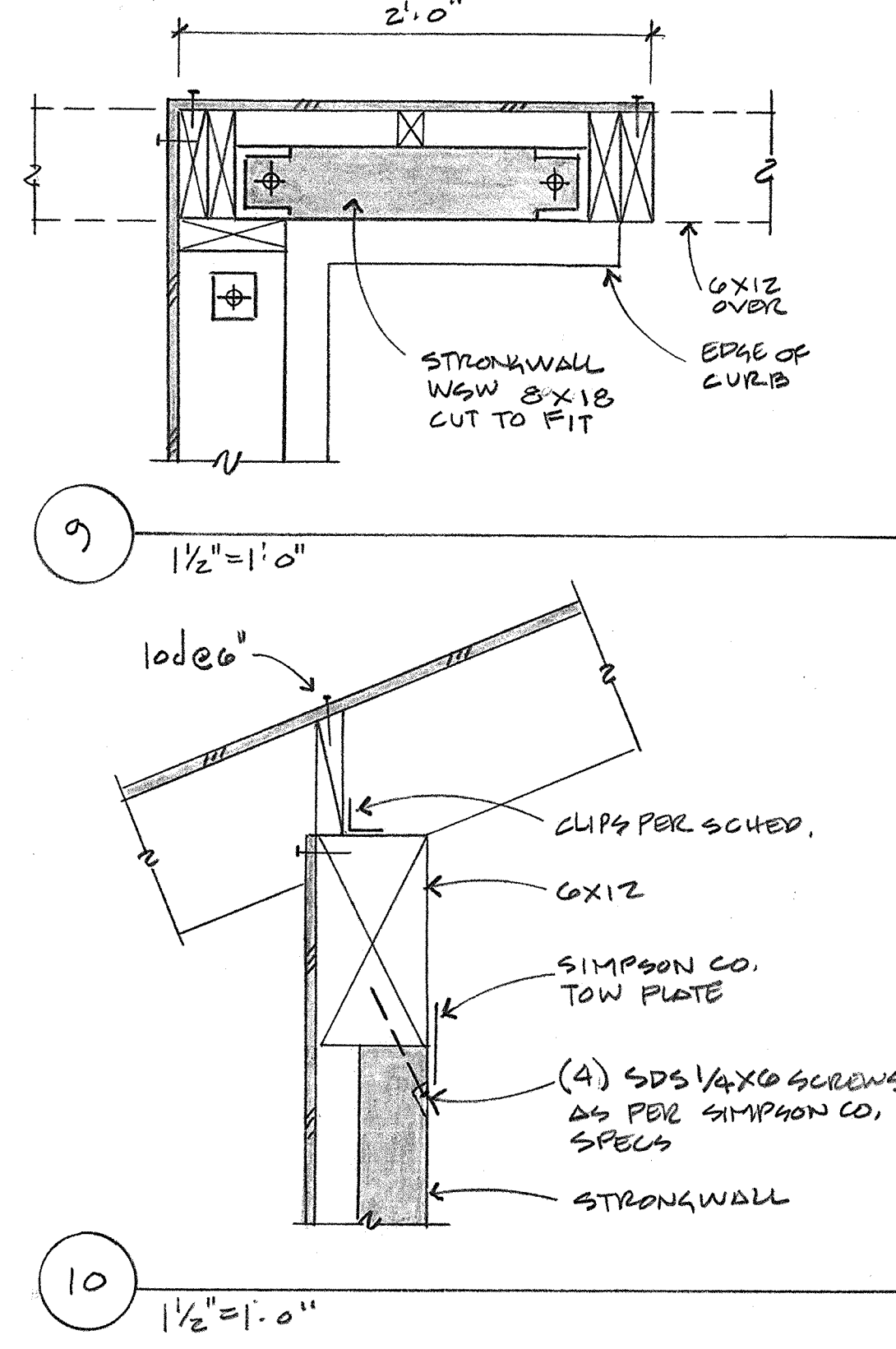
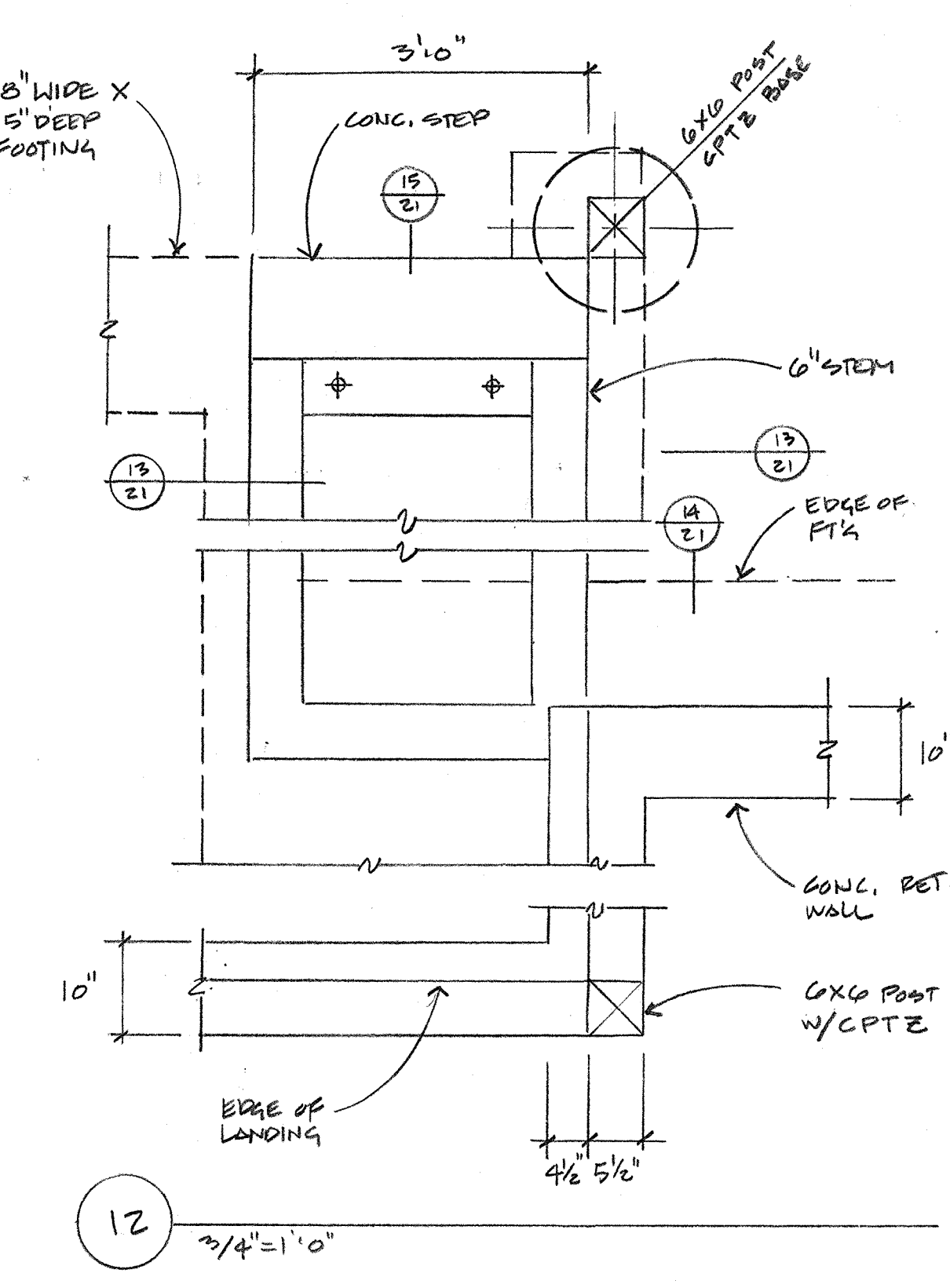
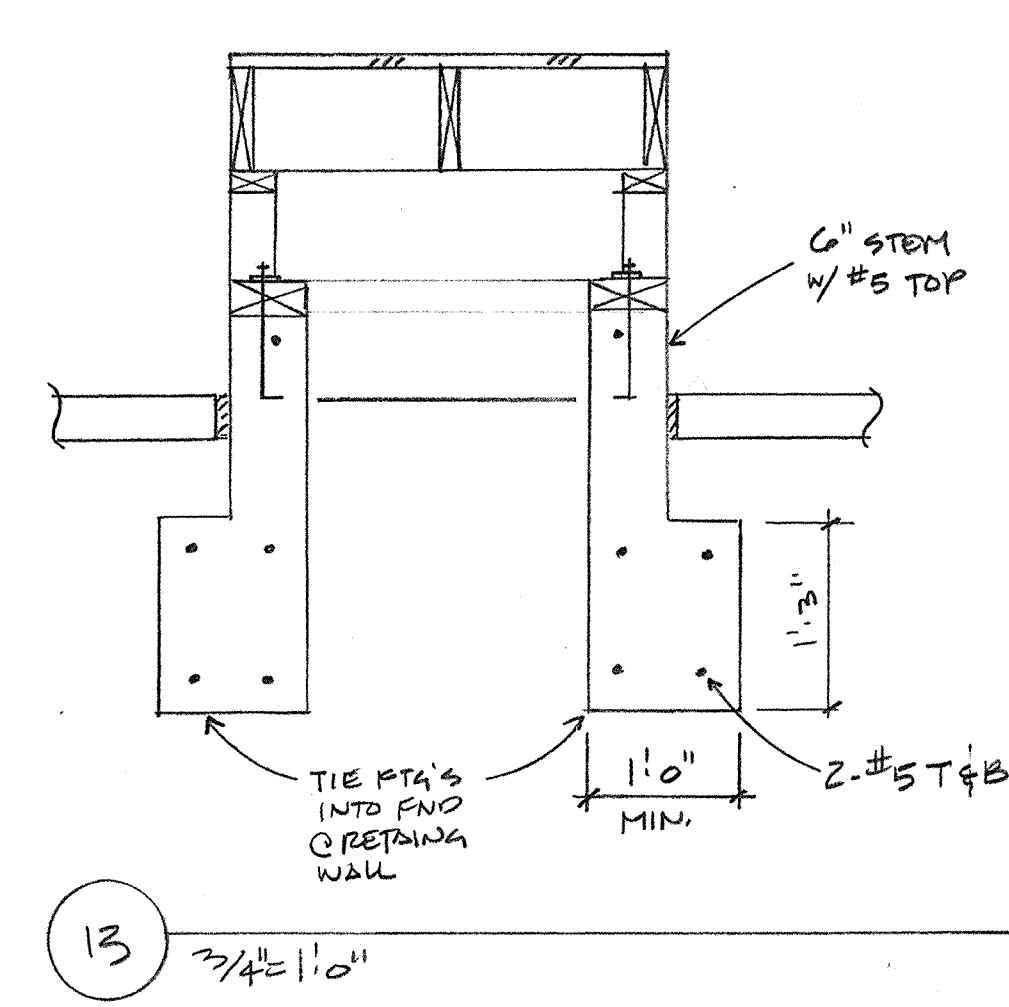
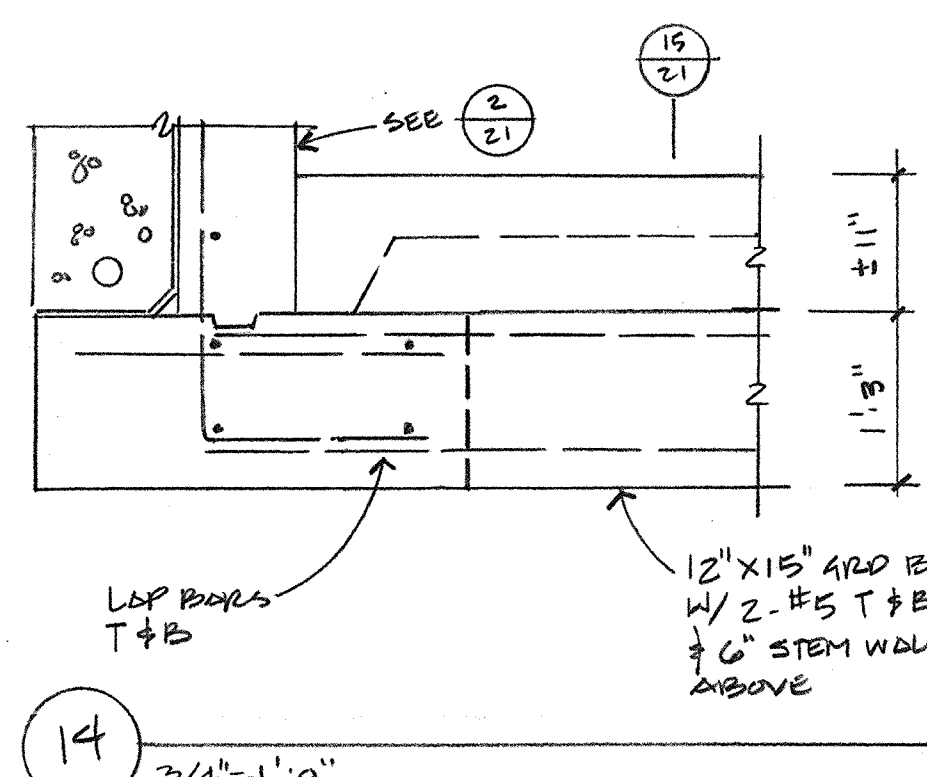
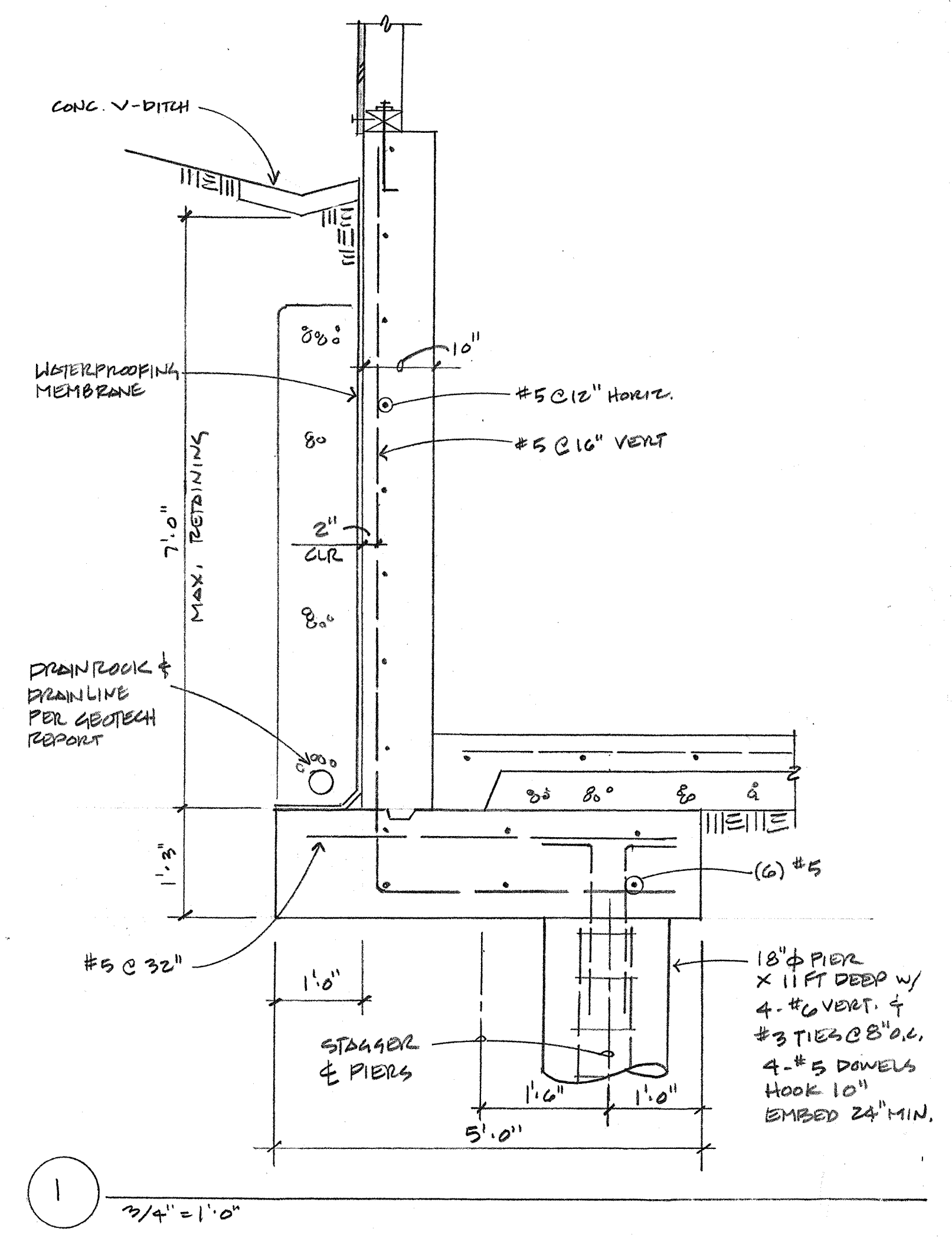
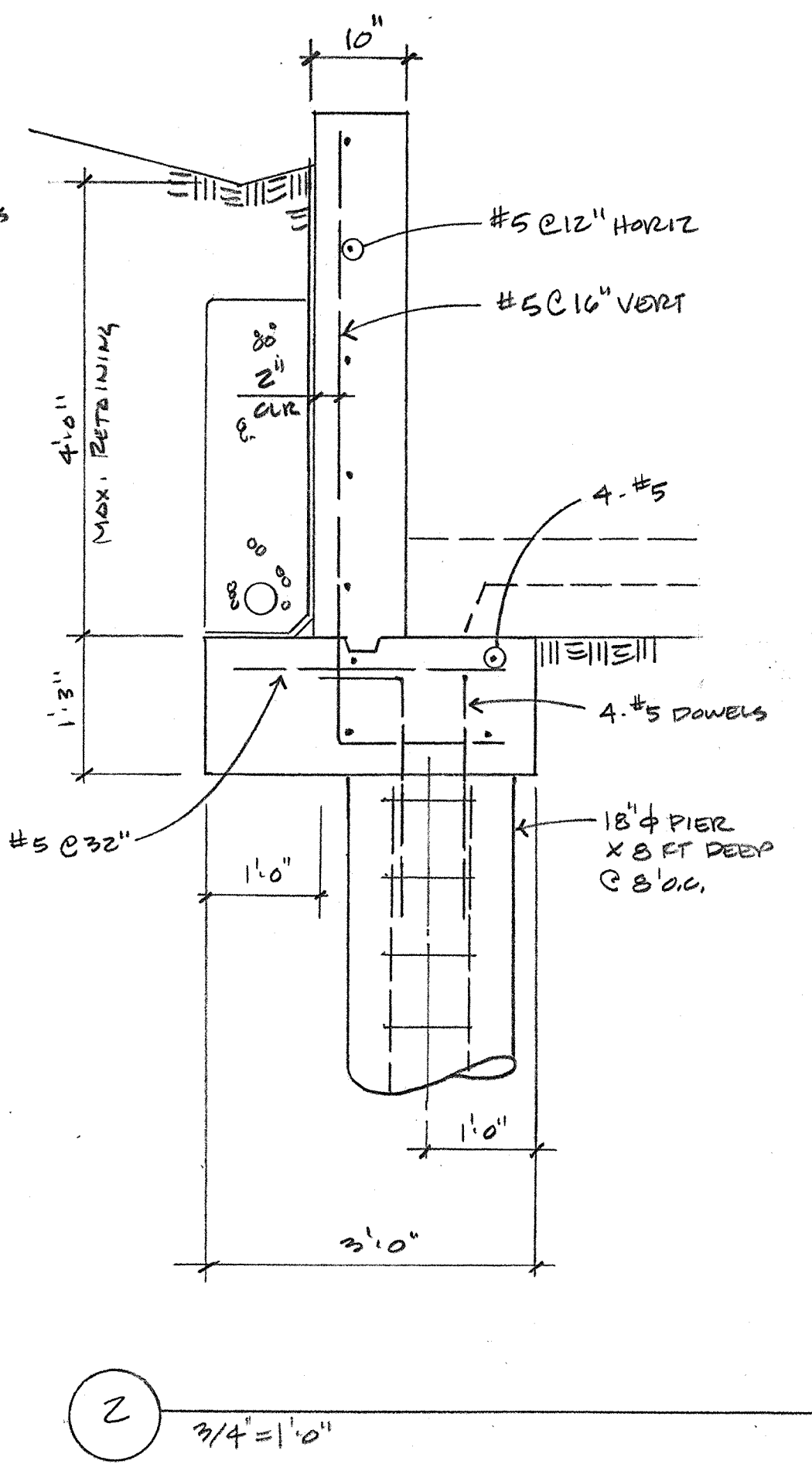
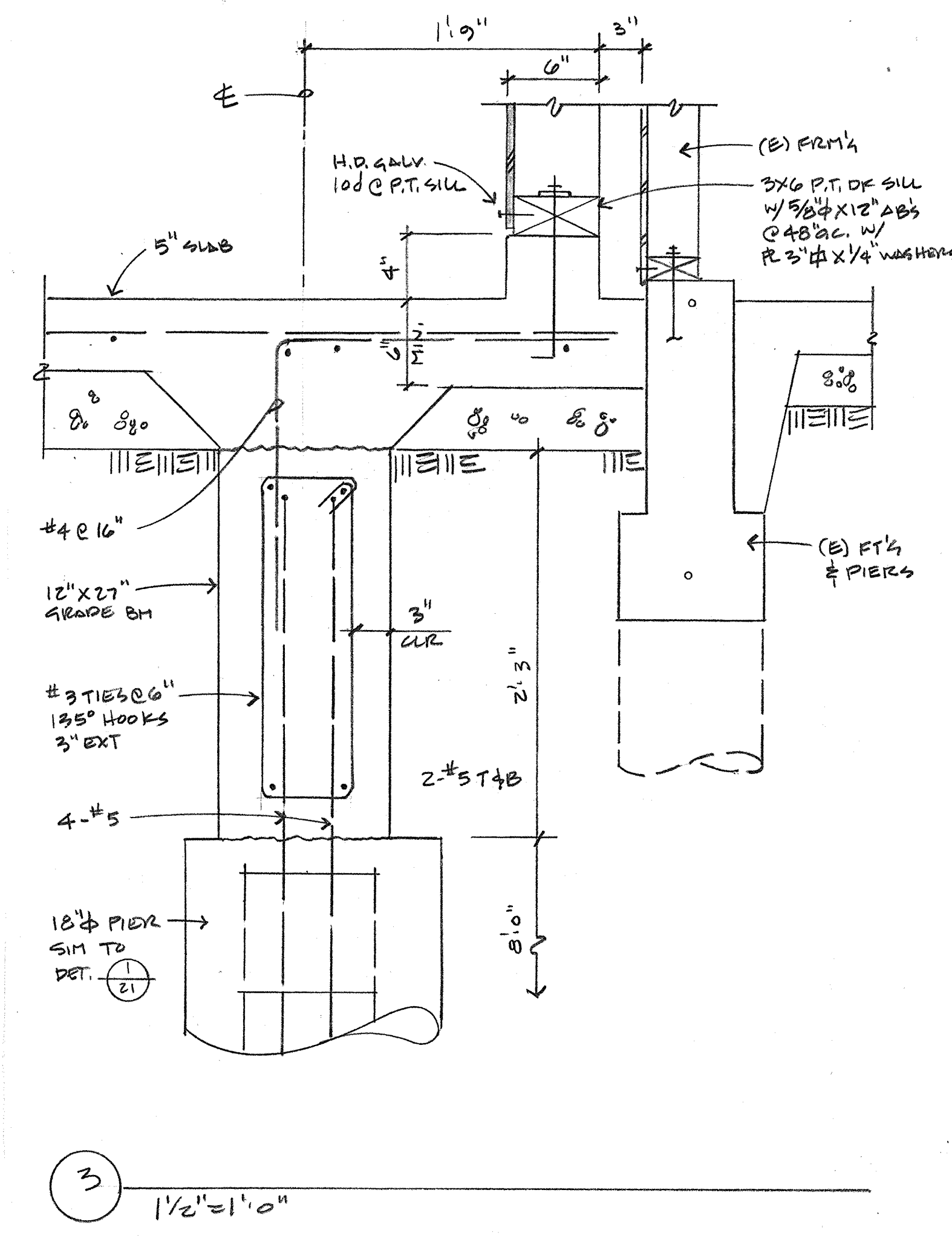
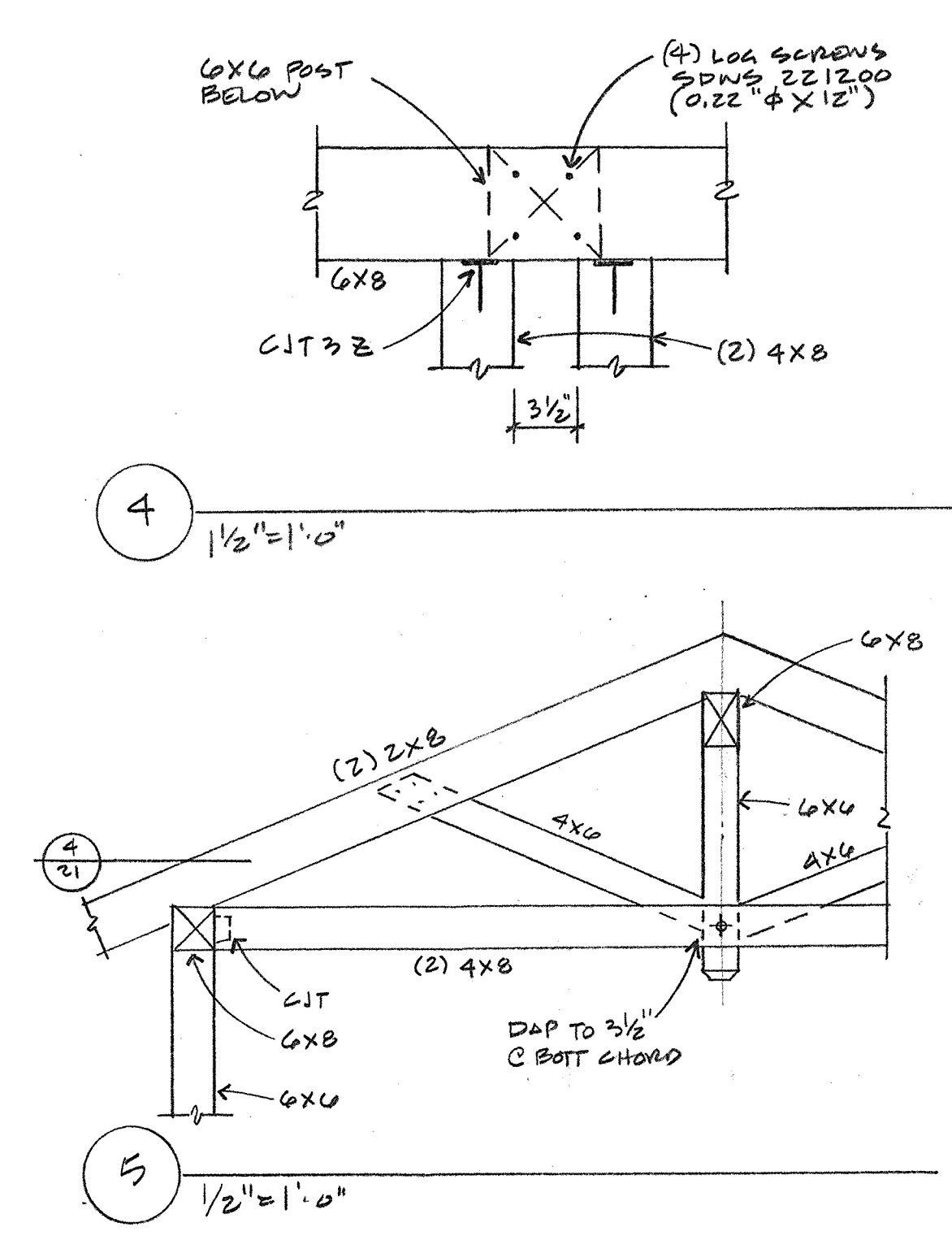
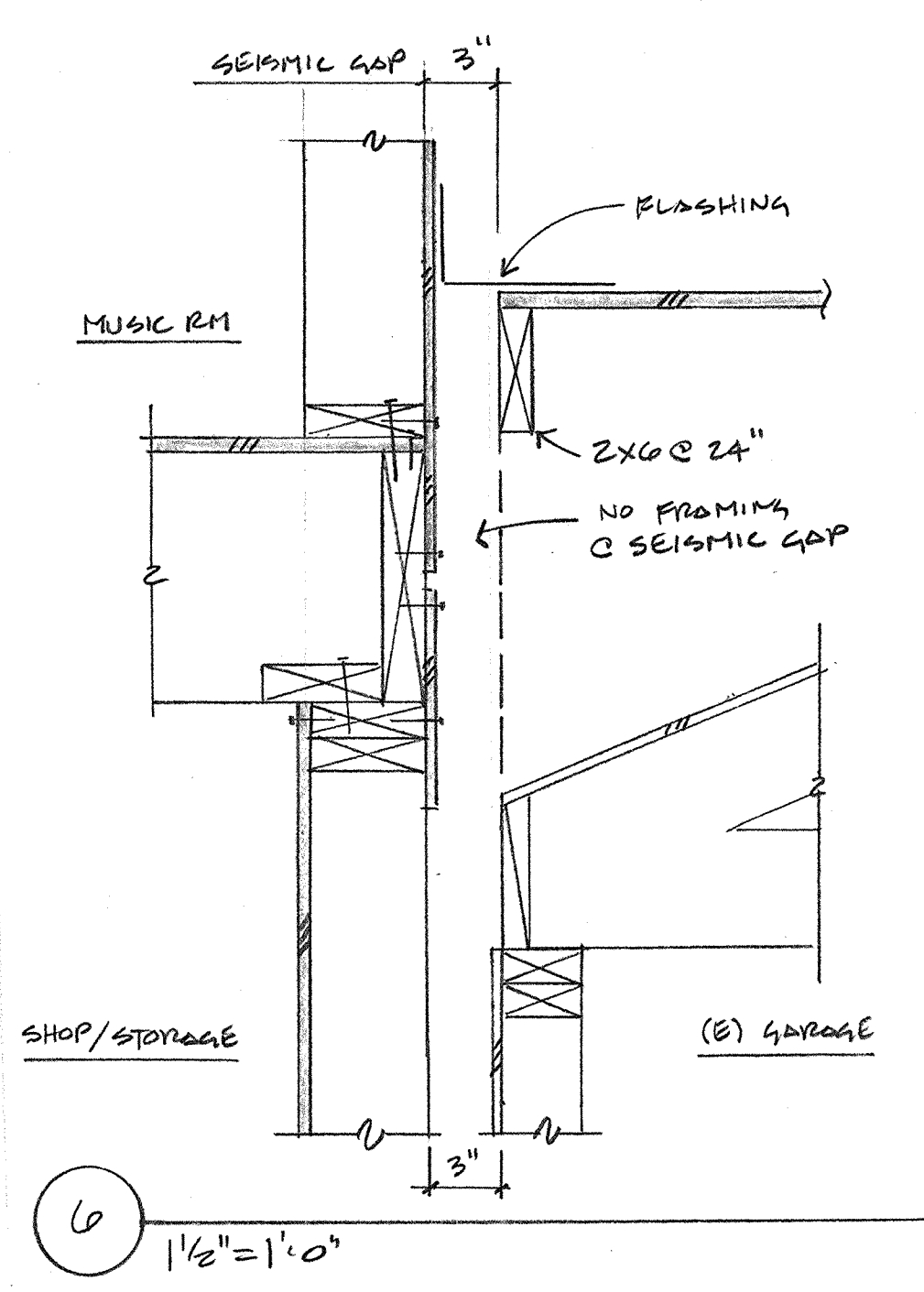
**GARAGE / SHOP / STORAGE FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"



**ADU - FLOOR FRAMING PLAN**  
SCALE: 1/4" = 1'-0"

ALL SOILS WORK AND FOUNDATION PLACEMENT SHALL COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL INVESTIGATION BY CSEARTH, PROJECT NO. 21137C-01R1, DATED JULY 29, 2022.

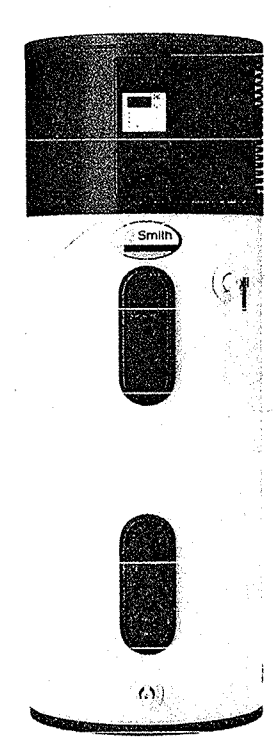




AC Smith COMMERCIAL-GRADE RESIDENTIAL ELECTRIC WATER HEATERS

VOITEX HYBRID ELECTRIC HEAT PUMP WATER HEATER

The Voltex Hybrid Electric Heat Pump Water Heater from A.C. Smith is the most cost effective energy-efficient option available for consumers who want to save money on their utility bills. Voltex can reduce water heating costs up to 75% and provide payback in 2-3 years. With annual savings of \$300 or more, there is no better way to go green than Voltex.



AC Smith COMMERCIAL-GRADE RESIDENTIAL ELECTRIC WATER HEATERS



CONTROL PANEL FEATURES:
- LCD DISPLAY: Shows water temperature and error codes.
- TEMPERATURE ADJUSTMENT: Allows user to set water temperature between 95°F and 140°F.
- ENERGY SAVING MODE: Reduces energy consumption during off-peak hours.

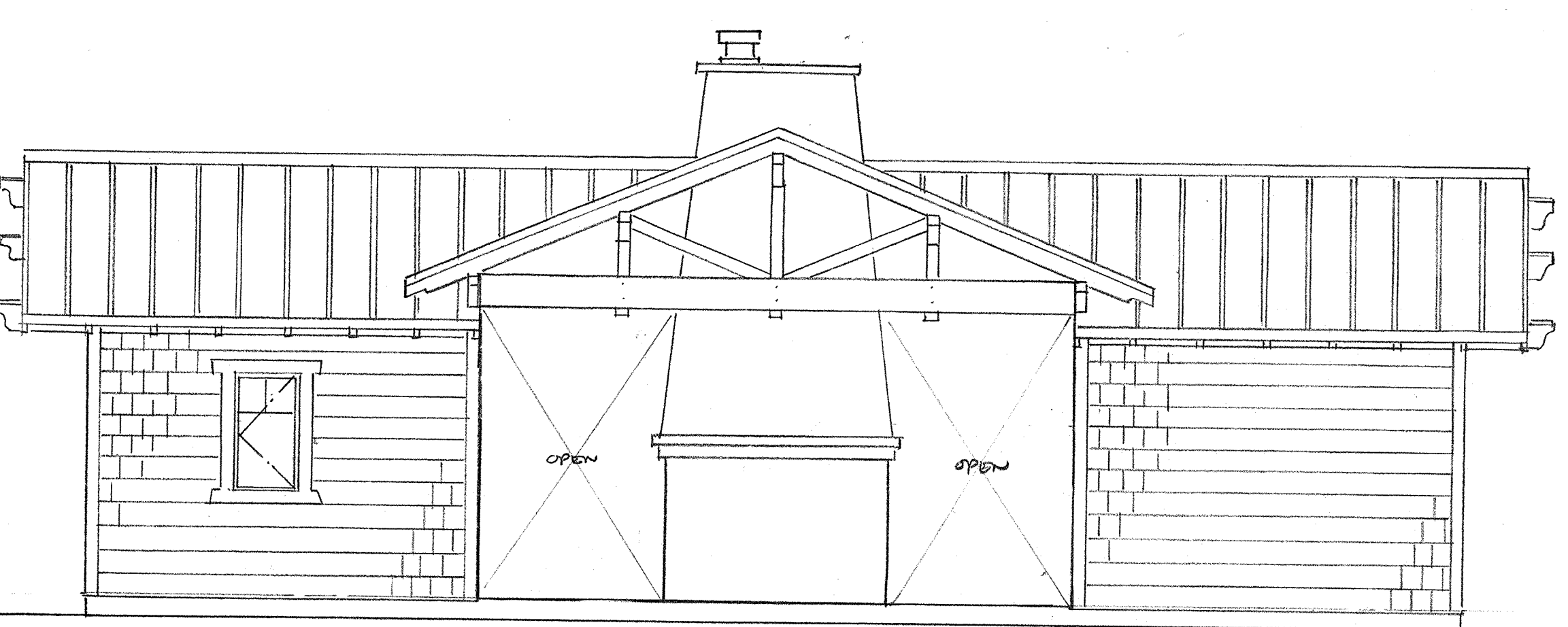
OTHER FEATURES:
- Frost Protection: Prevents freezing in cold climates.
- Backup Heating: Provides additional heat during winter months.
- Quiet Operation: Minimizes noise during operation.

ELECTRICAL SYMBOL LEGEND

- DULEX OUTLET, 1/2" ABOVE FIN. FLOOR, TAMPER RESISTANT, TYPICAL
DULEX OUTLET W/ AFCI FAULT INTERRUPT CIRCUIT
DULEX OUTLET W/ GROUND FAULT & AFCI FAULT INTERRUPT CIRCUIT
DULEX OUTLET W/ GROUND FAULT & AFCI FAULT INTERRUPT CIRCUIT
DULEX OUTLET W/ WATERPROOF COVER
DULEX OUTLET W/ 1/2 SWITCHED
SPECIAL PURPOSE 220 V. OUTLET
LIGHT SWITCH, 42" ABOVE FIN. FLOOR, TYPICAL
LIGHT SWITCH, 3 WAY
LIGHT SWITCH W/ DIMMER
LIGHT SWITCH W/ VACANCY SENSOR
LIGHT, CEILING SURFACE MOUNTED
LIGHT, WALL SURFACE MOUNTED
LIGHT, RECESSED DOWNLIGHT
LIGHT, RECESSED WALL WASHER
LIGHT, RECESSED ADJUSTABLE
LIGHT, RECESSED STEP
LIGHT, LINEAR STRIP
FAN, UL LISTED COMBO
EXHAUST FAN
GARBAGE DISPOSER
TELEPHONE OUTLET
TV OUTLET
DATA OUTLET
SMOKE DETECTOR
COMBO SMOKE/ CO DETECTOR
THERMOSTAT @ 48" ABOVE FIN. FLOOR

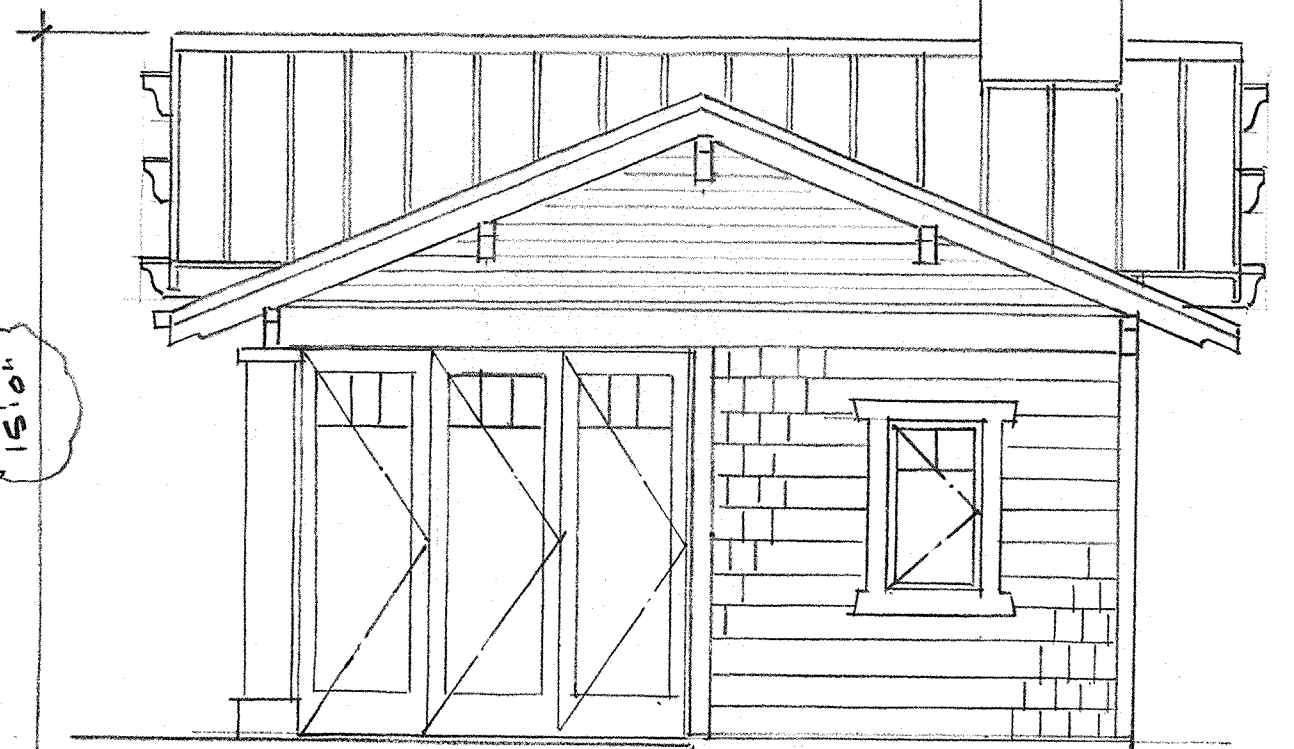
LIGHTING FIXTURE SCHEDULE - POOL CABANA

Table with columns: Tag, Description, Manufacturer, Lamp & Mfg. Includes items like Surface mounted Monopoint LED light fixture, Recessed 4" LED shower light, and Surface mounted LED decorative light fixture.

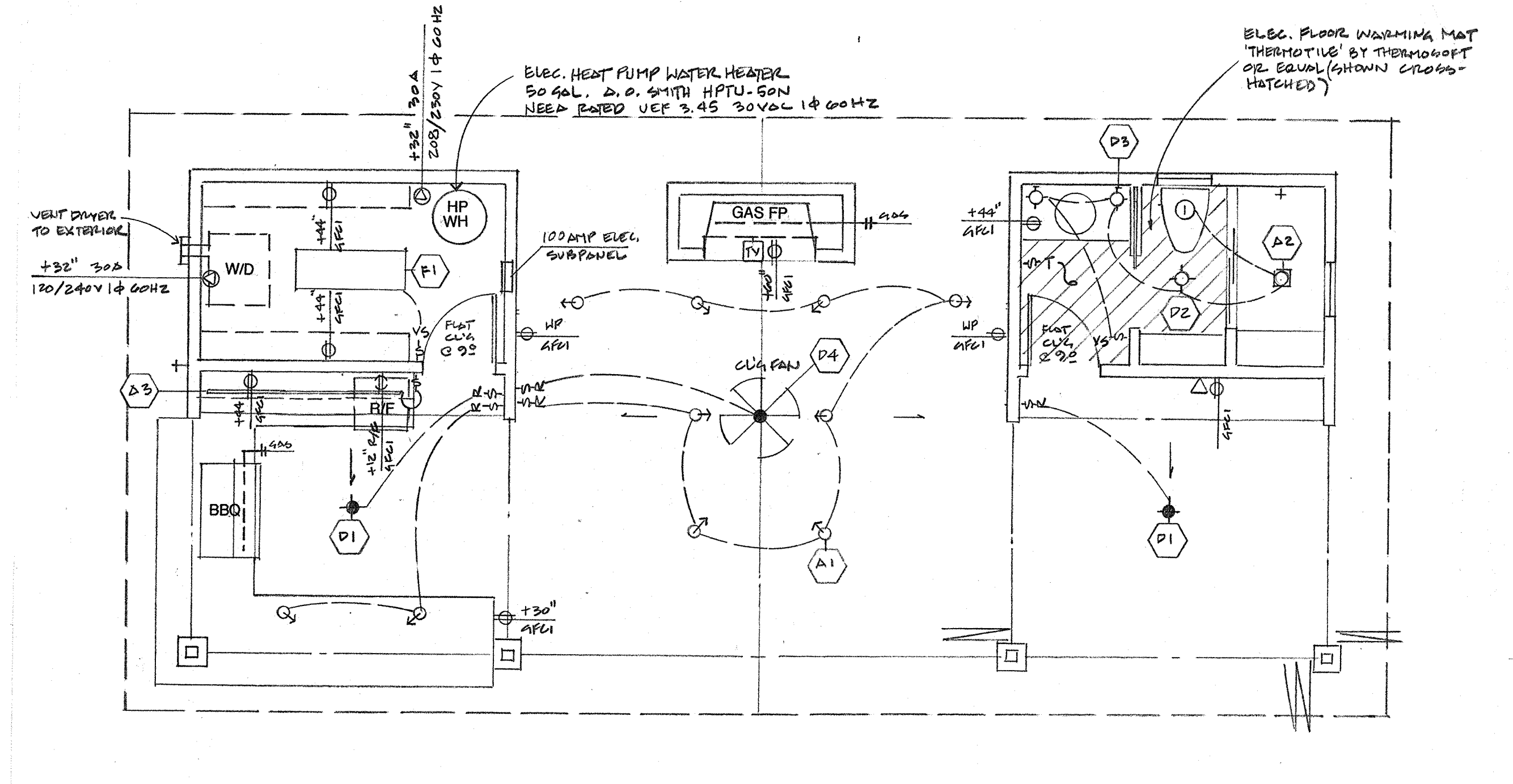


EAST ELEVATION SCALE: 1/4" = 1'-0"

Color/Materials Board: MECHANICAL STORAGE, BATH, EXERCISE. FAR SUMMARY - POOL CABANA: POLYCON / AREA DESIGNATION, DIMENSIONS, AREA (SF).



SOUTH ELEVATION SCALE: 1/4" = 1'-0"

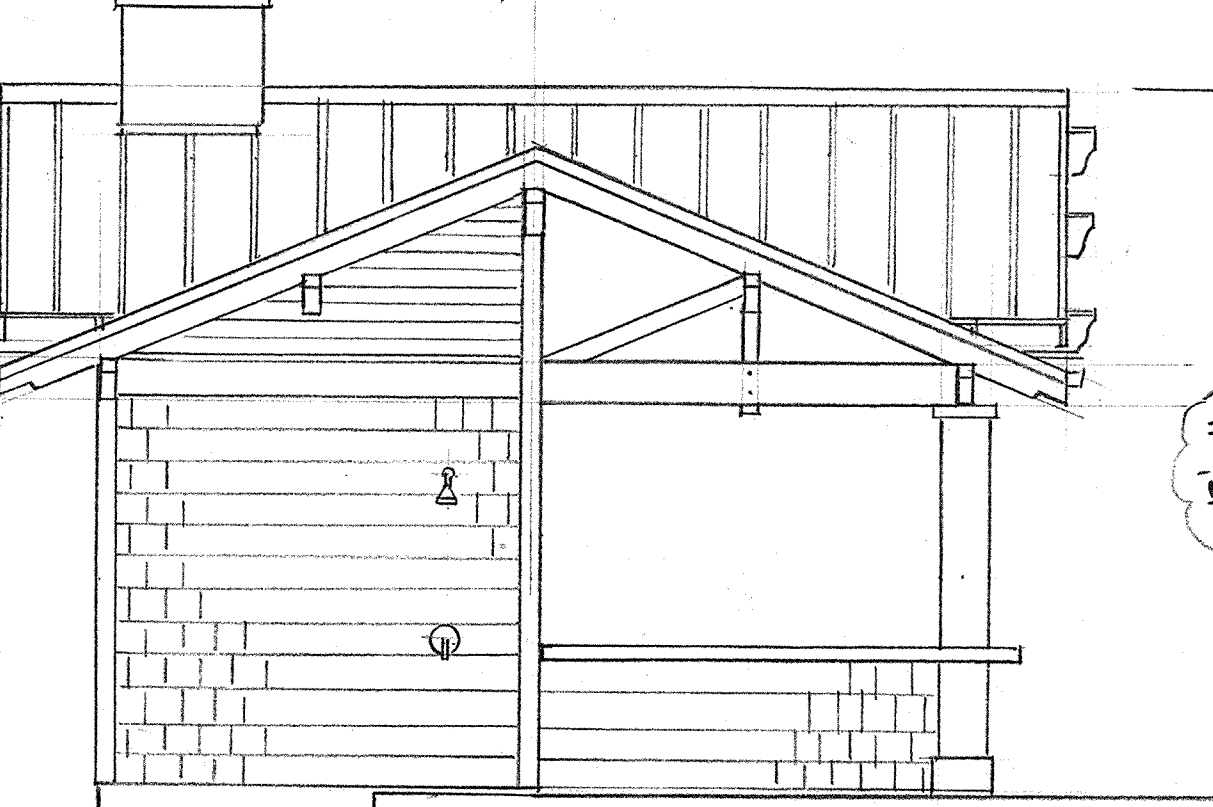


ELECTRICAL SCHEMATIC SCALE: 1/4" = 1'-0"

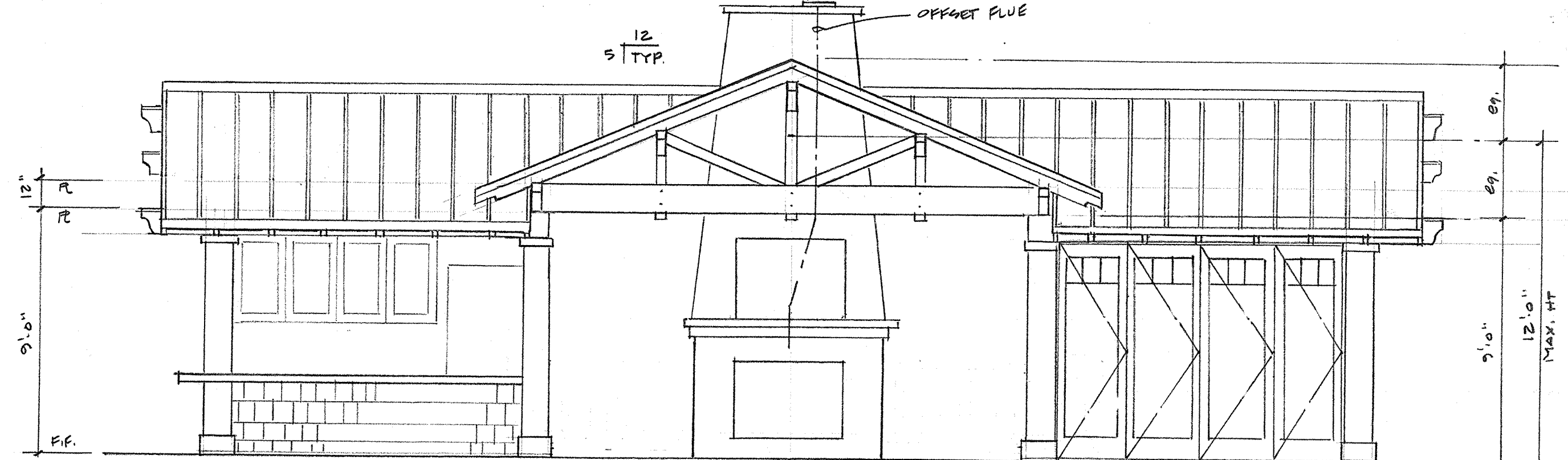
EAST ELEVATION SCALE: 1/4" = 1'-0"

STANDING SEAM METAL ROOFING

Peterson Aluminum Corp., PAC-CLAD 18" wide snap-clad 24 gauge Standing Seam Metal Roofing, UL-580 Class 90 wind uplift, LI-Class A fire rated, installation per mfg. Specs over Dbl. layer 3/4" plywood sheathing nailed w/ 10d @ 6" o.c. edges and 12" o.c. field.



NORTH ELEVATION SCALE: 1/4" = 1'-0"



WEST ELEVATION SCALE: 1/4" = 1'-0"

PLUMBING NOTES

- 1 The Plumbing System shall be installed in accordance with the latest edition of the Plumbing Code. Provide all equipment as shown on drawings and as needed for a complete and working system.
2 Provide clean outs for every aggregate change in direction exceeding 135 degrees.
3 Waste lines shall be ABS. Water supply piping shall be Type L copper below grade and Type L copper or PEX tubing within the building.
4 For the purpose of clarity and legibility, these drawings are essentially diagrammatic to the extent that many offsets, bends, special fittings and exact locations are not indicated.
5 Provide pressure balance, thermostatic or combination pressure balance/thermostatic mixing valves at showers and tub-showers that provide relief valves shall extend to the outside of the building and terminate not more than two feet nor less than six inches above the ground and pointed downward.
6 All building water supply systems in which quick acting valves (washing machines, dishwashers, etc., are installed, shall be provided with devices to absorb high pressures resulting from the quick closing of these valves.
7 Water lines shall be insulated per CA Energy Code as follows:
8 Provide 'DSA Certified' earthquake actuated shut-off valve at gas meter or regulator.
9 No domestic dishwasher machine shall be directly connected to a drainage system or food waste disposer without the use of an approved dishwasher air gap fitting on the discharge side of the dishwasher machine.
10 Control valves and shower heads shall be located on the sidewall of shower compartment or otherwise arranged so that the shower head does not discharge directly at the entrance to the compartment and the bather can adjust the valves prior to stepping into the shower spray per CPC 408.3

PLUMBING FIXTURE MAXIMUM FLOW RATES

Table listing flow rates for Toilet (1.28 GPF), Lavatory Faucets (1.2 GPM @ 60 PSI), Tub / Shower Valves (1.8 GPF @ 80 PSI), and Kitchen Faucets (1.8 GPM @ 60 PSI).

PLUMBING FIXTURE CONNECTION SCHEDULE

Table with columns: SYMBOL, TYPE, WASTE, VENT, HOT, COLD. Lists connections for Lavatory, Toilet, Tub / Shower, Kitchen Sink, Washer, and Hose Bibb.

DOOR SCHEDULE - POOL CABANA

Table with columns: SYM, SIZE, TYPE, QUAN, REMARKS. Lists doors like Stain Grade, 3-Panel, Interior S.C., and Exterior 3W Bi-fold.

WINDOW SCHEDULE - POOL CABANA

Table with columns: SYM, SIZE, TYPE, QUAN, REMARKS. Lists Casement windows and Clad/Wood Sash windows.

FINISH SCHEDULE NOTES

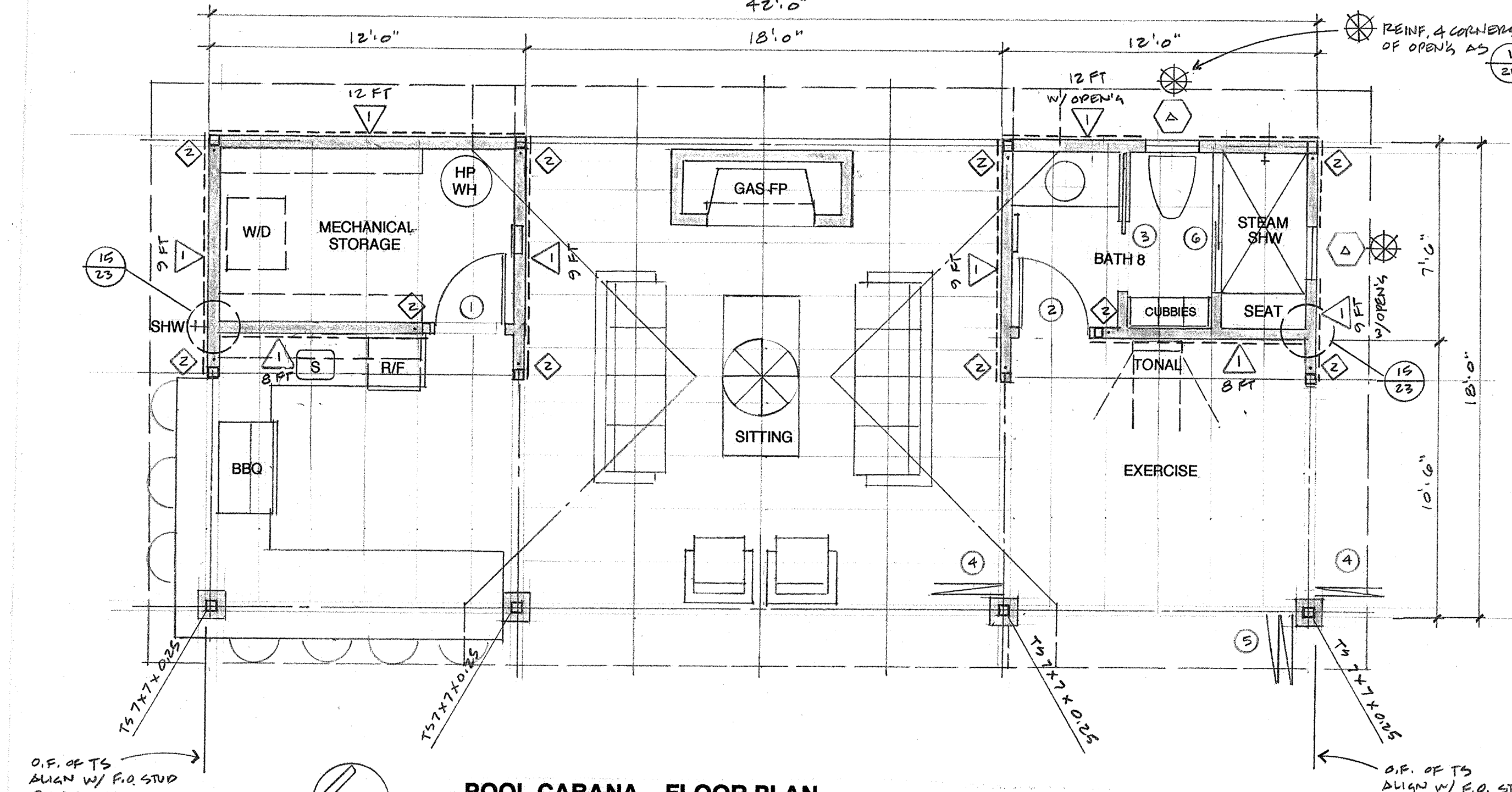
- 1 VERIFY ALL FINISHES WITH OWNER
2 ALL CLOSET FLOORING AND BASEBOARDS SHALL MATCH THE ADJACENT ROOM
3 PROVIDE A SMOOTH, HARD, NON-ABSORBENT SURFACE OVER MOISTURE RESISTANT UNDERLAYMENT TO A HEIGHT OF 72" ABOVE THE DRAIN OUTLET IN ALL SHOWER AND TUB LOCATIONS.
4 UNDERLYING BASE FOR ALL TILE SHALL BE CEMENT, FIBER-CEMENT OR GLASS MAT GYPSUM BACKER BOARDS IN COMPLIANCE WITH ASTM C1178, C1288 OR C1395 AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. IT SHALL BE USED AS A BASE FOR WALL TILE IN TUB AND SHOWER AREAS AND AS CEILING PANELS IN SHOWER AREAS.

VENTILATION NOTES

- 1 All bathroom fans are to be used for Local Ventilation Exhaust. Minimum 50 CFM fan tested at a static pressure of .25 wc and rated @ 3 zones or less required to be installed. Fan must be attached to a minimum 4" duct and no longer than 70' of flex duct. Subtract 15' of allowed length for each elbow.

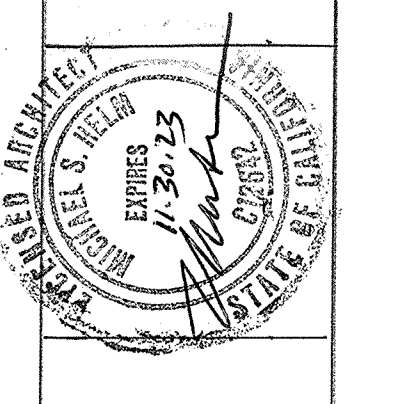
CONSTRUCTION SCHEDULE - POOL CABANA

- FOUNDATIONS: 12" wide X 27" deep concrete grade beam with 2 - #5 bars T & B w/ #3 ties @ 6" o.c. on 18" diameter drilled piers X 8' deep (min.)
FLOORS: Flagstone on mortar bed on 5" thick concrete slab w/ #4 bars @ 18" o.c. each way, on 15 ml vapor barrier on 6" crushed rock
WALLS: 5/16" James Hardie fiber cement horizontal siding over TYVEK house wrap on 5/8" Type 'X' exterior gypsum sheathing on 7/16" CDX plywood or OSB sheathing, nailed w/ 10d @ 6" o.c. edges and 12" o.c. field.
ROOF: Class B (min.) standing seam metal roofing, install per mfg. specs over Dbl. layer 3/4" plywood sheathing on 1 1/2" CDX plywood sheathing, w/ #6 X 1-1/2" screws @ 6" o.c. edges and 12" o.c. field over 2X decking on 5X8 Rattens @ 24" o.c. Underlayment shall comply with ASTM D226 Type I, ASTM Type I, II, III or IV; ASTM D6757, and shall bear a label indicating compliance to the standard designation.
GLITTERS & DOWNSPOUTS: 16 oz. copper beveled gutters w/ 2" diameter round downspouts, deposit into existing landscaped areas. Gutters shall be provided with leaf/debris protection.
ROOF / WALL FLASHINGS: 16 oz. copper where shown or required. Fan flash at ext. door sills with 16 oz. copper solder all joints, typical.
WINDOWS & EXT. GLASS DRs: Jeld-Wen - Alum. Clad/Wood sash w/ Dbl. insulated Tempered Low-E glass, provide screens at all operable windows. Exterior door assemblies shall conform to SFM 12-7A-1 requirements.
INSULATION: EXT. WALLS R-23 high density fiberglass batts
ROOF JACKS: Provide neoprene gaskets and 16 oz. copper roof jack / rain cap, typical. All exhaust vents shall be located a min. of 4' from or 1' above all roof or wall openings per CMC. All plumbing vents shall be located a min. of 10' from or 3' above all roof or wall openings per CPC.
WALL PENETRATIONS: Use weatherproofing wall jacks by QUICKFLASH or approved equal for plumbing, electrical and mechanical penetrations.
PAINTS, STAINS, ADHESIVES & SEALERS: Use Low / No VOC, water based products and solvent-free adhesives, typical.
PLUMBING: Install Low-flow toilets. Install Low-flow shower heads with chlorine filters.
CABINETS & TRIM: Use formaldehyde-free particle board and MDF by MEDITE or approved equal for all cabinets and trim applications



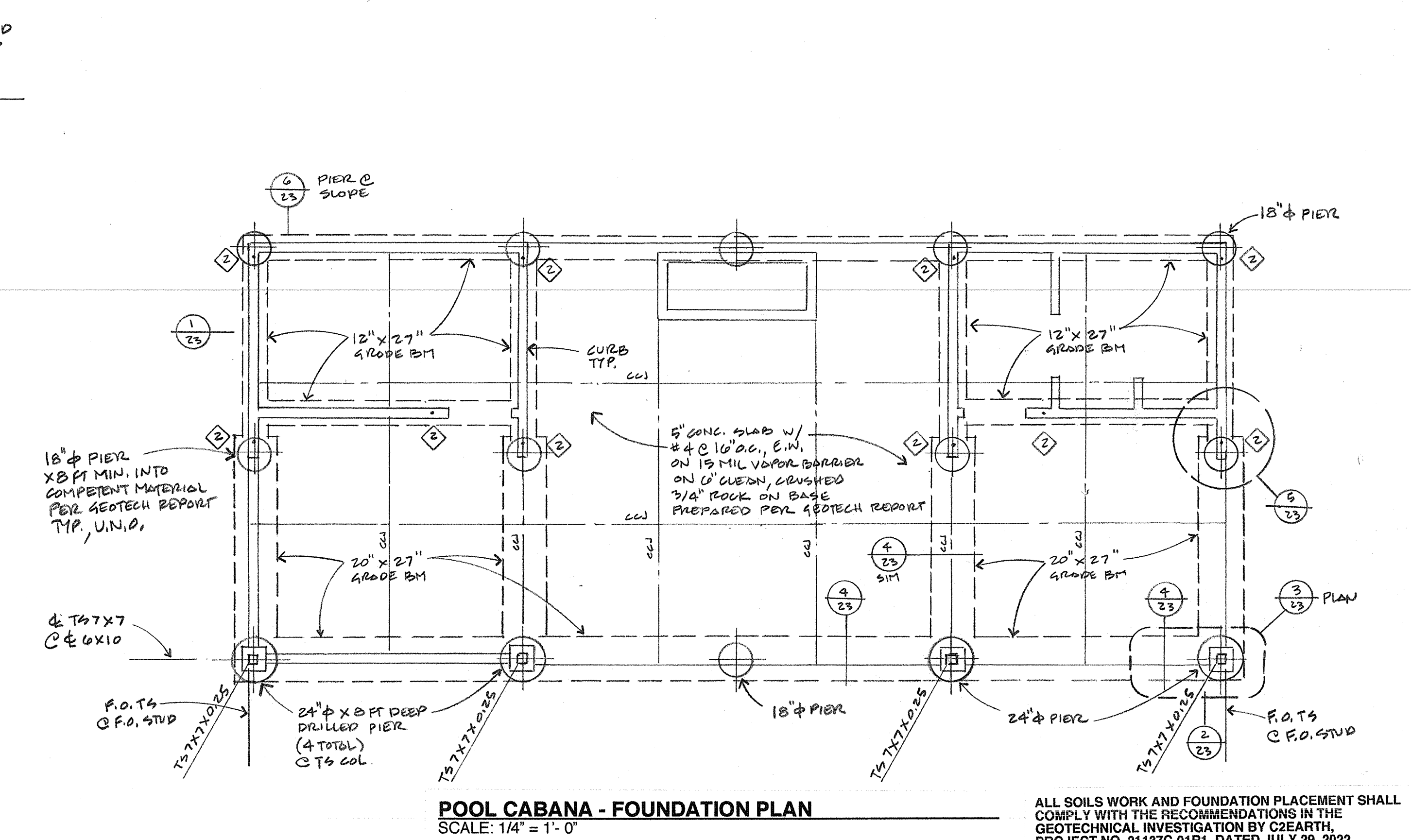
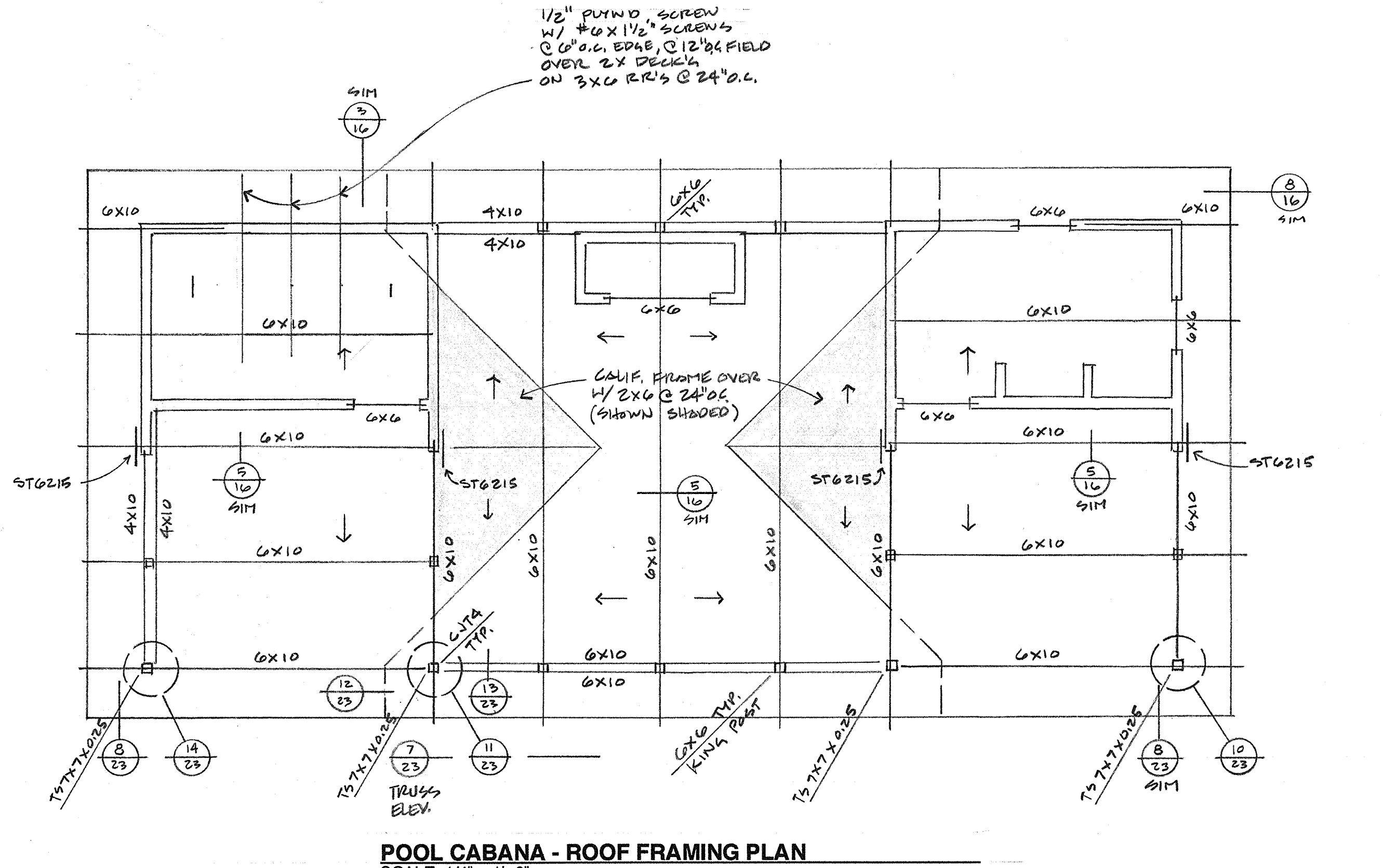
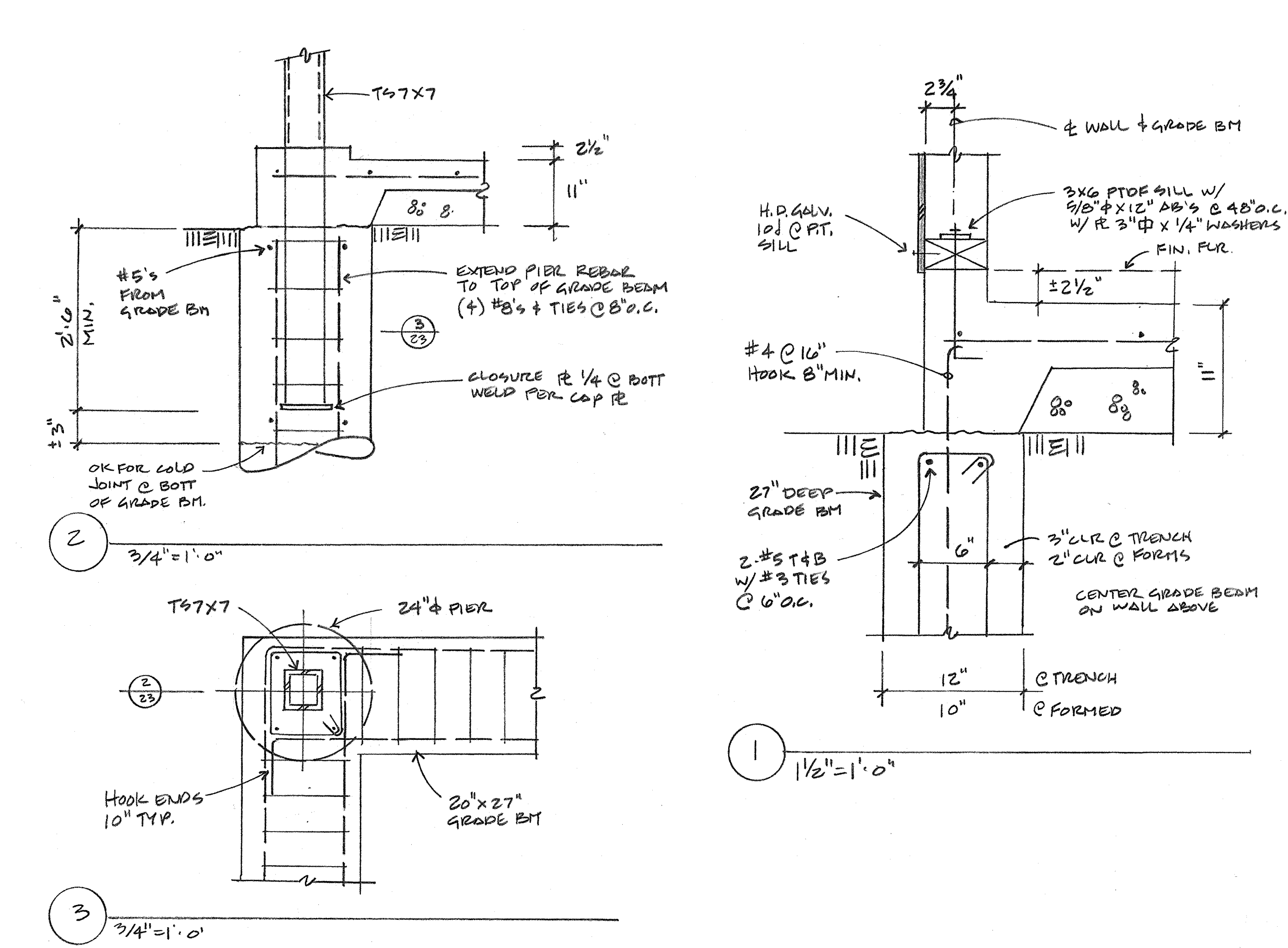
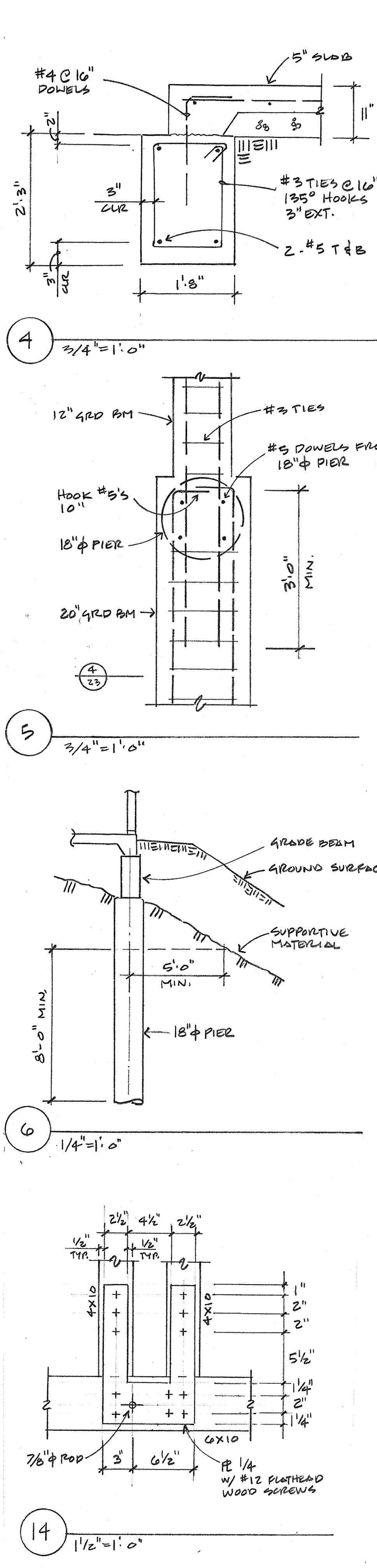
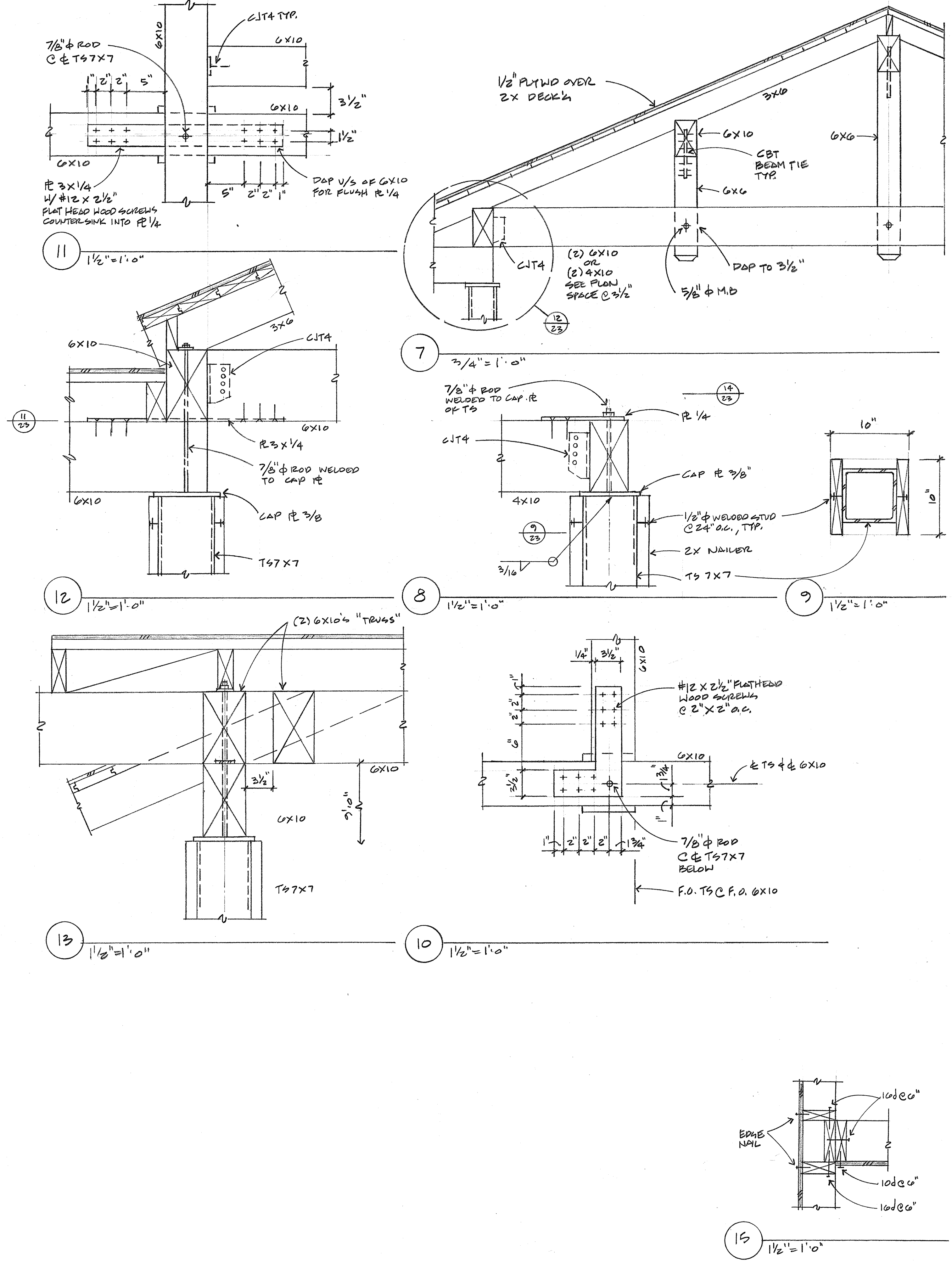
POOL CABANA - FLOOR PLAN SCALE: 1/4" = 1'-0"

Professional seal and contact information for Michael Helm, AIA Architect & Associates, 200 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 475-5386.

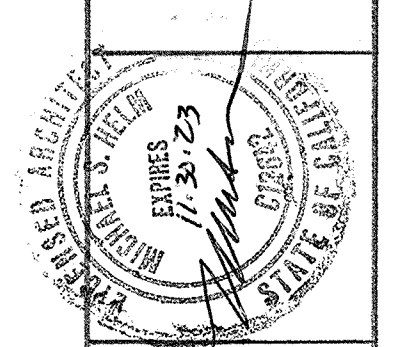


REMODEL & ADDITIONS TO THE RENEW RESIDENCE 14500 ARNERICH HILL ROAD - APRN 537-12-012 LOS GATOS, CALIFORNIA

Project tracking table with columns for Date, Location, and Status. Includes dates like 11-19-22 and 1/4/23, and a large '22' at the bottom.



ALL SOILS WORK AND FOUNDATION PLACEMENT SHALL COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL INVESTIGATION BY GEARTH. PROJECT NO. 21157C-01F1, DATED JULY 29, 2022.



# QUIK-SHIELD® 118

Ultra-Efficient Closed-Cell Spray Foam

**QUICK-SHIELD® 118** is the first Ultra-Efficient closed-cell, spray foam on the market today. It is specially formulated to increase jobsite efficiency, decrease labor and overhead costs, reduce jobsite risk, and deliver the lowest cost installed.

**FEATURE-RICH:**

- Ultra lift-up-to 8' applications
- Robust Formulation
- Long-Range Application

**EXCEPTIONAL CONTRACTOR VALUE:**

- Up to 50% increase in jobsite efficiency
- Keeps making good foam, even under adverse conditions
- Up to 20' application range

**TYPICAL PHYSICAL PROPERTIES\***

Core Density (minimum, lb/ft <sup>3</sup> )	D-902	1.8 - 2.0
Water Vapor Permeance at 12" (perms/in)	E-94	0.93
Water Absorption (%)	D-942	1
Dimensional Stability (%)	D-226	<3
Tensile Strength (psi)	D-822	>32
Compressive Strength (psi)	D-823	25
Air Leakage (L/s/ft²)	E-283	<0.02
Air Permeance at 1" (L/s/ft²)	E278-15	<0.02

**THERMAL BARRIER**  
IC 105 (req. min)

**RELATIVE INSULATION VALUES (approx):**

R-value at 1" thickness	6.3
R-value per inch at 13.5"	6.3

**HANDLING PROPERTIES AT 77°F (25°C):**

A SIDE (psi)	8 SIDE (psi)
2500-50	8000-100
Specific Gravity	1.2

**RECOMMENDED PROCESSING INFORMATION (ADDITIONAL DETAILS ON BACK):**

Dispensing Ratio: 1:1  
 Hose Heaters: 160°F (66-60° C)  
 Primary Heaters (A/B): 105-140°F (46-60° C)  
 Dynamic Pressure (AMB): 100-1000 psi  
 Static Pressure (AMB): 1000-3000 psi  
 Ambient Temperature: 50°F (10° - 84° C)  
 Drum Conditioning Temperature: 55 - 80°F (12 - 27° C)

**MIXING (ADDITIONAL DETAILS ON BACK):**

- Do not recirculate

**RECOMMENDED STORAGE AND SHELF LIFE (ADDITIONAL DETAILS ON BACK):**

- Storage temperature: 40-90°F (4-32° C). See back for preconditioning of material.
- Shelf life from date of manufacture (unopened containers):
  - A-Side (dry): 12 months
  - B-Side (wet): 6 months
- Keep containers tightly sealed.
- Store out of direct sunlight, in a cool dry place, avoid freezing.

**PREPARATION OF SUBSTRATES**

Providing the proper substrate is the responsibility of the owner, the owner's appointed representative, the contractor, and/or inspector. The following are manufacturer's recommendations. However, other preparation techniques may be required given unique/localized application circumstances. Contact SWD for technical questions.

It is recommended to remove dust, dirt, oil, paint, and alternative polymers from all surfaces prior to applying SWD products.

See SWD specifications or SPSA guidelines for further details on substrate prep.

**WOOD**

Ensure wood is relatively dry and protect surfaces from contamination.

- Water or oil content may cause poor adhesion or excessive foaming.
- Fill large voids with appropriate backer rods or appropriate fillers.
- If additional information is required, contact an SWD representative for more details.

**STEEL & OTHER METALS**

- It is the responsibility of the contractor/user to determine proper adhesion and suitability through field testing. Blasting and/or priming is not always required. If additional information is required, contact an SWD representative for more details.

**CONCRETE**

- If applying foam to concrete, the concrete surface should be structurally sound, clean, and dry (minimum 28 days).
- Fill large voids with appropriate backer rods or appropriate fillers.
- Blasting and/or priming is not always required. It is the responsibility of the contractor/user to determine proper adhesion and suitability. If additional information is required, contact an SWD representative for more details.

**PREVIOUSLY APPLIED FOAM OR OTHER POLYMERS**

- As directed, remove previously applied foam and other polymer products. Application of product over existing materials should be performed only after adhesion/compatibility is verified by the contractor and accepted by the building owner or owner's appointed representative.

**WIRING & PLUMBING**

- Quik-Shield® 118 is fully compatible with CPVC piping systems (Plastic Engineering Study for the SPSA).
- Quik-Shield® 118 is compatible with typical electrical wiring coverings.

**PROCESSING**

- It is recommended to precondition material to 55-80°F prior to application. Material may thicken at lower temperatures which can cavitate pumps.
- Do not mix.
- Product should be sprayed with a high pressure plural-component proportioner capable of a minimum of 1000psi.

**APPROVALS/COMPLIANCE:**

- ICC-ES ESR-1093
- ICC IRC, IECC, 2009, 2012, 2015
- ASTM C1363
- Appendix X compliant - no ignition
- Type IV construction
- 6-84, NFPA 285, E-89

**INDUSTRY LEADING TEMPERATURES:**

- Continuous use temperature can be as high as 257°F (125° C) and will self-extinguish, highly stable down to -60°F (-41° C).
- Solid performance in all climates, including extreme heat and cold, and high humidity.

**PACKAGING:** 275 Gallon Tote, 55 Gallon Drum

**FINISHED PRODUCT COLOR:** White to off-white (UV exposure will cause discoloration, discoloration by itself is not a sign of product damage)

**LEED INFORMATION:**

- Quik-Shield® 118 has a minimum of 75% total renewable/recycled content
- 23% pre-consumer recycled
- 100% recycled
- 100% recycled
- 100% recycled
- 100% recycled

## ARCHITECTURAL SPECIFICATIONS

### GENERAL REQUIREMENTS

The Work under this contract includes furnishing all labor, equipment's, appliances, and materials required for construction of this home in strict accordance with these specifications and the applicable drawings subject to the terms of the contract.

### GENERAL CONDITIONS

- Before commencing any work under this contract, the CONTRACTOR shall have in his possession the necessary and required insurance as governed by the State of California policies as follows:
  - Workmen's Compensation Insurance: This policy shall cover the full liability of the contractor and his workmen. Each sub-contractor shall be required to provide the same for his workmen.
  - Public Liability Insurance: This policy shall cover the full liability and claims for damages for personal injury including accidental death.
- The Construction of this building shall comply with all applicable requirements and regulations set forth by the latest of the California Building Code; and all applicable requirements and regulations set forth by Labor Codes and local Ordinances.
- The CONTRACTOR shall inspect the site and familiarize himself with all local conditions and take full responsibility for maintaining ingress to and egress from the site at all times.
- Temporary water and electricity shall be provided by the CONTRACTOR and he shall pay all installation and meter charges.
- Temporary toilet facilities shall be installed and maintained by the CONTRACTOR.
- The CONTRACTOR shall provide, procure, and pay for all building permits required for the execution of the contract and the completion of the job.
- During the execution of the work called for on the plans and in these specifications, the CONTRACTOR will be held responsible for any and all damage to existing adjacent property, structures, sidewalks, curbs, and gutters.
- Upon the completion of the work, the building shall be broom cleaned and ready for occupancy. Finished surfaces scratched or damaged shall be refinished, resurfaced or replaced, as the case may be. The entire premises shall be clean and free from all debris and evidence of construction. Temporary facilities, construction and equipment shall be removed.
- All concrete slabs, walls and driveways shall be adequately protected from damage from any source until acceptance of the work.
- The CONTRACTOR shall check and verify drawings as to scale and dimensions; and if errors appear in the drawings or conflicts in these specifications, the CONTRACTOR shall bring them to the attention of the OWNER.
- THE CONTRACTOR shall layout the building in accordance with the general location of the building as shown on the drawings. The CONTRACTOR shall furnish all engineering services necessary to the proper layout and construction of the building.
- The CONTRACTOR shall make no deviations from the drawings unless such deviations are approved by the OWNER.

### EXCAVATION, GRADING, AND PAVING

See plans for extent of work. In general, this consists of preparing the site, excavation of foundation trenches, all fill and backfills, removal of excess material to areas designated, spreading same and finish grading and paving on areas designated. Slope finish grade to drain away from building. All filled areas are to be keyed into hillsides and compacted as required.

### CONCRETE WORK

- MATERIALS**

The quality of the materials used in the concrete and the quality of the concrete shall conform to the physical and chemical properties as specified in C.B.C.

  - Reinforcing wire Welded wire fabric 6" x 6" #10 (ASTM A185) (unless noted otherwise)
  - Sill anchors to be 5/8" x 12" anchor bolts embedded 9" minimum, and located 3'-0" O.C. for two story structures and 4'-0" O.C. for single story structures. Place anchors within 12" of corners.
  - Reinforcing steel shall be deformed, intermediate grade, conforming to ASTM A615-40

### FIREPLACE AND BLOCK WORK

See plans for extent of masonry work to be included in this building OWNER is to select type of rocks or bricks prior to construction. The Masonry Contractor will design the lintel and flue as required by code.

### FRAMING MATERIALS

- All framing lumber shall be graded in conformance with the West Coast Lumber Inspection Bureau Grading Rules No. 16 as amended to date. Grades to be as follows unless noted otherwise on the plans:
- Mud-sill-foundation grade redwood or equivalent treated materials.
  - Posts and Beams- 4" x thicker D.F. #1 (Para. 130-b) F.O.H.C.
  - Joists and rafters- 2" to 4" thick, 6" x wider construction grade Douglas Fir #2 (Para. 125-c)
  - Girders- construction grade Douglas Fir #1
  - Studs- construction grade Douglas Fir #2 (Para 121-c)
  - Plywood Flooring - 3/4" Douglas Fir T & G exterior plywood CDX
  - Sub-flooring- Douglas Fir 2" x 6" T & G utility decking
  - Exposed beams- Douglas Fir #1 select F.O.H.C. (Para. 130-b)
  - Exposed ceiling -select Pine T & G decking
  - Exterior decking- select "A" grade Redwood
  - Sheathing Paper- #30 Bldg. paper Kraft type or equal

### GENERAL FRAMING NOTES

- Floors to be level within 3/16" ± all around.
- Structural members shall not be cut for pipes, etc. unless specifically shown or noted.
- Provide washers for all bolts.
- Use aluminum or galvanized nails for all exterior siding or trim.
- Use anchor hold type nails for all plywood flooring.
- All plywood floors and exterior decking to be glued with P.L-400 or equal.
- Use cement coated 16d sinker nails for framing.
- Provide an 18" x 24" minimum access area to underside of home.
- Provide access for bath sub trap; 20' maximum distance to all plumbing in crawl area.
- All stairways to have a maximum rise of 8" and a minimum tread width of 10". Provide headroom clearance of 7'-0" min. Install handrails as required 34" to 38" above treads.
- Unless indicated otherwise all headers are to be 4" x 12" D.F. #2.

- Double floor joists under all parallel wall partitions.
- All required handrails are to be 36" high and constructed to withstand a horizontal force of 20 pounds per linear foot, applied at the top of the railing. Maximum spacing in handrails shall not exceed 6".
- Provide an attic access of a minimum 22" x 30".
- Open flame for furnace and water heater shall be 18" above floor level if they are to be located in the garage.
- Provide combustion air for furnace and water heaters required. Combustion air intakes to be located within 6" of floor and ceiling. Provide 6" clearance between furnace and combustibles.
- If home has an under-floor crawl area, provide 2 square feet of vent space per each 25 linear feet of exterior wall.
- Provide fire blocking at floor, ceiling, coves, and mid-height of walls over 10'-0" in height.
- Provide 50 square inches of fixed vents per car to outside air within 6' of garage floor.

### TRIM WORK

All external fascia shall be eared. No butt joints or spaced boards will be allowed. All trim connections should be tight and fit flush against the exterior.

All exterior redwood decking is to be installed in a craftsmenlike manner. Sand all mitered corners and exposed edges. Remove all sharp edges from handrails.

WOOD BASE:

### CLOSETS:

- Shelves - 3/4" plywood or particle board with glued-on solid edge or plastic lid. Solid pine shelves may be used as a substitute.
  - Clothes Pole- Hardwood 1-3/8" diameter. Provide an intermediate support for spans longer than 4'-0".
  - Hook Strip- 1" x 4" acs also as shelf support.
- UNDERLAYMENT: Use 5/8" particle board under all resilient flooring except for slab areas. Nail 3" at edge 1/2" in and 6" in field each way.

### DRYWALL:

Includes a complete gypsum board wall and ceiling installation as indicated on the drawings. Wall board shall be 5/8" recessed edge type board suit as manufactured by U.S. Gypsum Co. or equal. Nails 5x15 1/2 gauge, cement coated, flathead, 15/8" long. Taping, "Perfistap"/joint reinforcing tape and cement as manufactured by U.S. Gypsum Co. Use 5/8", type "X" one hour fire-rated gypsum board between garage and home where indicated on the drawings, and under stairways.

All exterior corners to have metal edges. The best workmanship and construction practices are required. In the event the Drywall Contractor finds crooked walls or bad joints occurring in the frame structure then these should not be covered but brought to the attention of the CONTRACTOR so they may be fixed prior to covering with drywall. Special care must be taken to protect and preserve the finish wood surfaces. All doors and window sills to be trimmed flush with openings. All scraps to be hauled away within 3 days of hanging. Do not break joints at plates in stairwells, header connections, or at plates on two story high walls. All recessed kitchen lights to have clean straight lines. Keep shrotook within 3/16" of all rough in boxes.

### THERMAL INSULATION:

Roof: R-30 CLOSED CELL SPRAY POLYURETHANE FOAM  
 Ceiling: R-30 BATTS  
 Walls: R-23 HIGH DENSITY BATTS  
 Floor: R-13 BATTS

Weather-stripping: At all windows and doors, typical.

Special Notes: Provide 3-1/2" sound insulation between floors and in walls around all bathrooms, all bedrooms and laundry room.

### SHEET METAL:

All sheet metal shall be 16 Oz. Copper unless indicated otherwise on the drawings. Sheet metal work includes chimney saddles, gutters, downspouts, flashing, counter flashing and all other sheet metal not specifically a part of other trades. Fabrication and installation in accordance with the best workmanship standards is required. Soldered joints shall have continuous solder and be watertight. Free edges projecting from adjoining surfaces shall have metal bent on itself. Nails shall be copper.

Downspouts shall be of round design unless noted otherwise. Offsets shall be fully soldered. Connection to gutter shall be rigid and watertight. Fascia gutter to be straight with all intersection soldered. Do not use short pieces.

Provide vents to kitchen fans, bath fans, gas ranges, gas heaters, and any other areas indicated on the drawings.

SPECIAL NOTES:

### ROOFING:

SPECIAL NOTES: MATCH (6) FLAT CLAY TILE  
 METAL ROOFING COLOR TO BE OWNER/ARCHITECT APPROVED

### DOORS:

See drawings for size, location, and type of doors needed. Interior doors shall be 1 3/4" solid core type unless indicated otherwise. Provide 1 3/4" solid core door with self-closing hinge between home and garage. Sliding doors shall have tempered glass panels with operable screen panel. Sizes as indicated on drawings. Pocket door frames to be Nordan or equal.

SPECIAL NOTES:

### WINDOWS:

See drawings for size and location of windows. Windows to be 1/2" or approved equal. Provide screens for all openings. Windows shall be straight, plumb, and true, and shall operate easily without binding.

SPECIAL NOTES: 16D-WEN

### FIXED GLASS:

See drawings for size and location of fixed glass. All glazing shall be guaranteed water tight and any glass which leaks shall be re-glazed. Size glass to meet minimum C. B. C. requirements.

SPECIAL NOTES:

### SHOWER DOORS AND MIRRORS:

See drawings for size and location of shower doors and mirrors. Shower doors to have approved shatter-proof glass. Mirrors to be 1/4" polished plate glass.

SPECIAL NOTES: 3/8" CLR FRAMERS STAR-FIRE TEMP GL.  
 PROVIDE SHOP DWG'S FOR APPROVAL

### HARDWARE:

An allowance of \$ 9,100 is to be made for finish hardware. This is to include all door knobs, cabinet handles, door, pulls, towel bars, paper holders, etc.

SPECIAL NOTES: TO BE OWNER APPROVED  
 EMTEK OR EQUAL

### PAINTING:

MATERIALS: Paint materials shall be as manufactured by the Kelly-Moore Co. or an approved equal, unless otherwise noted.

WORKMANSHIP: No painting or finishing shall be done under conditions which jeopardize the quality of the work. Surfaces to be finished shall be in proper condition to receive same. Each coat shall be applied at the proper consistency, free of runs, sags, brush marks, spatter, or any other evidence of poor workmanship. Surfaces shall be sanded smooth. Nail holes and imperfections in the wood shall be filled with material of the same color as the finish. All items having factory finish will not be painted. All other surfaces shall be painted or finished whether specifically mentioned herein or not.

EXTERIOR SURFACES: Wood siding, trim, fascia, decks, beams, railings, treat with a semi-transparent or heavy body penetrating stain unless noted otherwise. Exterior doors use two coats of exterior type spar varnish. Prime all galvanized metal and coat with exterior flat enamel.

INTERIOR SURFACES: Natural woods use semi-transparent stain and sealer. Cabinets and wood doors to be sanded, stained, sealed, and lacquered. Drywall in kitchen and bath areas to be sealed and stippled. Other drywall areas to have one coat of interior flat latex wall finish. Special care should be taken to preserve natural woodwork. Work shall be neat, clean and accurate so as not to damage finish of natural wood surfaces. All surfaces not intended to have paint shall be left in clean condition.

### SPECIAL NOTES:

### TILE:

Tile shall be installed in accordance with the best methods and construction practices. Tiles are to be soaked before applying and joints are to be kept neat, symmetrical and all lines true and straight. Joints and tile shall be thoroughly washed. Owner to select color.

SPECIAL NOTES: TO BE OWNER APPROVED

### FLOORING MATERIALS:

An allowance of \$ 25,000.00 is to be made for floor coverings. This is to include all resilient flooring, carpets, and wood floors used in the project. Ceramic tile floors are not included in this allowance.

SPECIAL NOTES:

### KITCHEN APPLIANCES:

Furnish and install the following:  
 ENERGY STAR COMPLIANT TO BE OWNER APPROVED

### PLUMBING:

The Plumbing Contractor shall design and install a complete plumbing system as indicated on the drawings. Pipes shall be sized adequately to accommodate the fixtures served. The Plumbing Contractor shall make all necessary connections to utilities shown on plot plan and install all piping, etc. required. Stop valves should be at each fixture or appliance. Plumb system for future soft water system. Plumb for at least 4 exterior hose bibs or more if the size of the home indicates. Provide plumbing for automatic dishwasher. Provide a pressure relief valve at water heater. Provide a pressure reducer if water pressure exceeds 50 PSI.

SPECIAL NOTES:

### ELECTRICAL:

The Electrical Contractor will design his system for a complete and operating system. The drawings show only the location and type of outlets, lighting, including control switches. No extra charges will be paid for furnishing items not specified in the plans but required by the local electrical codes. Provide doorbell as standard item. Provide all recessed, under counter, and soffit lighting if indicated on plans.

### ELECTRICAL FIXTURES:

Provide an allowance of \$ 100/PER. for fixtures not specified on plans and normal installation.

### HEATING SYSTEM:

This system to be designed and installed by the Contractor doing the installation. Type of system:  
 ELECTRIC HEAT PUMP (SEE MECHANICAL SCHEMATICS)

### GENERAL NOTES:

- The CONTRACTOR and all sub-contractors shall guarantee and be responsible for and make good all defects due to faults of labor or materials in the work included in the contract for one year following the completion of the structure.
- All sub-contractors will be responsible for damage caused by: poor workmanship, system failures, breakage, or their employees' irresponsibilities that cause additional time and expense to the general contractor. Sub-contractors will be charged for such items as they may occur for a period of one year after the home is completed.

Michael Helm, AIA Architect & Associates  
 200 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 476-5386

REMODEL & ADDITIONS TO THE:  
**RENEW RESIDENCE**  
 14500 ARNHEIM HILL ROAD - APTN 337-12102  
 LOS GATOS, CALIFORNIA

ARCHITECTURAL SPECIFICATIONS

11.14.22  
 NTS  
 MSH  
 Z108

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### GENERAL

WHERE NOTED, SPECIAL INSPECTION AND TESTING SHALL BE PROVIDED BY A QUALIFIED INDEPENDENT SPECIAL INSPECTION AND TESTING AGENCY. THE SPECIAL INSPECTION AND TESTING AGENCY SHALL BE SELECTED FROM THE BUILDING DEPARTMENT'S APPROVED RECOGNITION LIST. SITE VISITS BY GEORGE REYNOLDS AND ASSOCIATES, STRUCTURAL ENGINEERS ARE NOT SPECIAL INSPECTIONS.

NO STRUCTURAL MEMBER SHALL BE CUT OR NOTCHED UNLESS SPECIFICALLY SHOWN, NOTED, OR APPROVED BY THE STRUCTURAL ENGINEER. ALL WORK SHALL COMPLY WITH THE 2019 CALIFORNIA BUILDING CODE, AND ALL APPLICABLE LOCAL CODES AND ORDINANCES.

CONTRACTOR SHALL SUBMIT COPIES OF TEST AND INSPECTION REPORTS TO THE ENGINEER AND BUILDING DEPARTMENT.

### FOUNDATIONS

ALL GRADING AND SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT BY G2 EARTH REPORT #19953 (JULY 2022)

THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER'S OFFICE A MINIMUM OF 48 HOURS PRIOR TO ALL FOOTING EXCAVATIONS TO ENSURE THAT THE ANTICIPATED SOIL AND ROCK CONDITIONS ARE CONSISTENT WITH THOSE NOTED IN THE GEOTECHNICAL REPORT. THE GEOTECHNICAL ENGINEER IS TO BE RETAINED TO PROVIDE OBSERVATION OF THE SITE PREPARATION AND RECONSTRUCTION, THE FOOTING EXCAVATIONS, AND THE PLACEMENT AND COMPACTION OF THE BASE ROCK.

THE GEOTECHNICAL ENGINEER SHALL PROVIDE A LETTER OF ACCEPTANCE FOR ALL FOUNDATION PREPARATION, BACKFILL, COMPACTION, ETC., PRIOR TO THE PLACEMENT OF ANY FOUNDATION CONCRETE. HE SHALL ALSO PREPARE A FINAL COMPREHENSIVE REPORT FOR THE BUILDING DEPARTMENT STATING THAT ALL WORK HAS BEEN DONE PER HIS GEOTECHNICAL REPORT, AND WHAT, IF ANY CHANGES WERE DONE DURING FOUNDATION CONSTRUCTION THAT WERE DIFFERENT FROM THE REVIEWED GEOTECHNICAL REPORT.

THE CONTRACTOR SHALL DIRECTLY CONTACT THE GEOTECHNICAL ENGINEER TO COORDINATE SITE VISITS, OBSERVATIONS, TESTS, ETC. THAT ARE REQUIRED BY THEIR OFFICE.

EXCAVATIONS SHALL CONFORM AS NEARLY AS POSSIBLE TO THE NEAT LINES REQUIRED BY THE SIZE AND SHAPE OF THE FOOTINGS SHOWN ON THE DRAWINGS. FOOTINGS SHALL BE CAST IN EARTH TRENCHEES WITHOUT FORMING. OVER EXCAVATION SHALL BE BACK FILLED WITH CONCRETE. NET TRENCHEES IMMEDIATELY BEFORE PLACING CONCRETE.

IF FILL IS REQUIRED, IT SHALL BE COMPACTED WITH OBSERVATION AND COMPACTION TESTING PERFORMED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER. PROVIDE NON-EXPANSIVE FILL AND PERFORM GRADING IN ACCORDANCE WITH GEOTECHNICAL REQUIREMENTS.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY SLOPES, TRENCHES, AND FOUNDATIONS EXCAVATED AT THE SITE AND THE DESIGN OF ANY REQUIRED TEMPORARY SHORING, SHORING, BRACING, AND BENCHING SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE STRICTEST GOVERNING SAFETY STANDARDS.

ALL FILL AREAS UNDER BUILDING AND PARKING AREAS SHALL BE COMPACTED TO MINIMUM 90% DENSITY AND CERTIFIED BY A GEOTECHNICAL ENGINEER. PROVIDE NON-EXPANSIVE FILL AND PERFORM GRADING IN ACCORDANCE WITH GEOTECHNICAL REPORT.

DEEP EXCAVATIONS SHALL BE CUT AND SUPPORTED PER DIRECTION OF GEOTECHNICAL ENGINEER. DRILLED PIER HOLES SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER, WHO WILL DETERMINE THEIR FINAL DEPTH, NOTIFY STRUCTURAL ENGINEER BEFORE SHORTENING ANY PIERS, ALL GROUND WATER SHALL BE REMOVED FROM THE PIER HOLES PRIOR TO PLACING CONCRETE.

FOOTING EXCAVATIONS SHALL BE OBSERVED BY THE PROJECT GEOTECHNICAL ENGINEER PRIOR TO PLACING REINFORCING STEEL.

FOOTINGS SHALL NOT HAVE PLUMBING, CONDUIT, OR OTHER PENETRATIONS WITHOUT THE PRIOR APPROVAL BY GEORGE REYNOLDS AND ASSOCIATES, STRUCTURAL ENGINEERS.

SUPPLEMENTAL REINFORCING AND / OR OTHER MODIFICATIONS SHALL BE REQUIRED FOR FOOTING PENETRATIONS PER THE DIRECTION OF GEORGE REYNOLDS AND ASSOCIATES, STRUCTURAL ENGINEERS.

DO NOT BACK FILL STEM WALL / PIERS OR REMOVE SHORING UNTIL 75% DESIGN STRENGTH HAS BEEN OBTAINED.

FOOTINGS SHALL NOT BE EXPOSED AT THE LOWEST FINISH GRADE.

### DIMENSIONS

DIMENSIONS, UNLESS OTHERWISE SHOWN, ARE TO THE CENTER LINE OF COLLARS AND BEAMS OR ROUGH CONCRETE SURFACES.

CONTRACTOR SHALL VERIFY, AND BE RESPONSIBLE FOR, ALL DIMENSIONS AND CONDITIONS ON THE JOB. NOTIFY THIS OFFICE OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN ON THESE DRAWINGS PRIOR TO ANY CONSTRUCTION.

### CONCRETE

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 308 (LATEST EDITION), "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE," EXCEPT AS MODIFIED BELOW.

ALL CONCRETE SHALL BE REGULAR WEIGHT HARD ROCK, AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI (FOR QUALITY CONTROL ONLY). MAXIMUM SLUMP SHALL BE FOUR INCHES. USE TYPE II CEMENT PER ASTM C150. MAXIMUM AGGREGATE SIZE SHALL BE ¾ INCH.

THE WATER / CEMENT RATIO FOR ALL CONCRETE POURED DIRECTLY ONTO THE VAPOR BARRIER SHALL BE 0.45

CONCRETE FOR SITE FLATWORK SHALL HAVE A MINIMUM OF 2500 PSI, 28-DAY COMPRESSIVE STRENGTH. SPECIAL INSPECTION IS NOT REQUIRED FOR CONCRETE OR SITE FLATWORK, UNLESS NOTED OTHERWISE.

PLACE CONCRETE IN LAYERS NOT EXCEEDING 18 INCHES IN DEPTH FREE FALL OF CONCRETE SHOULD NOT EXCEED 5 FEET IN UNEXPOSED WORK NOR 3 FEET IN EXPOSED WORK. PLACE CONCRETE IN LEVEL LIFTS THROUGHOUT FORM WORK RECEIVING THE MATERIAL.

ALL CONCRETE WORK SHALL BE CAST-IN-PLACE UNLESS NOTED OTHERWISE. ALL FORMS SHALL BE THOROUGHLY MOISTENED BEFORE CONCRETE IS PLACED.

BEFORE DEPOSITING NEW CONCRETE ON OR AGAINST SET CONCRETE, CLEAN, SATURATE, AND SLUSH A COAT OF CONCRESE LIQUID 100LFL BY MASTER BUILDERS OVER THE EXISTING CONCRETE, PER MANUFACTURER'S INSTRUCTIONS.

CONSTRUCTION JOINT CONTACT SURFACES SHALL BE ROUGHENED TO #4.

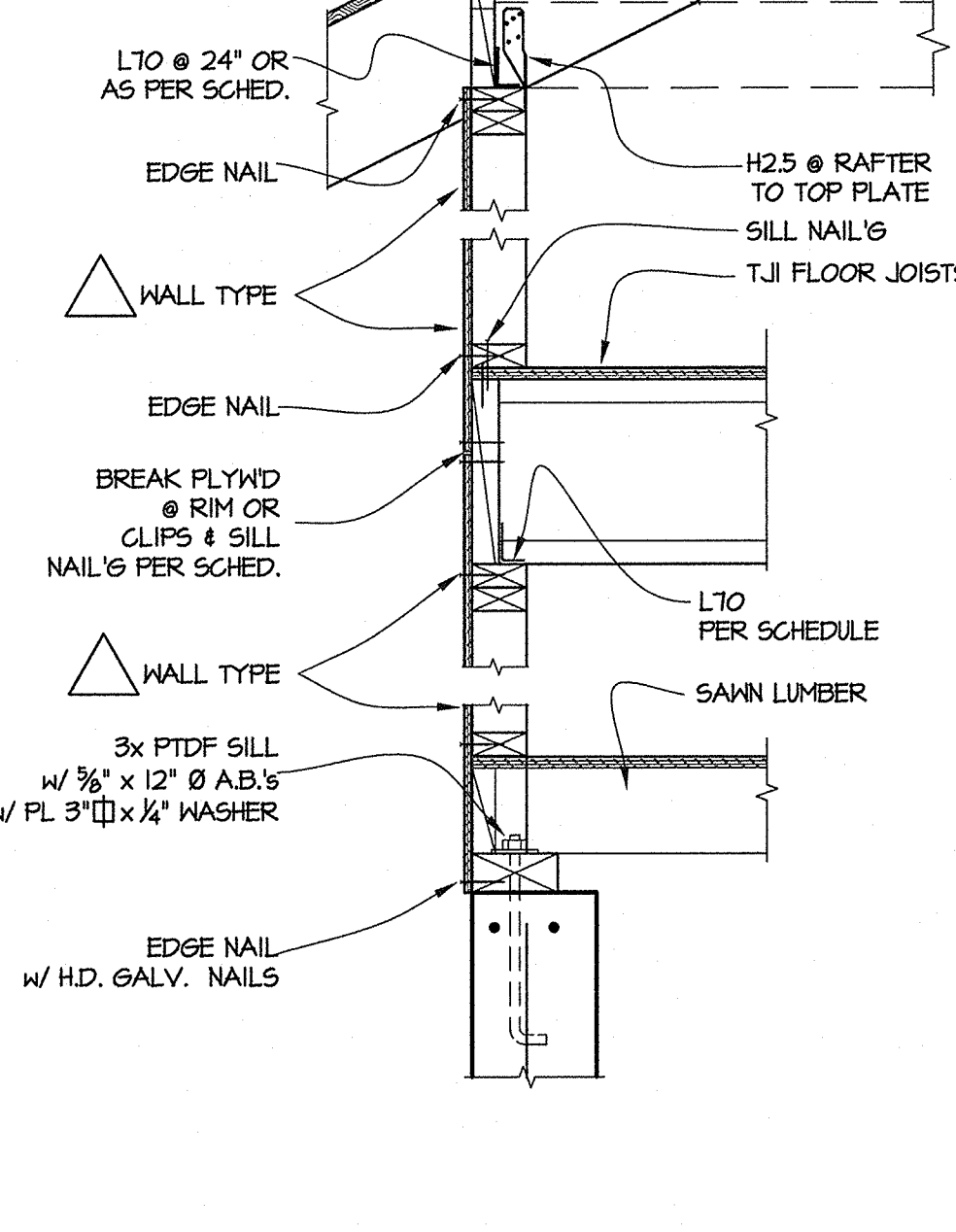
CONSOLIDATE ALL CONCRETE BY VIBRATION SPADING, RODDING OR FORKING, THOROUGHLY WORK CONCRETE AROUND REINFORCEMENT AND EMBEDDED ITEMS. ELIMINATE ALL AIR OR STONE POCKETS WHICH MAY CAUSE HONEYCOMBS, PITTING OR PLANES OF WEAKNESS.

OPERATE VIBRATORS ONLY WITH EXPERIENCED PERSONNEL. LIMIT DURATION OF VIBRATION TO THAT NECESSARY TO PRODUCE SATISFACTORY CONSOLIDATION WITHOUT CAUSING OBJECTIONABLE SEGREGATION. DO NOT INSERT VIBRATOR INTO LOWER COURSES THAT HAVE BEGUN TO SET. UNDER NO CONDITION IS VIBRATOR TO BE PLACED AGAINST REINFORCING STEEL.

MINIMUM ANCHOR BOLT IS 5/8" DIA. X 12" @ 48" O.C. WITH A MINIMUM OF TWO BOLTS PER SILL PIECE, WITHIN 12" OF EACH END, BUT NO CLOSER THAN 4" FROM EACH END. ANCHOR BOLTS LESS THAN 1/2" FROM SILL EDGE SHALL BE REPLACED WITH EPOXY SET ANCHOR BOLT (EMBED 6" MIN). PROVIDE PL 3" SQUARE X 1/2" WASHER WITH ALL ANCHOR BOLTS. ALL BOLTS & FLATES SHALL BE HOT DIP GALVANIZED. MINIMUM ANCHOR BOLT EMBEDMENT SHALL BE 8 INCHES.

SET ALL POST BASES FLUSH WITH TOP OF CONCRETE.

EXPANSION ANCHOR BOLTS AND POWER DRIVEN NAILS SHALL NOT BE INSTALLED UNTIL CONCRETE HAS REACHED DESIGN STRENGTH.



7 TYPICAL SHEAR TRANSFER DETAILS

### REINFORCING STEEL

FURNISH AND ERECT REINFORCING STEEL IN ACCORDANCE WITH THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.

USE DEFORMED REINFORCED BAR PER ASTM A615. FOR #3 BAR AND SMALLER, USE GRADE 40. FOR #4 BAR AND LARGER, USE GRADE 60.

ALL REINFORCEMENT SHALL BE CONTINUOUS, STAGGER SPICES IN ADJACENT BARS. CONTACT SPICES SHALL LAP 40 DIAMETERS MINIMUM.

HOLD REINFORCEMENT IN ITS TRUE HORIZONTAL AND / OR VERTICAL POSITION WITH DEVICES SUFFICIENT TO PREVENT DISPLACEMENT.

REINFORCING STEEL SHALL NOT BE WELDED, NO EXCEPTIONS.

SUPPORT HORIZONTAL STEEL AT BOTTOM OF FOOTING ON MORTAR BLOCKS. MINIMUM 3-INCH CLEARANCE FOR SURFACES POURED AGAINST EARTH. 2" CLEARANCE AT FORMED SURFACES EXPOSED TO EARTH, AND MINIMUM 1/2 INCH UNO.

### STRUCTURAL STEEL

ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION (LATEST EDITION).

ALL STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A-572 GRADE 50, WITH SPECIAL REQUIREMENTS PER AISC TECHNICAL BULLETIN #9, DATED MARCH 1991. ALL STEEL CHANNELS, ANGLES, PLATES, AND BARS SHALL CONFORM TO ASTM A-36. ALL TUBE COLLUMS SHALL CONFORM TO ASTM A-500, GRADE B. ALL PIPE COLLUMS SHALL CONFORM TO ASTM A-53 GRADE B.

THE ALIGNMENT OF COLLUMS SHALL BE WITHIN THE TOLERANCES SPECIFIED IN THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.

PROVIDE SPECIAL INSPECTION FOR ALL WELDING CONFORMING TO C.B.C. SECTION 1704.3. ALL WELDED MOMENT CONNECTIONS SHALL BE INSPECTED AND NONDESTRUCTIVE TESTED AS PER C.B.C. SECTIONS 1705.2 AND SECTION 1703. ALL WELDING SHALL BE MADE BY ETOXX L70N HYDRO ELECTRODES.

WELD SIZES SHOWN ARE MINIMUM AND MAY HAVE TO BE INCREASED ACCORDING TO THE LIMITATIONS STATED IN THE 1984 AISC SECTION J2.

METAL PRIMER SHALL CONFORM WITH FEDERAL SPECIFICATION TT-P-645A FOR SHOP COAT PAINT. APPLY ONE COAT TO ALL SURFACES EXCEPT AT AREAS OF FIELD WELDING, HIGH STRENGTH BOLTING AND WHERE EMBEDDED IN CONCRETE. FIELD PAINT ALL EXPOSED FIELD WELDS.

ALL ANCHOR BOLTS AND THREADED RODS SHALL BE A307 STEEL, UNO.

ALL BOLTED STEEL CONNECTIONS SHALL BE MADE WITH A325N BOLTS UNO.

ALL NUTS SHALL BE INSTALLED OVER PLATE WASHERS OR HEAVY CUT WASHERS.

ALL STRUCTURAL STEEL TO BE EMBEDDED IN CONCRETE OR TO RECEIVE FIREPROOFING MATERIAL SHALL BE CLEAN AND FREE OF PAINT, OIL, OR DIRT.

PROVIDE ENGINEER WITH STEEL SHOP DRAWINGS TO AVOID ERRORS.

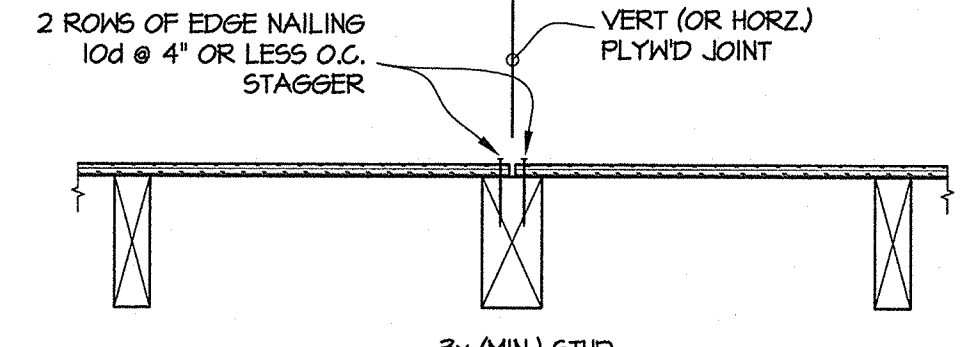
ALL WELDING SHALL BE ELECTRIC ARC PER AWS D11 LATEST EDITION, WITH ETOXX ELECTRODE. PROVIDE HOLDERS CERTIFIED FOR THE TYPE OF WELD CALLED FOR ON DRAWINGS AS PER CALIFORNIA BUILDING CODE (C.B.C. 1704.3) REQUIREMENTS.

REFER TO SHEAR TRANSFER DETAILS

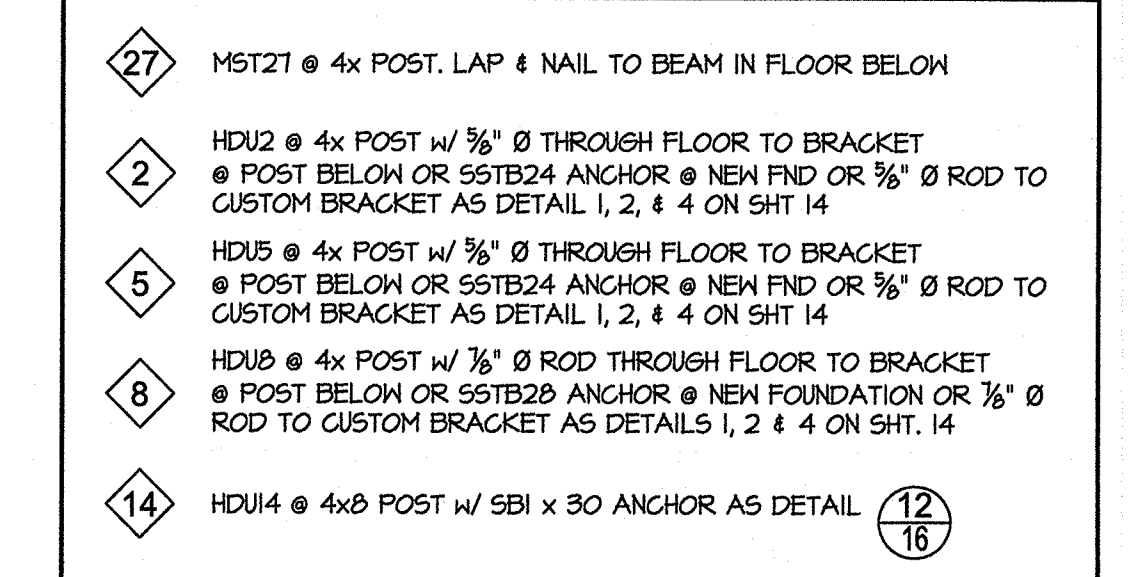
SHEAR WALL TYPE	PLYWD	EDGE NAIL'S	FIELD NAIL'S	SHEAR TRANSFER		BLK'S @ FLOOR	ANCHOR BOLTS
				SILL NAIL	L70 CLIPS		
△	1/2" CDX	10d @ 6"	10d @ 12"	16d @ 4"	24" O.C.	2x	3/4" @ 8" @ 0"
△*	1/2" CDX	10d @ 4"	10d @ 12"	16d @ 3"	16" O.C.	4x	3/4" @ 8" @ 32"
△*	1/2" CDX	10d @ 3"	10d @ 12"	2x 10d @ 4"	12" O.C.	4x	3/4" @ 8" @ 24"
△*	1/2" CDX	10d @ 2"	10d @ 12"	2x 16d @ 4"	10" O.C.	4x	3/4" @ 8" @ 19"
△*	3/4" CDX	10d @ 2"	10d @ 12"	SEE DETAILS			

- NOTE:
- BLOCK ALL EDGES OF PLYWD
  - \* - PROVIDE 3x (MIN) STUDS & BLK'S @ ALL PLYWD BUT JOINTS AS PER DETAIL (5)
  - DO NOT BREAK PLYWD SEN BY OVERDRIVING NAILS
  - PRE-DRILL AS NOTED TO AVOID SPLITTING SILL ETC.
  - SHEAR TRANSFER BLOCKS & CLIPS MAY BE OMITTED IF PLYWD @ SHEAR WALL IS CONTINUOUS PAST FLOOR FRAMING (I.E. @ EXTERIOR WALLS)

### 6 SHEAR WALL SCHEDULE



### 5 PLYWD JOINT DETAIL



1. LOCATE HD'S AT ENDS OF SHEAR PANELS
2. EDGE NAIL SHEAR WALL PLYWD TO ALL POSTS @ HD'S
3. HARDMOUNT ANCHORS TO FORMWORK PRIOR TO CONCRETE POUR
4. USE SIMPSON CO. 'SET-XP' EPOXY OR APPROVED EQUAL (AS REQ'D)

### 4 HOLDOWN SCHEDULE

### TIMBER

ALL WOOD BOLT CONNECTIONS SHALL HAVE A WASHER UNLESS A STEEL PLATE IS SPECIFIED. NO COUNTERSINKING PERMITTED WITHOUT ENGINEER'S APPROVAL.

LUMBER SHALL CONFORM TO GRADING RULES OF NWFA, W.C.L.L.B. RULES #17, OR OTHER PER C.B.C. 2303.1. MAXIMUM MOISTURE CONTENT SHALL NOT EXCEED 19%.

ALL EXPOSED JOISTS, BEAMS, & GULLAMS SHALL HAVE A PRESSURE PRESERVATIVE TREATMENT UNLESS ALL-HEART REDWOOD IS SPECIFIED.

ALL FIELD CUTS AND DRILLED HOLES FOR EXPOSED MEMBERS SHALL BE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVERS ASSOCIATION AWPA M4.

LUMBER SHALL BE GRADE MARKED DOUGLAS FIR: JOISTS, LEDGERS, FURLINS, AND BEAMS NO.1 OR BETTER RAFTERS AND POSTS NO.1 OR BETTER STUDS, SILL'S, & PLATES NO.2 OR BETTER

ALL SILL'S & FRAMING MEMBERS IN CONTACT WITH CONCRETE SHALL BE PRESSURE-TREATED DOUGLAS FIR. THE PRESERVATIVE TREATMENT UTILIZED SHALL BE PERFORMED IN ACCORDANCE WITH AWPA STANDARD C-2.

THE MANUFACTURE AND FABRICATION OF ANY STRUCTURAL GLUED LAMINATED TIMBER SHALL BE UNDER THE SUPERVISION OF QUALIFIED PERSONNEL. PROVIDE APA-ENG CERTIFICATES TO THE APPLICABLE BUILDING INSPECTOR.

PROVIDE A.I.T.C. CERTIFICATE WITH ALL GULLAM BEAMS. PROVIDE NO CAMBER WITH GULLAM BEAMS UNLESS NOTED OTHERWISE. PROVIDE (2X4-V4) STRESS GRADE UNLESS NOTED OTHERWISE.

ALL HANGERS, ETC. SHALL BE ATTACHED DIRECTLY TO THE FRAMING MEMBERS. DO NOT NAIL HARDWARE OVER PLYWOOD OR SHIMS, UNO.

OSB PANELS MAY BE USED IN LIEU OF PLYWOOD FOR GREEN POINTS OR ECONOMIC REASONS. ALL NOTES FOR PLYWOOD APPLY TO SUBSTITUTED OSB PANELS.

ALL PLYWOOD SHEATHING APPLIED TO WALLS, FLOORS, AND / OR ROOFS SHALL HAVE A 1/8-INCH GAP BETWEEN ADJACENT SHEETS.

TYPICAL PLYWOOD NAILING: SET ALL NAIL GUNS TO AVOID BREAKING THE TOP PLYWOOD LAYER. USE A HAMMER TO SEAT NAILS FLUSH TO THE PLYWOOD SURFACE THAT BREAK THE SURFACE OF THE PLYWOOD ARE UNACCEPTABLE AND REQUIRE SUPPLEMENTAL NAILS. NAILS SHALL BE 3/4" MINIMUM FROM THE PLYWOOD EDGES AND SHALL BE INSTALLED PERPENDICULAR TO THE PLYWOOD SURFACE. NAILS LOCATED TOO CLOSE TO A PANEL EDGE ARE UNACCEPTABLE AND REQUIRE SUPPLEMENTAL NAILS. NUMEROUS NAILING VIOLATIONS WILL VOID THE SHEET AND REQUIRE THE PANEL TO BE REPLACED.

ROOF FLYWOOD SHALL BE OF THICKNESS AS PER PLANS WITH A MIN. A.P.A. RATINGS OF 24 / 0 UNO. MIN. NAILING IS TO BE 10d @ 6" O.C. INTERMEDIATE FRAMING UNO. UNSUPPORTED FLY EDGES SHALL BE SUPPORTED BY BLOCKING OR PLYWOOD CLIPS.

FLOOR AND DECK PLYWOOD SHALL BE 1/2" WITH A MIN. A.P.A. RATINGS OF 40 / 20 UNO, WHERE NOTED ON THE PLANS. DECK PLYWOOD SHALL HAVE A C-C EXTERIOR EXPOSURE RATING, OTHERWISE EXPOSURE I CDX PLYWOOD SHALL BE USED. MIN. NAILING IS TO BE 10d @ 6" O.C. EACH EDGE, EACH SHEET, AND 10d @ 10" O.C. AT INTERMEDIATE FRAMING UNO. UNSUPPORTED PLYWOOD EDGES SHALL BE EITHER 1/4" OR SUPPORTED BY BLOCKING. FLOOR PLYWOOD SHALL BE GLUED TO SUPPORTING JOISTS AND BLOCKING.

ALL ROOF AND FLOOR PLYWOOD SHALL BE APPLIED WITH THE FACE GRAIN ORIENTED PERPENDICULAR TO THE DIRECTION OF THE SUPPORTIVE FRAMING UNO.

ALL FLOORS AND ROOFS SHALL BE CONSTRUCTED WITH PLYWOOD SHEETS NOT LESS THAN FOUR FEET BY EIGHT FEET. EACH PANEL SHALL BE AT LEAST 24 INCHES IN WIDTH. THE ADJACENT SHEET MAY HAVE TO BE TRIMMED TO ACCOMMODATE THIS REQUIREMENT. PANELS LESS THAN 24 INCHES IN WIDTH SHALL HAVE ALL EDGES SUPPORTED BY EITHER FRAMING MEMBERS OR BLOCKING.

ALL ROOF OR FLOOR FRAMING SHALL BE 3-INCH NOMINAL OR WIDER AND NAILS SHALL BE STAGGERED WHERE DIAPHRAGM NAILS ARE SPACED 2 INCHES, 2 1/2 INCHES AND 3 INCHES ON CENTER AS PER TABLE 2306.2.(1) OF THE 2019 C.B.C.

THE EDGES OF ALL SHEAR WALL PLYWOOD PANELS SHALL BE BLOCKED WITH A MINIMUM OF 2x MATERIAL. EACH PANEL SHALL BE AT LEAST 24 INCHES IN WIDTH -- THE ADJACENT SHEET MAY HAVE TO BE TRIMMED TO ACCOMMODATE THIS REQUIREMENT. ALL SHEAR WALL PANEL EDGES SHALL BE BAKED WITH 3x MATERIAL, WHERE DESIGNATED, PER C.B.C. TABLE 2306.3

PLYWOOD SHEAR WALL HOLDOWN LOCATIONS: THE NEW HOLDOWN LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THE HOLDINGS AND HOLDOWN STUDS SHALL BE LOCATED AS CLOSE TO THE SHEAR WALL ENDS AS POSSIBLE UNO. HOLDINGS AND HOLDOWN STUDS SHALL NOT BE LOCATED GREATER THAN 12-INCHES FROM THE END OF THE SHEAR WALL, UNO.

ALL SOLID-SAWN RECTANGULAR LUMBER BEAMS, RAFTERS AND JOISTS SHALL BE SUPPORTED LATERALLY TO PREVENT ROTATION OR LATERAL DISPLACEMENT IN ACCORDANCE WITH N.D.S. 3.3.3

ROOF JOISTS OR RAFTERS OF MORE THAN 8-INCH DEPTH SHALL BE PROVIDED WITH BRIDGING EVERY 10 FEET. BRIDGING SHALL BE IN ACCORDANCE WITH N.D.S. 3.3.3

ALL BLOCKING SHALL BE FIRMLY ATTACHED TO THE SUPPORTING FRAMING WITH TOE NAILS OR FRAMING CLIPS.

USE COMMON NAILS, WHERE NOT SPECIFIED OTHERWISE, THE NAILING REQUIREMENTS OF C.B.C. PERTAIN.

USE STRONG-TIE METAL CONNECTORS BY SIMPSON CO. OR APPROVED EQUAL. PROVIDE NAILING AS PER SIMPSON CO. SPECIFICATIONS.

ALL FRAMING HARDWARE AND FASTENERS EXPOSED TO WEATHER OR AT PRESSURE TREATED LUMBER SHALL BE HOT-DIPPED GALVANIZED 2.0 OZ/SQ.FT. STAINLESS STEEL OR SILICON BRONZE.

BOLT HOLES SHALL BE NOMINAL DIAMETER OF BOLT PLUS 1/16 INCH. ALL WOOD BOLT CONNECTIONS SHALL HAVE A WASHER UNLESS STEEL PLATE IS SPECIFIED. DO NOT COUNTERSINK.

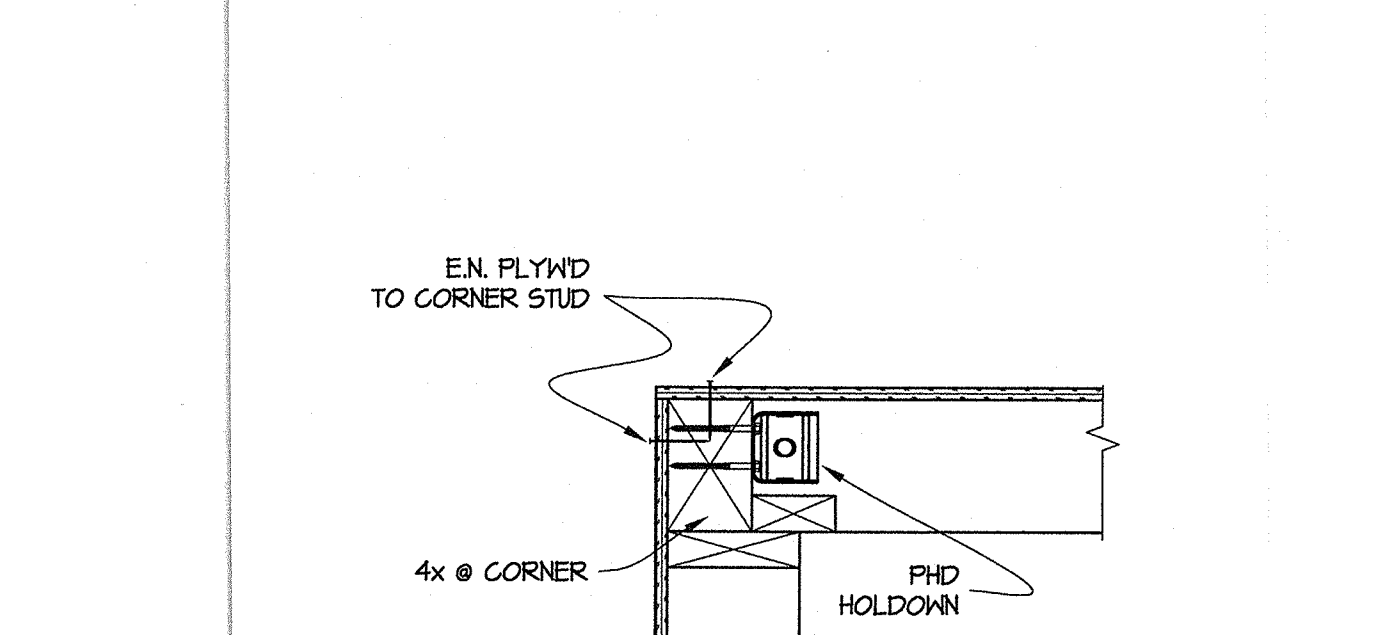
TYPICAL TOP PLATE SPLICE: MINIMUM LAP SHALL BE FOUR FEET LONG. NAILED WITH 16d @ 4" O.C. UNLESS NOTED OTHERWISE.

PROVIDE DOUBLE JOIST UNDER ALL PARALLEL WALLS UNO.

FOR SHEAR WALL NAILING, ANCHOR BOLTS AND SHEAR TRANSFER NAILING, SEE SHEAR WALL SCHEDULE.

MANUFACTURED WOOD PRODUCTS SUPPLIED BY (NEYERHAEUSER LEVEL OR APPROVED EQUAL) SHALL BE "SILENT FLOOR SYSTEM" TJI FLOOR JOISTS, (1.5E & 1.3E) TIMBERSTRAND LSL BEAMS, (1.4E) MICROLLAM LVL, AND (2.0E) PARALLAM PSL IN THE PLANS. PROVIDE ALL BLOCKING, BRACINGS, WEB STIFFENERS & FILLER BLOCKS & WEBS AS REQUIRED BY MANUFACTURER & BUILDING CODE FOR A COMPLETE STRUCTURAL SYSTEM.

GULLAM BEAMS (2X 4-V4) OF WIDTHS 3 1/2" & 5 1/2" SHALL BE "X-BEAMS" AS SUPPLIED BY ROSBORO SPRINGFIELD, OR PHONE: 1-800-323-2304, info@rosboro.com OR APPROVED EQUAL.



3 TYPICAL PHD @ CORNER

### 2 TYPICAL PHD @ OPEN'G

### EPOXY CONNECTIONS

USE 'SIMPSON' SET-XP EPOXY FOR ALL EPOXY SET THREADED RODS, BOLTS, AND / OR REINFORCING BARS SET INTO CONCRETE. EPOXY INJECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S PROCEDURES. PROVIDE SPECIAL INSPECTION DURING THE INSTALLATION OF THE ANCHORS, IN ACCORDANCE WITH SECTION 1704.4 OF THE 2019 C.B.C.

'SIMPSON' SET, ETI, ETI, AND / OR ETR EPOXY SHALL NOT BE USED IN SUBSTITUTION FOR 'SIMPSON' SET-XP EPOXY. THE USE OF 'SIMPSON' ET, ETI, AND / OR ETR EPOXY IS UNACCEPTABLE AND WILL BE REJECTED.

### OMISSONS

CONTRACTOR SHALL FAMILIARIZE HIMSELF / HERSELF WITH ALL CONDITIONS OF THE PROJECT AND BE RESPONSIBLE FOR ALL WORK REQUIRED TO COMPLETE THE PROJECT EVEN IF NOT SPECIFICALLY MENTIONED ON DRAWINGS.

IN THE EVENT THAT CERTAIN FEATURES OF THE WORK ARE NOT FULLY SHOWN ON THE DRAWINGS OR CALLED FOR IN THE GENERAL NOTES, THEN THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR CALLED FOR.

### SPECIAL INSPECTIONS & TESTING

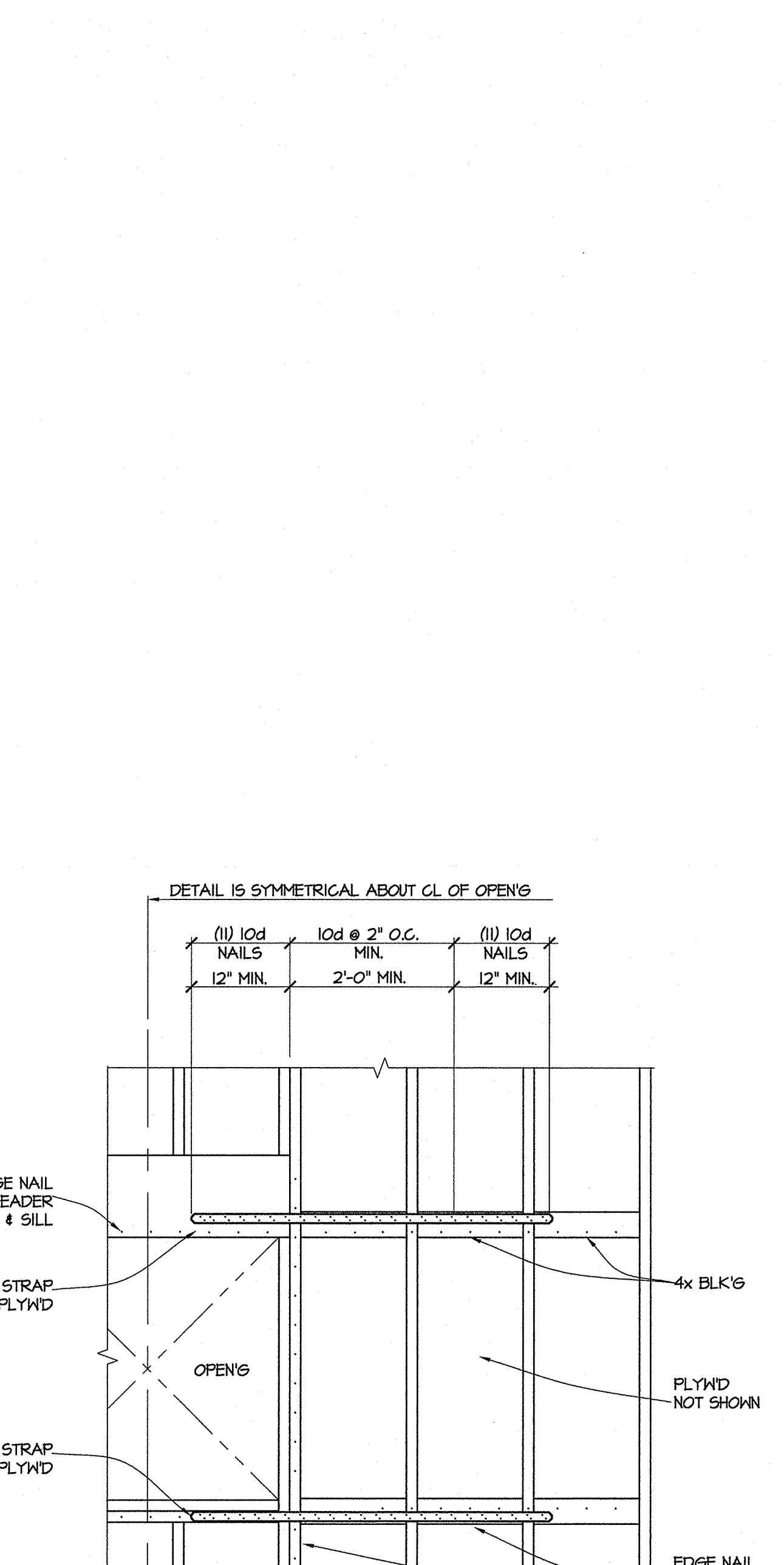
1. SPECIAL GRADING, EXCAVATION, AND FILLING
  - ☑ PERIODIC INSPECTION - PER GEOTECHNICAL ENGINEER
  - ☑ SUBGRADE TESTS
  - ☑ COMPACTION TESTS
2. STRUCTURAL WELDING
  - ☑ PERIODIC VISUAL INSPECTION
  - ☑ FILLET WELDS ≥ 3/4"
  - ☑ CONTINUOUS VISUAL INSPECTION
  - ☑ ALL WELDING ≥ 5/16"
  - ☑ REINFORCING STEEL - NOT PERMITTED
  - ☑ OTHER
3. SHEAR WALL NAILING:
  - ☑ ALL WALLS NAILED @ 4" O.C. OR LESS

- NOTES:
- A. SPECIAL INSPECTIONS DO NOT NEGATE THE C.B.C. REQUIREMENTS FOR THE APPLICABLE BUILDING DEPARTMENT INSPECTIONS.
  - B. REFER TO THE GENERAL NOTES FOR MORE INFORMATION.
  - C. SITE VISITS BY G. REYNOLDS AND ASSOC. WILL ONLY BE CONSIDERED 'SPECIAL INSPECTIONS' WHEN ALLOWED BY THE BUILDING DEPT. (LIMITED TO INSPECTIONS OF EPOXY SET ANCHORS AND NAILING OF PLYWOOD SHEAR WALLS) AND ARRANGED WITH THE OWNER / CONTRACTOR PRIOR TO THE SITE VISIT.

### PROJECT DESIGN INFORMATION:

ROOF LIVE LOAD:	20 PSF
FLOOR LIVE LOAD:	40 PSF
ALLOWABLE SOIL BEARING CAPACITY:	PER GEOTECH. REPORT
PER GEOTECH. REPORT	PIER & GRADE BEAM (SEE REPORT)

WIND AND EARTHQUAKE DESIGN DATA PURSUANT TO 2019 CBC SECTIONS 1603.1.4 AND 1603.1.5	
BASIC WIND SPEED:	10 MPH
WIND EXPOSURE:	B
RISK CATEGORY:	I 1
SEISMIC IMPORTANCE FACTOR:	1.0
S <sub>s</sub> :	2.44T
S <sub>1</sub> :	0.88D
SITE CLASS:	D
S <sub>0.1</sub> :	1.45D
SITE DESIGN CATEGORY:	D
DESIGN BASE SHEAR:	MSJC / SHOP 12,250 LBS
	GABANA 6,100 LBS
C <sub>s</sub> :	0.30
R:	0.5
ANALYSIS PROCEDURE USED:	ASO
BASIC SEISMIC FORCE-RESISTING SYSTEM:	LIGHT FRAMED WALLS SHEATHED WITH WOOD STRUCTURAL PANELS



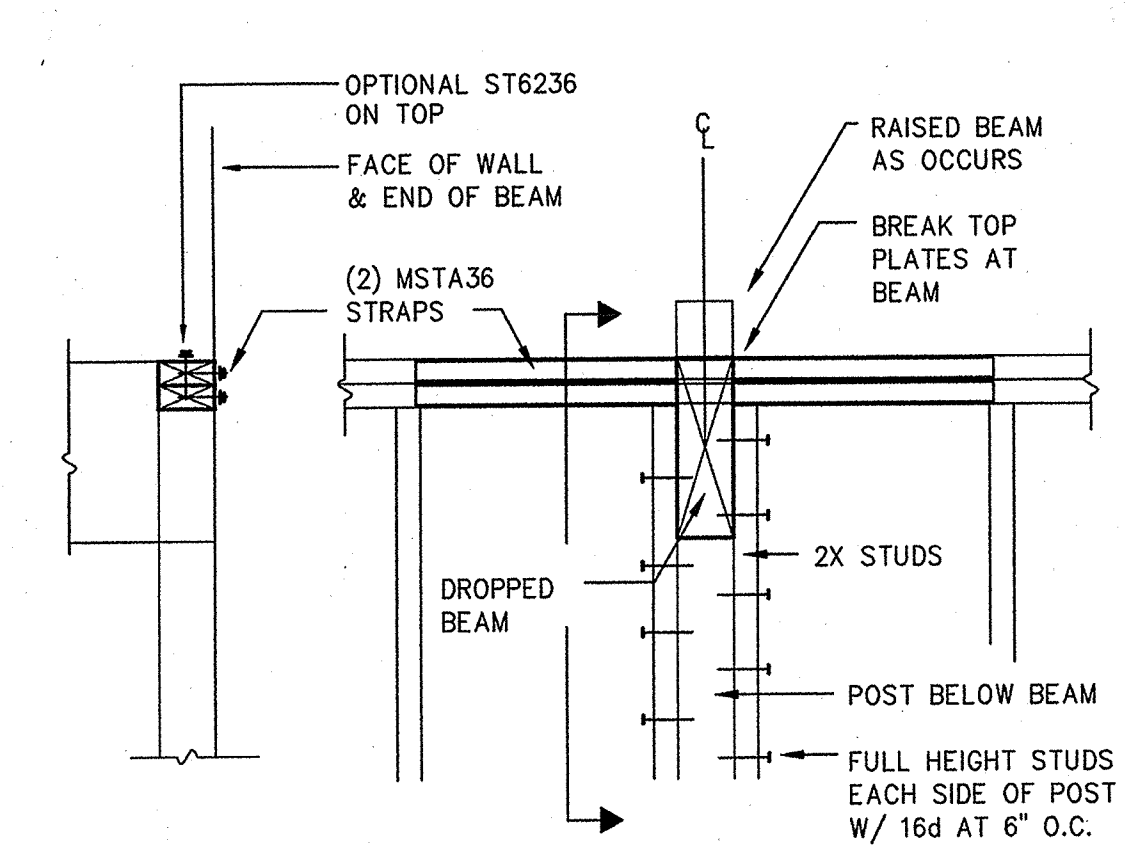
1 REINFORCED OPEN'G

Michael Helm, AIA Architect & Associates  
 200 Seventh Avenue, #110 Santa Cruz, California 95062 (831) 476-5386

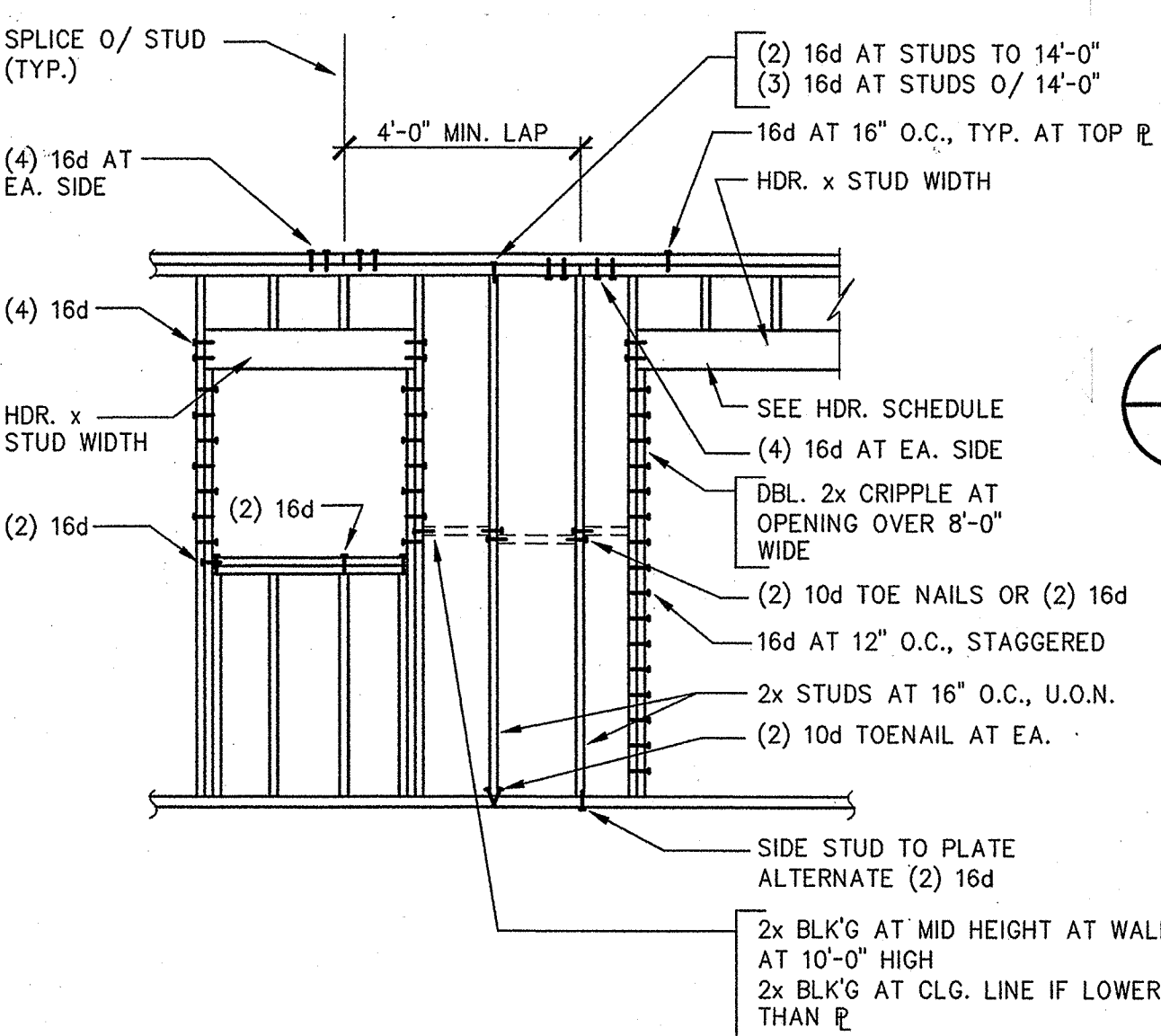
REMODEL & ADDITIONS TO THE:  
**RENEW RESIDENCE**  
 14500 ARNERC-HILL ROAD - ARN 537-12-012  
 LOS GATOS, CALIFORNIA

11.14.22  
 NTS  
 MSH GR  
 2108/2221

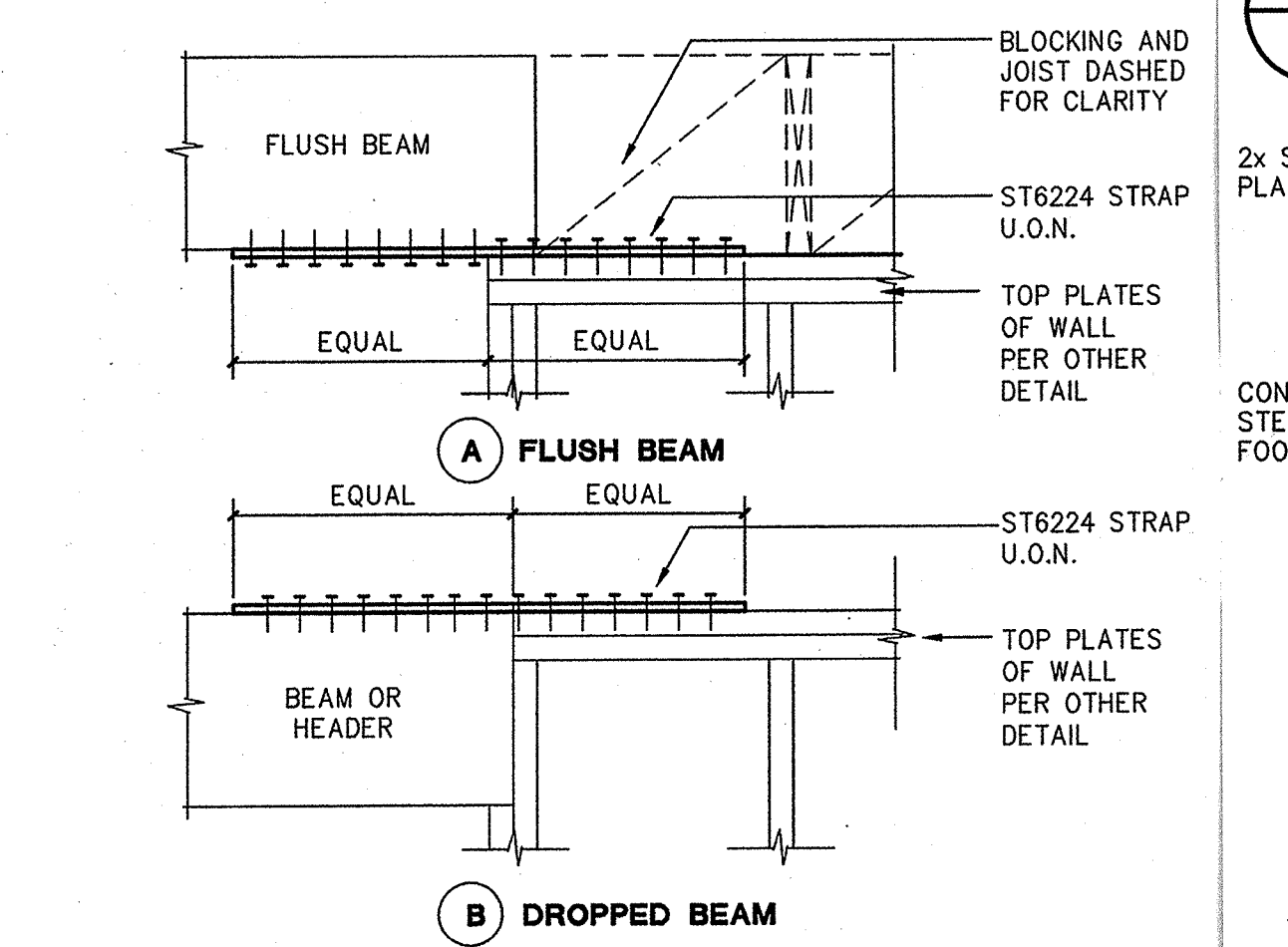
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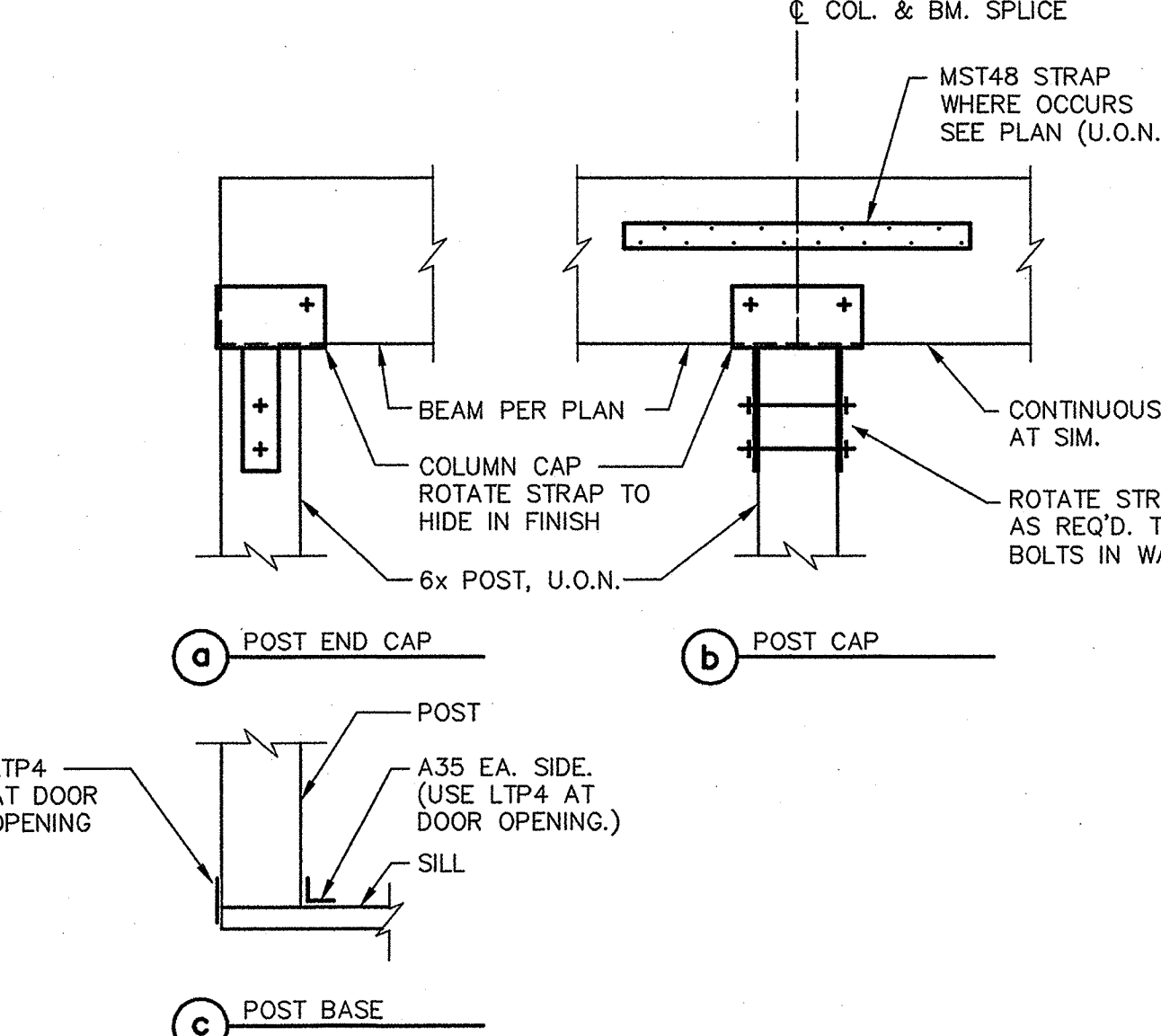
**14 TYPICAL TOP PLATE SPLICE AT BEAM CONNECTION**



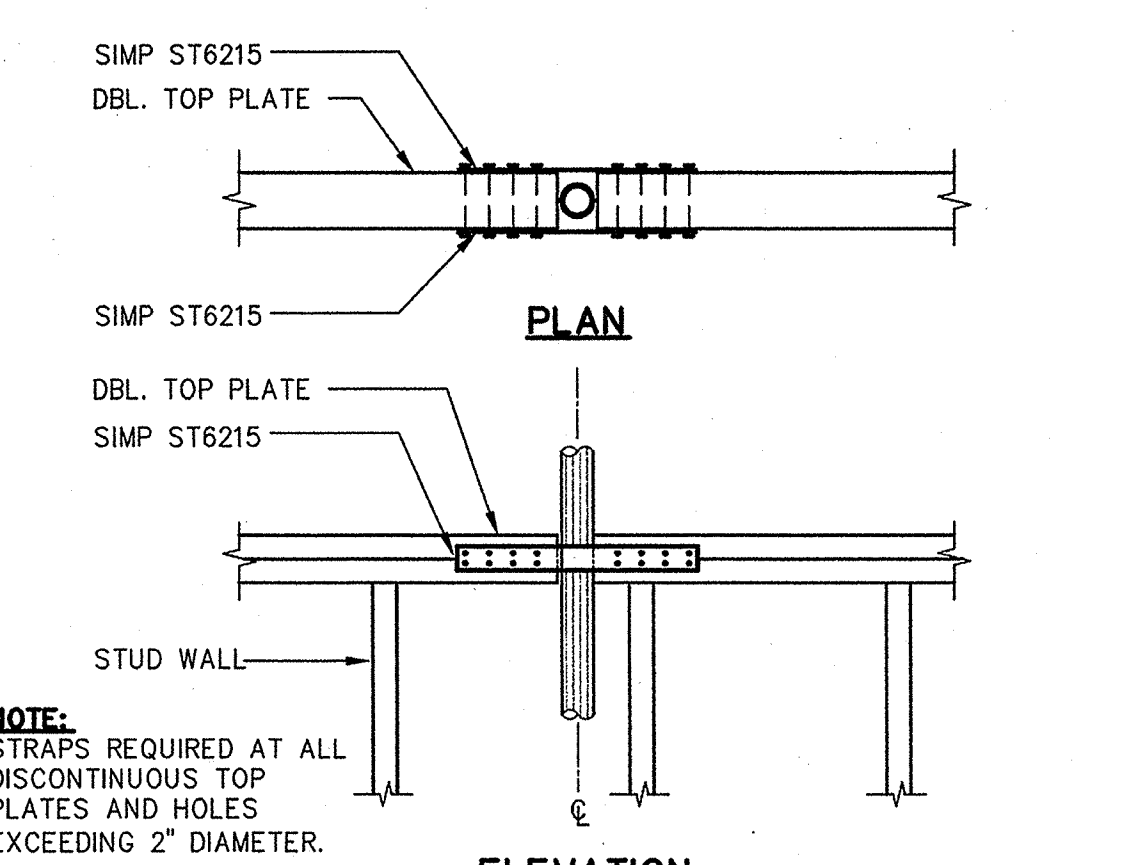
**15 TYPICAL STUD WALL DETAIL**



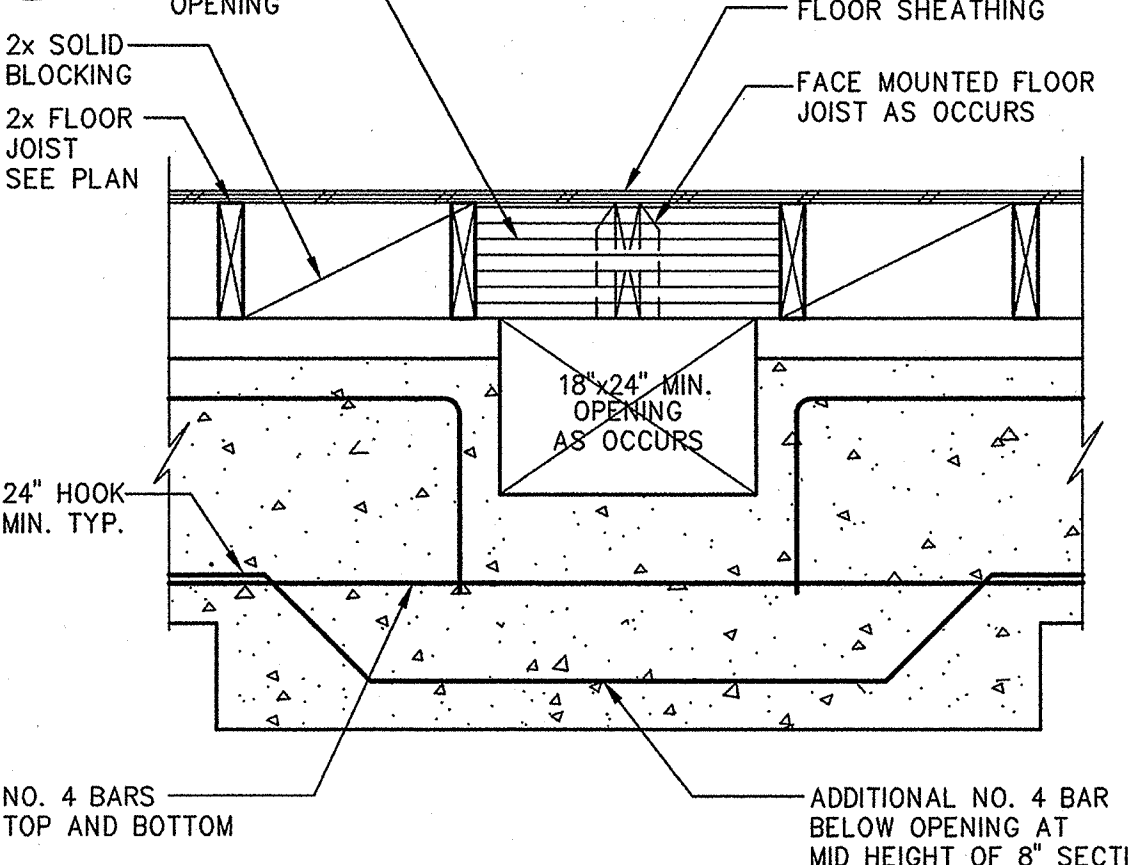
**16 TYPICAL SHEAR COLLECTOR STRAP**



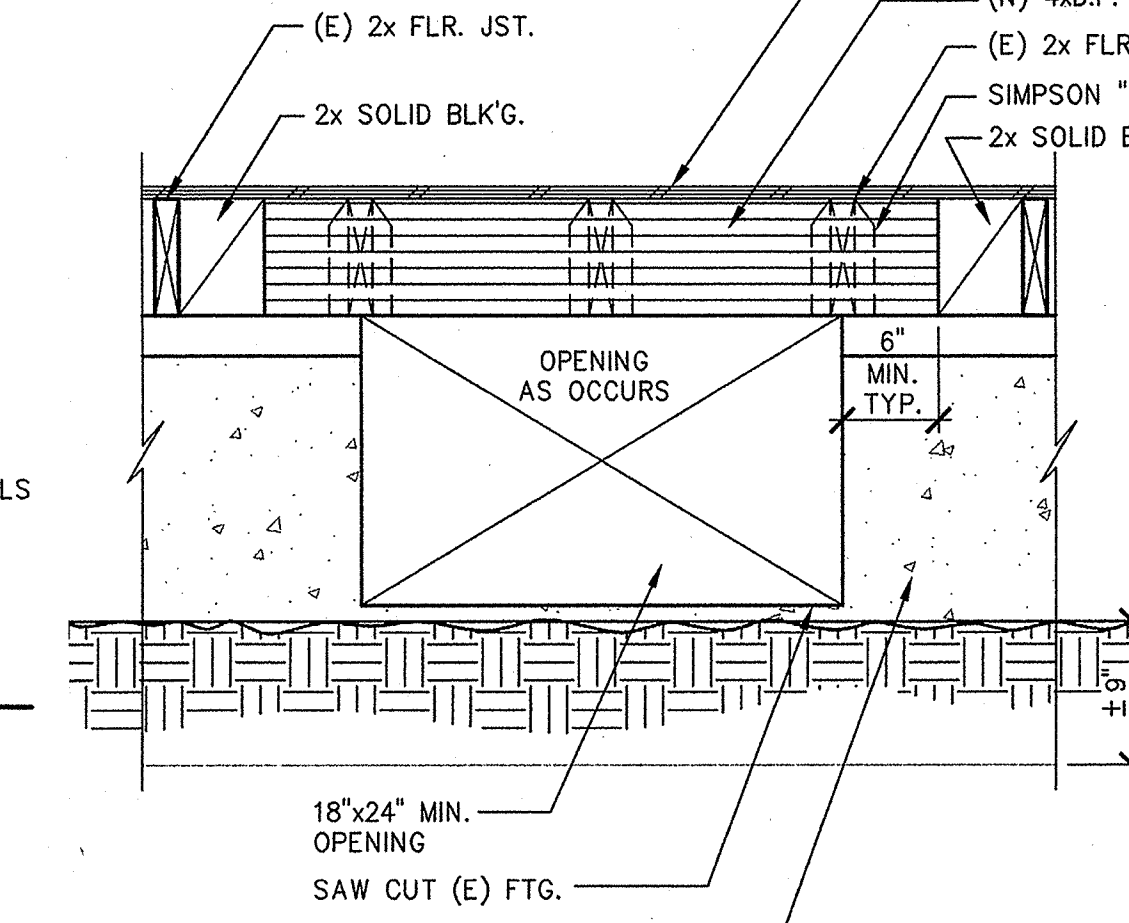
**21 BEAM AND POST CONNECTION**



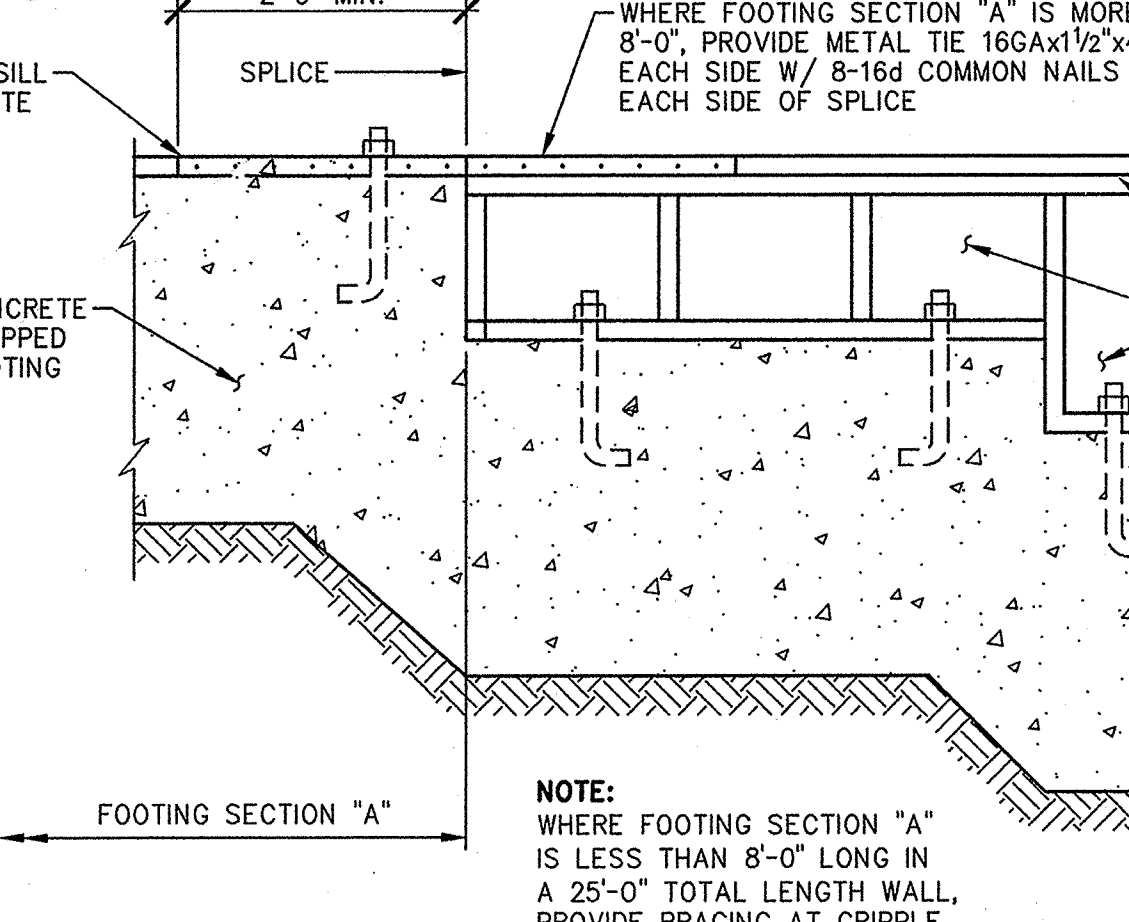
**10 TYPICAL TOP PLATE STRAPS**



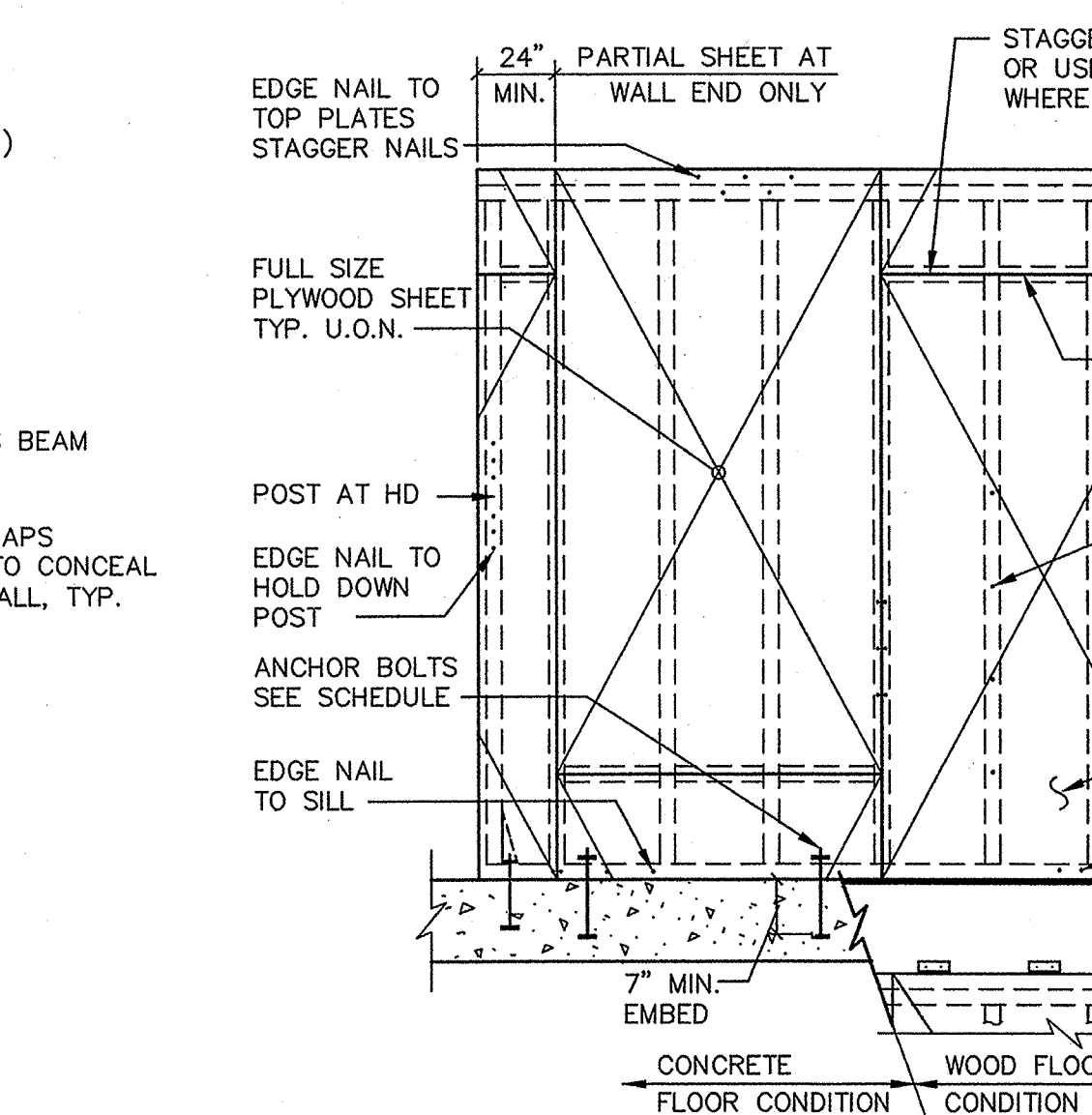
**11 TYPICAL CRAWL SPACE ACCESS OPENING**



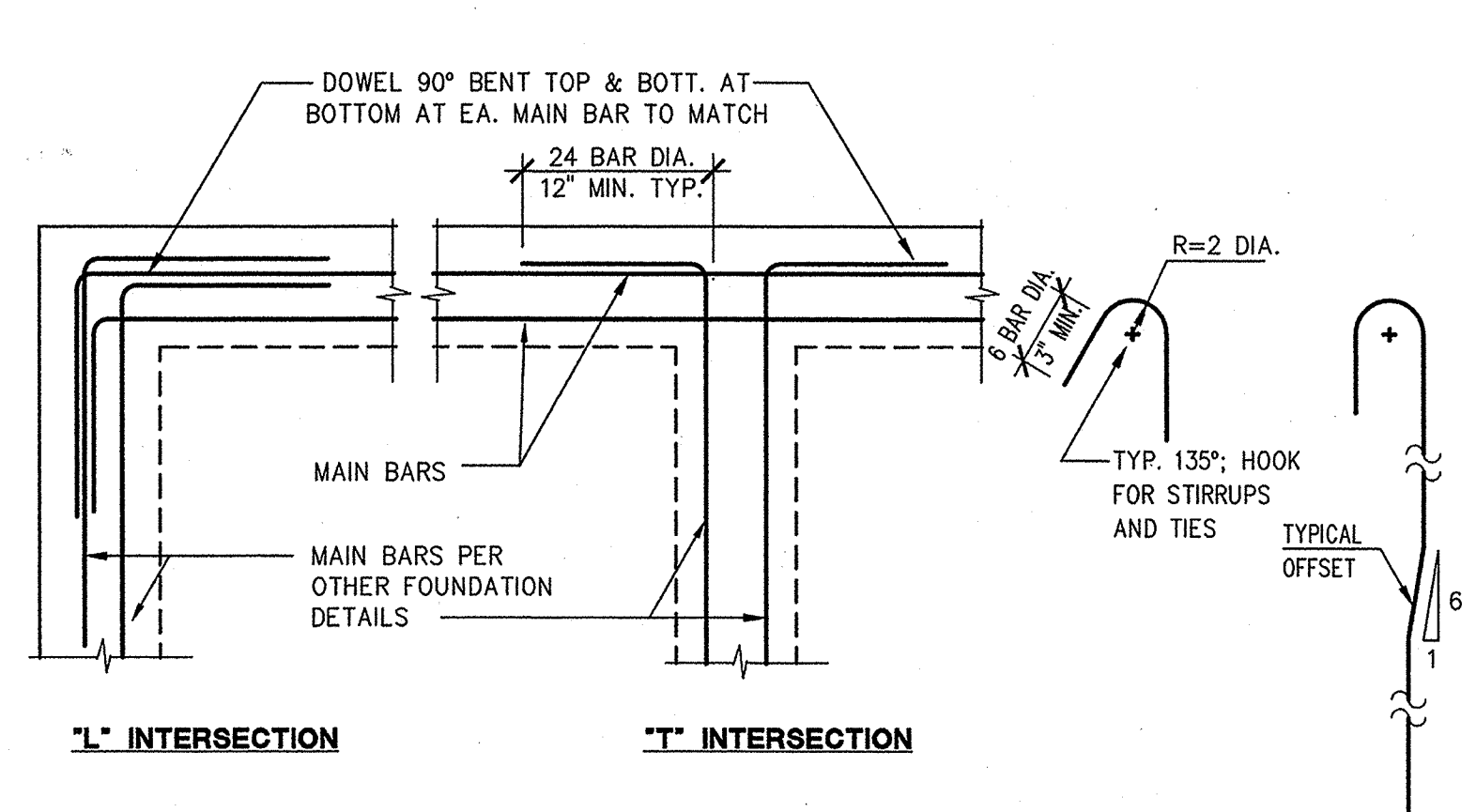
**12 TYPICAL CRAWL SPACE ACCESS OPENING**



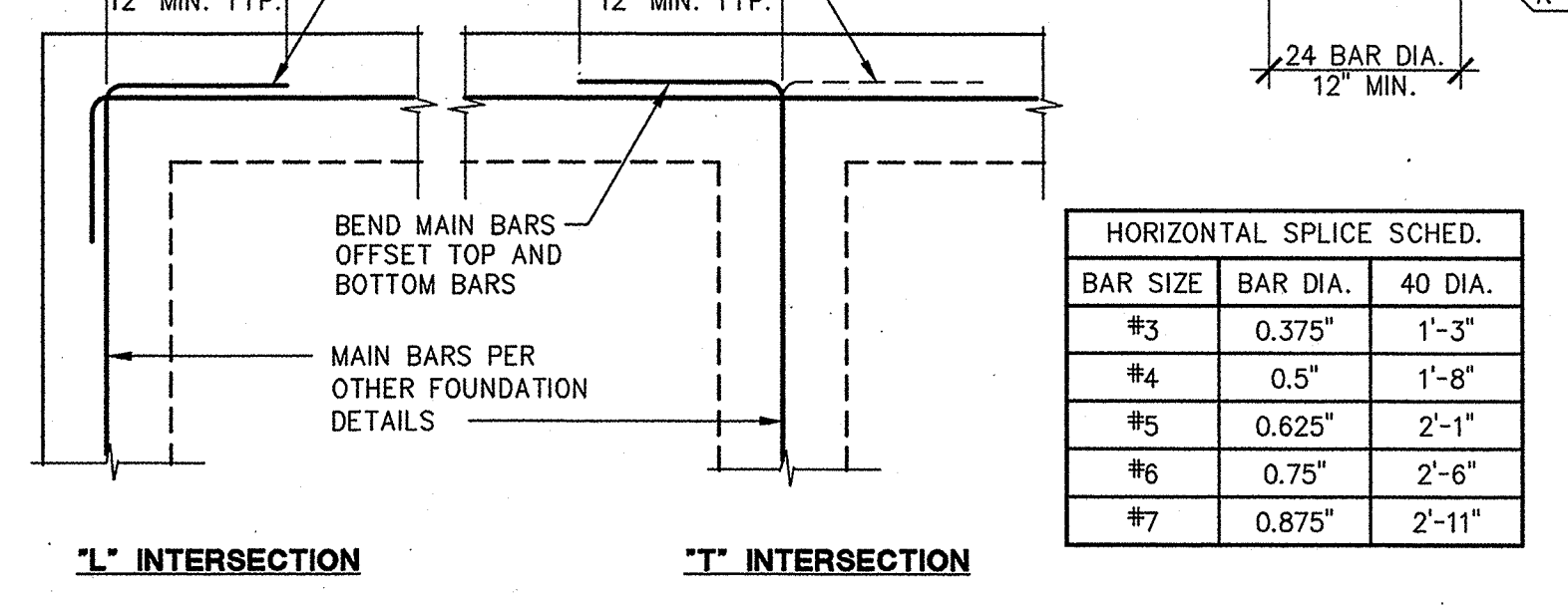
**13 STEPPED FOOTING CONNECTION**



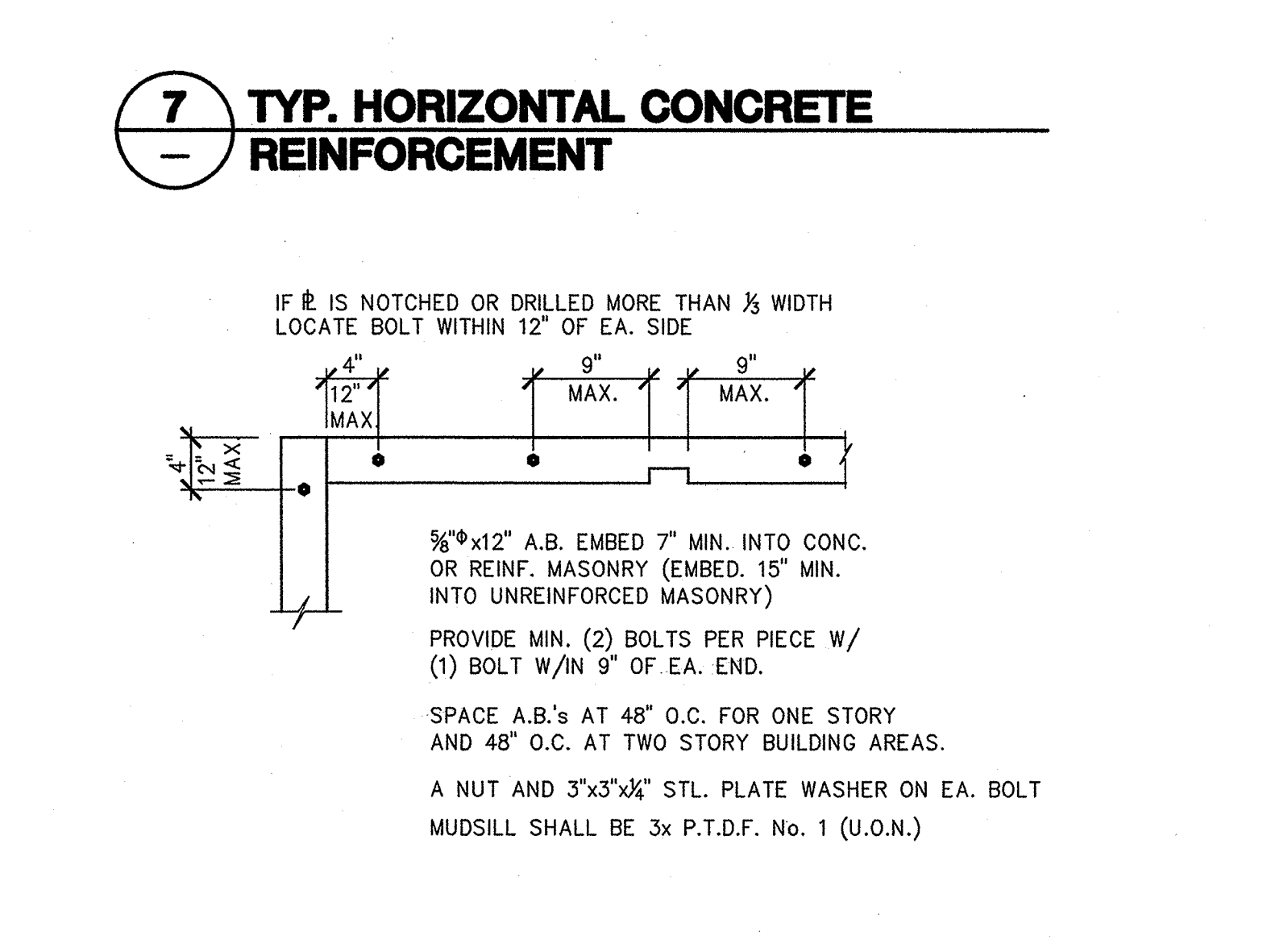
**20 SHEAR WALL FRAMING ELEVATION**



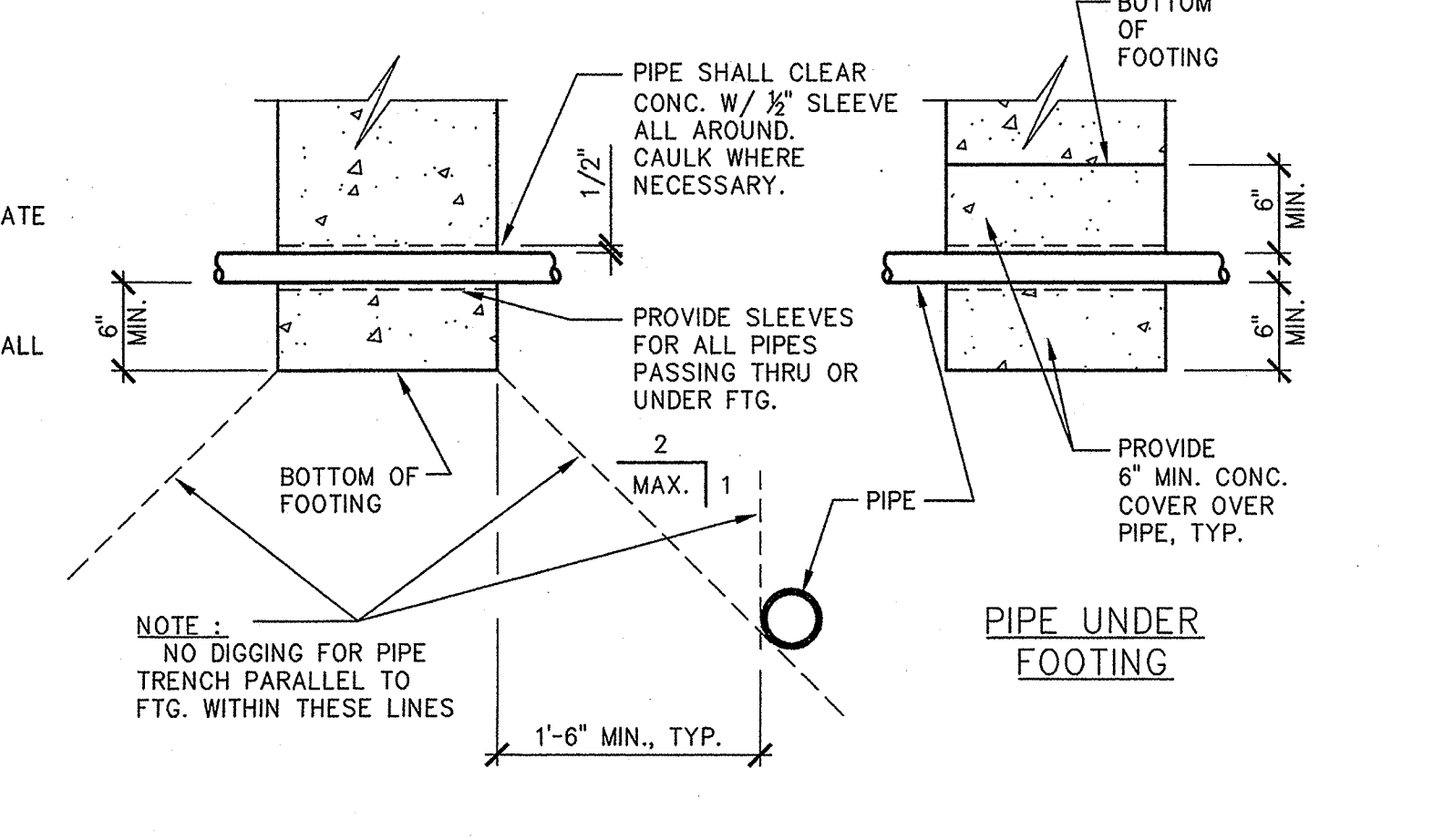
**7 TYP. HORIZONTAL CONCRETE REINFORCEMENT**



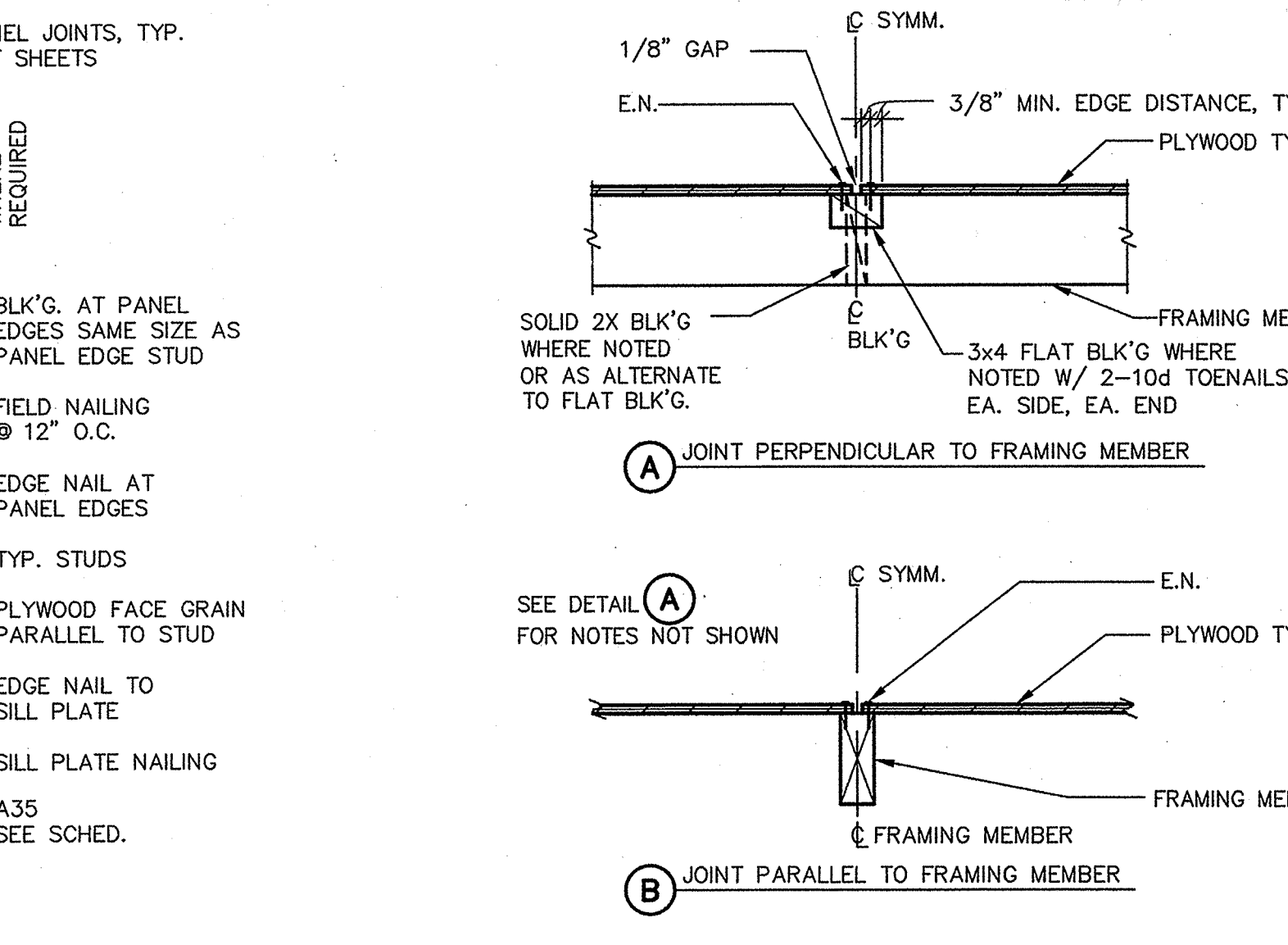
**8 SILL PLATE DETAIL**



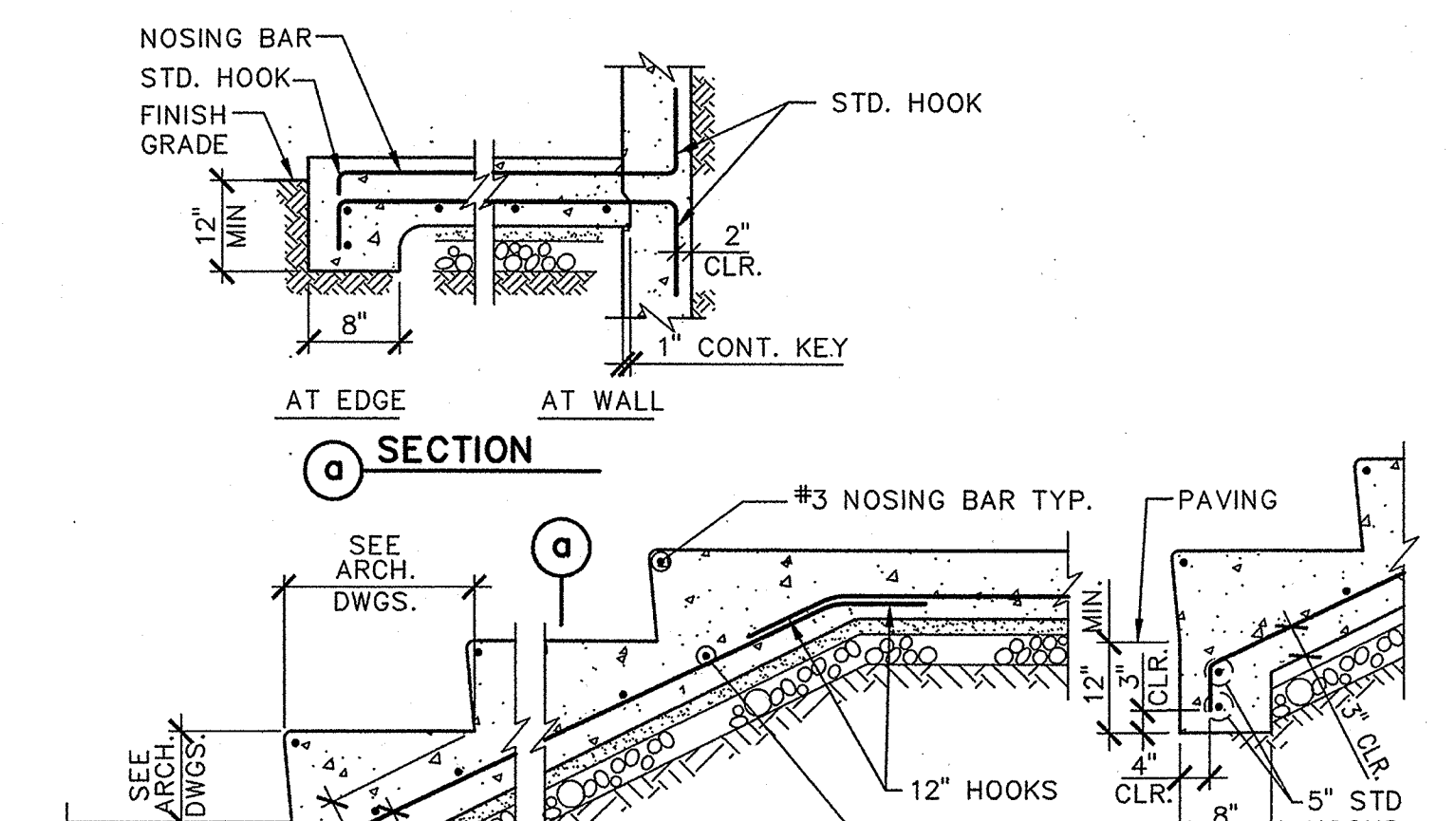
**9 PIPE THRU FTG. AND PARALLEL TO FTG.**



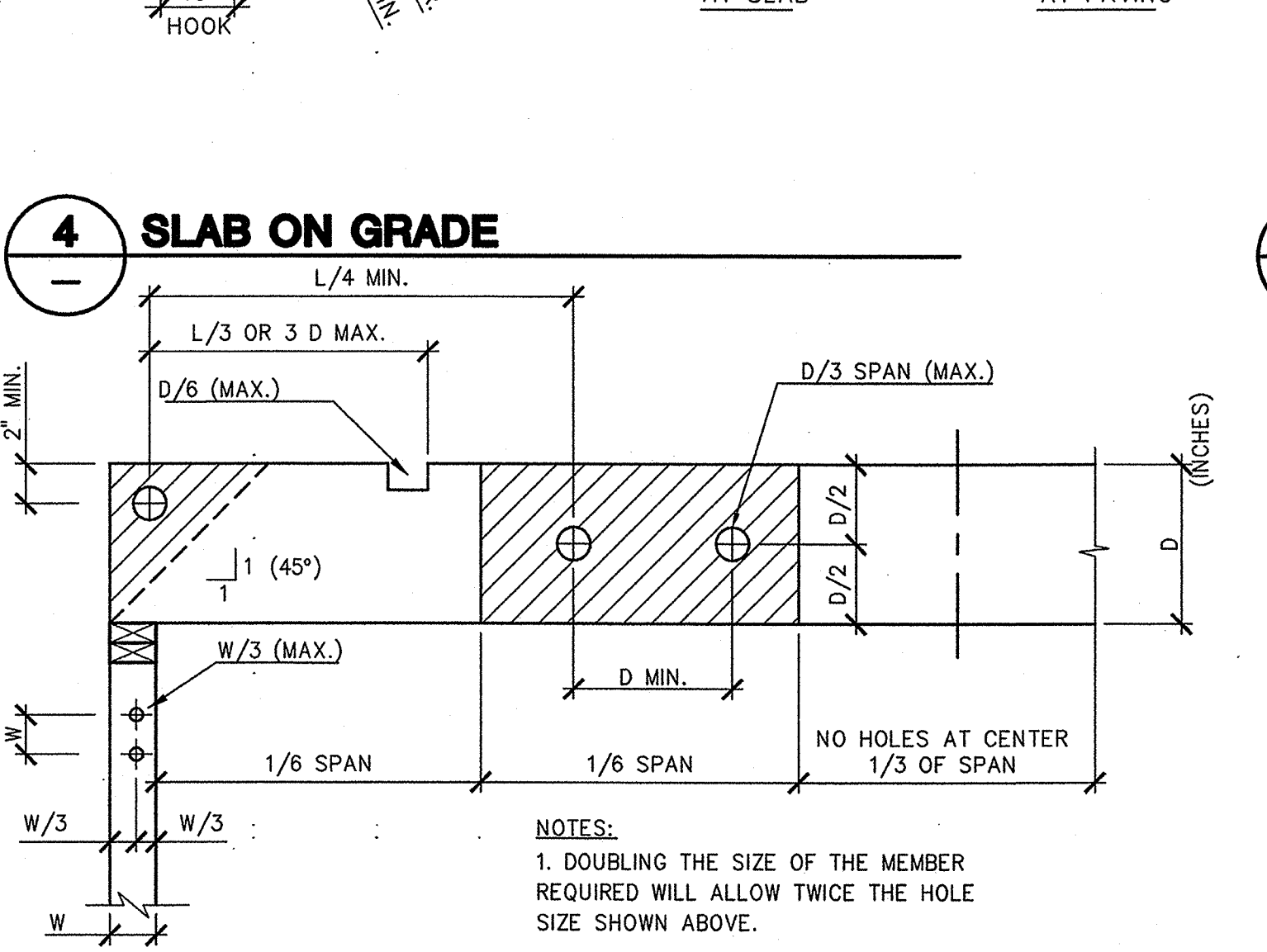
**17 PLYWOOD SHEATHING AT ROOF AND FLOORS UNBLOCKED**



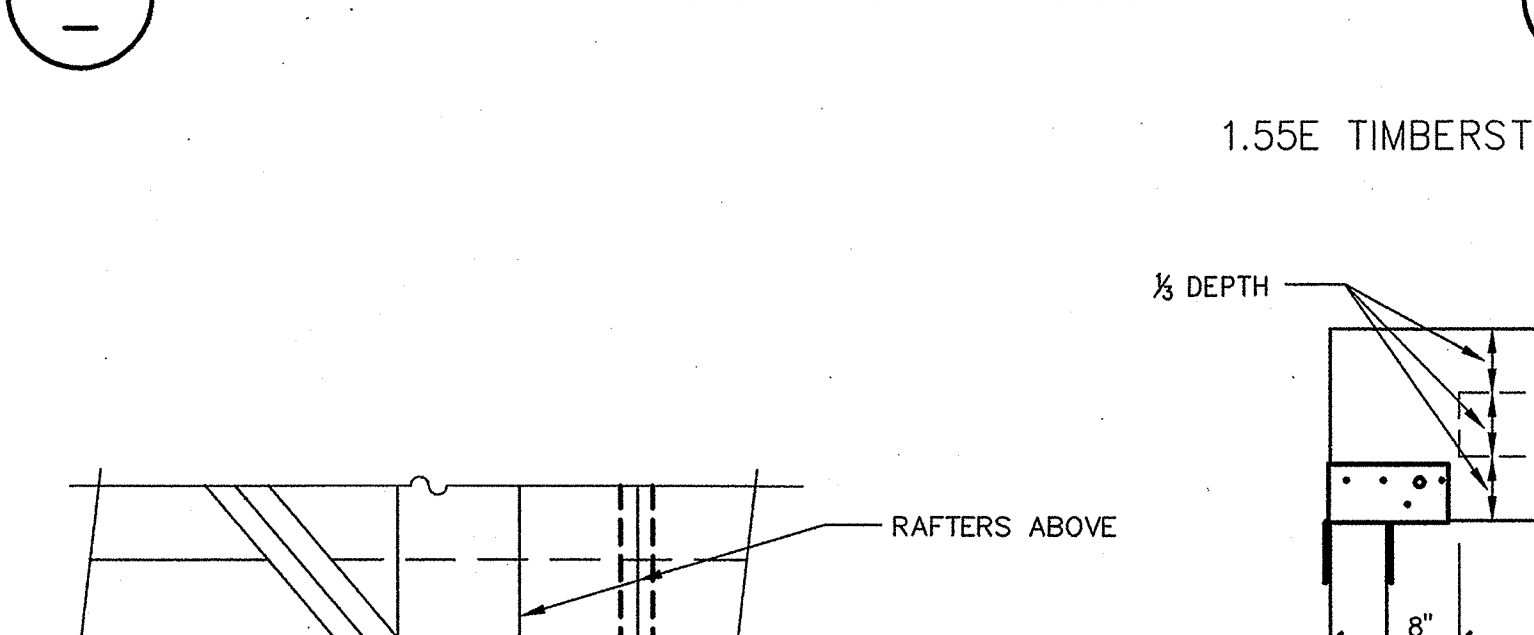
**18 PLYWOOD SHEATHING AT ROOF AND FLOORS REQUIRING SPECIAL BLOCKING AND EDGE NAIL SEE PLAN FOR LOCATION**



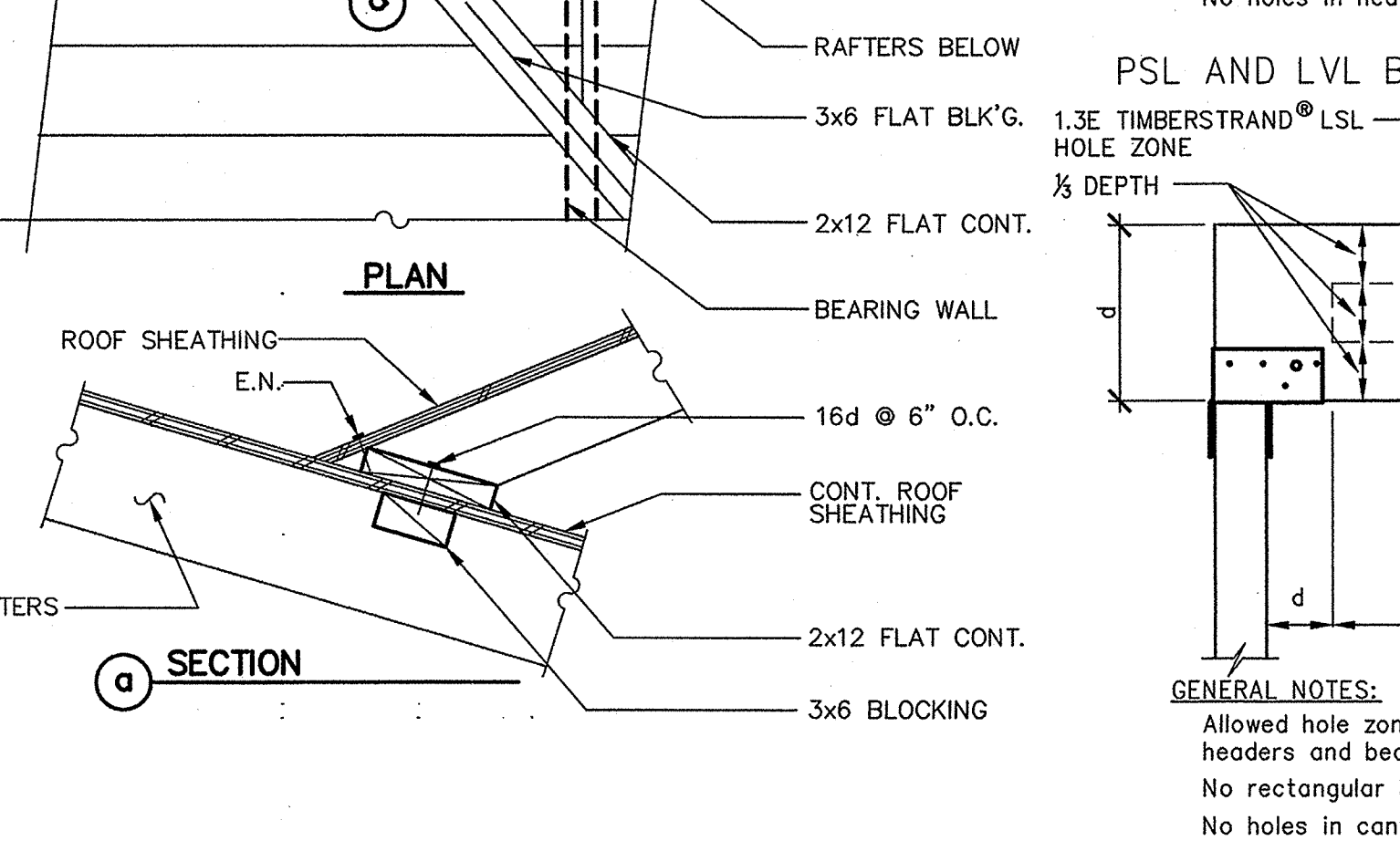
**4 SLAB ON GRADE**



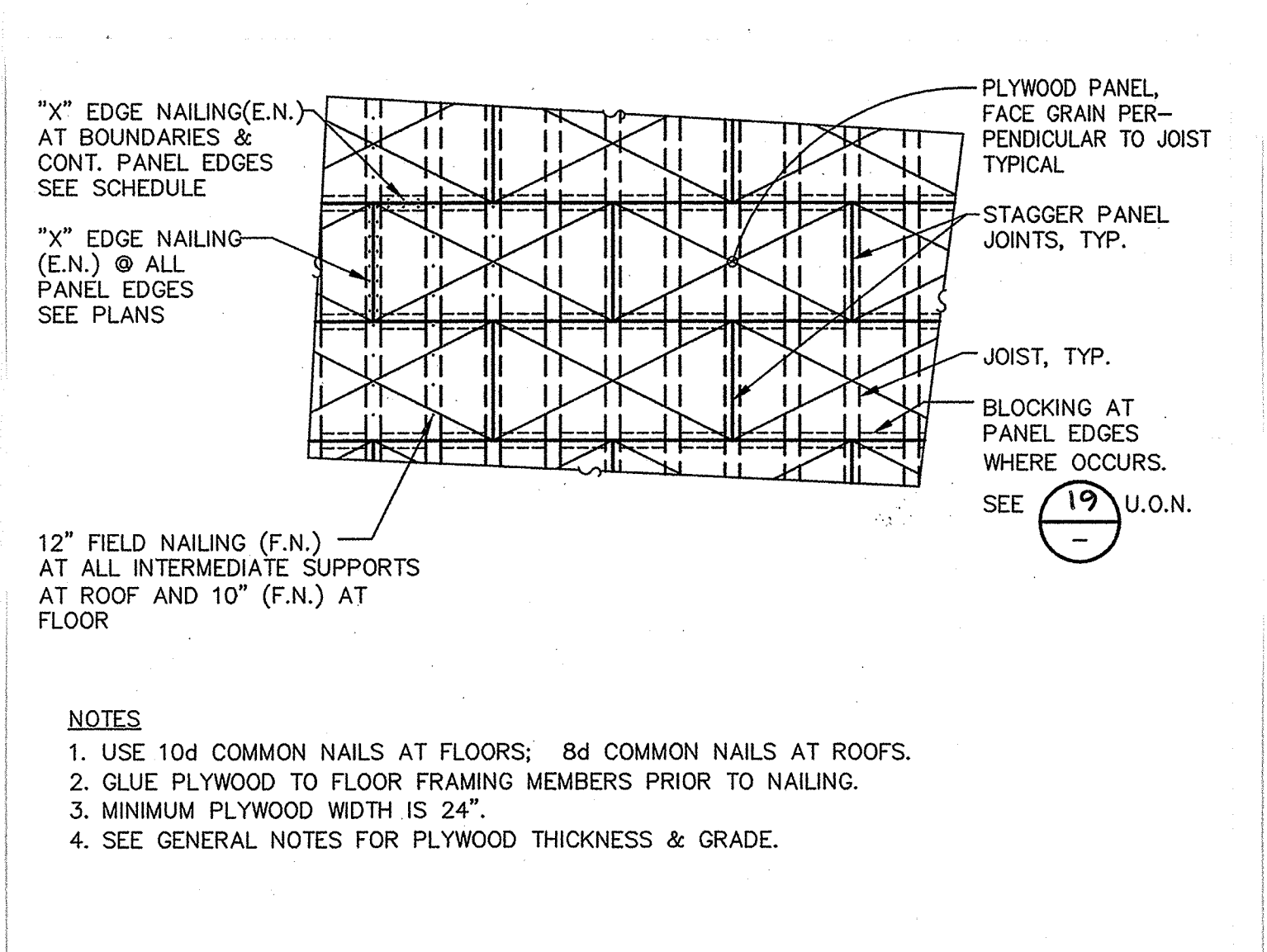
**5 HOLES & NOTCHES AT JOIST & STUD**



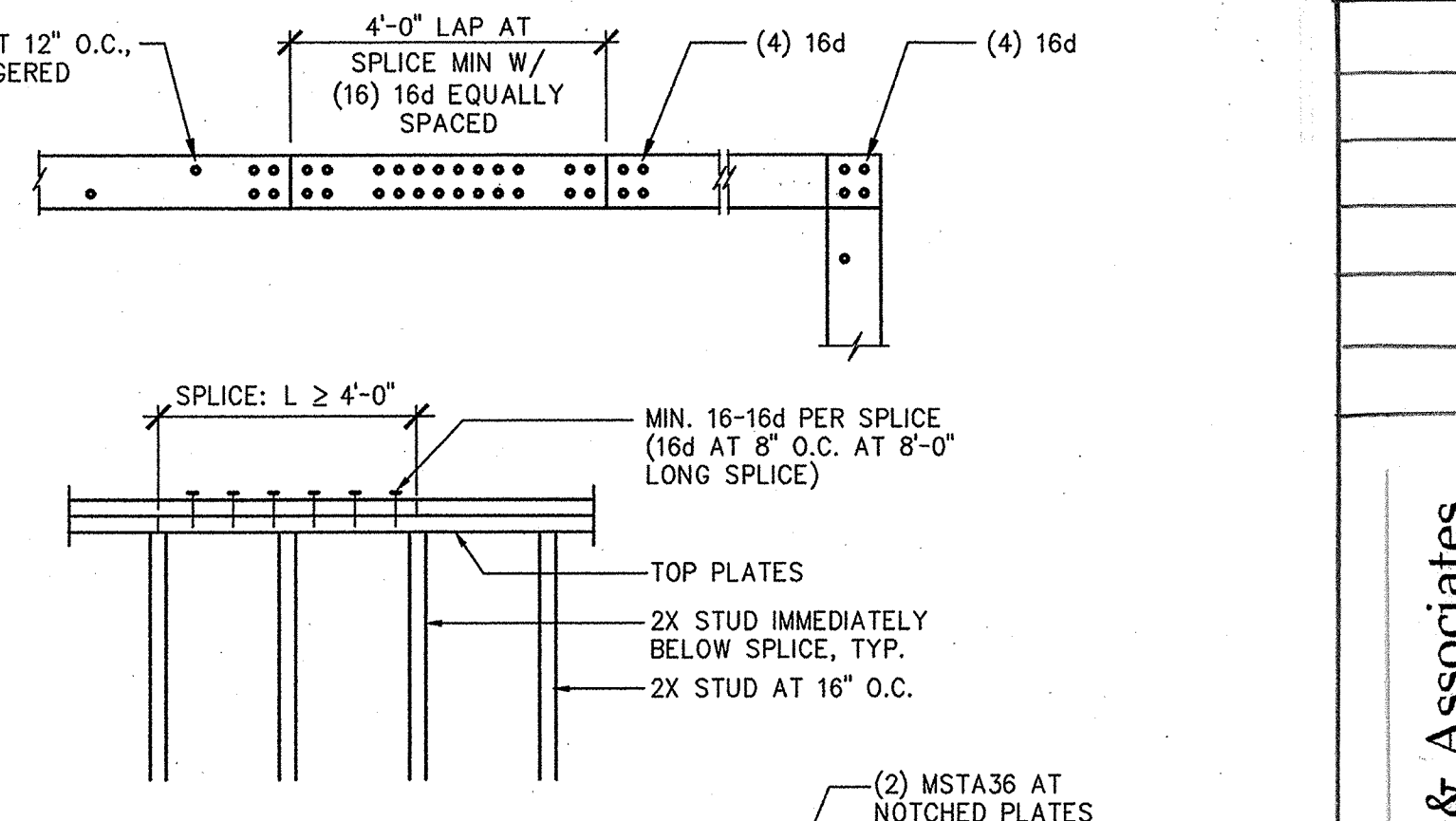
**6 TYPICAL CALIFORNIA FRAMING**



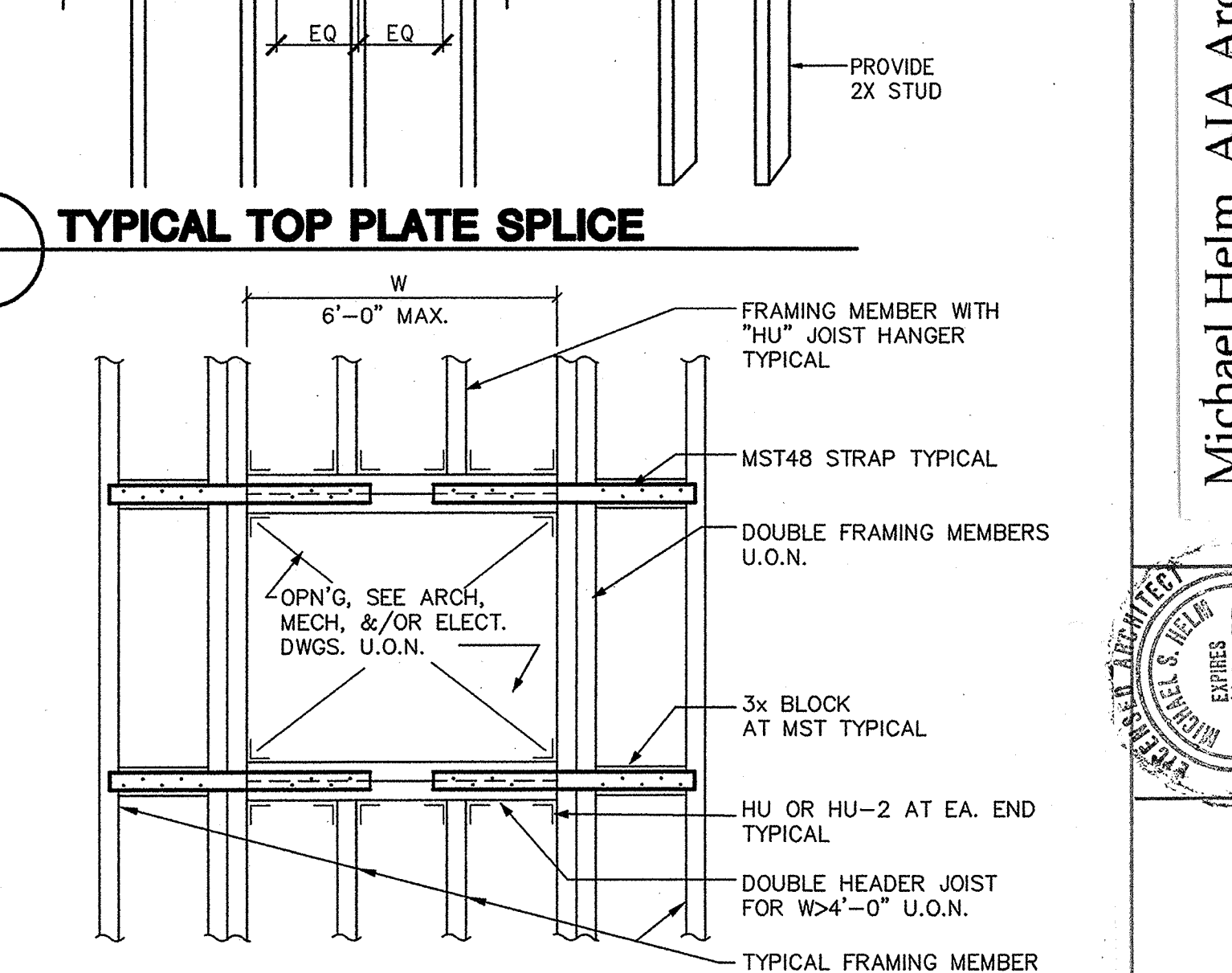
**19 PLYWOOD NAILING**



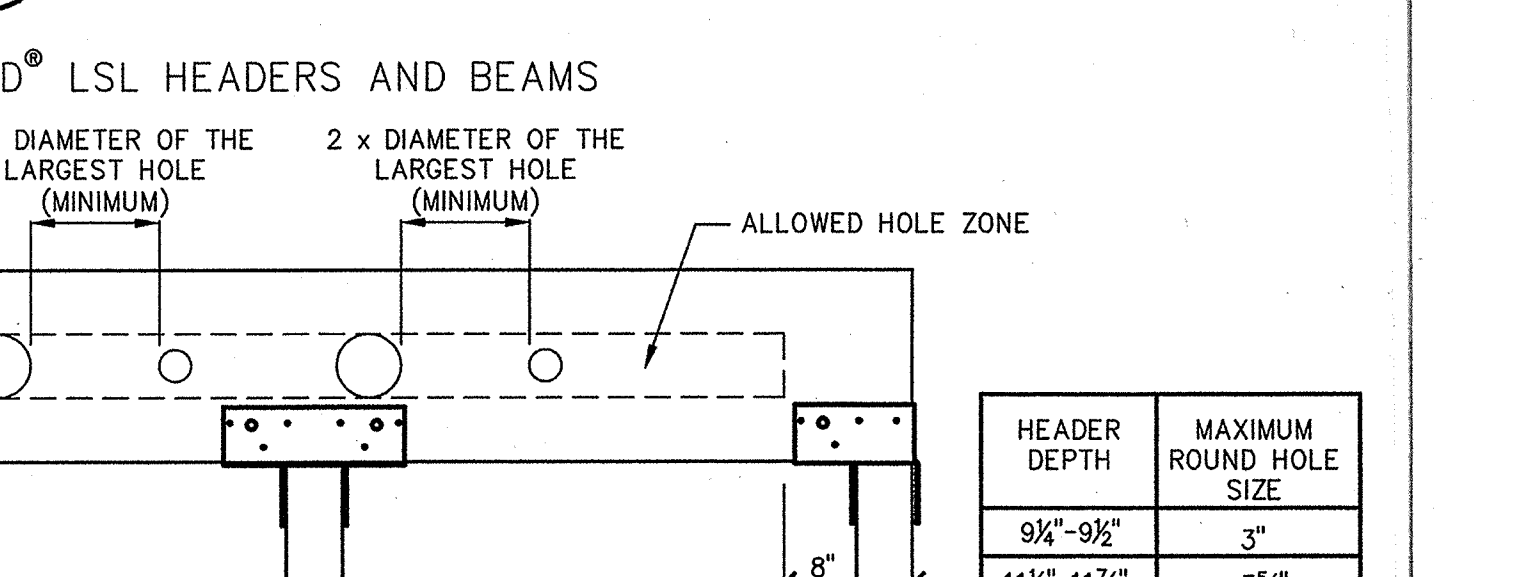
**18 PLYWOOD SHEATHING AT ROOF AND FLOORS REQUIRING SPECIAL BLOCKING AND EDGE NAIL SEE PLAN FOR LOCATION**



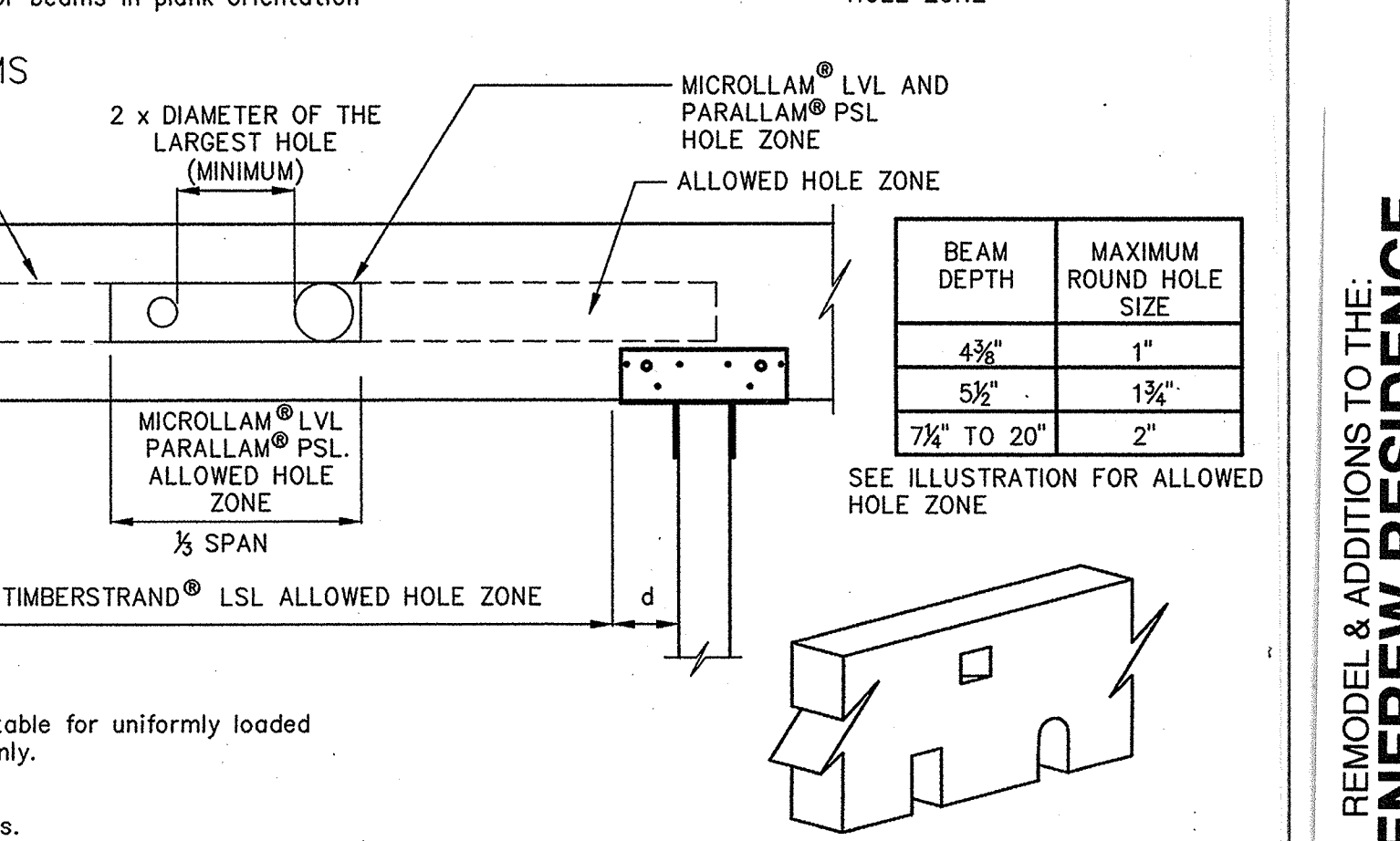
**1 TYPICAL TOP PLATE SPLICE**



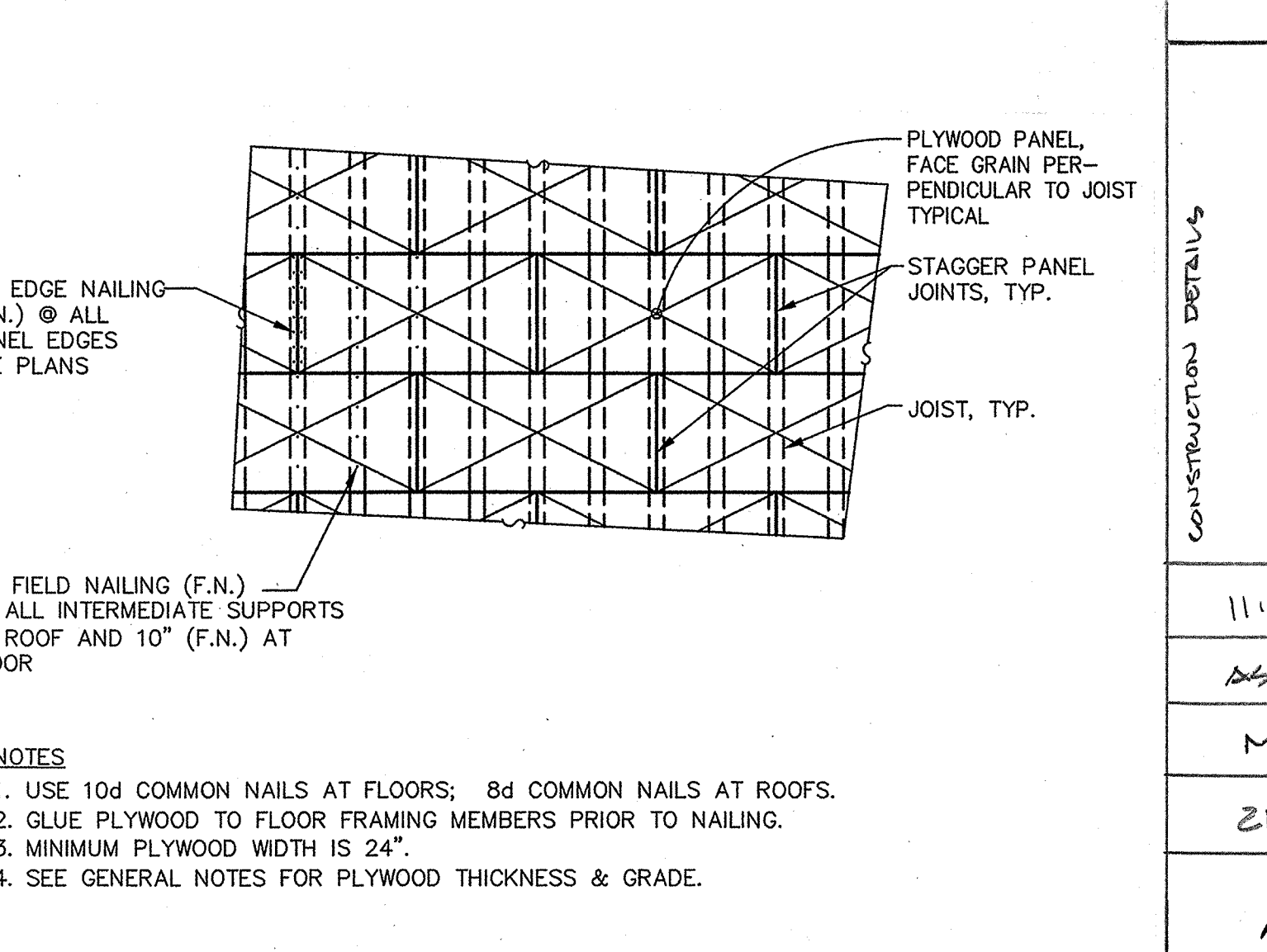
**2 OPENING IN FRAME AROUND HORIZ. DIAPHRAGM SEE PLAN FOR LOCATION**



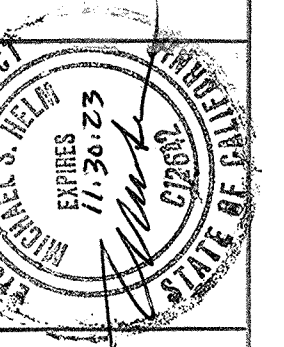
**3 ALLOWABLE HOLES**



**6 TYPICAL CALIFORNIA FRAMING**



**17 PLYWOOD SHEATHING AT ROOF AND FLOORS UNBLOCKED**



CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Residence. Calculation Date/Time: 2022-09-07 07:00. Input File Name: 22-570 Renfrew E+A-A.rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Residence. Calculation Date/Time: 2022-09-07 07:00. Input File Name: 22-570 Renfrew E+A-A.rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Residence. Calculation Date/Time: 2022-09-07 07:00. Input File Name: 22-570 Renfrew E+A-A.rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Residence. Calculation Date/Time: 2022-09-07 07:00. Input File Name: 22-570 Renfrew E+A-A.rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Residence. Calculation Date/Time: 2022-09-07 07:00. Input File Name: 22-570 Renfrew E+A-A.rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

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CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Residence. Calculation Date/Time: 2022-09-07 07:00. Input File Name: 22-570 Renfrew E+A-A.rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Residence. Calculation Date/Time: 2022-09-07 07:00. Input File Name: 22-570 Renfrew E+A-A.rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Residence. Calculation Date/Time: 2022-09-07 07:00. Input File Name: 22-570 Renfrew E+A-A.rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Residence. Calculation Date/Time: 2022-09-07 07:00. Input File Name: 22-570 Renfrew E+A-A.rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

MAIN RESIDENCE ENERGY COMPLIANCE

CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Music Room Addition. Calculation Date/Time: 2022-10-14 10:49:25. Input File Name: 22-571 Renfrew Music Room Add..rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Music Room Addition. Calculation Date/Time: 2022-10-14 10:49:25. Input File Name: 22-571 Renfrew Music Room Add..rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

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CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Music Room Addition. Calculation Date/Time: 2022-10-14 10:49:25. Input File Name: 22-571 Renfrew Music Room Add..rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Music Room Addition. Calculation Date/Time: 2022-10-14 10:49:25. Input File Name: 22-571 Renfrew Music Room Add..rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

CERTIFICATE OF COMPLIANCE. Project Name: Renfrew Music Room Addition. Calculation Date/Time: 2022-10-14 10:49:25. Input File Name: 22-571 Renfrew Music Room Add..rdb3n. Table with columns: Zone, Construction, Area, Height, etc.

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MUSIC ROOM ENERGY COMPLIANCE

Michael Helm, AIA Architect & Associates. 200 Seventh Avenue, #110 Santa Cruz, California 95062. (831) 476-6386. MONTEREY ENERGY GROUP Consulting Mechanical Engineering. 26465 Carmel Ranch Road, Suite 8, Carmel, CA 95923. 831-924-8338. REMODEL & ADDITIONS TO THE RENFREW RESIDENCE 14500 ARNERICH HILL ROAD - APRN 837-12-02 LOS GATOS, CALIFORNIA



### 2019 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Energy Standards must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. Exceptions may apply. (Original 08/2019)

Table with 2 columns: Measure ID and Description. Includes sections for Building Envelope Measures, Fireplaces, Decorative Gas Appliances, and Gas Log Measures, Space Conditioning, Water Heating, and Plumbing System Measures, and Ducts and Fans Measures.



### 2019 Low-Rise Residential Mandatory Measures Summary

Table with 2 columns: Measure ID and Description. Includes sections for Clearances, Liquid Line Drier, Storage Tank Insulation, Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation, Insulation Protection, Gas or Propane Water Heating Systems, Solar Water-heating Systems, Recirculating Loops, Ducts and Fans Measures, and Solar Ready Buildings.



### 2019 Low-Rise Residential Mandatory Measures Summary

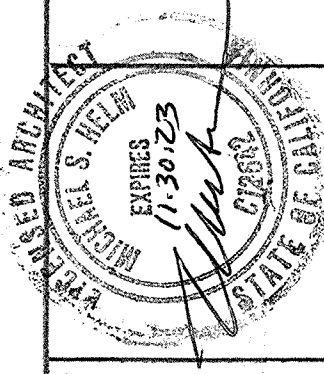
Table with 2 columns: Measure ID and Description. Includes sections for Requirements for Ventilation and Indoor Air Quality, Pool and Spa Systems and Equipment Measures, Lighting Measures, and Interior Switches and Controls.



### 2019 Low-Rise Residential Mandatory Measures Summary

Table with 2 columns: Measure ID and Description. Includes sections for Interior Switches and Controls, Residential Outdoor Lighting, Residential Garages for Eight or More Vehicles, and Solar Ready Buildings.

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LOS GATOS, CALIFORNIA

2019 LOW-RISE RESIDENTIAL  
MANDATORY MEASURES  
11.14.22  
NTS  
MSH ME4  
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# 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

## CHAPTER 3 GREEN BUILDING

### SECTION 301 GENERAL

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

**301.1.1 Additions and alterations.** [HCD] The mandatory provisions of Chapter 4 shall be applied to individual sections of CALGreen which apply to either low-rise residential buildings, high-rise residential buildings or additions or alterations of existing residential buildings when the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

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

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

### SECTION 302 MIXED OCCUPANCY BUILDINGS

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

### ABBREVIATION DEFINITIONS:

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

## CHAPTER 4 RESIDENTIAL MANDATORY MEASURES

### DIVISION 4.1 PLANNING AND DESIGN

#### SECTION 4.102 DEFINITIONS

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

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

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

#### 4.106 SITE DEVELOPMENT

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

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

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

**Notes:** Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil. (Website: [https://www.waterboards.ca.gov/water\\_issues/programs/stormwater/control.htm](https://www.waterboards.ca.gov/water_issues/programs/stormwater/control.htm))

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

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

**Exception:** Additions and alterations not altering the drainage path.

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

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

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

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

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

### DIVISION 4.2 ENERGY EFFICIENCY

#### 4.201 GENERAL

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

### DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

#### 4.303 INDOOR WATER USE

**4.303.1 WATER CONSERVING FIXTURES AND FITTINGS.** Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.4.4.  
**Notes:** All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq. For the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

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

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

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

**4.303.1.3 Showerheads.**  
**4.303.1.3.1 Single Showerhead.** Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.  
**4.303.1.3.2 Multiple showerheads serving one shower.** When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets installed by a single water inlet shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only allow one shower outlet to be in operation at a time.

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

#### 4.303.1.4 Faucets.

**4.303.1.4.1 Residential Lavatory Faucets.** The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 80 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.

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

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

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

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

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

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

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

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

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

### DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

**4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE**  
**4.406.1 EXTERIOR WALLS.** Exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.

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

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

**4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN.** Submit a construction waste management plan in conformance with Items 1 through 3. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.  
1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.  
2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single program).  
3. Identify diversion facilities where the construction and demolition waste material collected will be taken.  
4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.  
5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

**4.408.3 WASTE MANAGEMENT COMPANY.** Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.  
**Note:** The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

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

**4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE.** Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.  
**4.408.6 DOCUMENTATION.** Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1 through 5, Section 4.408.3 or Section 4.408.4.  
**Notes:**  
1. Sample forms found in "A Guide to the California Green Building Standards Code (CALGreen)" located at [www.hcd.ca.gov/CALGreen.html](http://www.hcd.ca.gov/CALGreen.html) may be used to assist in documenting compliance with this section.  
2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

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

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

**Exception:** Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are not required to comply with the organic waste portion of this section.

### DIVISION 4.5 ENVIRONMENTAL QUALITY

#### SECTION 4.501 GENERAL

**4.501.1 Scope.** The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of a building's residents, occupants and neighbors.  
**SECTION 4.502 DEFINITIONS**  
**5.102.1 DEFINITIONS**  
The following terms are defined in Chapter 2 (and are included here for reference)

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

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

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

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

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

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

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

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

#### 4.503 FIREPLACES

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

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

**4.504.2 FINISH MATERIAL POLLUTANT CONTROL.** Finish materials shall comply with this section.  
**4.504.2.1 Adhesives, Sealants and Caulks.** Adhesives, sealant and caulk used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCQMID Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below.
2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant and caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC limitations and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with section 94507.

**4.504.2.2 Paints and Coatings.** Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARI Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.23, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.

**4.504.2.3 Aerosol Paints and Coatings.** Aerosol paints and coatings shall meet the Product-weighted MIR Limits for VOC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(a)(1) and (f)(1) of the California Code of Regulations, Title 17, commencing with Section 94502; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 4b.  
**4.504.2.4 Verification.** Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

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

**TABLE 4.504.1 - ADHESIVE VOC LIMIT<sub>s</sub>**  
(Less Water and Less Exempt Compounds in Grams per Liter)

ARCHITECTURAL APPLICATIONS	VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SURFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	60
MULTIPURPOSE CONSTRUCTION ADHESIVE	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	420
ABS WELDING	395
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	650
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	30
WOOD	50
FIBERGLASS	60

**TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS<sub>s</sub>**  
GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	150
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS	120
MAGNETIC CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOAT COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACs	730
CLEAR	730
OPAQUE	650
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

**TABLE 4.504.5 - FORMALDEHYDE LIMITS.**  
MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

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

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.1.  
2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).

Y. M. RESPONSE PARTY YES NOT APPLICABLE  
RESPONSE PARTY (B. ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

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

</

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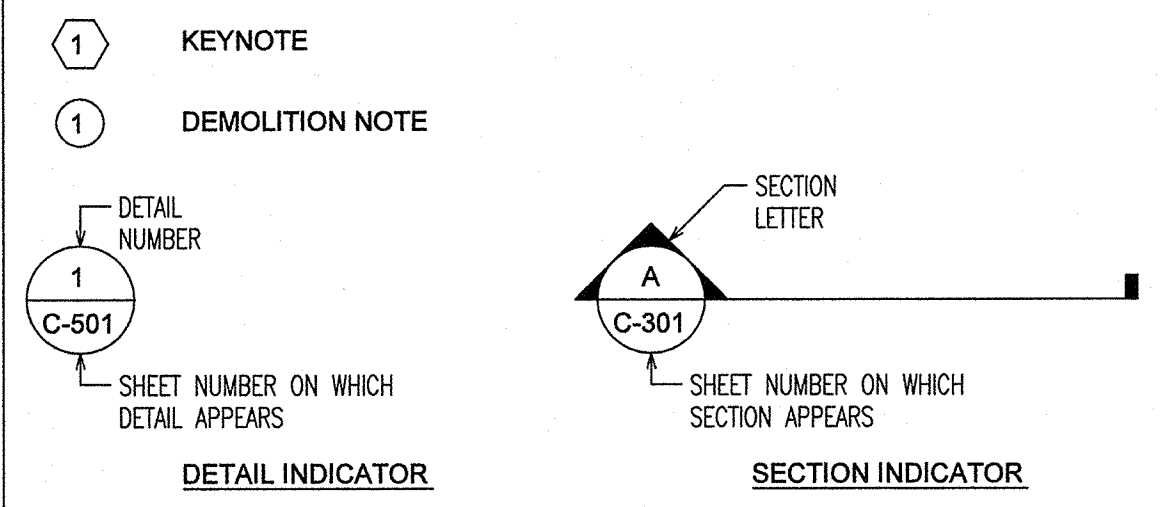
ABBREVIATIONS

Table of abbreviations including symbols for diameters, survey points, materials, and construction details.

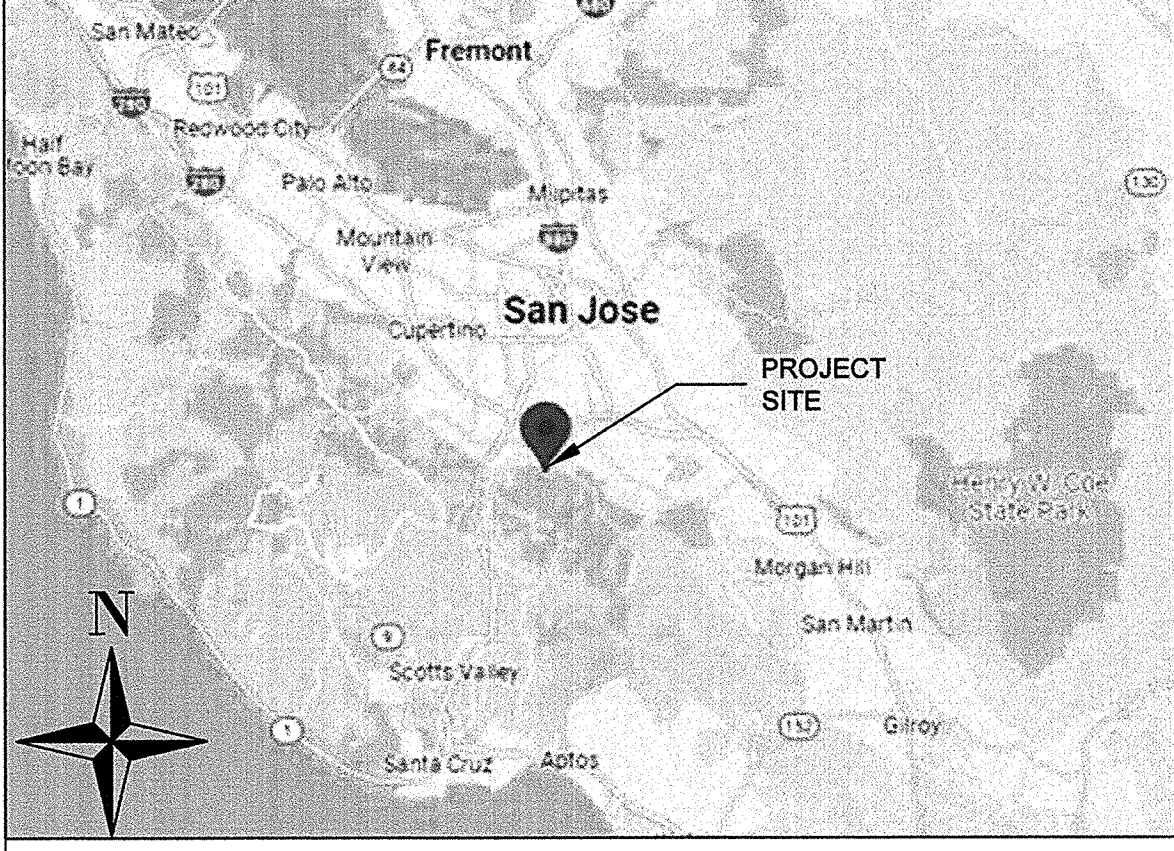
CIVIL SYMBOLS LEGEND

Table of civil symbols for survey topography, site improvements, and utility lines.

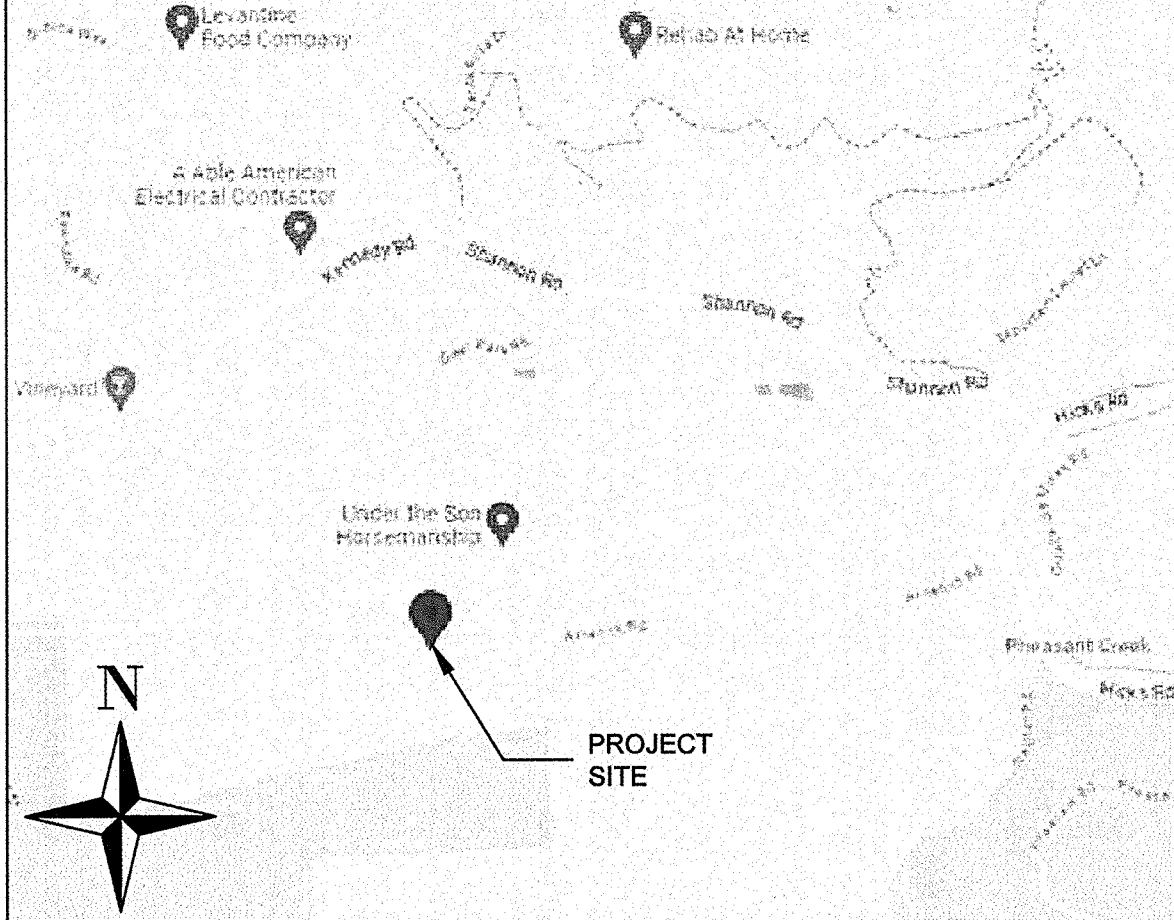
ANNOTATION



SITE VICINITY



SITE LOCATION



PROJECT DESCRIPTION

GENERAL: NEW REPLACEMENT OWTS BASIS: BEDROOM AND POOL CABANA ADDITIONS. JUSTIFICATION FOR ALTERNATIVE OWTS DESIGN: THERE IS A LIMITING CLAY LAYER STARTING AT 3' BELOW GROUND LEVEL (BGL)...

GENERAL SHEET NOTES

- 1. ABBREVIATIONS AND SYMBOLS ON THIS SHEET APPLY ONLY TO THE CIVIL DRAWINGS... 2. THIS IS A STANDARD ABBREVIATION AND LEGEND SHEET... 3. DO NOT SCALE DRAWINGS... 4. ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE CURRENTLY REQUIRED VERSION OF THE FOLLOWING CODE: 4.1. CALIFORNIA BUILDING CODE 4.2. CALIFORNIA PLUMBING CODE 4.3. CALIFORNIA MECHANICAL CODE 4.4. CALIFORNIA ELECTRICAL CODE 4.5. ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND ORDINANCES 5. NOTHING ON THE ENCLOSED DRAWINGS IS TO BE CONSTRUED AS REQUIRING OR PERMITTING WORK THAT IS CONTRARY TO THE CODES, ORDINANCES, OR REGULATIONS DESCRIBED ABOVE. 6. ANY DEVIATIONS FROM THE PROPOSED PLANS SHALL BE DISCUSSED WITH THE PROJECT ENGINEER PRIOR TO MAKING CHANGES IN THE FIELD.

INDEX

Table with columns: NO., SHEET, TITLE. Lists sheets 1 through 5 including Cover Sheet, Existing Site Layout, Wastewater System Plan, Schematic, and Specifications.

PROJECT DESIGN AND OPERATION NOTES

DESIGN FLOWS, VOLUMES, AND TREATMENT: FACILITY TYPE: RESIDENTIAL UNIT FLOW BASIS: # OF BEDROOMS... TREATMENT CATEGORY: ENHANCED/ALTERNATIVE... SOIL TESTING RESULTS AND DISPOSAL DESIGN: MYER ENGINEERING OBSERVED THE SOIL CHARACTERISTICS OF 2 TEST PITS EXCAVATED TO DEPTHS OF 12' AND 13' BELOW GROUND LEVEL (BGL)...

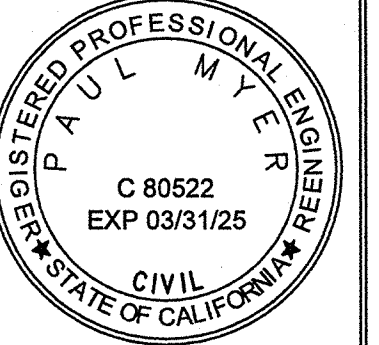
REVISIONS: 1. 06/16/2023 MVE\_Renrefw\_OWTS\_Plans.dwg

COVER SHEET

Renrefw Site Improvement Project 14500 Arnerich Hill Road Los Gatos CA 95032 APN: 537-12-012

CLIENT: Rob & Katrina Renrefw renrefw@gmail.com katrinarenrefw@gmail.com 650-440-3231

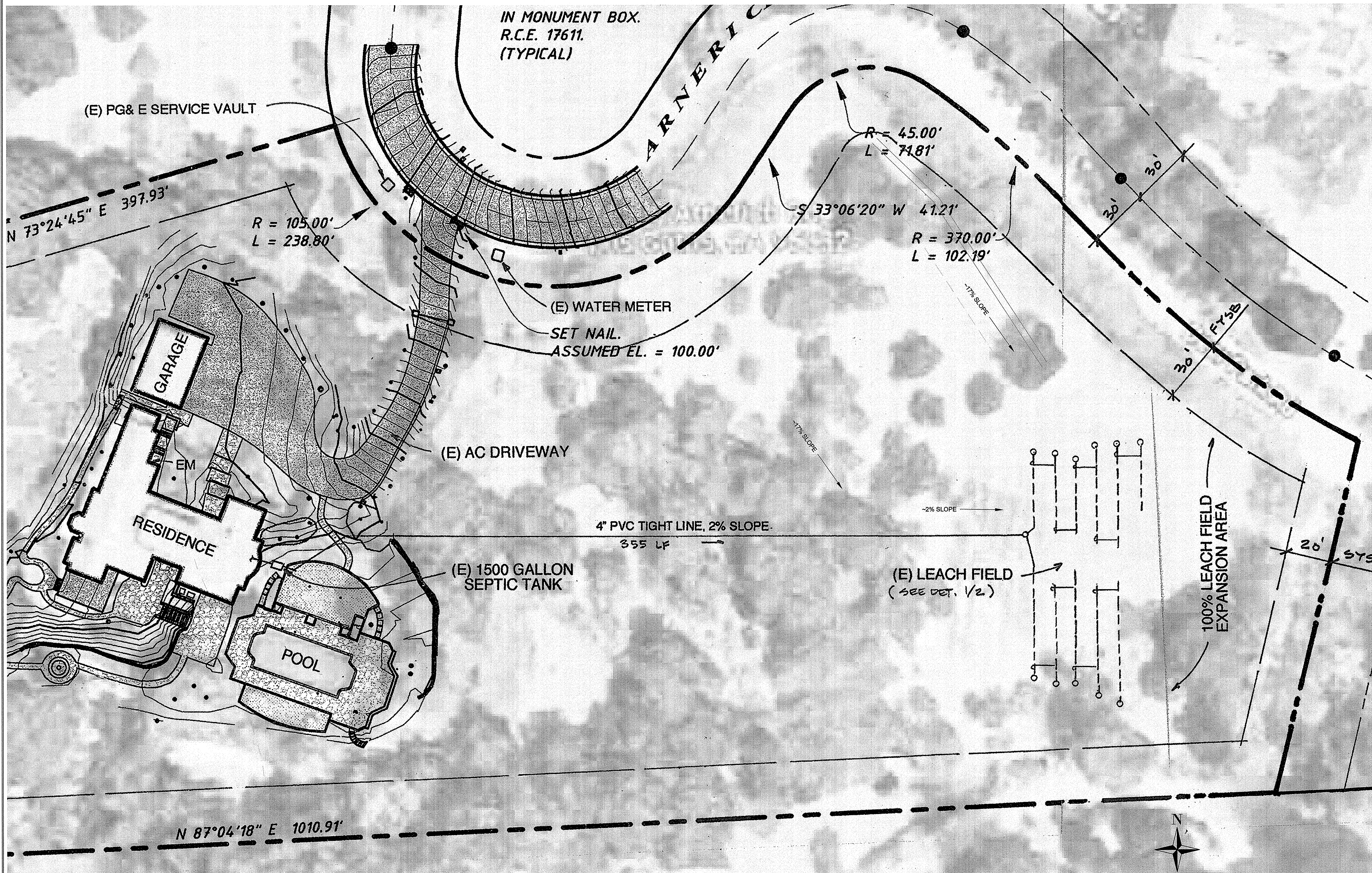
MYER ENGINEERING INC. Civil Engineering Consulting Services PAUL MYER, MS, PE 1796 LAUREL GLEN RD. SOQUEL, CA 95073 (831) 800-2244 paul@myerengineering.com



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WW1 1 OF 5

Table with columns: No., Revision/Issue, Date.



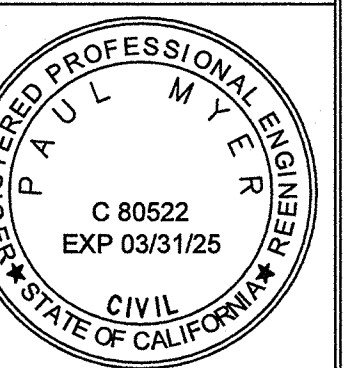
LIMIT IN ARY PLANS: NOT FOR CONSTRUCTION

**EXISTING SITE LAYOUT**

Renfrew Site Improvement Project  
14500 Arnerich Hill Road  
Los Gatos CA 95032  
APN: 537-12-012

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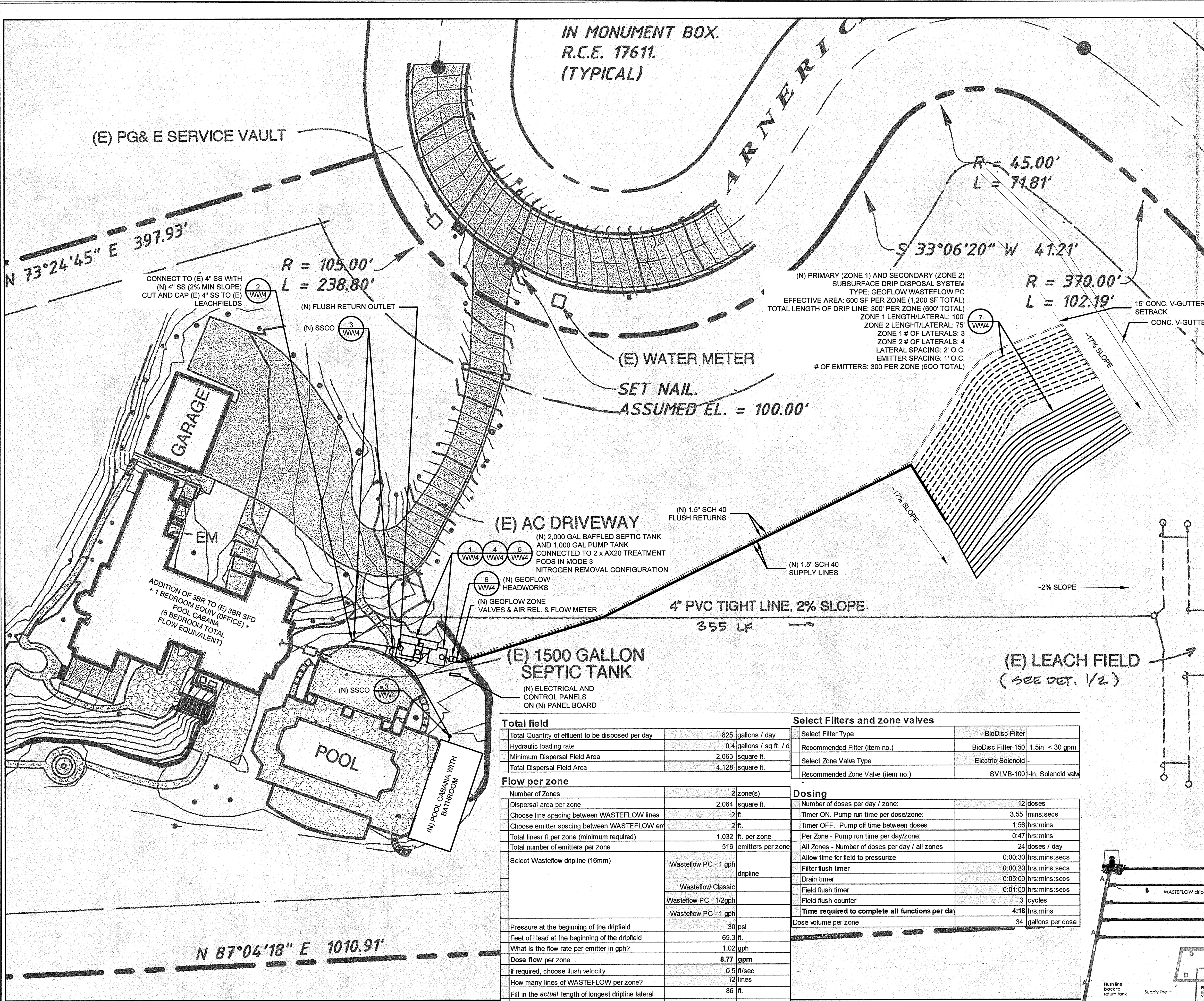


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Date JUNE 2023	
Sheet No.	

**WW2**  
2 OF 5

1 EXISTING SITE LAYOUT  
SCALE: 1" = 20'

No.	Revision/Issue	Date



Number of bedrooms	2	Total square footage of living space	TBD
Septic tank size	2,000 GAL	Installed drainfield	4,128 SQFT SSD
Elevation of highest drainfield (ft)	NA - DOWNHILL	Expansion drainfield	INSTALLED = 500 SQFT
Elevation of pump off (ft)	NA - DOWNHILL		PRIMARY + 500 SQFT
Total lift (ft Head)	= 0 (A)		SECONDARY (EXPANSION)

<b>TIGHT LINE</b>		
Diameter of tight line (inches)	1.5"	
Length of tight line from pump to upper drainfield (ft)	NA (B)	

<b>FITTINGS</b>		
No. of Fittings	Pipe Length Equivalent (ft)	Total Pipe Equivalent (ft)
90° standard elbow	X	=
45° standard elbow	X	=
90° long radius elbow	X	=
other fittings	X	=
gate valve (fully open)	X	=
check valve (conventional swing)	X	=
TOTAL =		(C)

<b>CALCULATIONS:</b>		
Friction Loss in Pipes and Fittings:	(D/100 ft) x (friction loss per chart) =	(E) Head in Feet
Required Pump Size:	(A) + (E) =	(F) Total Pumping Head in Feet

<b>Pump Size:</b>	
(F) versus GPM = Pump Size (refer to pump curve)	
Pump Model: (Attach Pump Curve)	Manufacturer/Model
8.8 GPM at 97.5 (ft of head: from pump curve)	ORENCO PF1007

<b>Required Capacity in Gallons</b>	
Dosing Volume	34 GAL
Storage Capacity (1 1/2 days)	450 GAL
Pump Displacement	8 GAL
Volume from tank bottle to pump base	72 GAL
Total tank capacity	1,000 GAL (1,200 GAL MAX)

<b>Pump Tank Information</b>		
Manufacturer	CHAPIN PRE-CAST	Size
	1,000 GAL	Gallons per inch
		18.35 AVG.

<b>Flush line - Losses through return line</b>		
Select Pipe from dropdown menu	PVC schedule 40	
Select Flush Line Diameter	1-1/2" inch	
Length of return line	340 ft.	
Equivalent length of fittings	10 ft.	
Elevation change (if downhill enter 0)	0 ft.	
Pressure loss in 100 ft of pipe	0.17 ft.	0.08 psi
Total pressure loss from end of dripline to return tank	0.6 ft.	0.26 psi

<b>Dripline - Losses through Wasteflow dripline</b>		
Length of longest dripline lateral	86 ft.	
Minimum dosing pressure required at end of dripline	23.10 ft.	10.00 psi
Loss through dripline during flushing	1.29 ft.	0.559 psi
Total minimum required dripline pressure	24.39 ft.	10.56 psi

<b>B. Minimum Pressure required at beginning of dripline</b>		
CALCULATED pressure required at beginning of dripline	25.00 ft.	10.82 psi
SPECIFIED pressure at beginning of dripline (from)	69.3 ft.	30.00 psi
Great! SPECIFIED Pressure is greater than CALCULATED Pressure requirement. Go to next step		

<b>Drip components - Losses through headworks</b>		
Filter	11.6 ft.	5.00 psi
Zone valve pressure loss (not in diagram)	2.31 ft.	1.00 psi
Flow meter pressure loss (not in diagram)	1.00 ft.	0.43 psi
Other pressure losses	5.00 ft.	2.16 psi
Total loss through drip components	19.86 ft.	8.60 psi

<b>Supply line - Minimum Pressure head required to get from pump tank to top of dripline</b>		
Select Pipe from dropdown menu	PVC schedule 40	
Select Supply line diameter	1-1/2" inch	
Length of supply line	250 ft.	
Equivalent length of fittings	5 ft.	
Height from pump to tank outlet	5 ft.	
Elevation change (if downhill enter 0)	0 ft.	
Pressure loss/gain in 100 ft. of pipe	1.31 ft.	0.57 psi
Total gain or loss from pump to field	8.3 ft.	3.81 psi
Total dynamic head	97.5 ft.	42.21 psi
Pump capacity * - Field Flush Flow	13.2 gpm	42.21 psi
- Field Dose Flow	8.8 gpm	
- Filter Flush Flow	- gpm	- psi

Pump Model Number	See Plan/Details
Voltz / Hp / phase	See Plan/Details

<b>Total field</b>	
Total Quantity of effluent to be disposed per day	825 gallons / day
Hydraulic loading rate	0.4 gallons / sq. ft. / d
Minimum Dispersal Field Area	2,063 square ft.
Total Dispersal Field Area	4,128 square ft.

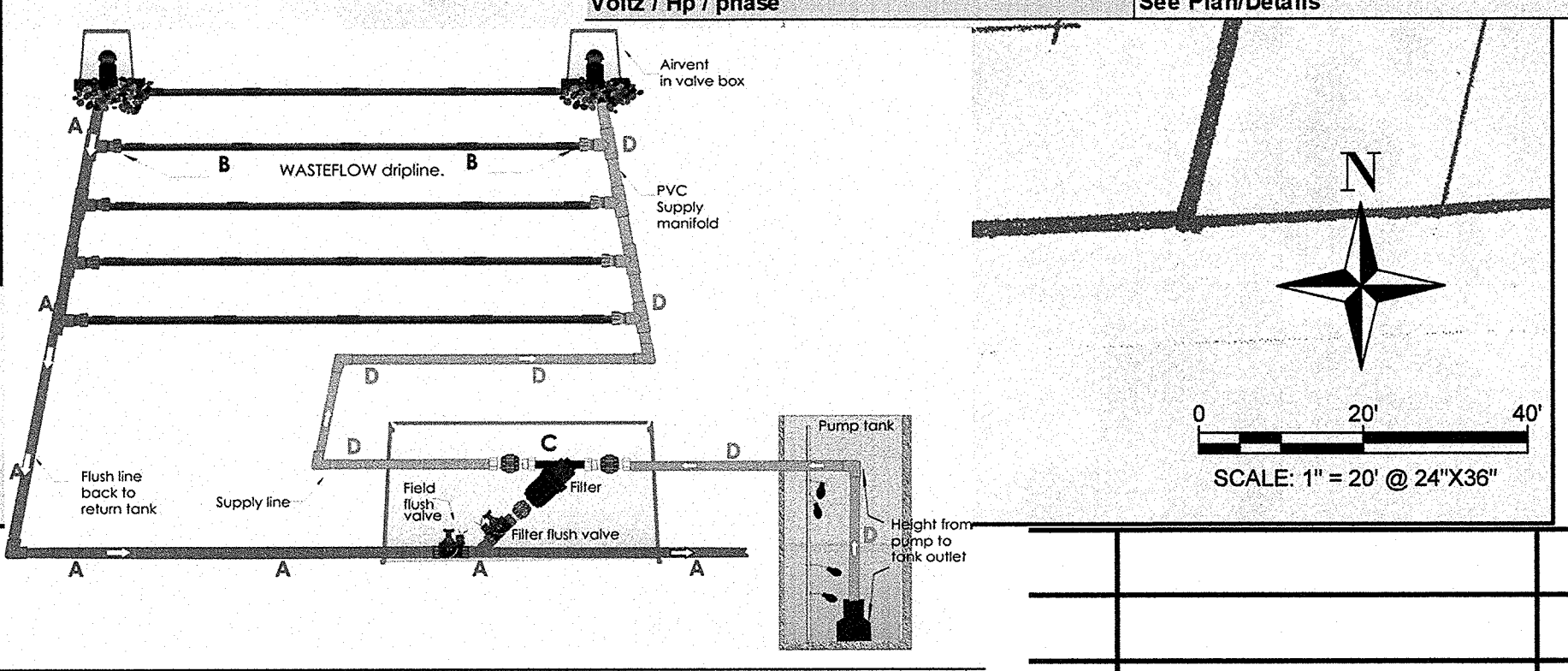
<b>Flow per zone</b>	
Number of Zones	2 zone(s)
Dispersal area per zone	2,064 square ft.
Choose line spacing between WASTEFLOW lines	2 ft.
Choose emitter spacing between WASTEFLOW emitters	2 ft.
Total linear ft. per zone (minimum required)	1,032 ft. per zone
Total number of emitters per zone	516 emitters per zone

<b>Select Filters and zone valves</b>	
Select Filter Type	BioDisc Filter
Recommended Filter (item no.)	BioDisc Filter-150 1.5in < 30 gpm
Select Zone Valve Type	Electric Solenoid
Recommended Zone Valve (item no.)	SVLVB-1001-in. Solenoid valve

<b>Dosing</b>	
Number of doses per day / zone:	12 doses
Timer ON. Pump run time per dose/zone:	3.55 mins:secs
Timer OFF. Pump off time between doses:	1:56 hrs:mins
Per Zone - Pump run time per day/zone:	0:47 hrs:mins
All Zones - Number of doses per day / all zones:	24 doses / day
Allow time for field to pressurize:	0:00:30 hrs:mins:secs
Filter flush timer:	0:00:20 hrs:mins:secs
Drain timer:	0:05:00 hrs:mins:secs
Field flush timer:	0:01:00 hrs:mins:secs
Field flush counter:	3 cycles
Time required to complete all functions per day:	4:18 hrs:mins
Dose volume per zone	34 gallons per dose



**WASTEWATER SYSTEM PLAN**

Renfrew Site Improvement Project  
 14500 Arnerich Hill Road  
 Los Gatos CA 95032  
 APN: 537-12-012

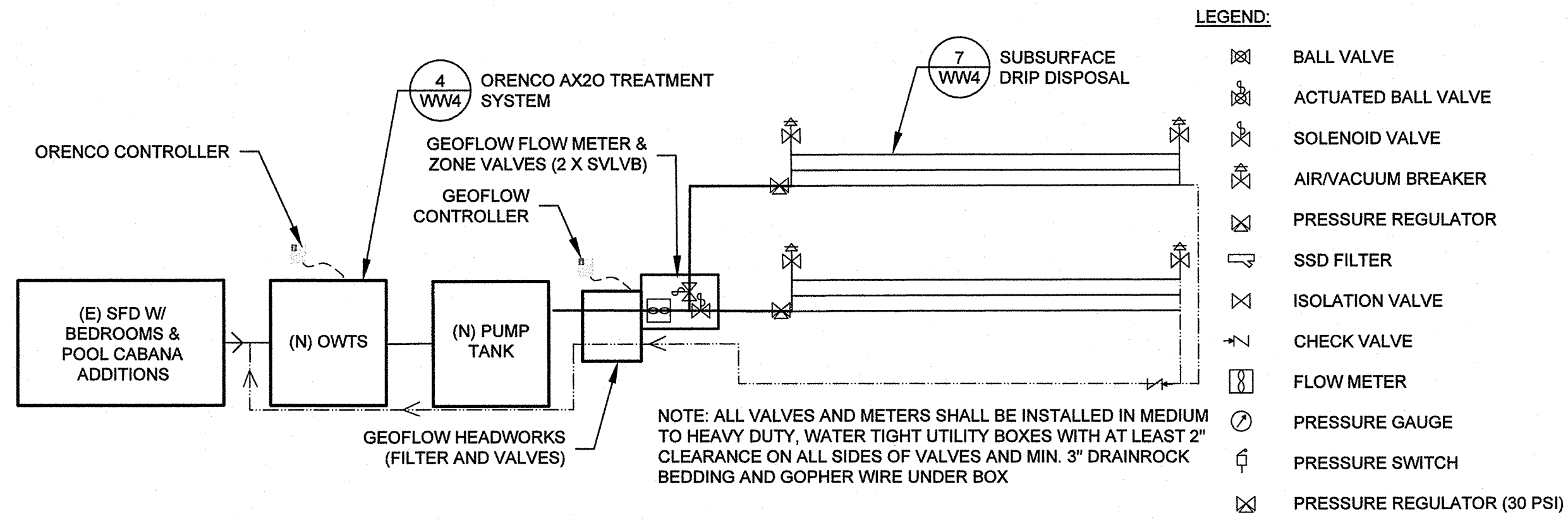
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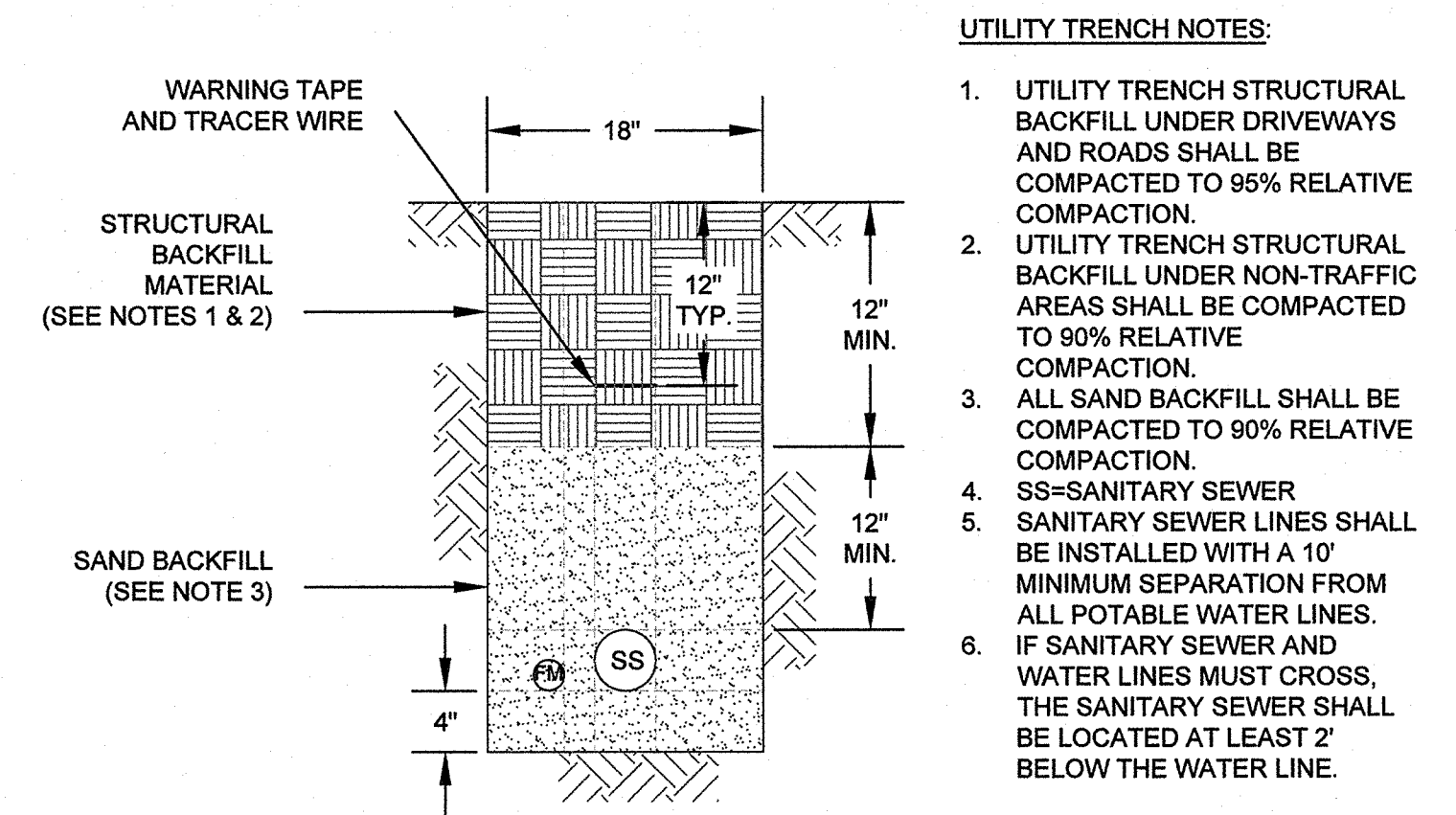
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 Sheet No.: WW3

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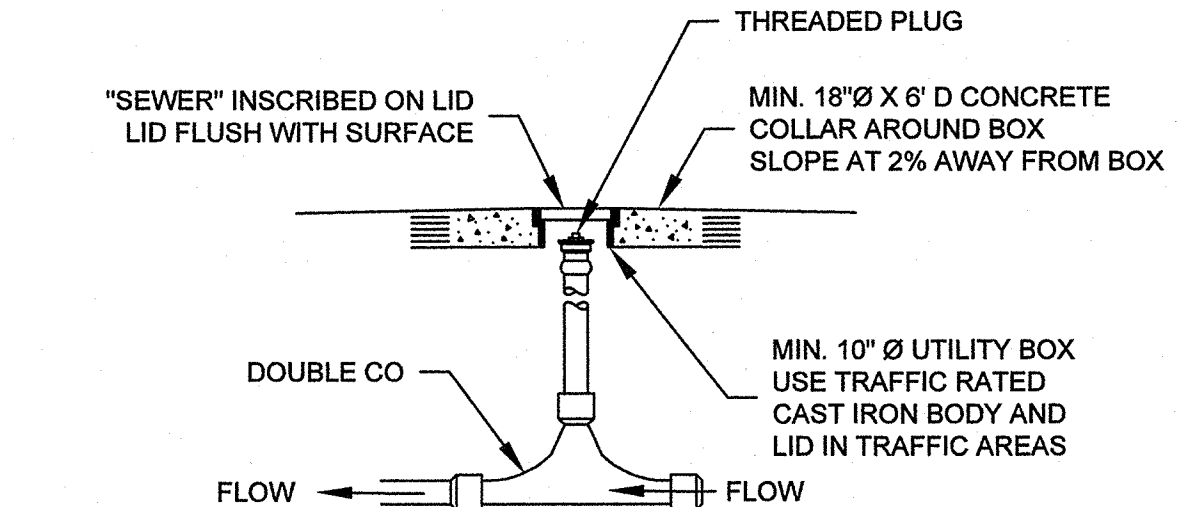




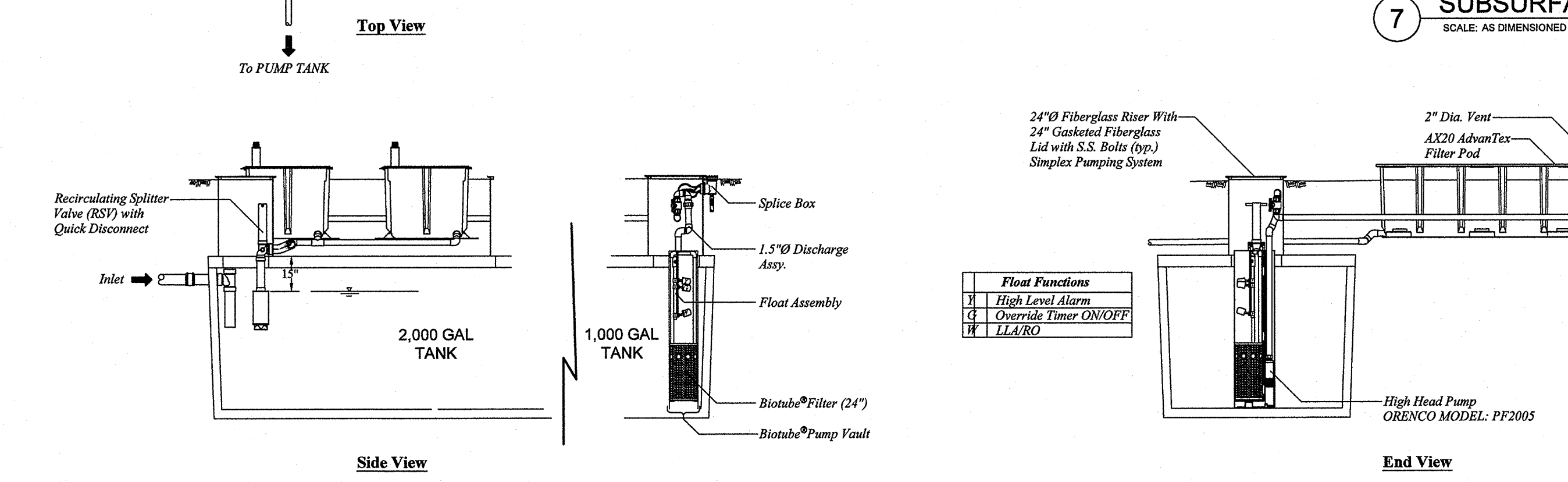
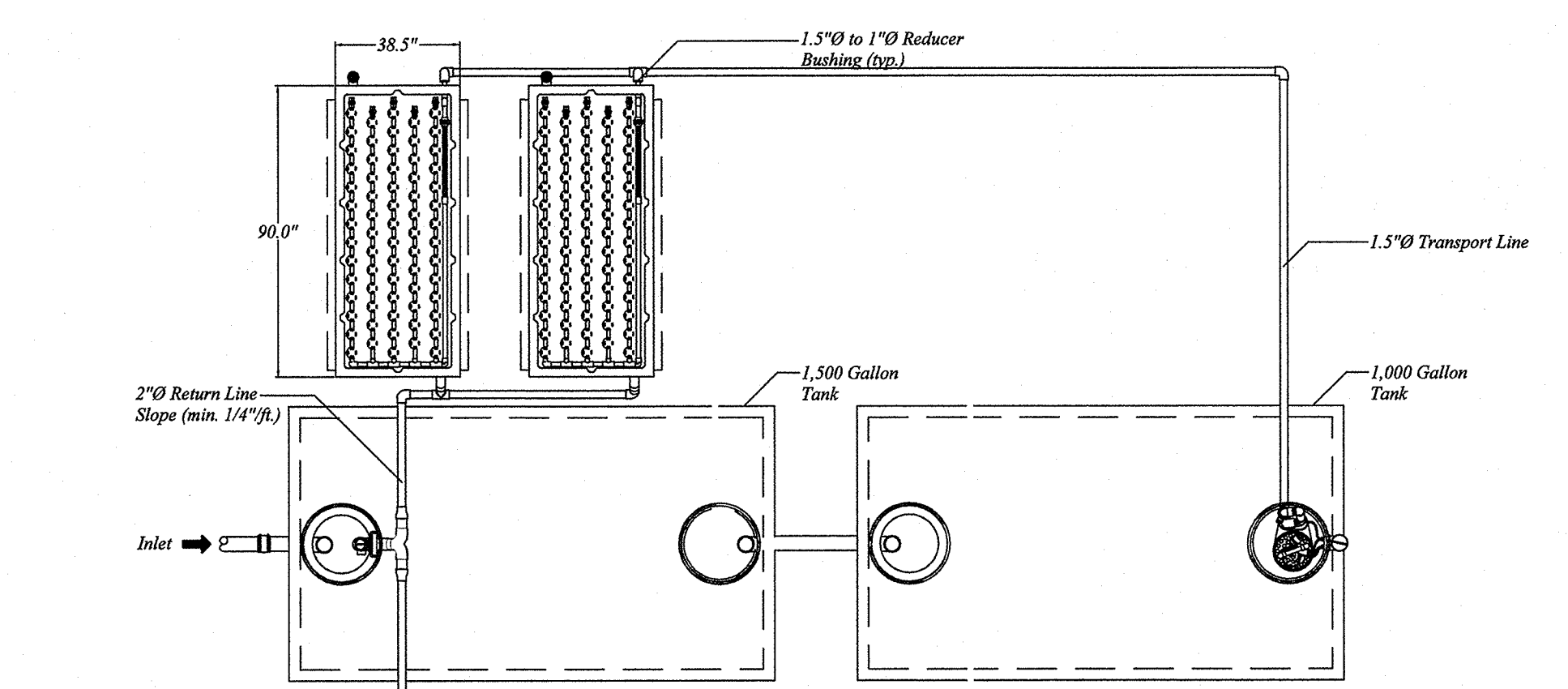
**1 WASTEWATER TREATMENT AND DISPOSAL SYSTEM SCHEMATIC**  
SCALE: AS DIMENSIONED



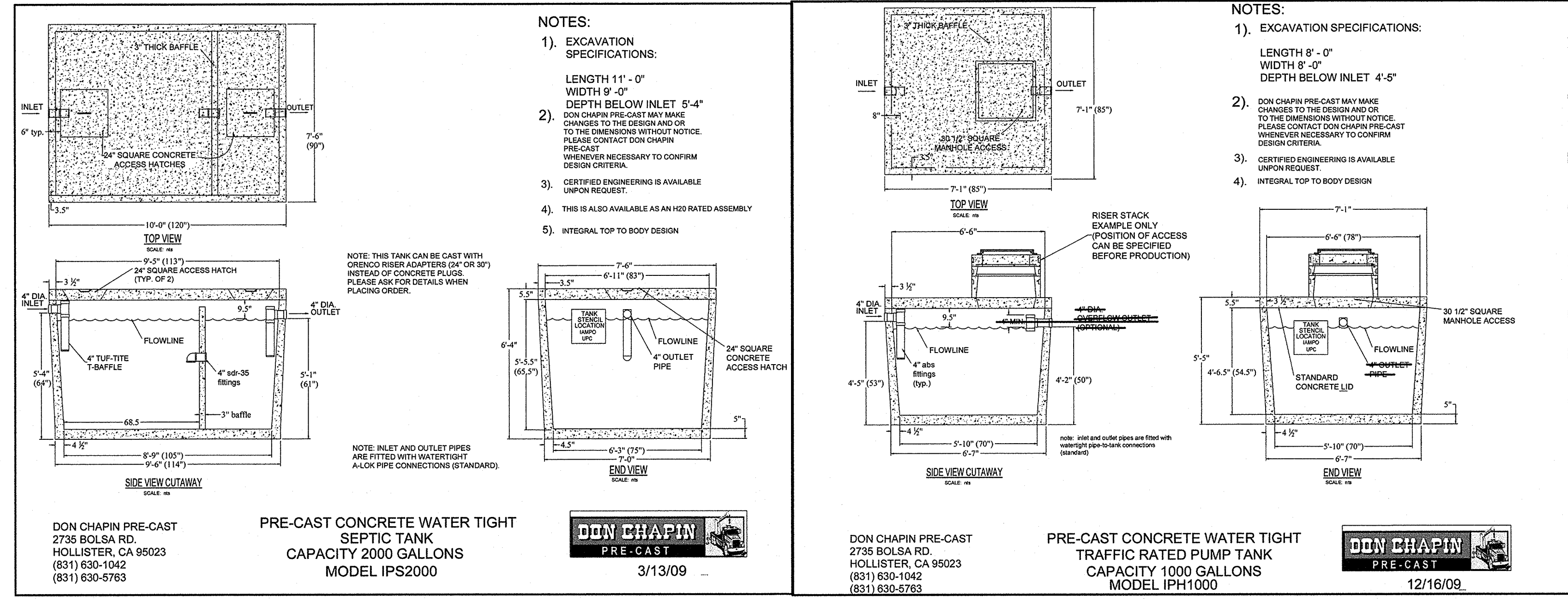
**2 SS UTILITY TRENCH DETAIL**  
SCALE: AS DIMENSIONED



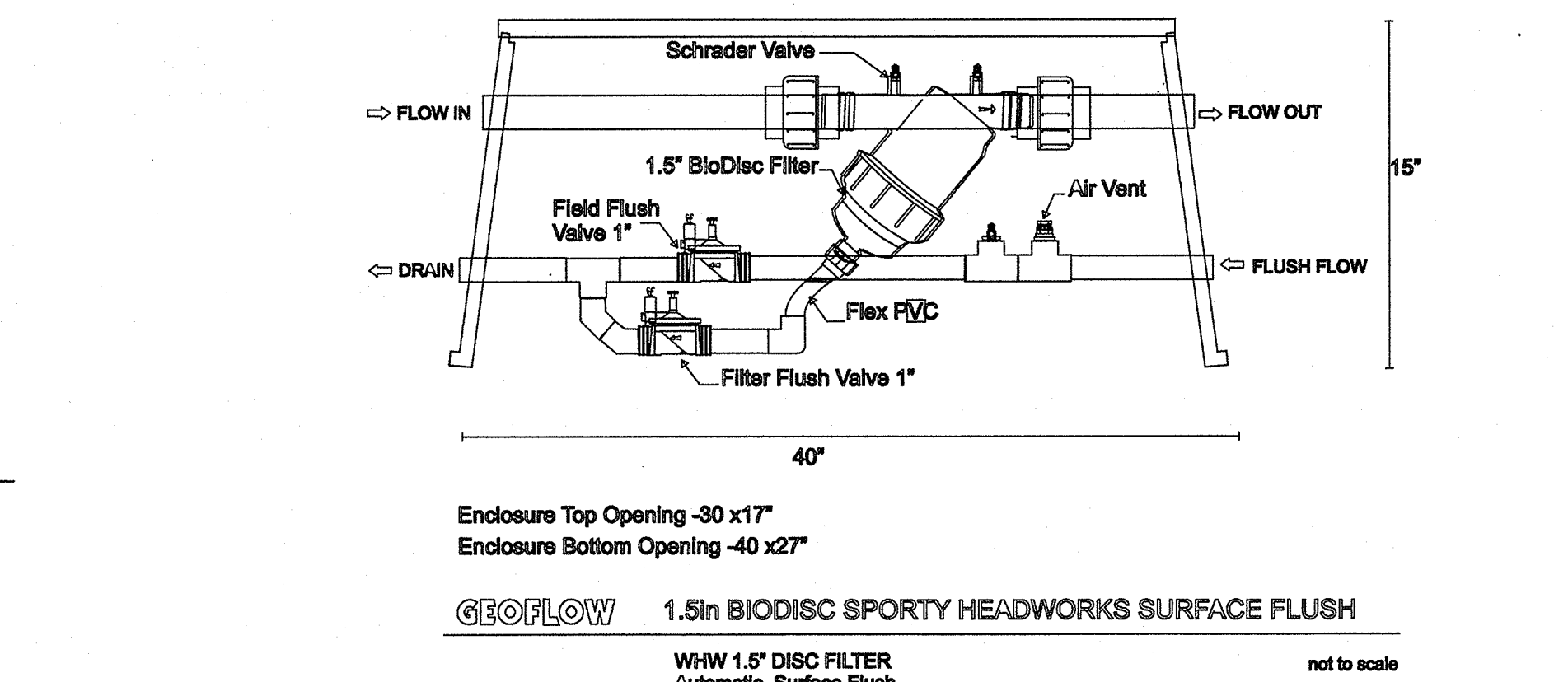
**3 SS CLEANOUT**  
SCALE: AS DIMENSIONED



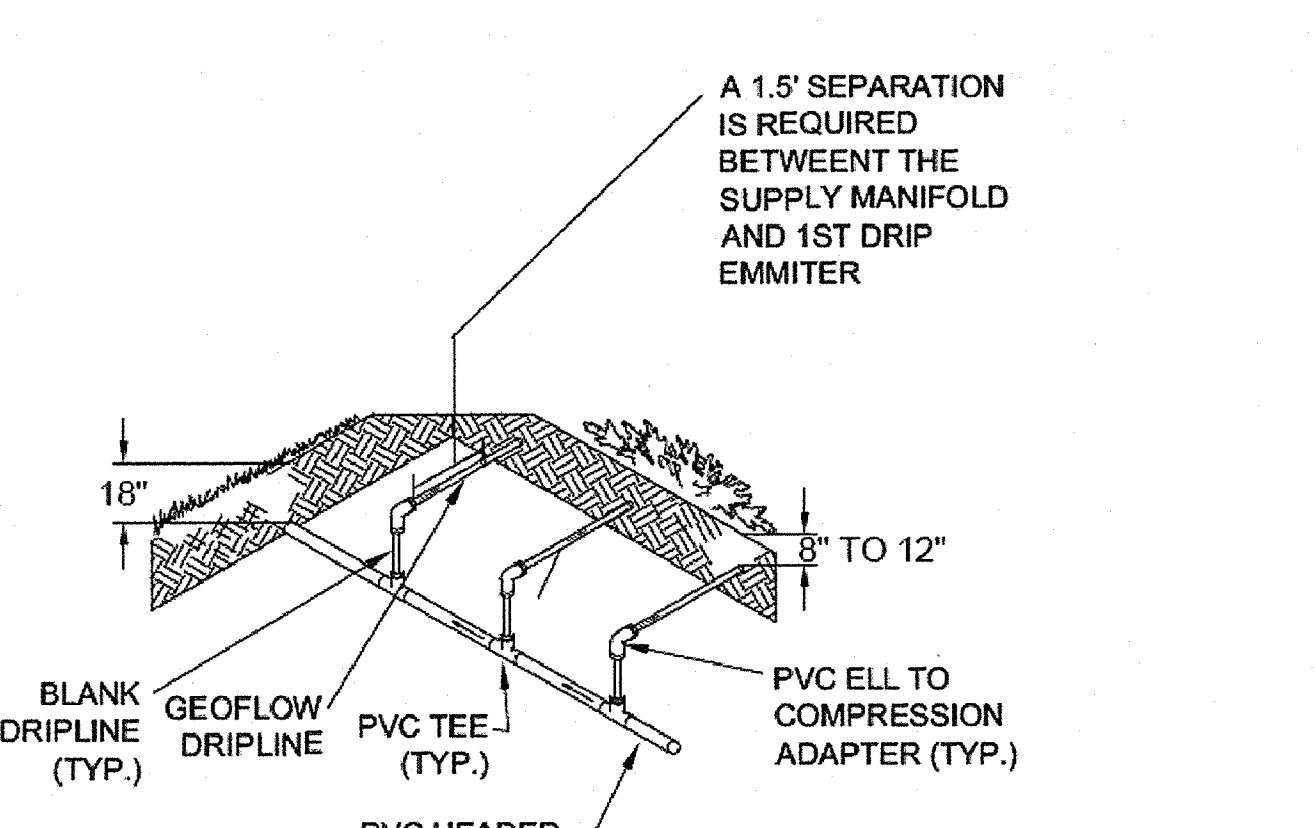
**4 ADVANTEX 2-POD AX20N MODE 3A ENHANCED TREATMENT SYSTEM (WITH 2,000 GALLON WATERTIGHT SEPTIC TANK)**  
SCALE: AS DIMENSIONED



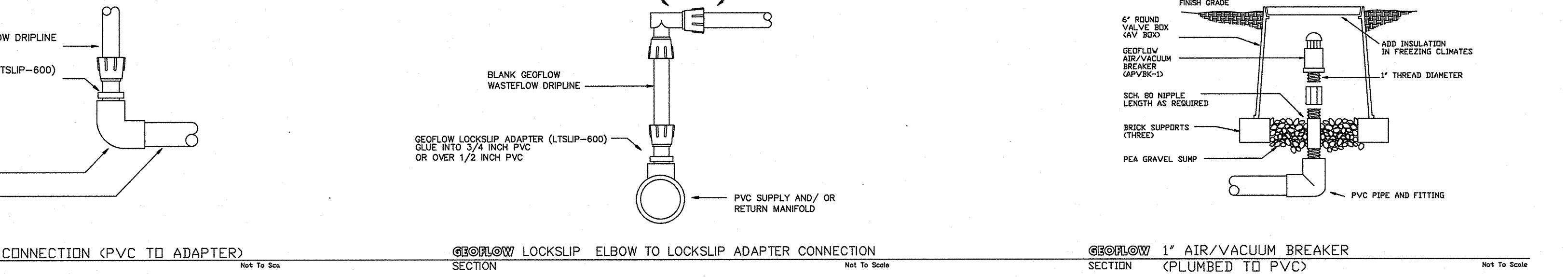
**5 2,000 GAL SEPTIC TANK AND 1,000 GAL PUMP TANK (CHAPIN PRE-CAST OR EQUIV)**  
SCALE: AS DIMENSIONED



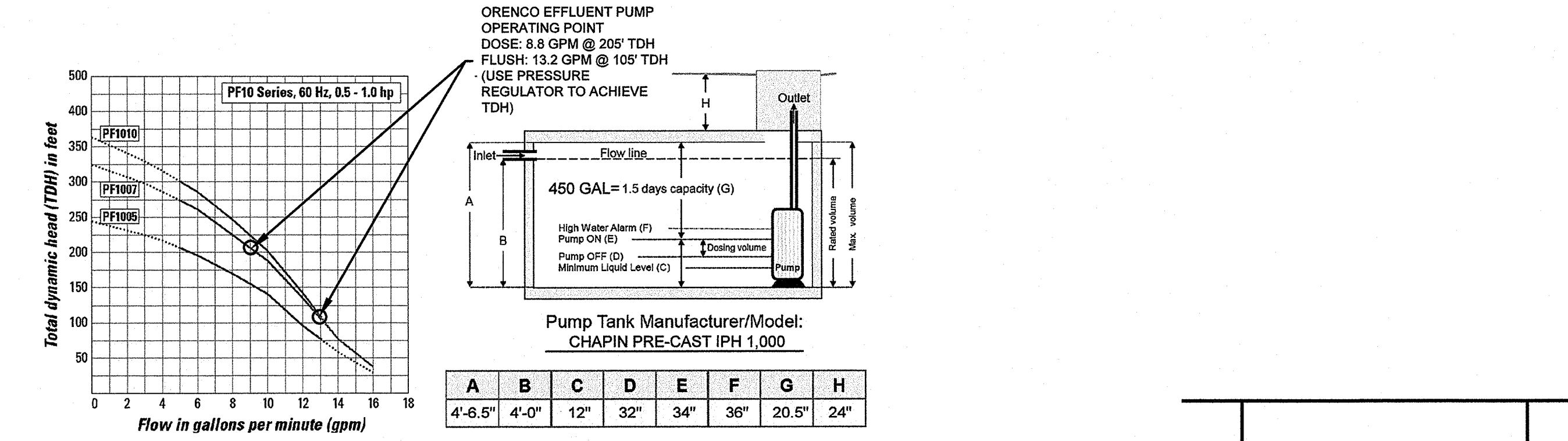
**6 GEOFLOW HEADWORKS**  
SCALE: AS DIMENSIONED



**END FEED/FLUSH MANIFOLD**



**7 SUBSURFACE DRIP (SSD) GEOFLOW DETAILS**  
SCALE: AS DIMENSIONED



**8 PUMP SYSTEM DETAILS**  
SCALE: AS DIMENSIONED

**WASTEWATER SYSTEM SCHEMATIC AND DETAILS**

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STATE OF CALIFORNIA

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**WW4**

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No.	Revision/Issue	Date

**GENERAL SPECIFICATIONS**

THE FOLLOWING SPECIFICATIONS ARE FOR THE INSTALLATION OF THE ENHANCED WASTEWATER TREATMENT SYSTEM AT THE LOCATION SPECIFIED IN THE BORDER OF THESE DESIGN PLANS. THE ACCOMPANIED PLANS PRESENT THE GENERAL LAYOUT, PLUMBING CONFIGURATION, AND CONSTRUCTION DETAILS.

**MATERIAL SPECIFICATIONS**

THE FOLLOWING ARE MATERIAL SPECIFICATIONS FOR THE WASTEWATER SYSTEM COMPONENTS. ALL MATERIALS USED FOR THE CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS AND AS DESCRIBED IN THE ACCOMPANIED PLANS OR AN ENGINEER APPROVED EQUIVALENT.

**1. SUBSURFACE TANKS**

THE SUBSURFACE TANKS INCLUDE THE 2,000 GALLON CONCRETE WATER-TIGHT SEPTIC TANK (TREATMENT TANK) AND THE 1,000 GALLON CONCRETE WATER-TIGHT PUMP TANK.

1.1. DIMENSIONS, FITTING SIZES AND LOCATIONS, AND OPTIONAL ACCESSORIES SHALL BE INCLUDED AS SHOWN ON TANK DRAWINGS. THE TANK SHALL BE WATERTIGHT AND TESTED IN THE FIELD AFTER INSTALLATION.

1.2. PRODUCT STORAGE. THE SUBSURFACE TANKS SHALL BE CAPABLE OF STORING SEPTAGE LIMITED TO THE COLLECTION AND STORAGE OF HUMAN SOLID OR LIQUID ORGANIC WASTE.

1.3. PIPING. SDR35 PVC PIPE, SCHEDULE 40 PVC PIPE, OR ABS PIPE SHALL BE USED FOR INLET AND OUTLET PIPING AS SHOWN ON DRAWINGS. ALL PIPING SHALL BE FACTORY SEALED TO ENABLE FIELD TIGHTNESS TESTING WITH AT LEAST ONE PIPE OPENING PROVIDED WITH A THREADED FITTING FOR CONNECTING A PRESSURE TEST MANIFOLD.

1.4. ACCESS OPENINGS. ALL ACCESS OPENINGS SHALL BE 30 INCHES IN DIAMETER OR LARGER AS SHOWN ON THE PLANS, SHALL BE MANUFACTURED OF FIBERGLASS, CONCRETE OR CAST IRON WITH RESPECT TO SPECIFIED TRAFFIC RATING. LOCATIONS SHALL BE AS SHOWN ON TANK DRAWINGS. EACH MANHOLE SHALL HAVE A WATERTIGHT RISER TO FINISH GRADE.

1.5. RISERS. RISERS SHALL BE REQUIRED FOR ACCESS TO INTERNAL VAULTS AND ACCESS INTO THE TANKS FOR SEPTAGE PUMPING. ALL RISERS SHALL BE CONSTRUCTED WITH WATERTIGHT SEALS PROVIDED. RISERS SHALL BE A MINIMUM OF 30" IN NOMINAL DIAMETER WHEN THE DEPTH OF BURY IS 36" OR GREATER. TO ENSURE PRODUCT COMPATIBILITY, RISERS, LIDS, AND ATTACHMENT COMPONENTS SHALL BE SUPPLIED BY A SINGLE MANUFACTURER AND, WHERE APPLICABLE, SHALL BE FACTORY EQUIPPED WITH THE FOLLOWING:

1.5.1. ADHESIVE. WHEN BONDING TO THE RISER RINGS, AN EPOXY PROVIDED BY THE MANUFACTURER SHALL BE USED. ADHESIVES AND EPOXIES SHALL BE WATERPROOF, CORROSION RESISTANT, AND APPROVED FOR THE INTENDED APPLICATION. THE RISER-TO-TANK CONNECTION SHALL BE WATERTIGHT AND STRUCTURALLY SOUND. THE RISER-TO-TANK CONNECTION SHALL BE CAPABLE OF WITHSTANDING A VERTICAL UPLIFT OF 5,000 POUNDS TO PREVENT RISER SEPARATION DUE TO TANK SETTLEMENT, FROST HEAVE, AND VEHICLE TRAFFIC OVER THE TANK.

1.5.2. LIDS. ONE LID SHALL BE FURNISHED WITH EACH ACCESS RISER. LIDS SHALL BE WATERPROOF, CORROSION RESISTANT, AND LIV RESISTANT. LIDS SHALL BE FLAT, WITH NO NOTICEABLE UPWARD DOME. LIDS SHALL NOT ALLOW WATER TO POND ON THEM. LIDS SHALL FORM A WATERTIGHT SEAL WITH THE TOP OF RISER. TRAFFIC-RATED LIDS SHALL BE CAPABLE OF WITHSTANDING A TRUCK WHEEL LOAD (36 SQUARE INCHES) OF 2500 POUNDS FOR 90 MINUTES WITH A MAXIMUM VERTICAL DEFLECTION OF 1/16". LIDS SHALL BE PROVIDED WITH TAMPER-RESISTANT STAINLESS STEEL FASTENERS AND A TOOL FOR FASTENER REMOVAL. TAMPER-RESISTANT FASTENERS INCLUDE RECESSED DRIVES, SUCH AS HEX, TORX, AND SQUARE. FASTENERS THAT CAN BE REMOVED WITH COMMON SCREWDRIVERS, SUCH AS SLOTTED AND PHILLIPS, OR FASTENERS THAT CAN BE REMOVED WITH STANDARD TOOLS, SUCH AS PLIERS OR CRESCENT WRENCHES, ARE NOT CONSIDERED TAMPER-RESISTANT. TO PREVENT A TRIPPING HAZARD, FASTENERS SHALL NOT EXTEND ABOVE THE SURFACE OF THE LID.

1.5.3. RISER INSTALLATION. RISER INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

**2. PIPING AND FITTINGS**

THE TYPE OF PIPE MATERIALS AND FITTINGS SHALL BE AS DESIGNATED ON THE PLANS AND SHALL COMPLY WITH THE FOLLOWING:

2.1. FITTINGS AND COUPLINGS. THE FITTINGS AND COUPLINGS FOR PVC PIPES SHALL BE THREADED OR SLIP-FITTED TAPERED SOCKET SOLVENT WELDED. THREADED ADAPTERS SHALL BE PROVIDED WITH SOCKET PIPE FOR CONNECTIONS TO THREADED PIPE.

**3. VALVES**

3.1. GENERAL. VALVES SHALL BE OF THE SIZE, TYPE, AND CAPACITY DESIGNATED ON THE PLANS OR IN THE SPECIFICATIONS AND SHALL COMPLY WITH THE REQUIREMENTS SPECIFIED HEREIN. ALL VALVES ON PRESSURIZED PORTIONS OF THE SYSTEM SHALL BE CAPABLE OF SATISFACTORY PERFORMANCE AT WORKING PRESSURE OF 150 PSI. ALL VALVES ON GRAVITY PORTIONS OF THE SYSTEM SHALL BE RATED FOR AT LEAST TWICE THE ESTIMATED STATIC HEAD ABOVE THE VALVE. VALVES SHALL BE DESIGNED TO PERMIT DISASSEMBLY TO REPLACE SEALING COMPONENTS WITHOUT REMOVAL OF THE VALVE BODY FROM THE PIPELINE, SUCH AS TRUE UNION BALL VALVES AND CHECK VALVES.

**4. PUMP SYSTEMS**

ALL PUMP SYSTEMS SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS. IF THERE IS A CONFLICT BETWEEN MANUFACTURER RECOMMENDATIONS, AND THE DESIGN PLANS, THE PROJECT ENGINEER SHALL BE CONTACTED FOR APPROVAL OF INSTALLATION CONFIGURATION.

**5. ADDITIONAL COMPONENTS**

ALL COMPONENTS SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS. IF THERE IS A CONFLICT BETWEEN MANUFACTURER RECOMMENDATIONS, AND THE DESIGN PLANS, THE PROJECT ENGINEER SHALL BE CONTACTED FOR APPROVAL OF INSTALLATION CONFIGURATION.

**7. SUBSURFACE DRIP SYSTEM**

THE SUBSURFACE DRIP SYSTEM SHALL PROVIDE ADDITIONAL TREATMENT AND DISPOSAL OF THE WASTEWATER. THE SYSTEM SHALL BE CONSTRUCTED PER MANUFACTURER RECOMMENDATIONS AND AS SHOWN ON PLANS.

**7.1. SOIL COVER**

THE SOIL COVER (CAP) SHALL BE PLACED OVER THE MOUND SYSTEM TO PROVIDE A SUBSTRATE FOR VEGETATION AND REDUCE EROSION CONTROL. THE SOIL SHALL BE A SANDY LOAM TO INCREASE THE POTENTIAL FOR AIR THROUGH THE DEPTH OF THE SOIL.

**CONSTRUCTION SPECIFICATIONS**

THE CONSTRUCTION OF THE PROJECT SHALL CONFORM TO THE PLANS AND FOLLOWING SPECIFICATIONS. ALL NECESSARY CONSTRUCTION PERMITS SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF ALL SITE WORK.

**1. PRECONSTRUCTION CONFERENCE**

THE CONTRACTOR SHALL HAVE A PRECONSTRUCTION MEETING WITH THE ENGINEER AND OWNER AT LEAST ONE WEEK PRIOR TO COMMENCEMENT OF SITE WORK. THE ENGINEER SHALL BE CONTACTED 48 HOURS PRIOR TO THE MEETING CONFERENCE. THE MEETING SHOULD BE CONDUCTED TO REVIEW THE DESIGN, MATERIAL, AND CONSTRUCTION SPECIFICATIONS. ALL CONTRACTOR PROPOSED REVISIONS IN THE DESIGN SHALL BE APPROVED BY THE ENGINEER. THE INSTALLATION MUST BE INSPECTED BY THE ENGINEER FOR CONFORMANCE TO THE DESIGN.

**2. STAKING**

THE CONTRACTOR WILL PROVIDE SUFFICIENT HORIZONTAL AND VERTICAL CONTROL FOR INSTALLATION OF THE WORK AT DATUM POINTS NECESSARY TO ESTABLISH ALIGNMENT AND GRADE. THE PROTECTION AND CARE OF THE STAKES ONCE SET, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

**3. EXCAVATION**

ALL EXCAVATION WORK SHALL BE MADE TO THE LINES, GRADES AND DIMENSIONS SHOWN IN THE ACCOMPANIED PLANS. EXCAVATIONS SHALL BE PERFORMED IN THE DAY AND IN A MANNER THAT MINIMIZES EROSION, FLOODING AND SEDIMENTATION. EXCAVATED SOILS THAT ARE TO BE STOCKPILED ON-SITE SHALL BE PLACED IN A LOCATION AND MANNER THAT MINIMIZES EROSION AND CONTROLS SEDIMENTATION.

THE CONTRACTOR SHALL TAKE EXTRA PRECAUTION WHEN EXCAVATION EQUIPMENT MAY ENCOUNTER EXISTING UNDERGROUND UTILITIES AND OTHER FACILITIES OF ANY NATURE. CONTRACTOR SHALL PERSON HIS OPERATION IN SUCH A MANNER AND SHALL EXERCISE THE GREATEST OF CARE SO AS NOT TO INJURE IN ANY MANNER EXISTING UNDERGROUND UTILITIES, MAINS OR FACILITIES OF ANY NATURE. SHOULD THE

CONTRACTOR INJURE, BREAK OR DAMAGE EXISTING UNDERGROUND UTILITIES, MAINS, OR FACILITIES OF ANY NATURE IN ANY MANNER, THEY SHALL REPAIR THE SAME AT THEIR OWN EXPENSE. IF IT DOES NOT APPEAR FEASIBLE THAT THE CONTRACTOR CAN MAKE NEEDED REPAIRS, THEN SUCH REPAIRS SHALL BE MADE BY THE OWNER AND THE CONTRACTOR SHALL BE CHARGED FOR SUCH REPAIRS.

**4. POLLUTION CONTROL**

4.1. WATER POLLUTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL PERMITTING REQUIREMENTS RELEVANT TO THE CONSTRUCTION OF THE PROJECT ARE MET AT ALL TIMES. ACTIONS BY THE CONTRACTOR, THE SUBCONTRACTORS OR EMPLOYEES THEREOF RESULTING IN NONCOMPLIANCE OF PERMITTING REQUIREMENTS MAY BE GROUNDS FOR TERMINATION OF THIS CONTRACT.

4.2. NOISE POLLUTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO KEEP NOISE POLLUTION, DUE TO THESE CONSTRUCTION ACTIVITIES, AS LOW AS POSSIBLE.

**4.3. SOIL CONTAMINATION**

THE CONTRACTOR SHALL NOT ALLOW REGULATED MATERIALS TO SPILL ON THE PROJECT SITE. ANY SPILLAGE OR REGULATED MATERIALS RESULTING FROM THE CONTRACTOR'S OPERATION SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

4.4. STORAGE OF REGULATED MATERIALS. THE STORAGE AND USE OF ANY REGULATED MATERIALS SHALL MEET ALL REQUIREMENTS OF LOCAL, STATE, AND FEDERAL REGULATORY AGENCIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SATISFY THE REQUIREMENTS OF ANY REGULATORY AGENCY FOR THE STORAGE, MONITORING, USAGE, TRANSPORTATION, SAFETY, REPORTING, OR ANY OTHER REQUIREMENTS REGARDING THE MANAGEMENT OF REGULATED MATERIALS ON AND OFF THE PROJECT SITE.

**5. SITE WORK**

5.1. MOBILIZATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PREPARATORY WORK AND PLACEMENT OF MATERIALS IN A STAGING AREA REQUIRED FOR CONSTRUCTION OPERATIONS INCLUDING, BUT NOT LIMITED TO, THOSE NECESSARY FOR THE MOVEMENT OF PERSONNEL, EQUIPMENT, SUPPLIES, AND INCIDENTALS TO THE PROJECT SITE; FOR THE ESTABLISHMENT OF FACILITIES NECESSARY FOR WORK ON THE PROJECT; PROVIDING POLLUTION CONTROL MEASURES; AND FOR ALL OTHER WORK AND OPERATIONS WHICH MUST BE PERFORMED.

THE CONTRACTOR SHALL PROVIDE MATERIALS, NOT SPECIFICALLY DESCRIBED BUT REQUIRED FOR PROPER COMPLETION OF THE WORK OF THIS SECTION, AS SELECTED BY THE CONTRACTOR SUBJECT TO THE APPROVAL OF THE COUNTY.

**5.2. CLEARING AND GRUBBING**

CLEAR THE SITE AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN THIS SECTION. CLEARING AND GRUBBING SHALL CONSIST OF ALL WORK INCLUDING, BUT NOT LIMITED TO, SALVAGED MATERIAL REMOVAL, PROVIDING AND INSTALLING TEMPORARY EROSION CONTROL, AND PLACEMENT OF TREES, TREE BRANCHES, TREE STUMPS, BRUSH, ROOTS, Boulders, SHRUBS, SEDIMENT, AND ALL OBJECTIONABLE MATERIALS IN AN AGREED UPON LOCATION ADJACENT TO THE WORK SITE.

EXAMINE THE AREAS AND CONDITIONS UNDER WHICH THE WORK OF THIS SECTION WILL BE PERFORMED. CORRECT CONDITIONS DETRIMENTAL TO TIMELY AND PROPER COMPLETION OF THE WORK. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED.

**ALL WASTES DISPOSAL SHALL BE CONDUCTED AS FOLLOWS:**

- A. REMOVE WASTE FROM CLEARING OPERATIONS.
- B. DISPOSE OF AWAY FROM THE SITE IN A LEGAL MANNER.
- C. DO NOT STORE OR PERMIT DEBRIS TO ACCUMULATE ON THE JOB SITE.
- D. DO NOT BURD DEBRIS AT THE SITE.

**6. DELETERIOUS MATERIALS**

MATERIALS CONTAINING AN EXCESS OF 5% (BY WEIGHT) OF VEGETATION OR OTHER DELETERIOUS MATTER MAY BE UTILIZED IN AREAS OF LANDSCAPING OR OTHER NON-STRUCTURAL FILLS. DELETERIOUS MATERIAL INCLUDES ALL VEGETATIVE AND NON-MINERAL MATTER, AND ALL NON-REDUCIBLE STONE, RUBBLE AND/OR MINERAL MATTER OF GREATER THAN 6 INCHES.

**7. UTILITY TRENCHES**

- A. A SELECT, NONCORROSIIVE, GRANULAR, EASILY COMPACTED MATERIAL SHOULD BE USED AS BEDDING AND BACKFILL IMMEDIATELY AROUND UTILITY PIPES. THE SITE SOILS MAY BE USED FOR TRENCH BACKFILL ABOVE THE SELECT MATERIAL. IF OBTAINING COMPACTION IS DIFFICULT WITH THE SITE SOILS, USE OF A MORE EASILY COMPACTED SAND MAY BE DESIRABLE. THE UPPER FOOT OF BACKFILL IN LANDSCAPED OR OTHER OPEN AREAS SHOULD CONSIST OF NATIVE MATERIAL TO REDUCE THE POTENTIAL FOR SETTLEMENT OF WATER INTO THE BACKFILL.
- B. TRENCH BACKFILL IN THE UPPER 12 INCHES OF SUBGRADE BENEATH AREAS TO RECEIVE PAVEMENT SHOULD BE COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DRY DENSITY. TRENCH BACKFILL IN OTHER AREAS SHOULD BE COMPACTED TO A MINIMUM OF 90 PERCENT OF MAXIMUM DRY DENSITY. JETTING OF UTILITY TRENCH BACKFILL SHOULD NOT BE ALLOWED.

**8. PIPE INSTALLATION**

8.1. GENERAL. PIPE SHALL BE JOINED BY SOCKET TYPE SOLVENT-WELDED FITTINGS OR THREADED FITTINGS. PLASTIC PIPE SHALL BE CUT SQUARE, EXTERNALLY CHAMFERED APPROXIMATELY 10 TO 15 DEGREES, AND ALL BURRS AND FINIS REMOVED. SOLVENT-WELDED JOINTS SHALL BE MADE IN ACCORDANCE WITH ASTM D 2855. THE SOLVENT RECOMMENDED BY THE MANUFACTURER SHALL BE USED.

CARE SHALL BE EXERCISED IN ASSEMBLING A PIPELINE WITH SOLVENT WELDED JOINTS SO THAT STRESS ON PREVIOUSLY MADE JOINTS IS AVOIDED. HANDLING OF THE PIPES FOLLOWING JOINTING, SUCH AS LOWERING THE ASSEMBLED PIPELINE INTO THE TRENCH, SHALL NOT OCCUR PRIOR TO THE SET TIMES SPECIFIED BY THE MANUFACTURER. SOLVENTS SHALL BE APPLIED TO PIPE ENDS IN SUCH A MANNER THAT NO MATERIAL IS DEPOSITED ON THE INTERIOR SURFACE OF THE PIPE OR EXTRUDED INTO THE INTERIOR OF THE PIPE DURING JOINTING. EXCESS CEMENT ON THE EXTERIOR OF THE JOINT SHALL BE WIPED CLEAN IMMEDIATELY AFTER ASSEMBLY.

THREADED PIPE JOINTS SHALL BE MADE USING TEFLON TAPE OR OTHER APPROVED JOINTING MATERIAL. SOLVENT SHALL NOT BE USED WITH THREADED JOINTS. PLASTIC PIPE WHICH HAS BEEN NICKED, SCARRED, OR OTHERWISE DAMAGED SHALL BE REMOVED AND REPLACED. PLASTIC PIPE SHALL BE SNAKED FROM SIDE SIDE IN THE TRENCH TO ALLOW 1 FOOT OF EXPANSION AND CONTRACTION PER 100 FEET OF STRAIGHT RUN. THE PIPELINE SHALL NOT BE EXPOSED TO WATER FOR 24 HOURS AFTER THE LAST SOLVENT-WELDED JOINT IS MADE.

**8.2 GRAVITY PIPE**

GRAVITY PIPE FOR WASTEWATER SHALL PROVIDE 2 FT VERTICAL AND 10 FT HORIZONTAL CLEARANCE FROM WATER LINES, AND SHALL CROSS SUCH LINES AS NEARLY AS POSSIBLE TO 90 DEGREES, IF CROSSING CAN NOT BE AVOIDED.

PIPE SLOPES SHALL NOT BE LESS THAN 2% FOR 4"Ø PIPE. PIPES SHALL ENTER AND LEAVE CONNECTIONS AS CLOSE TO PARALLEL AS POSSIBLE, BUT IN NO WAY TO EXCEED AN ANGLE OF 45°. 90° TE CONNECTIONS ARE NOT ALLOWED.

**8.3 GENERAL TRENCHING**

EXCAVATION OF PIPE TRENCHES SHALL FOLLOW NEAT AND PARALLEL LINES, WITH TRENCH WIDTH, IN GENERAL, TO BE ONE FOOT, WITH SUCH WIDENING, AS REQUIRED TO PLACE VALVES AND FITTINGS WITH A MINIMUM OF 4 INCH CLEARANCE TO TRENCH WALL. THE TRENCH SHALL BE NO LESS THAN 24 INCHES DEEP, EXCEPT WHEN IT IS NECESSARY, TO AVOID UNDERGROUND OBSTRUCTIONS OR ROCKY CONDITIONS. IN ALL CASES, THE PIPE SHALL BE PLACED ON A BEDDING OF IMPORTED OR NATIVE MATERIAL PROVIDING CONTINUOUS SUPPORT THROUGHOUT ITS LENGTH.

BACKFILL FOR THE PIPE TO THE TOP OF THE PIPE PLUS 4 INCHES SHALL BE SELECTED OR IMPORTED SANDY MATERIAL, FREE OF STONE, CLAY, LIMBS OR OTHER DELETERIOUS MATERIALS IN EXCESS OF 1/2 INCH MAXIMUM DIMENSION, PLACED AND TAMPED AND/OR PADDED ABOUT THE PIPE TO ENSURE PROPER BEDDING PRIOR TO COMPLETION OF TRENCH FILL. THE REMAINING BACKFILL SHALL BE PLACED AT 90% RELATIVE COMPACTION.

**9. FLUSHING AND TESTING**

AFTER COMPLETION, ALL PIPELINES SHALL BE THOROUGHLY FLUSHED TO REMOVE DIRT, SCALE, OR OTHER MATERIAL. AFTER FLUSHING, THE LINE SHALL BE PRESSURE TESTED. ALL EQUIPMENT, MATERIALS AND LABOR NECESSARY TO PERFORM THE TESTS SHALL BE FURNISHED BY THE CONTRACTOR AND ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE OWNER OR ENGINEER.

THE CONTRACTOR SHALL PERFORM A TEST TO DEMONSTRATE THAT THE TANKS AND BASINS ARE WATER TIGHT. THE INLET AND OUTLET PIPES OF THE TANKS SHALL BE CAPPED AND THE TANKS SHALL BE COMPLETELY FILLED WITH WATER. THE WATER LEVEL SHALL REMAIN CONSTANT FOR MORE THAN 24 HOURS, OR DURATION BY THE REVIEWING AGENCY JURISDICTION, WHICHEVER IS GREATER, TO DETERMINE IF IT IS WATER TIGHT.

**10. OPERATIONAL TEST**

THE PERFORMANCE OF ALL COMPONENTS OF THE SYSTEMS SHALL BE EVALUATED BY THE CONTRACTOR. DURING THE TEST PERIOD AND AT LEAST 15 DAYS PRIOR TO FINAL INSPECTION, THE SYSTEM SHALL OPERATE SATISFACTORILY DURING SUCH PERIOD. ALL NECESSARY REPAIRS, REPLACEMENTS, AND

ADJUSTMENTS SHALL BE MADE UNTIL ALL EQUIPMENT, ELECTRICAL WORK, CONTROLS, AND INSTRUMENTATION ARE FUNCTIONING IN ACCORDANCE WITH THE CONTRACTORS DOCUMENTS OR MANUFACTURER SPECIFICATIONS.

**11. AS-BUILT DRAWINGS**

THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A SET OF AS-BUILT DRAWINGS OF THE LAYOUT AND CONSTRUCTION OF THE SYSTEM.

**12. OTHER ITEMS**

ANY PROCEDURES NOT NOTED OR INCLUDED IN THE ENGINEERING PLANS OR SPECIFICATIONS SHALL BE APPROVED BY THE PROJECT ENGINEER PRIOR TO IMPLEMENTATION.

**13. CONSTRUCTION INSPECTION.**

- 13.1. AT A MINIMUM, INSPECTION OF THE DRIP DISPERSAL SYSTEM INSTALLATION SHOULD INCLUDE THE FOLLOWING. THIS IS IN ADDITION TO INSPECTION WORK REQUIRED FOR THE TREATMENT SYSTEM. JOINT INSPECTION BY THE DESIGNER, CONTRACTOR, AND DEH MAY BE REQUIRED.
  - 13.1.1. PRE-CONSTRUCTION INSPECTION WHERE THE CONSTRUCTION STAKING OR MARKING OF THE DRIP LINES, SUPPLY AND RETURN PIPING, PUMP SYSTEM AND APPURTENANCES IS PROVIDED AND CONSTRUCTION PROCEDURES DISCUSSED;
  - 13.1.2. WATER TIGHTNESS OF EFFLUENT BODING (PUMP) TANK;
  - 13.1.3. DRIP FIELD LAYOUT, PIPING MATERIALS AND INSTALLATION, AND ALL ASSOCIATED VALVES AND CONNECTIONS;
  - 13.1.4. HYDRAULIC TESTING OF THE DRIP SYSTEM;
  - 13.1.5. FUNCTIONING AND SETTING OF ALL CONTROL DEVICES; AND
  - 13.1.6. FINAL INSPECTION TO VERIFY THAT ALL CONSTRUCTION ELEMENTS ARE IN CONFORMANCE WITH THE APPROVED PLANS, SPECIFICATIONS, AND MANUFACTURE RECOMMENDATIONS, ALL INSPECTION WELLS ARE INSTALLED, AND EROSION CONTROL HAS BEEN COMPLETED.

**14. MANAGEMENT REQUIREMENTS**

14.1. RECOMMENDED MINIMUM PROCEDURES AND FREQUENCY FOR INSPECTION, MAINTENANCE, MONITORING AND REPORTING ACTIVITIES FOR SUBSURFACE DRIP DISPERSAL SYSTEMS ARE OUTLINED IN TABLE DD-2.

**15. OPERATING PERMITS (PER SANTA CLARA COUNTY ORDINANCE SECTION B11-92)**

- 15.1. (A) IN ADDITION TO AN INSTALLATION PERMIT, AN OPERATING PERMIT IS REQUIRED FOR ALL ALTERNATIVE OWTS, INCLUDING THOSE INSTALLED IN CONNECTION WITH THE REPAIR OR UPGRADE OF EXISTING OWTS AS WELL AS THOSE FOR NEW CONSTRUCTION. GENERAL REQUIREMENTS PERTAINING TO OPERATING PERMITS ARE AS FOLLOWS:
  - 15.1.1. (1) THE OPERATING PERMIT WILL BE ISSUED BY THE DIRECTOR FOLLOWING: A. COMPLETION OF CONSTRUCTION OF THE ALTERNATIVE OWTS; B. SATISFACTORY COMPLIANCE WITH THE INSTALLATION PERMIT REQUIREMENTS; AND C. PAYMENT OF APPLICABLE FEES. OPERATING PERMITS ARE NON-TRANSFERABLE.
  - 15.1.2. (2) AFTER INITIAL ISSUANCE, THE OPERATING PERMIT IS REQUIRED TO BE RENEWED PERIODICALLY. THE STANDARD RENEWAL PERIOD BEING ONE YEAR. THE DIRECTOR MAY ESTABLISH CONDITIONS ALLOWING THE TIME PERIOD BETWEEN RENEWALS TO BE EXTENDED FOR CERTAIN TYPES OF OWTS BASED ON A RECORD OF FAVORABLE PERFORMANCE OR OTHER FACTORS WARRANTING A REDUCTION IN SYSTEM OVERSIGHT BY DEH. PROVISIONS FOR ADJUSTING THE OPERATING PERMIT RENEWAL PERIOD SHALL BE PROVIDED BY THE DIRECTOR IN THE ONSITE SYSTEMS MANUAL. OPERATING PERMITS MUST ALSO BE RENEWED AT THE TIME OF CHANGE IN PROPERTY OWNERSHIP.
  - 15.1.3. (3) OPERATING PERMITS ARE INTENDED TO SERVE AS THE BASIS FOR VERIFYING THE ADEQUACY OF ALTERNATIVE OWTS PERFORMANCE AND ENSURING ON-GOING MAINTENANCE PERMIT CONDITIONS SHALL INCLUDE MONITORING AND INSPECTION REQUIREMENTS, PERMIT DURATION, AND OTHER PROVISIONS AS PRESCRIBED BY THE DIRECTOR IN THE ONSITE SYSTEMS MANUAL OR AS DEEMED APPROPRIATE BY THE DIRECTOR ON A CASE-BY-CASE BASIS.
  - 15.1.4. (4) RENEWAL OF AN OPERATING PERMIT REQUIRES: A. PAYMENT OF THE APPLICABLE FEES, UPON RECEIPT OF NOTICE FROM THE DIRECTOR; AND B. SUBMISSION OF THE RESULTS OF REQUIRED SYSTEM INSPECTION AND MONITORING.
  - 15.1.5. (5) FAILURE TO PAY THE REQUIRED FEE OR SUBMIT THE SPECIFIED MONITORING AND INSPECTION INFORMATION, OR FAILURE TO UNDERTAKE ANY REQUIRED CORRECTIVE WORK SPECIFIED BY THE DIRECTOR MAY BE CAUSE FOR ISSUANCE OF A CITATION, PENALTY FEES, NON-RENEWAL AND/OR REVOCATION OF THE OPERATING PERMIT BY THE DIRECTOR. THE DIRECTOR MAY PLACE A LIEN ON THE PROPERTY FOR RECOVERY OF ANY ASSOCIATED ABATEMENT COSTS AND UNPAID FEES.
  - 15.1.6. (6) A CERTIFIED COPY OF THE FOLLOWING SHALL BE RECORDED AGAINST THE PROPERTY IN THE OFFICE OF THE COUNTY RECORDER OF SANTA CLARA COUNTY: A. INITIAL OPERATING PERMIT ISSUED FOR THE SYSTEM; B. REISSUANCE OF OPERATING PERMIT TO NEW OWNERS; AND C. NOTICE OF WITHDRAWAL OF ANY OPERATING PERMIT.
- 15.2. (B) OTHER USES OF OPERATING PERMITS. AN OPERATING PERMIT MAY ALSO BE UTILIZED FOR CIRCUMSTANCES OTHER THAN ALTERNATIVE OWTS, SUCH AS FOR LARGER FLOW OWTS (> 2,500 GPD), IN CONNECTION WITH HOLDING TANK EXEMPTIONS OR WHERE, IN THE OPINION OF THE DIRECTOR, THE TYPE, SIZE, LOCATION OR OTHER ASPECTS OF A PARTICULAR OWTS INSTALLATION WARRANT THE ADDITIONAL LEVEL OF OVERSIGHT PROVIDED BY AN OPERATING PERMIT. IN SUCH CASES, THE ISSUANCE AND SCOPE OF OPERATING PERMITS WILL BE ISSUED IN ACCORDANCE WITH THE GENERAL REQUIREMENTS LISTED IN SECTION B11-92(A)(1) THROUGH (A)(6) ABOVE, AND ANY ADDITIONAL REQUIREMENTS PRESCRIBED BY THE DIRECTOR IN THE ONSITE SYSTEMS MANUAL FOR PARTICULAR CIRCUMSTANCES.

**16. PERFORMANCE MONITORING AND REPORTING.**

- 16.1. (A) A MONITORING PROGRAM WILL BE ESTABLISHED FOR EACH ALTERNATIVE OWTS AS A CONDITION OF THE OPERATING PERMIT AT THE TIME OF PERMIT ISSUANCE, AND MAY BE AMENDED AT THE TIME OF PERMIT RENEWAL. SAID MONITORING SHALL BE PERFORMED TO ENSURE THAT THE ALTERNATIVE OWTS IS FUNCTIONING SATISFACTORILY TO PROTECT WATER QUALITY AND PUBLIC HEALTH AND SAFETY. THE MONITORING PROGRAM WILL BE IN ACCORDANCE WITH GUIDELINES IN THE ONSITE SYSTEMS MANUAL AND MAY ALSO INCORPORATE RECOMMENDATIONS OF THE SYSTEM DESIGNER, MANUFACTURER, OR THIRD-PARTY REVIEWER.
- 16.2. (B) MONITORING REQUIREMENTS WILL VARY DEPENDING UPON THE SPECIFIC TYPE OF ALTERNATIVE OWTS IN ACCORDANCE WITH GUIDELINES IN THE ONSITE SYSTEMS MANUAL.
- 16.3. (C) THE REQUIRED FREQUENCY OF MONITORING WILL BE IN ACCORDANCE WITH GUIDELINES IN THE ONSITE SYSTEMS MANUAL. MONITORING FREQUENCY MAY BE INCREASED IF, IN THE OPINION OF THE DIRECTOR, SYSTEM PROBLEMS ARE EXPERIENCED.
- 16.4. (D) MONITORING OF ALTERNATIVE OWTS SHALL BE CONDUCTED BY OR UNDER THE SUPERVISION OF ONE OF THE FOLLOWING:
  - 16.4.1. (1) REGISTERED CIVIL ENGINEER;
  - 16.4.2. (2) PROFESSIONAL GEOLOGIST;
  - 16.4.3. (3) REGISTERED ENVIRONMENTAL HEALTH SPECIALIST, OR
  - 16.4.4. (4) OTHER ONSITE WASTEWATER MAINTENANCE PROVIDER REGISTERED WITH THE DEPARTMENT OF ENVIRONMENTAL HEALTH AND MEETING QUALIFICATIONS AS ESTABLISHED IN THE ONSITE SYSTEMS MANUAL. REGISTRATION SHALL ENTAIL:
    - 16.4.4.1. A. DOCUMENTATION OF REQUIRED QUALIFICATIONS;
    - 16.4.4.2. B. PARTICIPATION IN ANNUAL TRAINING/PREVIEW CONDUCTED BY THE DIRECTOR; AND
    - 16.4.4.3. C. PAYMENT OF AN ANNUAL FEE ESTABLISHED BY THE BOARD OF SUPERVISORS.
    - 16.4.4.4. ADDITIONALLY, THE DIRECTOR MAY REQUIRE THIRD-PARTY OR COUNTY MONITORING OF ANY ALTERNATIVE OWTS WHERE DEEMED NECESSARY BECAUSE OF SPECIAL CIRCUMSTANCES, SUCH AS THE COMPLEXITY OF THE SYSTEM OR THE SENSITIVE NATURE OF THE SITE. THE COSTS FOR SUCH ADDITIONAL MONITORING WOULD BE THE RESPONSIBILITY OF THE OWNER.

(E) MONITORING RESULTS SHALL BE SUBMITTED TO THE DIRECTOR IN ACCORDANCE WITH REPORTING GUIDELINES PROVIDED IN THE ONSITE SYSTEMS MANUAL. THE MONITORING REPORT SHALL BE SIGNED BY THE PARTY RESPONSIBLE FOR THE MONITORING. NOTWITHSTANDING FORMAL MONITORING REPORTS, THE DIRECTOR SHALL BE NOTIFIED IMMEDIATELY OF ANY SYSTEM PROBLEMS OBSERVED DURING SYSTEM INSPECTION AND MONITORING THAT THREATEN PUBLIC HEALTH OR WATER QUALITY.

(F) IN ADDITION TO REGULAR INSPECTION AND MONITORING ACTIVITIES, POST-SEISMIC INSPECTION AND EVALUATION OF ALTERNATIVE OWTS LOCATED IN HIGH-RISK SEISMIC AREAS WILL BE REQUIRED IN THE EVENT OF AN EARTHQUAKE CAUSING SIGNIFICANT GROUND SHAKING IN THE REGION, AS DETERMINED BY THE DIRECTOR IN CONSULTATION WITH THE COUNTY GEOLOGIST. THE DIRECTOR WILL BE RESPONSIBLE FOR ISSUING APPROPRIATE NOTICES WHEN SUCH INSPECTIONS ARE REQUIRED; THOSE CONDUCTING THE INSPECTIONS WILL BE REQUIRED TO REPORT THE INSPECTION RESULTS TO THE DIRECTOR. THE PURPOSE OF SUCH INSPECTIONS WILL BE TO ASSESS AND DOCUMENT ANY DAMAGE TO THE OWTS AND TO IMPLEMENT CORRECTIVE MEASURES, AS NEEDED, IN A TIMELY MANNER. POST-SEISMIC INSPECTION SHALL BE IN ACCORDANCE WITH REQUIREMENTS PRESCRIBED BY THE DIRECTOR, IN CONSULTATION WITH THE COUNTY GEOLOGIST, AND CONTAINED IN THE ONSITE SYSTEMS MANUAL.

(G) THE DIRECTOR WILL, FROM TIME-TO-TIME, COMPILE AND REVIEW MONITORING AND INSPECTION RESULTS FOR ALL ALTERNATIVE OWTS AND, AT LEAST EVERY TWO YEARS, WILL PROVIDE A SUMMARY OF RESULTS TO THE SAN FRANCISCO BAY AND CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARDS. BASED ON THIS REVIEW, THE DIRECTOR MAY REQUIRE CORRECTIVE ACTION FOR SPECIFIC PROPERTIES OR CERTAIN TYPES OF ALTERNATIVE OWTS, OR GENERAL CHANGES IN MONITORING AND INSPECTION REQUIREMENTS.

**EROSION CONTROL NOTES:**

GENERAL. THE CONTRACTOR SHALL INSTALL, MAINTAIN AND INSPECT EROSION CONTROL AND TEMPORARY STORMWATER CONTROL MEASURES TO CONTROL SEDIMENT AND RUNOFF IN ACCORDANCE WITH THESE PLANS AND THE LOCAL JURISDICTION.

- 1.1. THE CONSTRUCTION OF THIS PROJECT IS NOT EXPECTED TO OCCUR DURING THE WINTER SEASON (OCTOBER 15TH THROUGH APRIL 15TH).
- 1.2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL BMP INSTALLATION AND MAINTENANCE.
- 1.3. ALL GRADING SHALL CONFORM TO THE LOCAL GRADING ORDINANCE, EROSION CONTROL ORDINANCES, AND CALIFORNIA BUILDING CODE.

1.4. ALL DISTURBED SURFACES SHALL BE PREPARED AND MAINTAINED TO CONTROL EROSION AND TO ESTABLISH NATIVE OR NATURALIZED VEGETATIVE GROWTH COMPATIBLE WITH THE AREA. THIS CONTROL SHALL CONSIST OF: A. EFFECT TEMPORARY PLANTING SUCH AS RYE GRASS, SOME OTHER FAST-GERMINATION SEED, AND MULCHING WITH STRAW AND/OR OTHER SLOPE STABILIZATION MATERIAL; B) PERMANENT PLANTING OF NATIVE OR NATURALIZED DROUGHT RESISTANT SPECIES OF SHRUBS, TREES, OR OTHER VEGETATION, PURSUANT TO THE COUNTY'S LANDSCAPE CRITERIA, WHEN THE PROJECT IS COMPLETED; C) MULCHING, FERTILIZING, WATERING OR OTHER METHODS MAY BE REQUIRED TO ESTABLISH NEW VEGETATION, ON SLOPES LESS THAN 20%, TOPSOIL SHOULD BE STOCKPILED AND REAPPLIED.

SEED AND MULCH. ALL AREAS ON- AND OFF-SITE EXPOSED DURING CONSTRUCTION ACTIVITIES, IF NOT PERMANENTLY LANDSCAPED PER PLAN, SHALL BE PROTECTED BY MULCHING AND/OR HAND BROADCASTING OF THE FOLLOWING STERIL, WEED FREE, SEED MIX AND INCORPORATED OVER ALL DISTURBED SLOPES:

- BROMUS CARINATUS 10#/ACRE
- LEYMUS TRITICOIDES 8#/AC.
- HORDEUM BRACHYANTHERUM 5#/AC.
- FESTUCA RUBRA 5#/AC.
- DESCHAMPSIA CESPITOSA 8#/AC.

THE MIX/APPLICATION SHALL ALSO CONTAIN:  
 - FERTILIZER (6-3-3) SHALL BE HAND BROADCAST AND INCORPORATED AT 30-LB/ACRE OVER ENTIRE AREA.  
 - MYCHORRHIZAL FUNGI SHALL BE ADDED AT 50 LB / ACRE  
 - IF HYDROSEEDING, ADD MULCH AND TACKIFIER TO ABOVE.

ALL EXCAVATED MATERIAL SHALL BE REMOVED TO AN APPROVED DISPOSAL SITE OR DISPOSED OF ON-SITE IN A MANNER THAT WILL NOT CAUSE EROSION.

**CONCRETE WASHOUT.** TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE LOCATED A MINIMUM OF 50 FEET FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERCOURSES. THE CONCRETE WASHOUT FACILITY SHALL BE BELOW GRADE AND CONSTRUCTED WITH A MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FEET. TEMPORARY CONCRETE FACILITIES SHALL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. THE WASHOUT SHALL HAVE A 10 MIL POLYETHYLENE PLASTIC LINER. WHEN CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE AND MATERIALS FOR THE WASHOUT SHALL BE REMOVED AND DISPOSED OF. HOLES, DEPRESSIONS, OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE CONCRETE WASHOUT SHOULD BE BACKFILLED AND REPAIRED.

**OTHER PROVISIONS.** IF CONSTRUCTION OCCURS BETWEEN OCTOBER 15TH AND APRIL 15TH, EXPOSED SOIL NOT INVOLVED IN IMMEDIATE CONSTRUCTION ACTIVITY SHALL BE PROTECTED FROM EROSION AT ALL TIMES. AFTER APRIL 15TH, EROSION CONTROL MEASURES SHALL BE IN PLACE DURING INCLEMENT WEATHER.

EROSION CONTROL MEASURES SHALL BE KEPT IN PLACE BY THE CONTRACTOR UNTIL NATIVE VEGETATION HAS BEEN ESTABLISHED AND PROVIDES NECESSARY SLOPE COVER (MINIMUM 70% COVER).

**Worksheet 3 - Parts List**

Qty	Units	Item Number	Description
<b>Dripline</b>			
2,064	ft.	WFPC16-4-24	Wasteflow PC. 1 gph, 24 in. emitter spacing
<b>Airvent and box</b>			
4	ea.	APVBK-1	1" airvent for use on zones less than 50gpm
4	ea.	AV BOX 6 inch	6" round box
<b>Pressure Regulators</b> - Use to keep pressure from being too high			
2	ea.	Select	Restricts pressure from exceeding required pressure. Required with Classic dripline.
<b>Controllers</b>			
1	ea.		Select Controller from list left
<b>Pre-assembled Headworks</b>			
Select from cell with BioDisc Filter			
0		WHWS-V-1FA	Sporty Headworks box & guts with 1" Vortex Filter. Automatic flush