

GENERAL NOTES

ALL WORK SHALL CONFORM TO: (A) THE MINIMUM STANDARDS OF THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE AND ALL RELATED DOCUMENTS PUBLISHED BY THE I.C.C. WHICH HAVE BEEN ADOPTED BY THE LOCAL GOVERNING AGENCY; (B) ALL REGULATIONS AND ORDINANCES OF ALL LOCAL GOVERNING AGENCIES; (C) ANY SPECIAL CONDITIONS REQUIRED BY THE LOCAL GOVERNING AGENCIES; AND (D) ALL CALIFORNIA STATE CODE AMENDMENTS (BUILDING STANDARDS CODE) TITLE 24.

THE APPLICABLE CODES WILL INCLUDE, BUT SHALL NOT BE LIMITED TO:

- 2019 CALIFORNIA RESIDENTIAL CODE (CRC)
- 2019 CALIFORNIA BUILDING CODE (CBC)
- 2019 CALIFORNIA ELECTRICAL CODE (CEC)
- 2019 CALIFORNIA MECHANICAL CODE (CMC) - 2019 CALIFORNIA PLUMBING CODE (CPC)
- 2019 CALIFORNIA ENERGY EFFICIENCY STANDARDS CODE (CEES)
- 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)
- LONG BEACH MUNICIPAL CODE (LBMC)
- LONG BEACH INFORMATION BULLETINS (IB)
- B. ALL WORK DESCRIBED IN THE DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR FOR DIMENSION, GRADE, EXTENT AND COMPATIBILITY TO THE EXISTING SITE. ANY DISCREP-ANCIES AND UNEXPECTED CONDITIONS THAT AFFECT OR CHANGE THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE DESIGNER'S ATTENCTION IMMEDIATELY. DO NOT PROCEED WITH THE WORK IN THE AREA OF DISCREPANCIES UNTIL ALL SUCH DISCREPANCIES ARE RESOLVED. IF THE CONTRACTOR CHOOSES TO DO SO, HE SHALL BE PROCEEDING AT HIS OWN RISK.
- C. OMISSIONS FROM THE DRAWINGS AND SPECIFICATION OR THE MISDESCRIPTION OF THE WORK WHICH IS MANIFESTLY NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OR WHICH IS CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED OR MISDESCRIBED DETAILS OF THE WORK AS IF FULLY AND COMPLETELY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.
- D. DIMENSIONS SHOWN SHALL TAKE PRECEDENCE OVER DRAWINGS SCALE OR PROPORTION. LARGER SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
- . THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR THE SELECTION OF ALL PLUMBING FIXTURES INCLUDING TOILETS, TUB/SHOWER, LAVATORIES, SINKS AND ALL APPROPIATE FAUCETS, TRIM AND DRAINS. THE OWNER SHALL SELECT ALL COLORS, FINISH AND OPTIONS.
- F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE MECHANICAL HEATING AND DISTRIBUTION SYSTEM IN COMPLIANCE WITH APPLICABLE CODES AND REGULATIONS.
- G. THE CONTRACTOR SHALL COORDINATE WITH OWNER FOR THE SELECTION OF ALL ELECTRICAL LIGHT FIXTURES (THEIR COLOR, TYPE AND FINISH), AND SWITCHPLATED AND OUTLETS (COLOR AND TYPE). THE CONTRACTOR SHALL VERIFY ALL LOCATIONS AND HEIGHTS OF ALL OUTLETS, LIGHTING FIXTURES, ETC. WITH THE ARCHITECT.
- H. THE CONTRACTOR SHALL COORDINATE WITH OWNER FOR THE SELECTION OF ALL KITCHEN APPLIANCES (COLOR, TYPE AND OPTIONS).
- I. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR THE SELECTION AND PROPER LOCATIONS OF ALL BATHROOM SPECIALTIES INCLUDING, BUT NOT LIMITED TO, MEDICINE CABINETS, MIRRORS, TOWEL BARS AND HOOKS, TOILET PAPER DISPENSER, SOAP DISH AND SHOWER ENCLOSURE.
- J. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR THE DESIGN OF BUILT-IN CABINETS INCLUDING DOOR AND DRAWER LOCATIONS, TYPES OF HINGES, PULLS AND SLIDING HARDWARE. THE OWNER SHALL SELECT THE TYPE OF MATERIALS. COLOR AND FINISH FOR CABINETS.
- K. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR THE SELECTION OF ALL INTERIOR FINISHES INCLUDING FLOOR COVERINGS AND UNDERLAYMENTS, PAINT (INCLUDING NUMBER OF COATS), OTHER WALLCOVERINGS, BASE AND CASE, LAMINATES, TILE, ETC.
- L. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR THE SELECTION OF ALL DOOR HARDWARE, INCLUDING, BUT NOT LIMITED TO, DOOR LATCHES, HINGES, CABINET HARD-WARE, ETC. (TYPES AND FINISHES).
- M. ALL WORK, CONSTRUCTION AND MATERIALS SHALL COMPLY WITH ALL PROVISION OF THE APPLICABLE BUILDING CODES AS WELL AS ANY OTHER RULES, REGULATIONS, AND ORDINANCES GOVERNING THE PLACE OF CONSTRUCTION. IT IS THE SOLE RESPONSIBILITY OF ANYONE SUPPLYING LABOR, MATERIALS, OR BOTH TO BRING TO THE ATTENTION OF THE DESIGNER, ENGINEER, GENERAL CONTRACTOR AND THE OWNER ANY DISCREPANCIES OR CONFLICT BETWEEN THE REQUIREMENTS OF THE CODE AND THE DRAWINGS.

DRAWING INDEX:

ARCHITECTURAL

- SITE PLAN/COVER SHEET
- 2019 RESIDENTIAL MANDATORY MEASURES
- PROPOSED AND EXISTING/DEMO. PLAN
- **EXISTING & PROPOSED ELEVATIONS**
- PROPOSED ELEVATIONS AND SECTION
- ROOF PLAN AND DETAILS
- BUILDING PAPER/HOUSE WRAP DETAILS AROUND WINDOWS
- BUILDING PAPER/HOUSE WRAP DETAILS AROUND WINDOWS
- A. 500 3D RENDERINGS

PROJECT DATA

LEGAL DESCRIPTION: A.P.N.: 7080-019-021

TRACT: 17700

LOT: 21

R-3/ U **OCCUPANCY GROUP:**

6,051 sq.ft LOT AREA:

TYPE OF CONSTRUCTION: V-B FIRE SPRINKLER: NO

LOT COVERAGE (FOR REFERENCE ONLY)

EXISTING S.F.R FOOT PRINT	1,774 s.f.
EXISTING 2-CAR GARAGE	344 s.f.
EXISTING FRONT PORCH	54 s.f.
EXISTING COVER PATIO	81 s.f.
TOTAL FLOOR AREA:	2,253 s.f.

LOT AREA:	6,051 s.f.
TOTAL FLOOR AREA:	2,253 s.f.
2,253 / 6,051 x 100 =	37.23 %

NO ADDITION TO EXISTING FOOTAGE AREA

DESCRIPTION OF WORK:

- 1.- INTERIOR REMODEL OF EXISTING S.F.R. 631 Sq. Ft.
- a.- REMODEL BEDROOM 3 TO CREATE A MASTER BEDROOM
- b.- NEW WALK-IN CLOSET TO BE PART OF REMODELED BEDROOM
- c.- NEW MASTER BATHROOM TO BE PART OF REMODELED BEDROOM d.- RELOCATE EXISTING KITCHEN WITH NEW RECTANGULAR ISLAND
- e.- NEW PANTRY CLOSET WITH A NEW SOLAR TUBE
- f.- NEW SOLAR TUBE OVER PROPOSED KITCHEN ISLAND
- g.- NEW WET BAR AT EXISTING FAMILY ROOM
- h.- NEW ELECTRICAL FIRE PLACE AT EXISTING FAMILY ROOM i.- NEW WINDOW AT EXISTING FAMILY ROOM
- k.- EXISTING LAUNDRY WILL CONVERT TO STORAGE
- j.- NEW WINDOWS AT REMODELED BEDROOM 3
- I.- EXISTING FIREPLACE TO BE REMOVED
- m.- NEW STACKED LAUNDRY NEXT TO MASTER BATH

STRUCTURAL

- S.000 OVER SHEET
- FOUNDATION & SHEAR-WALLS PLAN
- S.200 DETAILS

MEP

- MECHANICAL SPECS
- MECHANICAL PLAN
- MECHANICAL SCHEDULES
- M4.0 MECHANICAL DETAILS
- MECHANICAL DETAILS
- MECHANICAL CATALOGUE
- ELECTRICAL LEGEND
- **ELECTRICAL SPECS**
- ELECTRICAL PLAN
- PANEL BOARD & SLD PLUMBING SPECS
- P2.0 WATER SUPPLY PLAN
- DRAINAGE PLAN

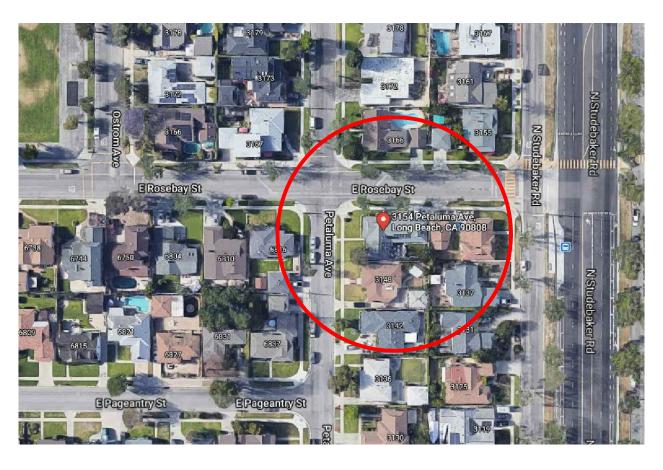
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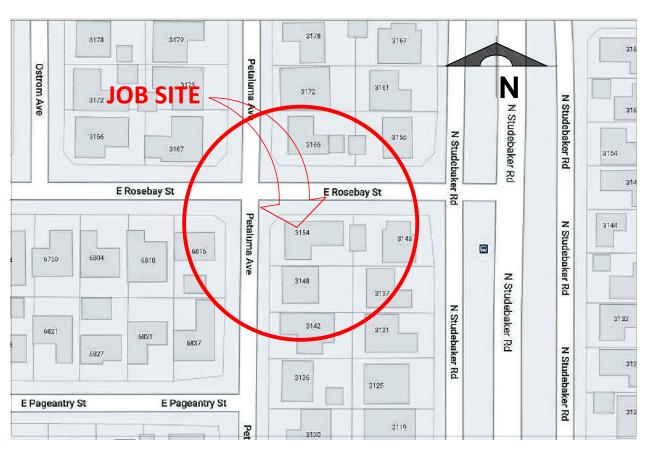
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- RISER DIAGRAM
- GAS RISER DIAGRAM
- GAS WATER HEATER
- P7.0 PLUMBING DETAILS



AERIAL PHOTO



VICINITY MAP

KEY NOTES

- (E) DRIVEWAY APPROACHED
- (E) DRIVEWAY
- (E) SIDEWALK
- (E) CONCRETE WALKWAY
- (E) CONCRETE SLAB
- (E) FRONT YARD
- (E) REAR YARD
- (E) PLANTER
- (E) 6 FT. HT. BLOCK WALL
- (E) 5 FT. HT. BLOCK WALL
- (E) 5 FT. HT. WOOD GATE
- (E) ELECTRICAL METER
- (E) WATER METER
- (E) GAS METER
- (E) HANDICAP RAMP





Project Name and Address:

INTERIOR REMODEL FOR

PETALUMA RESIDENCE

3154 PETALUMA AVE. LONG BEACH, CA. 90808

DRAWING TITLE: MAY 18, 2021

SITE PLAN

PERMISSION FOR USE OR REPRODUCTION IS LIMITED AND CAN BE EXTENDED ONLY BY WRITTEN PERMISSION

Page No. THIS DRAWING IS AN INSTRUMENT OF SERVICE AND AS SUCH, REMAINS THE PROPERTY OF PIXELARCH LTD.

A.001

Revision/Issue ISSUED FOR PLANNING APPROVAL



§ 150.0(h)1:

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.

(01/2020)	еѕресиче ѕесион от тоге иноппацон. Ехсерионѕ тау арріу.
Building Envelop	e Measures:
§ 110.6(a)1:	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283 or AAMA/WDMA/CSA 101/I.S.2/A440-2011.*
§ 110.6(a)5:	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped.*
§ 110.7:	Air Leakage. All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	Ceiling and Rafter Roof Insulation. Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.*
§ 150.0(b):	Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B.*
§ 150.0(d):	Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(f):	Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2:	Vapor Retarder. In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.*
Fireplaces, Decor	rative Gas Appliances, and Gas Log Measures:
§ 110.5(e)	Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.*
§ 150.0(e)3:	Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*
Space Conditioni	ng, Water Heating, and Plumbing System Measures:
§ 110.0-§ 110.3:	Certification. Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission.*
§ 110.2(a):	HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-K.*
§ 110.2(b):	Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-off temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.*
§ 110.2(c):	Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*
§ 110.3(c)4:	Water Heating Recirculation Loops Serving Multiple Dwelling Units. Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)4.
§ 110.3(c)6:	Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.
§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters.*

Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards

Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.

ENERGY COMMISSION

§ 150.0(m)8:

§ 150.0(m)13:

§ 150.0(h)3A:	Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer
§ 150.0(h)3B:	Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	Storage Tank Insulation. Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have a minimum of R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(j)2A:	Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in Section 609.11 of the California Plumbing Code. In addition, the following piping conditions must have a minimum insulation wall thickness of one inch or a minimum insulation R-value of 7.7: the first five feet of cold water pipes from the storage tank; all hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than one inch; all hot water piping with a nominal diameter less than 3/4 inch that is: associated with a domestic hot water recirculation system, from the heating source to storage tank or between tanks, buried below grade, and from the heating source to kitchen fixtures.*
§ 150.0(j)3:	Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by Section 120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: A dedicated 125 volt, 20 amp electrical receptacle connected to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit, within three feet of the water heater without obstruction. Both ends of the unused conductor must be labeled with the word "spare" and be electrically isolated. Have a reserved single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use"; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than two inches higher than the base of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu per hour.
§ 150.0(n)2:	Recirculating Loops. Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 150.0(n)3:	Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the Executive Director.
Ducts and Fans	Measures:
§ 110.8(d)3:	Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	CMC Compliance. All air-distribution system ducts and plenums must meet the requirements of the CMC §§ 601.0, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6.0 or a minimum installed level of R-4.2 when ducts are entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Portions of the duct system completely exposed and surrounded by directly conditioned space are not required to be insulated. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh or tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause reductions in the cross-sectional area.*
§ 150.0(m)2:	Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
0.450.04.30	Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes,
§ 150.0(m)3:	mastics, sealants, and other requirements specified for duct construction.

Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.

Protection of Insulation. Insulation must be protected from damage, sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.

Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in

Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or

Space Conditioning System Airflow Rate and Fan Efficacy. Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM

per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling

unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3.*

Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible,

manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.

§ 150.0(m)10: Porous Inner Core Flex Duct. Porous inner core flex ducts must have a non-porous layer between the inner core and outer vapor barrier.

§ 150.0(m)12: equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Pressure

drops and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service.*

accordance with § 150.0(m)11 and Reference Residential Appendix RA3.

2019 Low-Rise	e Residential	Mandat

atory Measures Summary

0.450.0/->4	Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation
§ 150.0(o)1:	and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1.
§ 150.0(o)1C:	Single Family Detached Dwelling Units. Single family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow provided at rates determined by ASHRAE 62.2 Sections 4.1.1 and 4.1.2 and as specified in § 150.0(o)1C.
§ 150.0(o)1E:	Multifamily Attached Dwelling Units. Multifamily attached dwelling units must have mechanical ventilation airflow provided at rates in accordance with Equation 150.0-B and must be either a balanced system or continuous supply or continuous exhaust system. If a balanced system is not used, all units in the building must use the same system type and the dwelling-unit envelope leakage must be ≤ 0.3 CFM at 50 Pa (0.2 inch water) per square foot of dwelling unit envelope surface area and verified in accordance with Reference Residential Appendix RA3.8.
§ 150.0(o)1F:	Multifamily Building Central Ventilation Systems. Central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow for each dwelling unit served at a rate equal to or greater than the rate specified by Equation 150.0-B. All unit airflows must be within 20 percent of the unit with the lowest airflow rate as it relates to the individual unit's minimum required airflow rate needed for compliance
§ 150.0(o)1G:	Kitchen Range Hoods. Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE 62.2.
§ 150.0(o)2:	Field Verification and Diagnostic Testing. Dwelling unit ventilation airflow must be verified in accordance with Reference Residential Appendix RA3.7. A kitchen range hood must be verified in accordance with Reference Residential Appendix RA3.7.4.3 to confirm it is rated by HVI to comply with the airflow rates and sound requirements as specified in Section 5 and 7.2 of ASHRAE 62.2.
Pool and Spa Sy	ystems and Equipment Measures:
§ 110.4(a):	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating.*
§ 110.4(b)1:	Piping. Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.*
Lighting Measu	· · · · ·
§ 110.9:	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*
§ 150.0(k)1A:	Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.
§ 150.0(k)1B:	Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
§ 150.0(k)1C:	Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.
§ 150.0(k)1D:	Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.
§ 150.0(k)1E:	Night Lights, Step Lights, and Path Lights. Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.
§ 150.0(k)1F:	Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).*
§ 150.0(k)1G:	Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8.*
§ 150.0(k)1H:	Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	Light Sources in Drawers, Cabinets, and Linen Closets. Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit not more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems.*
§ 150.0(k)2C:	Interior Switches and Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned ON and OFF.*
§ 150.0(k)2D:	Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)2E:	Interior Switches and Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the control is installed to comply with § 150.0(k).
	Interior Switches and Controls. Lighting controls must comply with the applicable requirements of \$ 110.0

§ 150.0(k)2F: Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.9.

TENERY COMMISSION	2019 Low-Rise Residential Mandatory Measures Summary
§ 150.0(k)2G:	Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with control requirements if it: provides functionality of the specified control according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.0(e); and meets all other requirements in § 150.0(k)2.
§ 150.0(k)2H:	Interior Switches and Controls. A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2.
§ 150.0(k)2I:	Interior Switches and Controls. In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic-off functionality. If an occupant sensor is installed, it must be initially configured to manual-on operation using the manual control required under Section 150.0(k)2C.
§ 150.0(k)2J:	Interior Switches and Controls. Luminaires that are or contain light sources that meet Reference Joint Appendix JA8 requirements for dimming, and that are not controlled by occupancy or vacancy sensors, must have dimming controls.*
§ 150.0(k)2K:	Interior Switches and Controls. Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 150.0(k)3A:	Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirement in item § 150.0(k)3Ai (ON and OFF switch) and the requirements in either § 150.0(k)3Aii (photocell and either a motion sensor or automatic time switch control) or § 150.0(k)3Aii (astronomical time clock), or an EMCS.
§ 150.0(k)3B:	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, outdoor lighting for private patios, entrances, balconies, and porches; and residential parking lots and carports with less than eight vehicles per site must comply with either § 150.0(k)3A or with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3C:	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, any outdoor lighting for residential parking lots or carports with a total of eight or more vehicles per site and any outdoor lighting not regulated by § 150.0(k)3B or § 150.0(k)3D must comply with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)4:	Internally illuminated address signs. Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts or power as determined according to § 130.0(c).
§ 150.0(k)5:	Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in Sections 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
§ 150.0(k)6A:	Interior Common Areas of Low-rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be comply with Table 150.0-A and be controlled by an occupant sensor.
§ 150.0(k)6B:	Interior Common Areas of Low-rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must: i. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6 and 141.0; and ii. Lighting installed in corridors and stairwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all designed paths of ingress and egress.
Solar Ready Bu	ildings:
§ 110.10(a)1:	Single Family Residences. Single family residences located in subdivisions with 10 or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b) through § 110.10(e).
§ 110.10(a)2:	Low-rise Multifamily Buildings. Low-rise multi-family buildings that do not have a photovoltaic system installed must comply with the requirements of § 110.10(b) through § 110.10(d).
	Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access,

§ 110.10(a)2:	Low-rise Multifamily Buildings. Low-rise multi-family buildings that do not have a photovoltaic system installed must comply with the requirements of § 110.10(b) through § 110.10(d).
§ 110.10(b)1:	Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.*
§ 110.10(b)2:	Azimuth. All sections of the solar zone located on steep-sloped roofs must be oriented between 90 degrees and 300 degrees of true north.
§ 110.10(b)3A:	Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.*
§ 110.10(b)3B:	Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.*
§ 110.10(b)4:	Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	Interconnection Pathways. The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d):	Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.

Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps.

breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric".

Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit



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Project Name and Address:

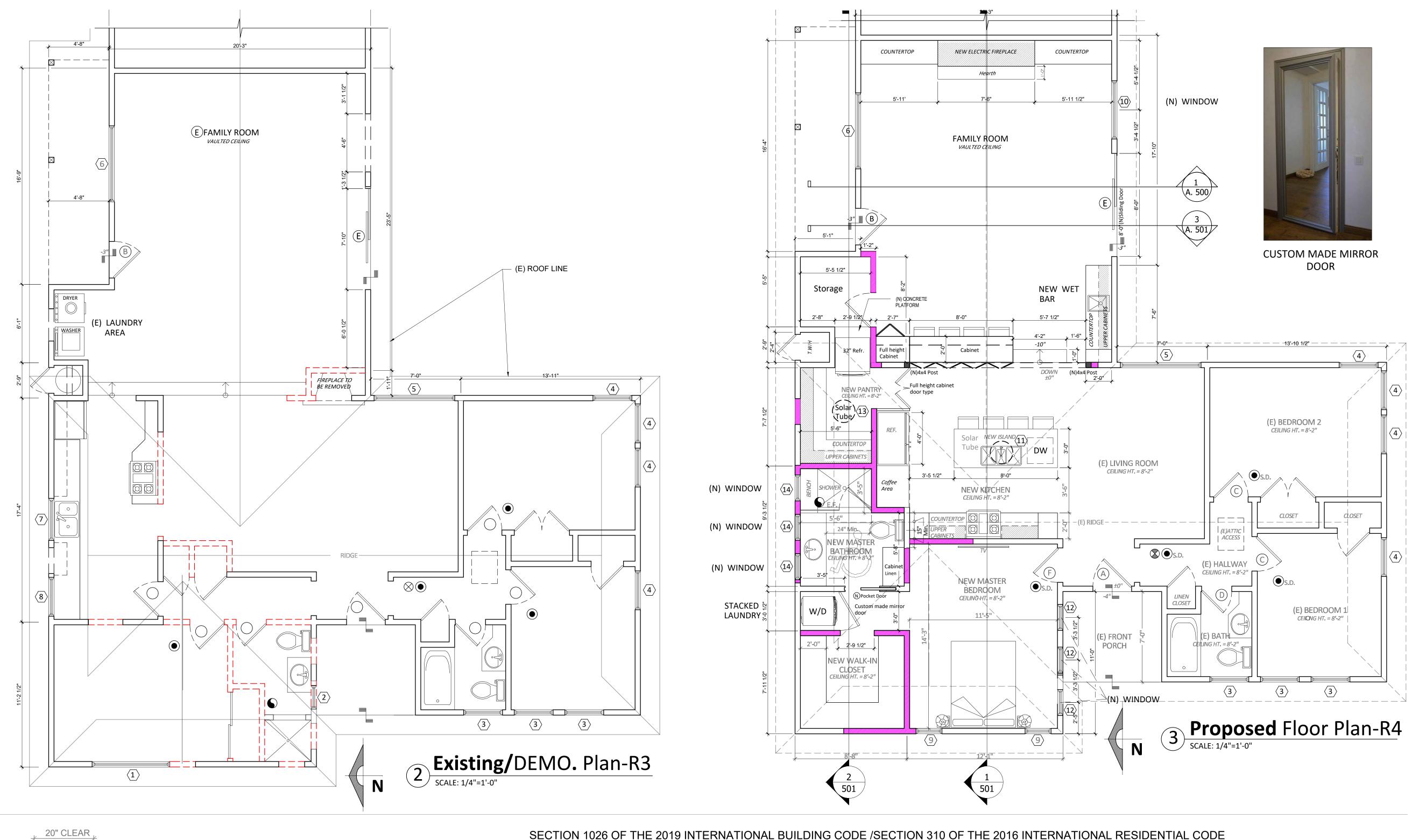
INTERIOR REMODEL FOR PETALUMA RESIDENCE Date: 2019_RESIDENTIAL_MANDATORY_MEASURES MAY 18, 2021 Scale: **NTS** COPYRIGHT Page No. : THIS DRAWING IS AN INSTRUMENT OF SERVICE AND AS SUCH, REMAINS THE PROPERTY OF PIXELARCH LTD.

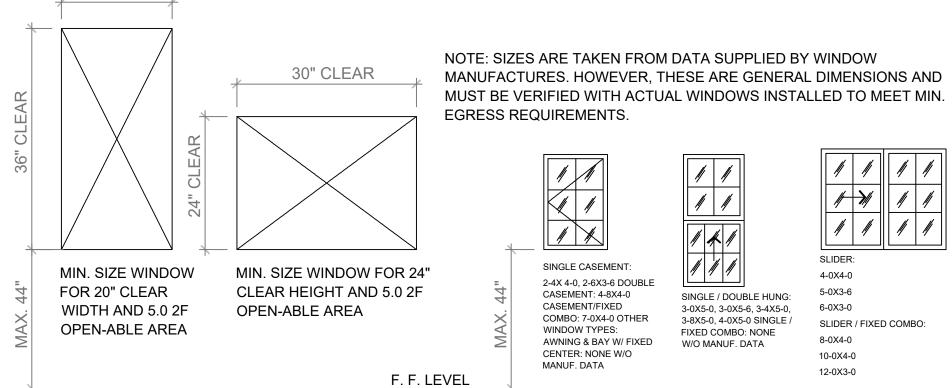
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BASEMENTS IN A DWELLING UNIT AND EVERY SLEEPING ROOM BELOW THE FOURTH STORY (INCLUDES ROOMS WHICH COULD BE USED FOR SLEEPING SUCH AS DENS, SEWING ROOMS, STUDY, ETC.) MUST HAVE A LEAST ONE OPERABLE WINDOW OR DOOR APPROVED FOR EMERGENCY ESCAPE OR RESCUE WHICH SHALL OPEN DIRECTLY INTO A PUBLIC STREET, PUBLIC ALLEY, YARD, OR EXIT COURT. THE UNITS MUST BE OPERABLE FROM THE INSIDE TO PROVIDE A FULL CLEAR OPENING WITHOUT THE USE OF SEPARATE TOOLS.

FOR FULL EGRESS, ESCAPE OR RESCUE WINDOWS ARE REQUIRED TO HAVE A MINIMUM NET CLEAR OPEN-ABLE AREA OF 5.7 SQ. FT. (820.8 SQ IN). EXCEPTION: MAY BE REDUCED TO 5.0 SF (720 SQ IN) IF 44" OR LESS FROM EXTERIOR GROUND LEVEL TO SILL. THE MINIMUM NET CLEAR OPEN-ABLE HEIGHT DIMENSION MUST BE 24 INCHES. THE MINIMUM NET CLEAR OPEN-ABLE WIDTH DIMENSION MUST BE 20 INCHES. THEY MUST ALSO HAVE A FINISHED SILL HEIGHT (CLEAR OPENING) OF NOT MORE THAN 44 INCHES ABOVE THE FLOOR. IN ORDER TO MEET THE REQUIRED NET-CLEAR OPEN AREA SQUARE-FOOT OPENING, EITHER THE WIDTH OR HEIGHT OR BOTH MUST EXCEED THE MINIMUM DIMENSIONS THEREOF.

WHEN REPLACING EXISTING NONCONFORMING WINDOWS REQUIRED FOR EMERGENCY ESCAPE AND RESCUE THE REPLACEMENT WINDOWS MUST MEET THE FOLLOWING:

EMERGENCY ESCAPE AND RESCUE REPLACEMENT WINDOW OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 4 SQ. FT.; MINIMUM NET CLEAR OPENING HEIGHT OF 22 INCHES; MINIMUM NET CLEAR OPENING WIDTH OF 20 INCHES. MINIMUM SILL HEIGHT OF NOT MORE THAN 48 INCHES ABOVE THE FLOOR OR THE INSTALLATION OF ONE OR MORE PERMANENTLY AFFIXED STEPS EXTENDING THE FULL WIDTH OF THE WINDOW OPENING, CONSTRUCTED TO THE CURRENT ADOPTED IRC RISE AND RUN DIMENSIONAL REQUIREMENTS, SO THAT THE TOP STEP IS NO GREATER THAN 44 INCHES TO THE TOP OF THE SILL WHERE THE EXISTING ROUGH OPENING DOES NOT ALLOW FOR REPLACEMENT WINDOW DIMENSIONAL REQUIREMENTS THE ROUGH OPENING SHALL BE ENLARGED AND THE REPLACEMENT WINDOW SHALL MEET THE FULL EMERGENCY ESCAPE AND RESCUE OPENINGS PER IRC SECTION R310.1 THROUGH R310.5 OR IBC SECTION 1026 AS APPLICABLE FOR SCOPE OF PROJECT.

ADDITIONAL GLAZING REQUIREMENTS:

Project Name and Address:

FOR MINIMUM LIGHT, ALL SLEEPING ROOMS AND OTHER HABITABLE ROOMS REQUIRE GLAZING EQUAL TO AT LEAST 8% OF THE FLOOR AREA OF THE ROOM; MINIMUM VENTILATION OF 4% OF THE FLOOR AREA. SEE THE INTERNATIONAL BUILDING OR RESIDENTIAL CODES AS APPLICABLE FOR EXCEPTIONS AND A COMPLETE LIST OF LIGHT AND VENTILATION REQUIREMENTS. SAFETY GLAZING IS REQUIRED IN DOORS, STORM DOORS, RAILINGS, WITHIN 24 INCHES OF A DOOR, OR WHEN PANES ARE OVER 9 SQUARE FEET AND WITHIN 18 INCHES OF THE FLOOR. SEE THE INTERNATIONAL BUILDING OR RESIDENTIAL CODES FOR EXCEPTIONS AND A COMPLETE LIST OF SAFETY GLAZING REQUIREMENTS.

INTERIOR REMODEL FOR PETALUMA RESIDENCE 3154 PETALUMA AVE. LONG BEACH, CA. 90808

DRAWING TITLE: MAY 18, 2021 PROPOSED AND EXISTING /DEMO. PLAN 1/4"=1'-0"

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GENERAL NOTES

- 1. WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTOR SHALL VERIFY, AND BE RESPONSIBLE FOR All DIMENSIONS AND CONDITIONS ON THE JOB. THE DESIGNER MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS OR CONDITIONS SHOWN ON THESE DRAWINGS. SHOP DRAWINGS MUST BE SUBMITTED TO THE DESIGNER FOR COMPLIANCE REVIEW BEFORE PROCEEDING WITH FABRICATION.
- 2. BATHROOMS AREA SHALL BE MECHANICALLY VENTILATED IN ACCORDANCE WITH CRC SECTION R 303.3.1 (THE FAN SHALL BE EQUIPPED WITH HUMIDITY CONTROL)
- 3. WALL COVERING SHALL BE CEMENT PLASTER, TILE OR APPROVED EQUAL TO 72 INCHES ABOVE DRAIN AT SHOWERS OR TUB WITH SHOWERS. MATERIALS OTHER THAN STRUCTURAL ELEMENTS SHALL BE MOISTURE RESISTANT. NET AREA OF SHOWER RECEPTORS SHALL BE NOT LESS THAN 1,024 sq.in. OF FLOOR AREA, AND ENCOMPASS 30-INCH DIAMETER CIRCLE.
- 4. NOTCHING OF EXTERIOR AND BEARING / NONBEARING WALLS SHALL NOT EXCEED 25%/40% RESPECTIVELY. BORED HOLES IN BEARING / NONBEARING WALLS SHALL NOT EXCEED 40%/60% RESPECTIVELY. IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8 INCH TO THE EDGE OF THE STUD.

	DOOR SCHEDULE				
STATUS	SYM	SIZE	TYPE	QTY	
(E)	A	3'-0" x 6'-8"	SOLID PANEL	1	
(E)	B	2'-10" x 6'-8"	SOLID PANEL	1	
(E)	C	2'-8" x 6'-8"	HOLLOW CORE	4	
(E)	D	2'-4" x 6°-8"	HOLLOW CORE	2	
(E)	E	7'-10" x 6'-8"	SLIDING DOOR	1	
NEW	F	2'-8" x 6'-8"	HOLLOW CORE	3	

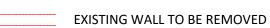
(E) = EXISTING

WINDOW SCHEDULE				
STATUS	SYM	SIZE	TYPE	QTY
(E)	1	6'-0" x 4'-0"	SLIDING, TO BE REMOVED	1
(E)	2	2'-0" x 3'-0"	SINGLE HUNG, TO BE REMOVED	1
(E)	3	3'-0" x 3'-6"	SINGLE HUNG	3
(E)	4	3'-0" x 4'-0"	SINGLE HUNG	4
(E)	5	6'-0" x 6'-0"	SLIDING	1
(E)	6	6'-0" x 4'-0"	SLIDING	1
(E)	7	3'-6" x 3'-0"	SINGLE HUNG, TO BE REMOVED	1
(E)	8	3'-0" x 3'-0"	SINGLE HUNG, TO BE REMOVED	1
NEW	9	2'-0"x4'-0"	AWING	2
NEW	(10)	4'-0"x6'-8"	FIXED GLASS	1
NEW	(11)	1'-9" Dim.	(N) SOLAR TUBE	1
NEW	(12)	2'-0"x1'-8"	FIXED GLASS	3
NEW	(13)	1'-9" Dim.	(N) SOLAR TUBE	1
NEW	(14)	2'-0"x1'-8"	AWING	3

SYMBOL LEGEND

NEW WALL CONSTRUCTION WITH 2x STUDS D.F. No.2 @ 16"O.C.

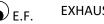
-USE 2x6 STUDS D.F. No.2 @ 16"O.C. FOR PLUMBING WALLS -USE 2x4 STUDS D.F No.2 @16"O.C. FOR NON BEARING WALLS



EXISTING WALL TO REMAIN

CARBON MONOXIDE ALARM WITH A BATTERY BACKUP

SMOKE ALARM. W/ BATTERY BACKUP



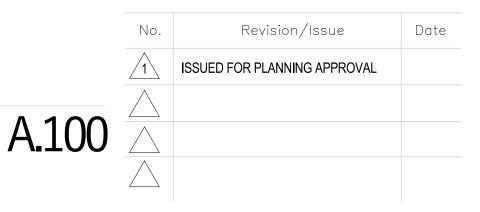
A.- EXHAUST FAN SHALL BE MINIMUM 50 CFM CAPABILITY

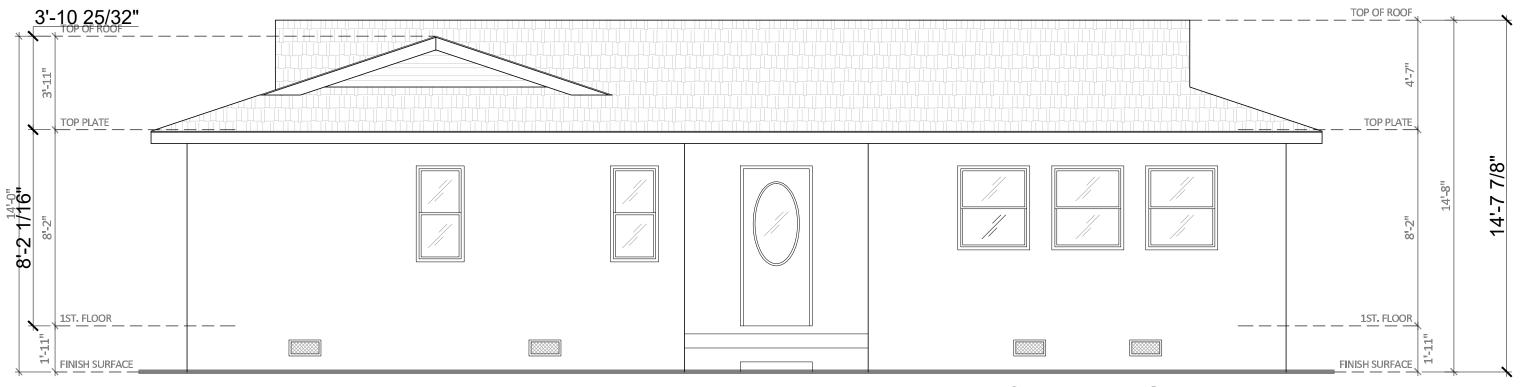
B.- EXHAUST FANS SHALL BE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE TO THE OUTSIDE OF THE BUILDING. C. THE FAN SHALL BE EQUIPPED WITH HUMIDITY SENSOR .

INDICATES FLOOR DROP

WINDOW SYMBOL

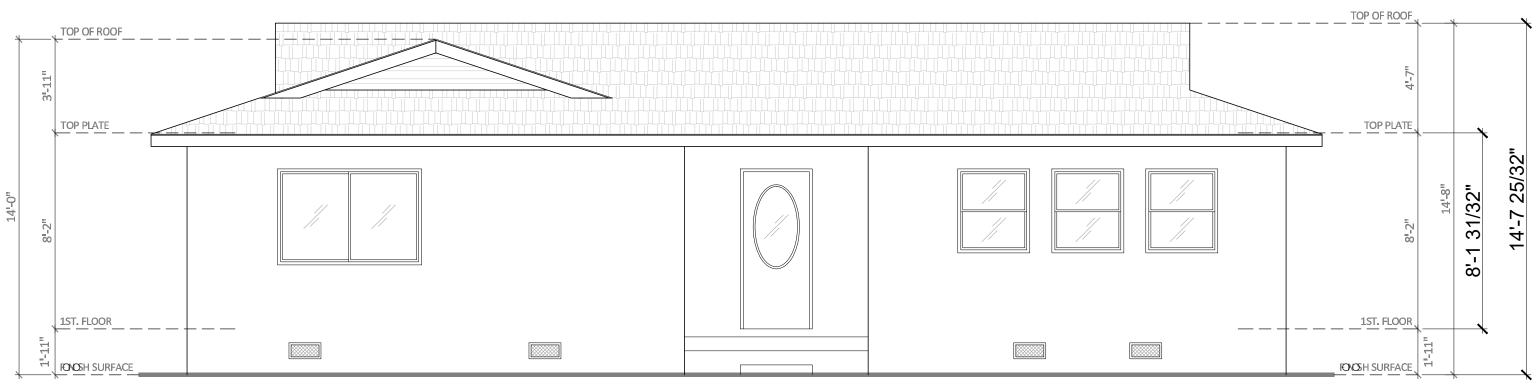
DOOR SYMBOL



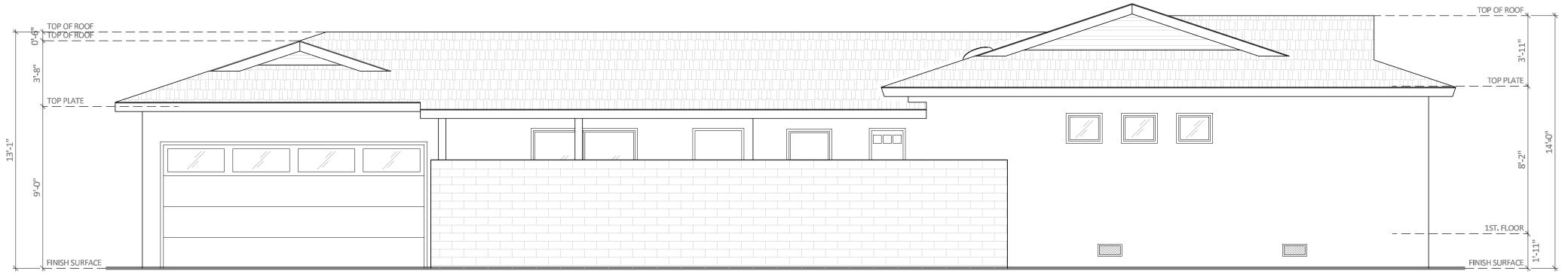


Proposed West Elevation

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

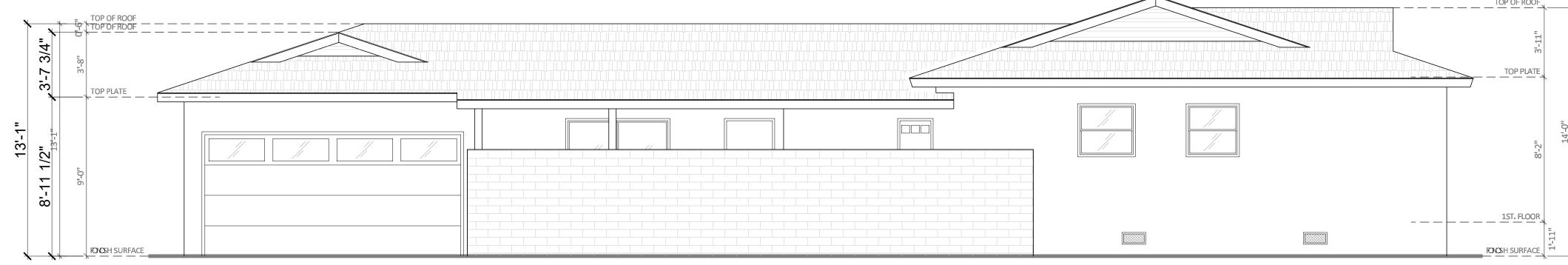


2 Existing West Elevation
SCALE: 1/4" = 1'-0"



Proposed North Elevation

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



4 Existing North Elevation

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

Project Name and Address:

INTERIOR REMODEL FOR PETALUMA RESIDENCE

MAY 18, 2021 EXISTING AND PROPOSED ELEVATIONS Scale: 1/4"=1'-0" COPYRIGHT

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DRAWING TITLE:

WITH OWNER, PIXELARCH LTD.

DEMOLITION NOTES

FEATURES NOT OTHERWISE SHOWN.

WORK. COMPLY WITH ALL AGENCY REQUIREMENTS.

THE AREA OF WORK PRIOR TO START OF DEMOLITION.

WITHOUT SPECIFIC NOTATION.

SETTLEMENT OR DISPLACEMENT

DEMOLITION AND RECONSTRUCTION WORK.

REQUEST DIRECTION.

RENOVATION.

UNDISTURBED WORK.

UTILITIES AND SERVICES.

AS INDICATED.

MATERIALS ABATEMENT.

THE SITE AS DIRECTED BY THE OWNER.

MANNER AT A LOCAL RECYCLING FACILITY.

1. DEMOLITION DRAWINGS ARE SCHEMATIC. REMOVE ALL WORK AS INDICATED AND AS

REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR

AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED

3. NOTIFY LOCAL AGENCY HAVING JURISDICTION PRIOR TO STARTING DEMOLITION

5. VERIFY EXISTING CONDITIONS AND INVERT ELEVATIONS OF UNDERGROUND

AND ARE NOT A GUARANTEE OF EXISTING OR CONCEALED CONDITIONS.

7. PROVIDE ALL SHORING. BRACING AND SUPPORTS REQUIRED TO PREVENT

WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED FOR SUPPORT OR

10.PROTECT EXISTING WORK DESIGNATED TO REMAIN FROM DAMAGE DUE TO

GRADE OR PAVING, RECORD ALL LOCATIONS ON RECORD DOCUMENTS.

13.SEE SITE PLAN(S) FOR DEMOLITION OF SITE FEATURES NOT OTHERWISE

INDICATED, INCLUDING PAVING, UNDERGROUND UTILITIES AND SERVICES.

14.SEE STRUCTUAL DRAWINGS FOR DEMOLITION OF SHEAR WALLS, INTERIOR

17. REMOVE DEMOLISHED MATERIALS FROM SITE AND DISPOSE OF IN A LEGAL

SURFACES /SUBSTRATE TO RECEIVE INDICATED FINISHES.

REMOVAL OF HAZARDOUS MATERIALS AND TOXIC SUBSTANCES.

Page No. :

PARTITIONS, AND TRENCHES FOR INSTALLATION OF UNDERGROUND UTILITIES.

15.SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR DEMOLITION OF

ITEMS NOT OTHERWISE INDICATED, INCLUDING UNDERGROUND OR CONCEALED

16.ALL DEMOLISHED MATERIALS ARE THE PROPERTY OF THE CONTRACTOR, EXCEPT

18.REMOVE ALL EXISTING NAILS, TACKS, STAPLES, HANGER WIRES, SIGNAL WIRES,

CABLES AND SIMILAR ITEMS FROM SURFACES TO REMAIN. PREPARE ALL REMAINING

19.REMOVE AND STORE DESIGNATED EQUIPMENT / MATERIALS FOR RE-INSTALLATION

20. SELECTIVE DEMOLITON INDICATED IN THESE CONTRACT DOCUMENTS EXCLUDES

ABATEMENT DOCUMENTATION PROVIDED BY OWNER. HAZARDOUS MATERIALS MAY

22. IF HAZARDOUS MATERIALS ARE DISCOVERED OR SUSPECTED DURING DEMOLITION

21. PRIOR TO START OF WORK, REFER TO HAZARDOUS MATERIALS SURVEY OR

OPERATIONS, STOP WORK AND NOTIFY OWNER'S REPRESENTATIVE FOR

BE PRESENT ON THE SITE OR IN EXISTING CONSTRUCTION. THESE CONTRACT

DOCUMENTS DO NOT CONTAIN MEASURES OR PRECAUTIONS FOR HAZARDOUS

FOR SUCH ITEMS AS THE OWNER WISHES TO CLAIM. STOCKPILE THESE ITEMS ON

8. DISCONNECT ALL AFFECTED UTILITIES PRIOR TO STARTING DEMOLITION WORK.

9. NEATLY CUT AND REMOVE SURFACES AND FINISHES AS REQUIRED OR TO A NATURAL

POINT OF DIVISION TO ENABLE INSTALLATION OF UTILITIES OR OTHER CONCEALED

11.REPAIR AND REPLACE ALL EXISTING SURFACES AND FINISHES TO MATCH EXISTING

12.CAP ALL ABANDONED UTILITIES BEHIND FACE OF NEW FINISHES, INCLUDING FINISH

UTILITIES PRIOR TO DEMOLITION. NOTIFY DESIGNER OF DISCREPANCIES AND

6. DRAWINGS ARE PREPARED FROM INFORMATION MADE AVAILABLE BY THE OWNER

4. OWNER WILL REMOVE FURNITURE, STORED MATERIALS AND MOVABLE EQUIPMENT IN

REQUIRED TO COMPLETE NEW CONSTRUCTION AS INDICATED. REFER TO CIVIL

ENGINEERING, LANDSCAPE, MECHANICAL AND ELECTRICAL DRAWINGS FOR

2. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC

Revision/Issue ISSUED FOR PLANNING APPROVAL A. 200

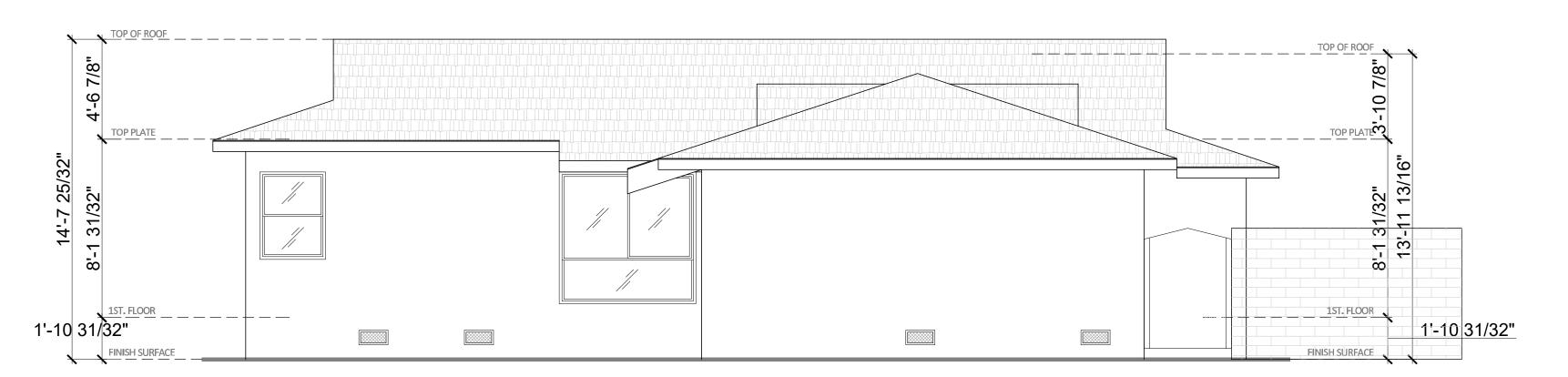


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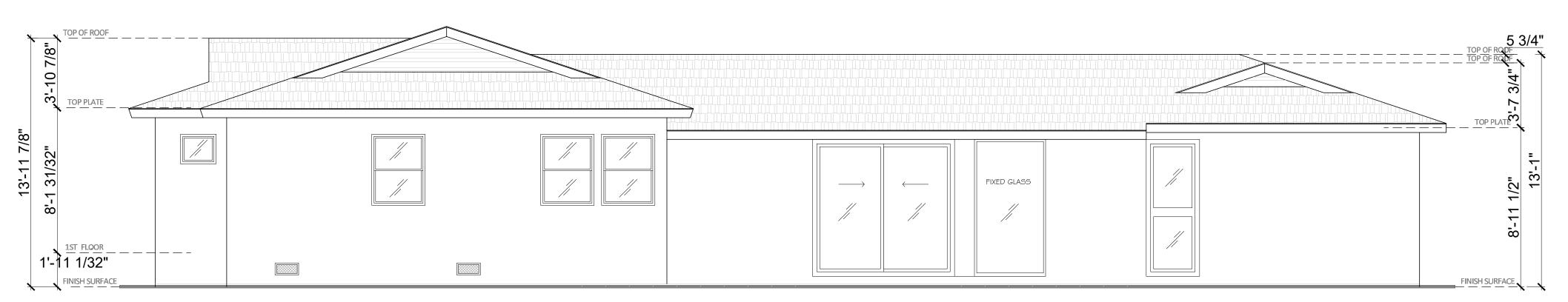
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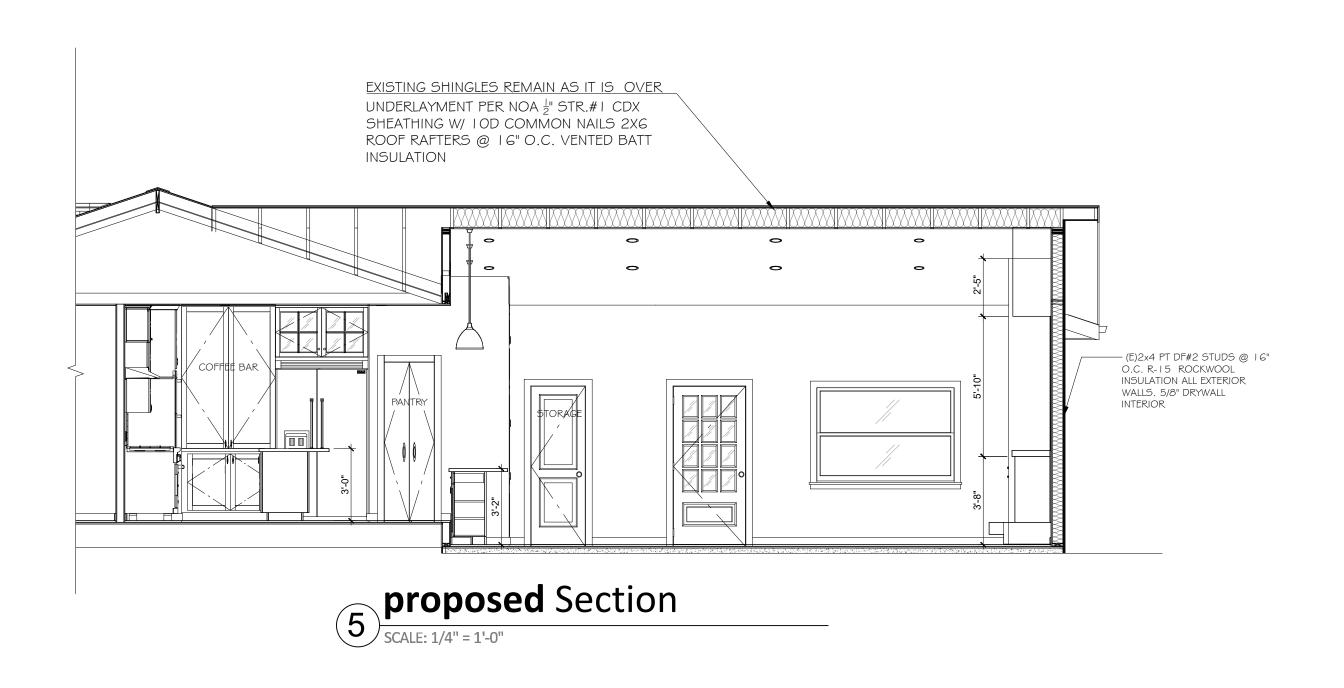
INSTRUCTIONS IMMEDIATELY. TAKE MEASURES TO PROTECT WORKERS AND PUBLIC. DIRECT ALL QUESTIONS ABOUT HAZARDOUS MATERIALS TO THE OWNER'S REPRESENTATIVE. 23. COORDINATE DEMOLITION WITH WORK OF HAZARDOUS MATERIAL ABATEMENT WORK AS DIRECTED BY OWNER.



proposed East Elevation SCALE: 1/4" = 1'-0"



6 proposed South Elevation SCALE: 1/4" = 1'-0"





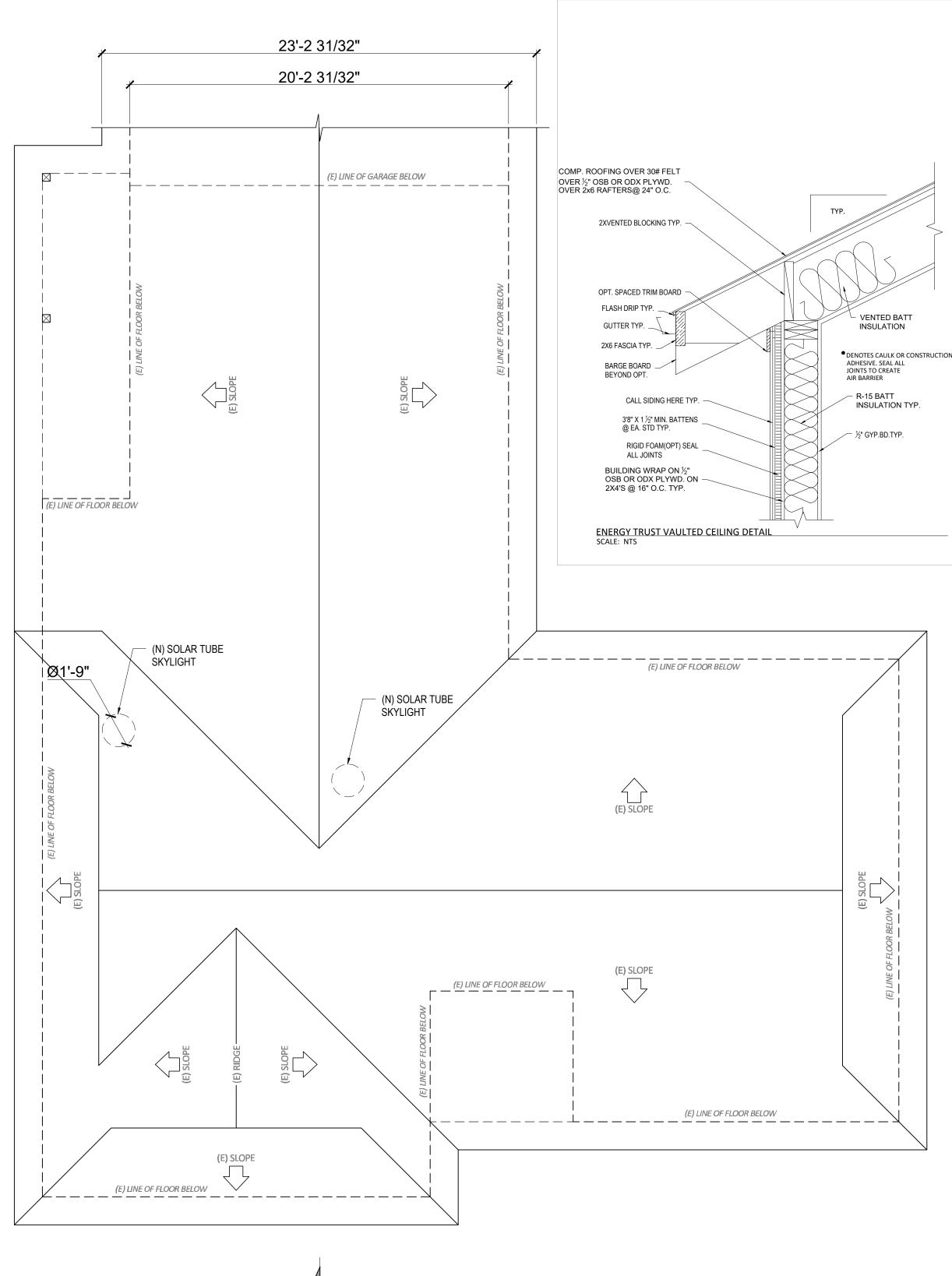
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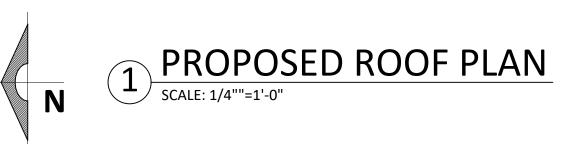
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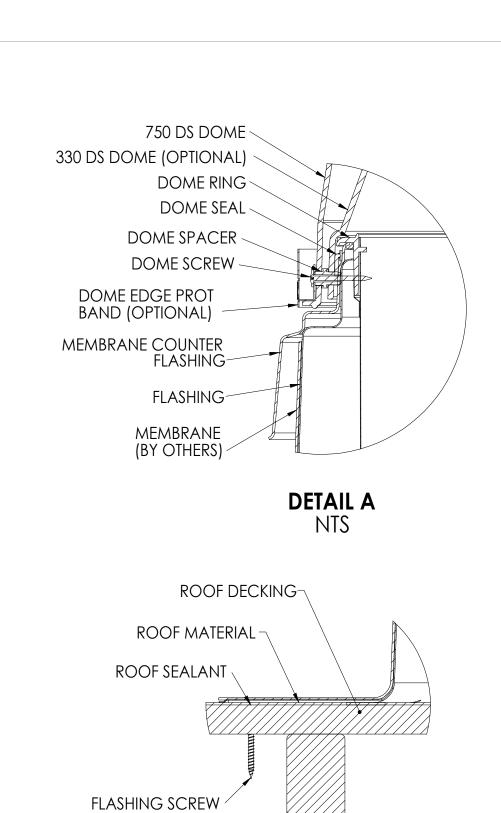
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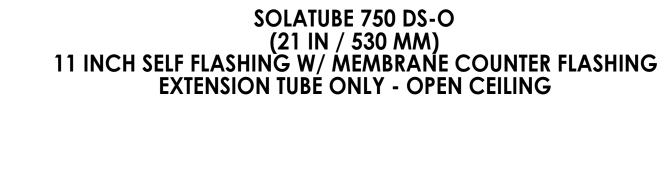
INTERIOR REMODEL FOR
PETALUMA RESIDENCE
3154 PETALUMA AVE. LONG BEACH, CA. 90808

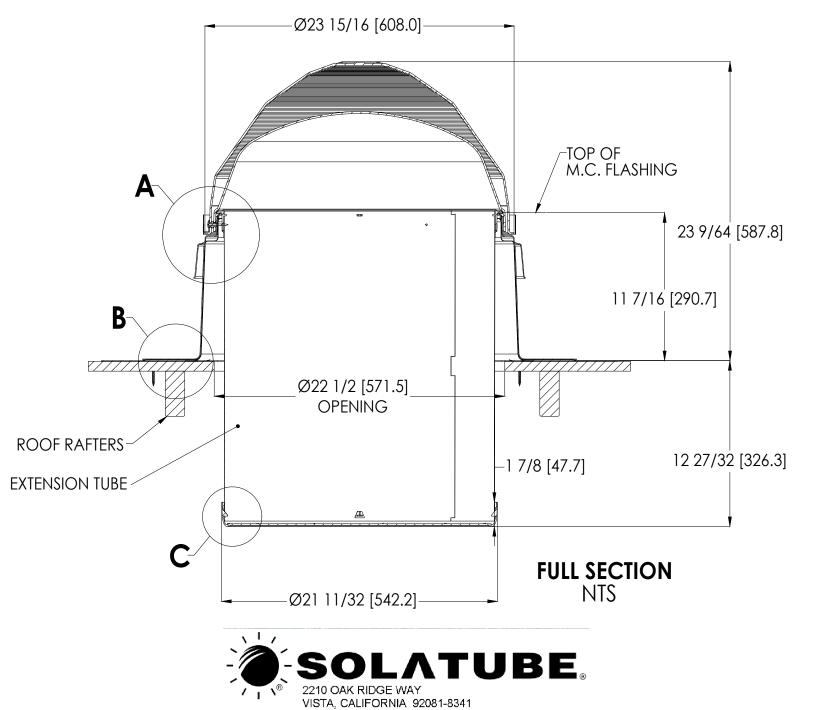
Date:	DRAWING TITLE:	Sheet :	No.	Revision/Issue	Date
MAY 18, 2021	PROPOSED ELEVATIONS AND SECTION		$\overline{\bigwedge_1}$	ISSUED FOR PLANNING APPROVAL	
Scale: 1/4"=1'-0"					
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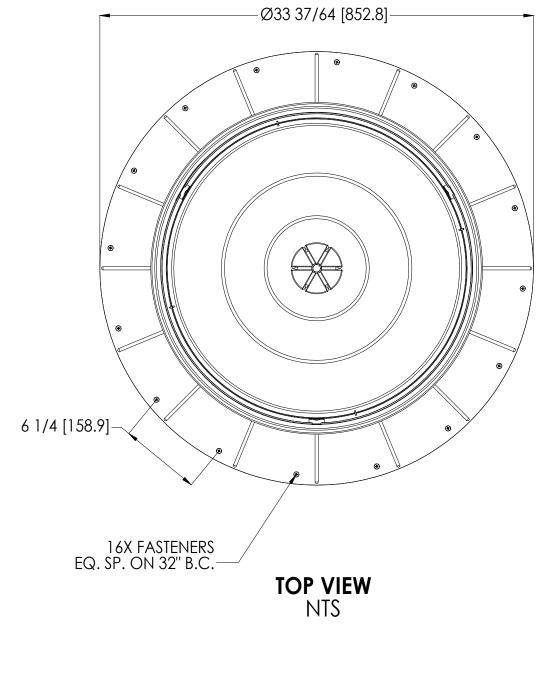




PH (760) 597-4400

750 DS (21") SELF FLASHING 11"

MCF, OPEN CEILING



- 1. STRUCTURAL ELEMENTS (PLYWOOD, RAFTERS, DRYWALL ETC.) BY OTHERS & SHOWN FOR REFERENCE ONLY.
- 2. ALL TUBE JOINTS & SEAMS TAPED WITH 2" FOIL TAPE (NOT SHOWN).
- 3. DIMENSIONS IN BRACKETS ARE METRIC UNLESS OTHERWISE SPECIFIED.
- 4. 6" MIN CLEARANCE SHOULD BE MAINTAINED FROM ALL SOLATUBE COMPONENTS AND OTHER PLENUM COMPONENTS.

ENERGY NOTES

SEAL -

DRESS RING/

DIFFUSER /

1. ALL OPENABLE WINDOWS AND SLIDING DOORS SHALL LIMIT AIR LEAKAGE AND BE CERTIFIED AND LABELED TO COMPLY WITH ANSI STANDARD AIS 4.2-1972.

DETAIL C

- 2. FIXED WINDOWS SHALL BE SEALED TO LIMIT AIR INFILTRATION.
- 3. ALL EXTERIOR DOORS AND WINDOWS ARE TO BE WEATHERSTRIPPED.

DETAIL B

NTS

- 4. SITE BUILT DOORS MOUNTED ON THE INSIDE OR THE OUTSIDE OF EXTERIOR WALLS SHALL HAVE A MIN. 1" LAP AT JAMPS.
- 5. OPEN EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES BETWEEN WALLS, FOUNDATIONS, ROOFS, PANELS, AND AT PENETRATION OF UTILITIES THRU THE ENVALOPE, SHALL BE SEALED, CAULKED, OR WEATHERSTRIPPED TO LIMIT AIR LEAKAGE.
- 6. PROVIDE A "CERTIFICATE OF COMPLIANCE" SIGNED BY THE OWNER, G.C., ARCHITECT, OR ENGINEER TO THE BLDG. DEPARTMENT STATING THAT THE WORK HAS BEEN PERFORMED AND MATERIALS INSTALLED ACCORDING TO THE PLANS AND SPECIFICATIONS AFFECTING NON-RESIDENTIAL ENERGY.
- 7. INSULATION SHALL BE INSTALLED TO MEET FLAME SPREAD AND SMOKE DENSITY REQUIREMENTS OF 5311 AND TITLE 24.

Date:

MAY 18, 2021

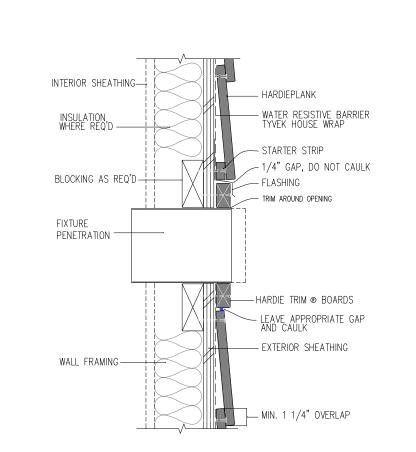
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GENERAL RENOVATION NOTES

- 1- CONTRACTORS TO VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING AND CONSTRUCTION.
- 2- ALL NEW INTERIOR WALLS TO BE 2x4 STUDS (3 1/2") fa 16" O.C. W/ In" GYP. BRD. USE MOISTURE RESISTANT GYP. BRD. e PLUMBING FIXTURES.
- 3- ALL AREAS DISTURBED BY CONSTRUCTION WHICH ARE TO REMAIN UNTOUCHED ARE TO BE RETURNED TO ORIGINAL CONDITION.
- 4- STRUCTURAL HEADERS & BEAMS (2) 2x10's (MIN) & POSTS 2-STUD (MIN) S.Y.P. #2 (UNLESS NOTED OTHERWISE)

FINISH NOTES

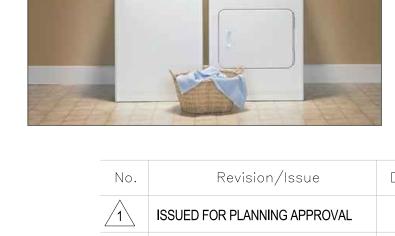
- 1 NEW CEILING TO BE 1/2" GYP. BRD. 2 - ALL GYP. BRD. TO BE PAINTED.
- 3 FLOORING TO BE INSTALLED IN FINISH AREAS (PER OWNER)
- 4 ALL FINISH SELECTIONS PER OWNER





FIXTURE PENETRATION

ROOF PLAN





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Project Name and Address:

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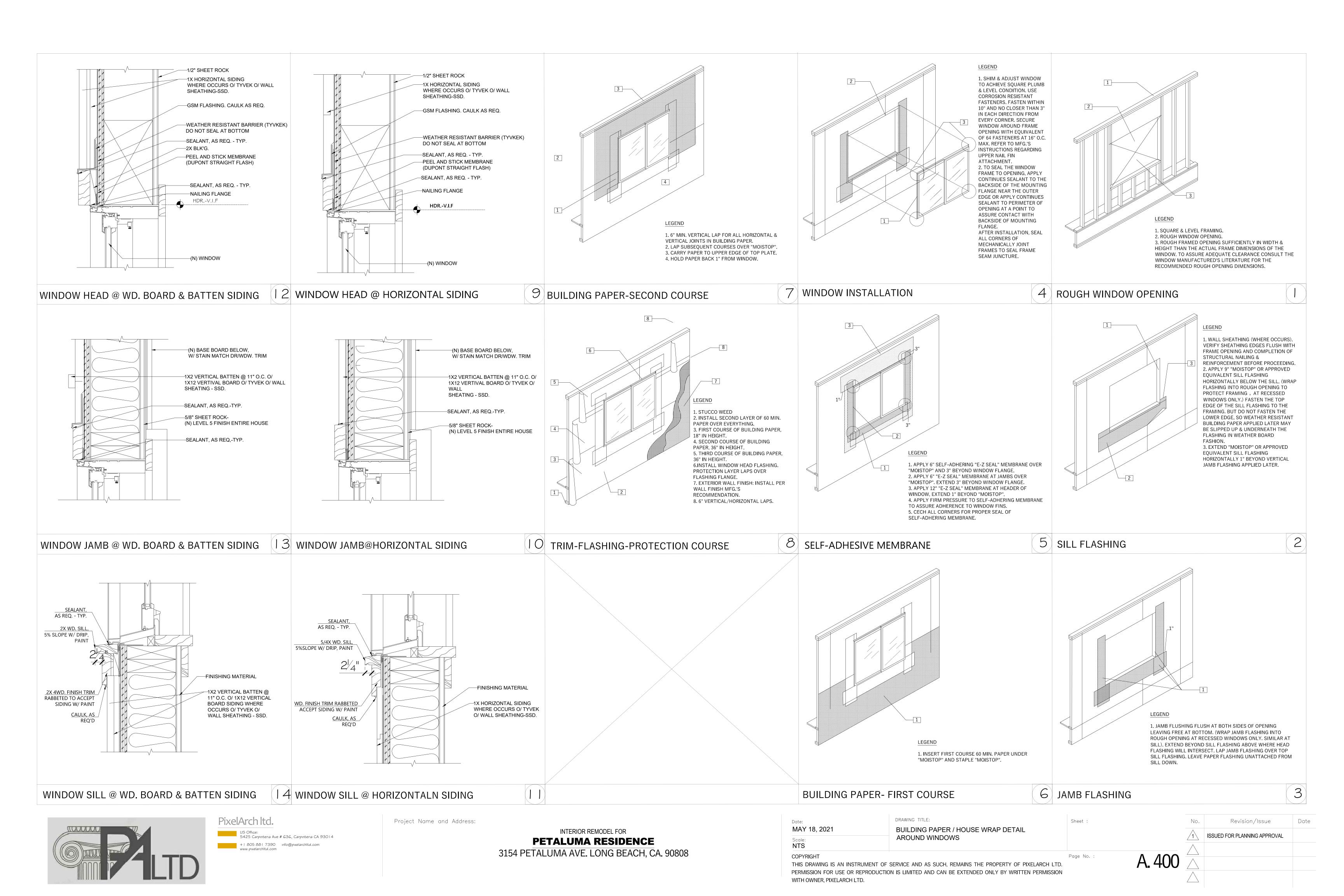
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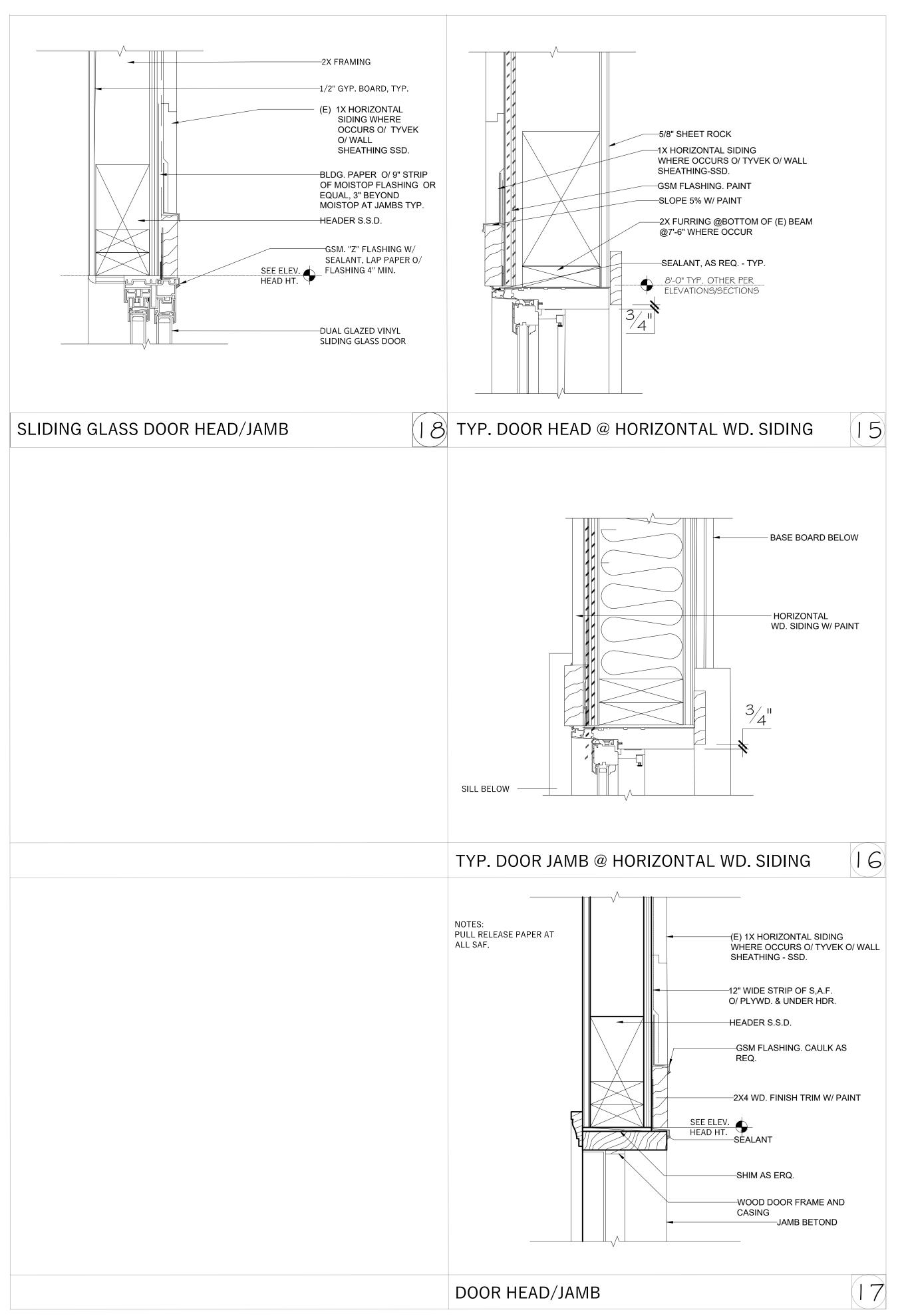






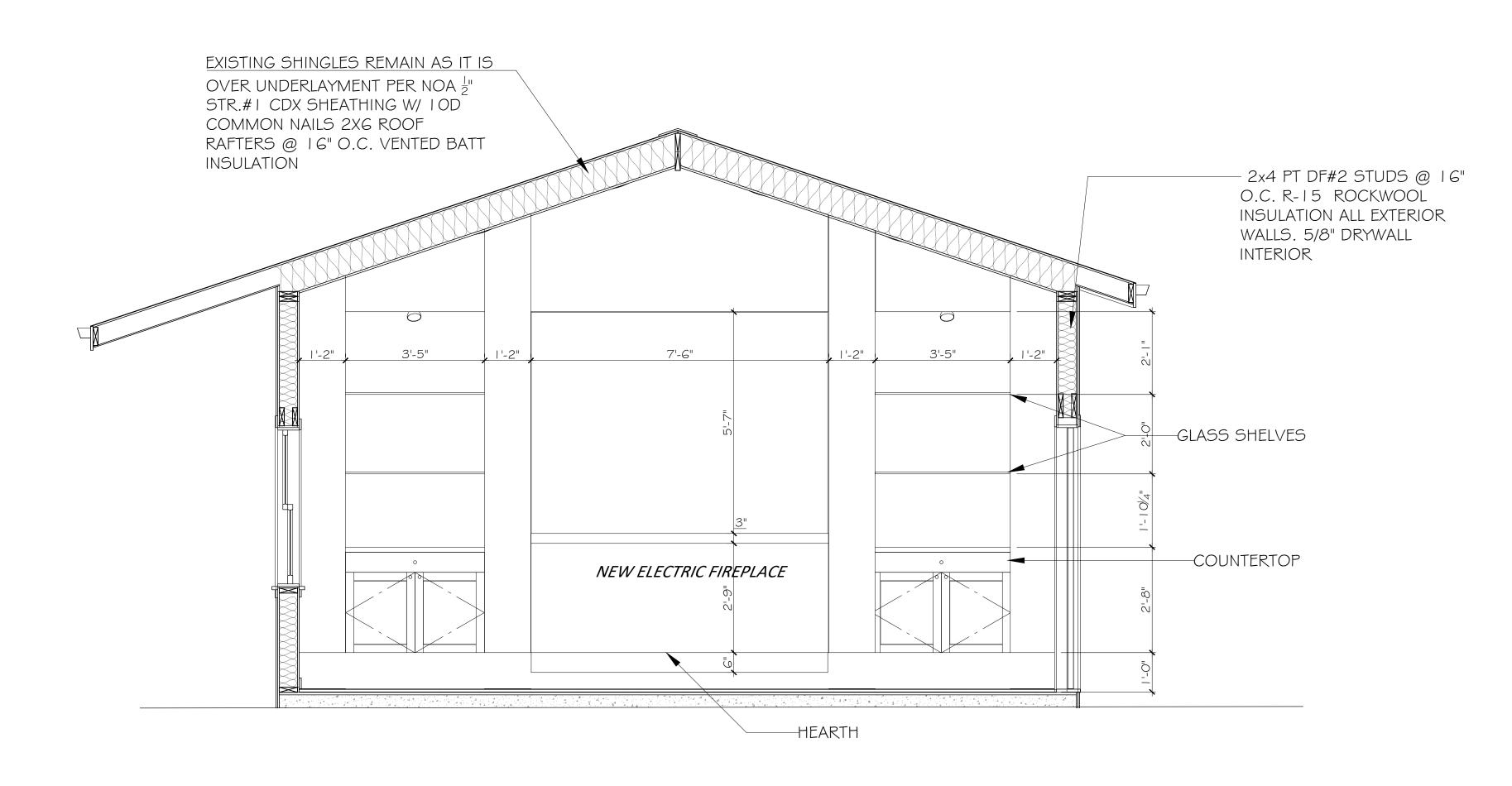
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Date:	DRAWING TITLE:	Sheet :		No.	Revision/Issue	Date
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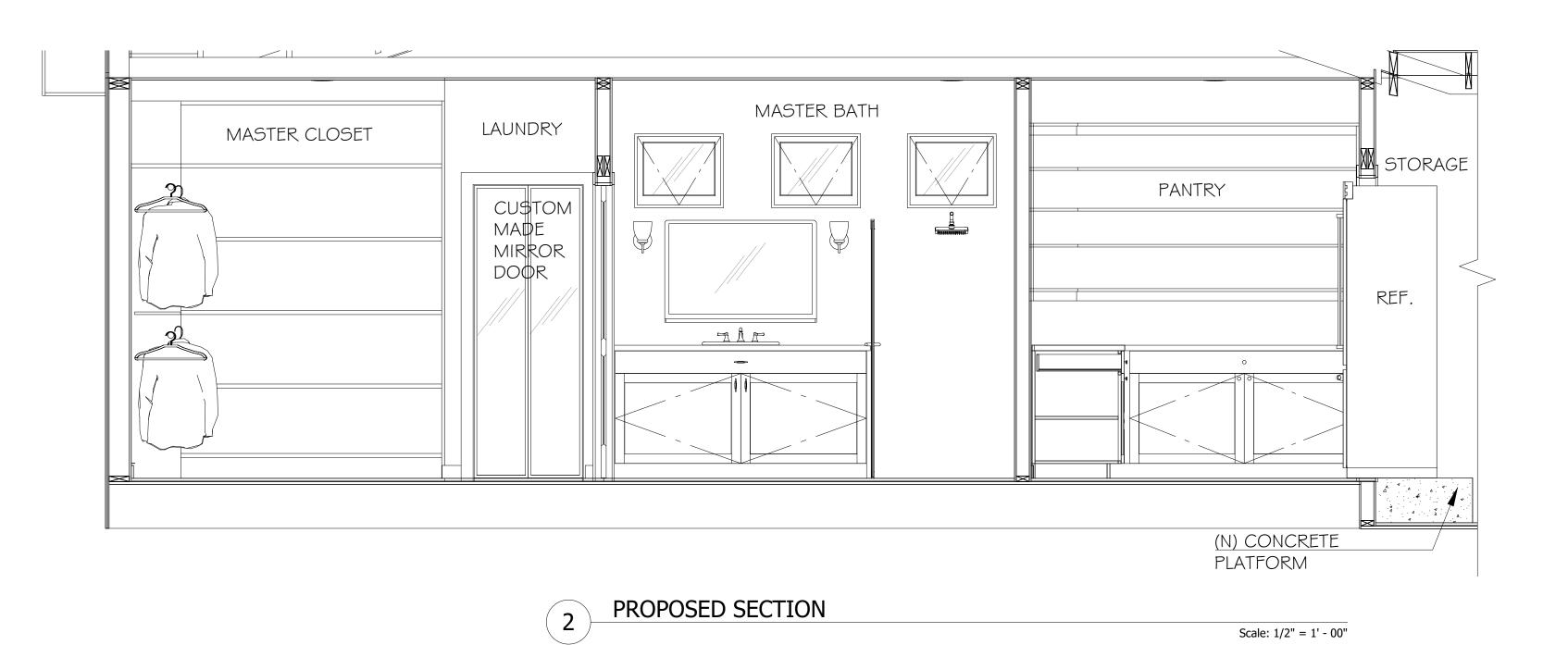
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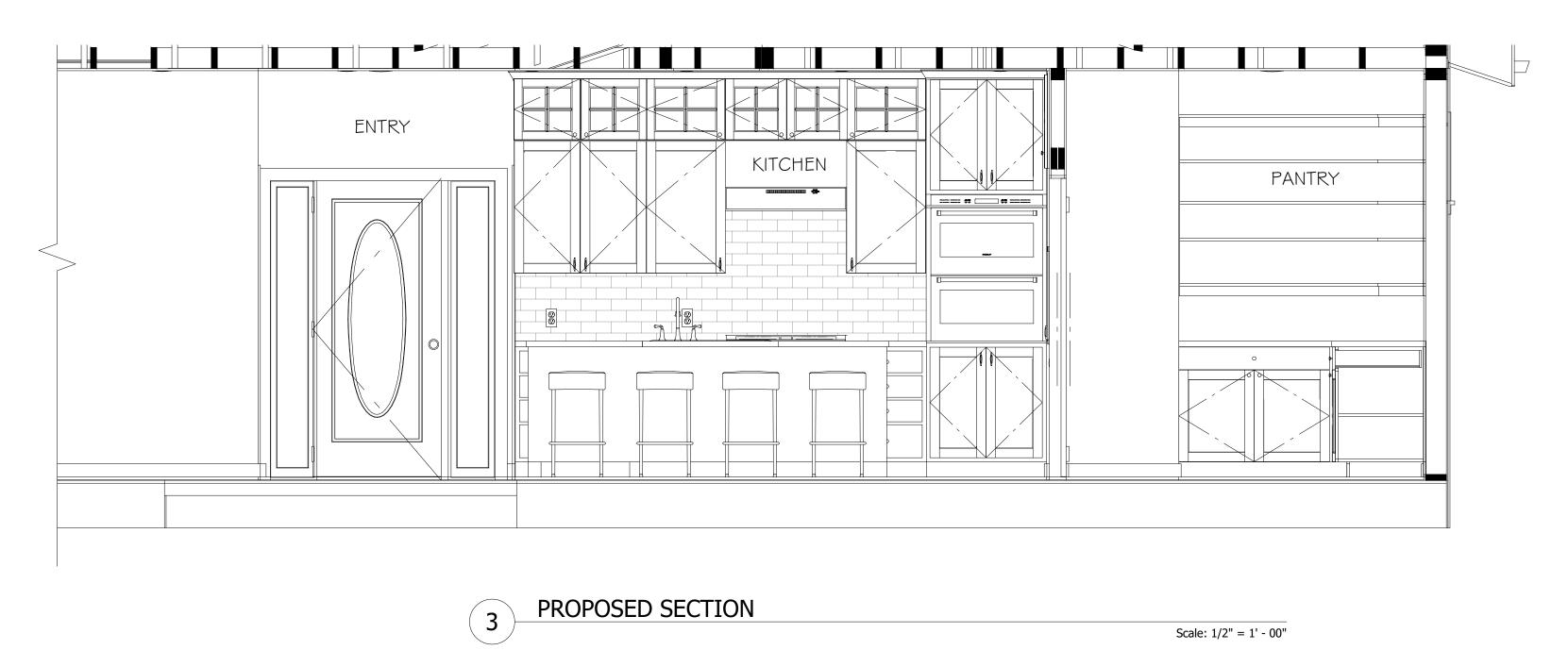
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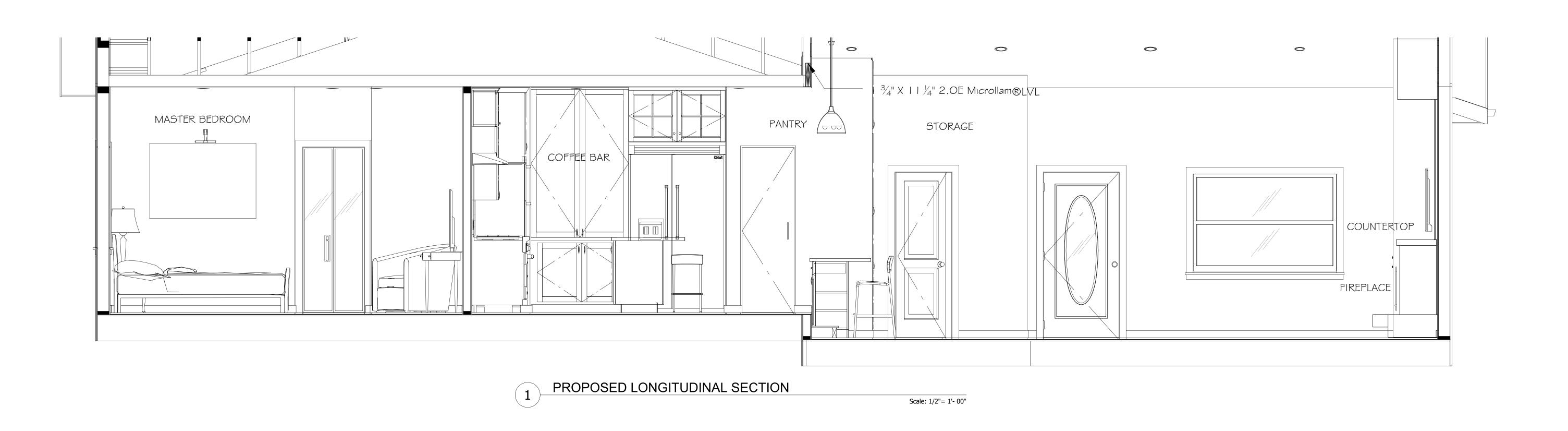
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GENERAL NOTES

APPLICABLE DESIGN LOADS: PER ASCI/SEI 7-16

STRUCTURAL CATEGORY: II

FLOOR LIVE LOAD: 40 PSF FLOOR DEAD LOAD: 15PSF ROOF LIVE LOAD: 20 PSF ROOF DEAD LOAD: 15PSF BASIC WIND SPEED: 95 MPH EXPOSURE: D SEISMIC DESIGN CATEGORY = D

ALL PRESSURES SHOWN ARE BASED ON ASD DESIGN,

SHEAR WALL SCHEDULE

	SHEAR WALL SCHEDULE 2019 C.B.(D .			
S.W. TYPE	SHEAR PANEL DESCRIPTION	ALLOWABLE SHEAR (PLF)	SILL BOLT'G @ FOUNDATION	TOP PL. TO BLK'G.	SILL NAILING UPPER STORIES
<u></u>	7/8" STUCCO OVER PAPER BACKED LATH W/ 16 GA STAPLES AT 6" O.C. AT TOP & BOTTOM PLATES, EDGE OF SHEAR WALL AND ON FIELD (CBC TABLE 2306.4.5) SEE NOTE 3 BELOW.	180 *180	5/8" @ 48" O.C. 5/8" @ 24" O.C.	A35 @ 16" A35 @ 16"	16d @ 8" O.C. 16d @ 4" O.C.
2	15/32" APA RATED PLYWOOD SHT'G. STRUCT I WITH 8d COMMON NAILS @ 6" O.C. AT EDGES & 12" O.C. FIELD (TABLE 2306.4.1 CBC) SEE NOTES 1,2,8,9, AND 10 BELOW.	280 *560	5/8" @ 32" O.C. 5/8" @ 16" O.C.	A35 @ 16" A35 @ 8"	16d @ 6" O.C. 16d @ 3" O.C.
3	15/32" APA RATED PLYWOOD SHT'G. STRUCT I WITH 8d COMMON NAILES @ 4" O.C. AT EDGES & 12" O.C. FIELD (TABLE 2306.4.1. CBC) SEE NOTES 1,2,4,5,8,9, AND 10 BELOW.	430 *860	5/8" @ 24" O.C. 5/8" @ 14" O.C.	A35 @ 8" LTP4 @ 6"	16d @ 4" O.C. 16d @ 2" O.C.
4	15/32" APA RATED PLYWOOD SHT'G STRUCT I WITH 8d COMMON NAILS @ 3" O.C. AT EDGES & 12" O.C. FIELD (TABLE 2306.4.1. CBC) SEE NOTES 1,2,4,5,8,9, AND 10 BELOW.	550 *1100	5/8" @ 20" O.C. 3/4" @ 16" O.C.	A35 @ 8" LTP4 @ 6"	16d @ 3" O.C. 1/4"Ø X 3-1/2" LAG SC. @ 2" O.C.
5	15/32" APA RATED PLYWOOD SHT'G. STRUCT I WITH 8d COMMON NAILS @ 2" O.C. AT EDGES & 12" O.C. FIELD (TABLE 2306.4.1. CBC) SEE NOTES 1,2,4,5,8,9, AND 10 BELOW.	730 *1460	5/8" @ 16" O.C. 3/4" @ 16" O.C.	A35 @ 8" LTP4 @ 6"	16d @ 2-1/2" O.C. 1/4" Ø X 3-1/2" LAG SC. @ 2" O.C.
6	15/32" APA RATED STRUCT. I SHT'G. WITH 10d COMMON NAILS @ 2" O.C. AT EDGES & 12" O.C. FIELD OVER 3 X STUDS (TABLE 2306.4.1 CBC) SEE NOTES 1,4,5,8,9, AND 10 BELOW.	870 *1740	3/4" @ 16" O.C. 3/4" @ 8" O.C.	A35 @ 6" LTP4 @ 4-1/2"	#12 X 3-1/2" WD. SC. @ 2" O.C. 1/4" Ø X 3-1/2" LAG SC. @ 1-1/2" O.C.

1. ALL EDGES OF PLYWOOD SHEAR WALLS MUST BE BLOCKED WITH 2X SOLID

2. DESIGNATES SILL BOLTING OR NAILING WHERE SHEAR WALL PANELS ARE TO BE APPLIED TO BOTH SIDES OF WALL 3. PAPER BACKED SELF-FURRING EXPANDED METAL OR WOVEN WIRE LATH AND

4. FRAMING AT ADJOINING PANEL EDGES SHALL BE 3-INCH NOMINAL OR WIDER AND NAILS SHALL BE STAGGERED. (USE 3X SILL PLATE @ FOUND., FOR SHEAR LOADS LESS THAN 350 PLF 2X SILL PLATE MAY BE USED.)

GENERAL NOTES:

1. CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ABIDING TO ALL APPLICABLE CALIFIORNIA BUILDING CODES LOCAL CITY ORDINANCES, ZONING REQUIREMENTS, AND LICENSING/PERMIT REQUIREMENTS. CONTRACTOR IS FULLY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES NCLUDING WITHOUT LIMITATION TO DEMOLITION, EXCAVATION AND ERECTION PROCEDURES

2. THE CONTRACTOR SHALL EXAMINE THE CONSTRICTION DOCUMENTS AND NOTIFY THE PROJECT ENGINEER & ARCHITECT OF ANY DISCREPANCIES, ERRORS, OR OMISSIONS SHE/HE MAY FIND BEFORE PROCEEDING WITH THE

3. NOTIFY THE PROJECT ENGINEER OF ANY DESIGN CHANGES PROPOSED BY OWNER OR THE CONTRACTOR DURING THE COURSE OF CONSTRUCTION. SUCH CHANGES AFFECTING ROOM ADDITION DESIGN MAY ALSO AFFECT STRUCTURAL DESIGN.

4 ANY SUBCONTRACTOR WHICH AGREES TO CONSTRUCT THE PROJECT PURSUANT TO THESE PLANS FULLY ASSUMES. THE RISK OF ALL ERRORS AND OMISSIONS WHICH SHOULD HAVE BEEN DETECTED BY A CAREFUL REVIEW BY A KNOWLEDGEABLE LICENSED CONTRACTOR, THAT WHICH FOR ANY REASON WERE NOT RESOLVED DURING THE BIDDING OR NEGOTIATION PROCESS. FURTHER, THE CONTRACTOR SHALL CAREFULLY REVIEW THESE PLANS AS HE WORK PROGRESSES IN ORDER TO IDENTIFY ANY SIGNIFICANT ERRORS AND OMISSIONS AND TO ASCERTAIN ALL NECESSARY INFORMATION BEFORE PROCEEDING WITH THE AFFECTED WORK, AND ASSUMES THE RISK OF ANY AND ALL LOSS, INCLUDING DELAY, WHICH MAY BE CAUSED OR CONTRIBUTED TO BY THE FAILURE TO ASCERTAIN CORRECT OR NECESSARY INFORMATION IN A TIMELY MANNER.

5. ALL TRADES SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR WORK. AND AT THE COMPLETION OF THE WORK SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE JOBSITE AND ALL THEIR TOOLS, SCAFFOLDING AND SURPLUS MATERIALS, AND SHALL LEAVE THE JOB BROOM CLEAN, INCLUDING REMOVING ALL LABELS, STICKERS, PAINT SMEARS, ETC... FROM LIGHTING FIXTURES, PLUMBING FIXTURES, GLASS SURFACES, FINISH HARDWARE, CABINETS, COUNTER TOPS, ETC.

6. EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE NOTED OR SHOWN ON THE PLANS, WORKMANSHIP & MATERIALS SHALL CONFORM, TO THE LATEST EDITION OF THE C.B.C. OR LOCAL CODE

7. THE PLANS SHALL BE REVIEWED FOR DIMENSIONAL & EXISTING SITE CONFORMANCE WITH THE PLANS BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE ARCHITECT & ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.

VERIEV ALL CONDITIONS AND DIMENSIONS IN THE FIELD: AND ALL OLIESTIONS AS TO DIMENSIONS AND FIELD CONDITIONS SHALL BE RESOLVED BEFORE THE AFFECTED WORK PROCEEDS. NO IMENSIONS SHALL BE OBTAINED BY SCALING THESE PLANS

9. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR DIMENSIONS AND CONDITIONS OF THE JOB.

10. THE PRECISE DIMENSIONS AND LOCATIONS OF ALL DOOR, WINDOW AND ROOF OPENINGS SHALL BE DETERMINED FROM DRAWINGS AND OTHER FLOOR, WALL OPENING REQUIRED BY MECHANICAL OR ELECTRICAL SHALL BE VERIFIED FROM SHOP DRAWINGS, EQUIPMENT DATA SHEETS, ETC. AS REQUIRED.

11. ITEMS IDENTIFIED BY TRADE NAMES MAY BE SUBSTITUTED BY APPROVED EQUALS.

12. NOTES & DETAILS ON DRAWINGS SHALL PRECEDE THESE GENERAL NOTES.

13. PROVIDE ANY SHORING & OR BRACING PRIOR TO REMOVING EXISTING WALLS, BEAMS, OR SUPPORTS FOR CONSTRUCTION. REMOVE SHORING ONLY WHEN NEW SUPPORTS ARE IN PLACE AND SECURED.

14. PROVIDE RED HEADS INTO EXISTING CONCRETE AT ALL SHEAR WALLS PER MFG. SPECIFICATIONS. SEE SHEAR WALL SCHEDULE FOR SIZE AND SPACING.

15. PROVIDE SIMPSON ST-6224 BETWEEN NEW WALLS AND EXISTING WALLS AT THE DOUBLE TOP PLATE.

16. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON DRAWINGS AND PROTECT

17. DO NOT CUT POST TENSION SLABS. CONTRACTOR TO DETERMINE EXISTING CONDITIONS PRIOR TO START OF 18. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS FOR FOOTING, BEAMS AND JOISTS, SIZES, LOCATIONS,

ETC., AND SHALL NOTIFY THE ARCHITECT & ENGINEER OF ANY DISCREPANCIES. 19. DOWEL NEW INTO EXISTING SLABS W/ #4 REBAR @ 24" O.C. AND FOOTINGS W/ DOWELS TO MATCH NEW REINF. SIZE/

LOCATION. **ENGINEERING NOTES**

1. CONCRETE SLABS ON GRADE HAVE NOT BEEN DESIGNED BY THE STRUCTURAL ENGINEER 2. THE VIBRATIONAL EFFECTS OF MECHANICAL EQUIPMENT HAVE NOT BEEN CONSIDERED BY THE STRUCTURAL

3. THE DESIGN, ADEQUACY AND SAFETY OF ERECTION, BRACING SHORING, TEMPORARY SUPPORTS ETC., IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND HAS NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING THE ENTIRE COURSE OF INSTRUCTION. THE ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR FIELD INSPECTION/OBSERVATION OF

4. ALLOWABLE SOILS PRESSURE TO BE A MINIMUM OF 1500 PSF UNLESS A SOILS REPORT IS PROVIDED. SOILS IN THE BUILDING AREA & 5 FEET BEYOND SHALL BE COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION PER

REFER TO SOIL REPORT BY: JOB NUMBER:

STRUCTURAL SYMBOLS / \setminus INDICATES SHEAR WALL. SEE FOUNDATION, FRAMING PLAN AND SHEAR WALL SCHEDULE FOR TYPE, SILL BOLTING, SHTG., ETC. NOTE: FOR SILL BOLTING AT EXISTING FOOTINGS, USE 5/8" Ø THREADED RODS W/ SIMPSON "SET-XP" EPOXY 7" MIN. EMB. PER ICC ESR-2508 THE SAME SIZE & SPACING AS CALLED FOR ON PLANS

INDICATES POST (BELOW BEAM)

MIN. POST SIZE/TYPE AS FOLLOWS U.N.O.

BEAM SIZE 2-2X4 W/16d NAILS @ 12" O.C

4 X 12 & SMALLER 4 X 14 & LARGER

6 X 10 & SMALLER

6 X 12 & LARGER 6X6 SEE HOLDDOWN DETAILS AND TYPICAL WALL

FRAMING FOR FURTHER POST SIZE REQUIREMENTS. POSTS ARE TO CONTINUE DOWN TO FOUNDATION.

5. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL AND NAILS SPACING IS LESS THAN 6" O.C. ON EITHER SIDE. PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3" NOMINAL OR THICKER & NAILS ON EACH SIDE SHALL BE STAGGERED. (USE 3 X SILL PLATE @ FOUND.)

6. ALL CONTINUOUS EXTERIOR AND INTERIOR SHEAR/BEARING WALL FOOTINGS TO HAVE 5/8"Ø A.B.'S @ 48" O.C. WITH 3" X 3" X 1/4" PLATE WASHERS U.N.O. MINIMUM OF TWO BOLTS PER EACH PIECE OF SILL PLATE AT 4" TO 12" CLEARANCE TO HE END AND 7" MINIMUM EMBEDMENT. (FOR TWO POUR SYSTEM, BOLTS SHALL BE EMBEDDED 4 INCH MIN. INTO FIRST POUR.)

AND BOTTOM U.N.O. ON FOUND. PLAN.

EMBEDDED 4 INCH MIN. INTO FIRST POUR.)

). PROVIDE 3/4" CAMBERS AT ALL EXPOSED CORNERS.

TYPE V CEMENT IF NOTED IN SOILS REPORT)

FOUNDATION NOTES

<u>GENERAL</u>

CONCRETE

CONCRETE BLOCK MASONRY

2000. PSI AT 28 DAYS.

3 PARTS SAND

2 PARTS PEA GRAVEI

REINFORCED MASONRY (CMU)

MIX: 1 PART PORTLAND CEMEN

1/2 PART LIME PUTTY.

MIX: 1 PART PORTLAND CEMENT.

SHALL BE FILLED SOLID WITH GROUT.

EDDITION OF ACI 530/ASCE 5/TMS 402.

INSTALL ALL BLOCKS IN RUNNING BOND

. PROVIDE VERTICAL CONSTRUCTION JOINTS AT 40 FT. O.C.

STOPPING GROUT 1-1/2 INCH BELOW THE TOP OF THE BLOCK.

(28 DAY) (ASTM C1019). TARGETED SLUMP SHALL BÉ 8"-11".

MINIMUM MASONRY BLOCK (ASTM C90) STRENGTH SHALL (F'M) BE 2000 PSI.

WATER SUFFICIENT TO ALLOW GROUT TO FLOW INTO ALL JOINTS.

(SEE NOTE 12 FOR A.B. LENGTH.)

WASHERS WITH 3/4"Ø A.B. AT ALL SHEAR WALLS 10. AT EXISTING FOOTINGS, USE THREADED RODS W/ SIMPSON "SET-XF EDGE DIST. OF 1-7/8" (ICC ESR-2508) (SPECIAL INSPECTION REQ'D.) 11. ALL ANCHOR BOLTS SHALL CONFORM TO ASTM A-307 U.N.O.

8. USE APA RATED PLYWOOD

. SOIL BENEATH FOOTINGS AND SLABS SHALL BE COMPACTED PER 2019 C.B.C. (90%) RELATIVE COMPACTION

CONTINUOUS FOOTINGS AND GRADE BEAMS SHALL BE EXCAVATED TO THE DEPTH SHOWN ON THE

. ALLOWABLE SOIL BEARING PRESSURE IS ASSUMED TO BE 1500. PSF IF NO SOILS REPORT IS PROVIDED

5. NO TRENCHES OR EXCAVATIONS FIVE FEET IN DEPTH OR GREATER INTO WHICH A PERSON SHALL BE

BOLTS WITH 7" MIN EMBEDMENT IN CONCRETE WITH SPACING NO GREATER THAN 4 FEET O.C. NOR

IN STRUCTURAL CONC. UNLESS SPECIFICALLY DETAILED, SEE MECHANICAL AND/OR ELECTRICAL

B. PIPES MAY PASS THRU STRUCTURAL CONC. IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN

CAST IN CONCRETE, AND FOR LOCATION OF FLOOR FINISHES AND SLAB DEPRESSIONS.

11. LOCATION OF POUR JOINTS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.

FURTHER THAN 12" FROM CORNERS (MIN 2 BOLTS | PER PIECE). SEE THE FOLINDATION PLAN & SHEAR

2 INCH. OF SAND OVER 6 MIL. VISQUEEN OVER 2" SAND BED OVER COMPACTED SOIL. U.N.O.

REQUIRED TO DESCEND SHALL BE MADE WITHOUT PROPER PERMI

DRAWINGS FOR LOCATION OF SLEEVES, ACCESSORIES, ETC

SLAB ON GRADE: 4 INCH. NET CONCRETE SLAB WITH #3 BARS @ 18" O.C. EACH @ CENTER OF SLAB OVER

THE MINIMUM BOLTING FOR SILL PLATES TO FOUNDATION SHALL BE AS FOLLOWS: 5/8" DIAMETER ANCHOR

WALL SCHEDULE FOR FURTHER BOLTING REQUIREMENTS. (FOR TWO POUR SYSTEMS, BOLTS SHALL BE

PIPES OR DUCTS THAT EXCEED ONE THIRD THE SLAB OR CONC. WALL THICKNESS SHALL NOT BE PLACED

O SEE ARCHITECTURAL PLANS FOR MOLDS, GROOVES, ORNAMENTS, CLIPS OR GROUNDS. REQUIRED TO BE

UNLESS OTHERWISE NOTED ON PLANS, CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH

FINE & COURSE AGGREGATE SHALL CONFORM TO A.S.T.M. C-33, USE 3000 P.S.I. CONC. @ GRADE BEAMS.

CEMENT SHALL CONFORM TO A.S.T.M. C-150 (STANDARD BRAND PORTLAND CEMENT) TYPE II (USE

EMENT. READY MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C-94

NOT LESS THAN 1/4 PART, NOR MORE THAN 1/2 PART, LINE PUTTY OR DRY HYDRATED LIME, DRY PACK

JMPRESSIVE STRENGTH

MIXED AT A RATE OF 5 SACKS OF CEMENT PER CUBIC YARD, MAXIMUM SLUMP SHALL BE 4 INCH AS

MEASURED BY THE ASTM "STANDARD METHOD OF TESTING FOR SLUMP OF PORTLAND CEMENT

DRY PACK SHALL CONSIST OF 1 PART CEMENT, 4 PARTS SAND. BASED ON DRY LOOSE VOLUMES AND

SHALL OBTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.

CONCRETE BLOCK SHALL CONFORM TO A.S.T.M. C-90 MED. WT. GRADE N UNITS, WITH MIN. COMP.

MORTAR SHALL CONFORM TO ASTM C-270, TYPE S, WITH MINIMUM COMPRESSIVE STRENGTH OF

GROUT SHALL CONFORM TO ASTM C-476, WITH MINIMUM COMPRESIVE STRENGTH OF 2000. PSI AT

4. CELLS SHALL BE IN VERTICAL ALIGNMENT TO PROVIDE A MIN. UNOBSTRUCTED CORE OF 3" X 3".

. ALL CELLS BELOW FINISHED GRADE AND ALL CELLS WITH REINFORCING, ANCHORS OR $\,$ INSERTS

CONCRETE SURFACES SHALL BE CLEANED OF ALL LAITANCE PRIOR TO SETTING OF BLOCKS.

8. MINIMUM LAP FOR ALL STEEL IS 40 BAR DIAMETER, OR 24 INCHES, WHICHEVER IS GREATER.

9. IF WORK IS STOPPED FOR ONE HOUR OR LONGER, PROVIDE HORIZONTAL CONSTRUCTION JOINTS BY

ALL MASONRY SHALL BE REINFORCED CONCRETE MASONRY UNIT IN ACCORDANCE WITH THE LATEST

TYPE "S" MORTAR (ASTM C270) SHALL BE USED USING 3/8" FULL BEDDING REINFORCED W/ 9 GAGE GALVANIZED LADDER WIRE EVERY 2ND ROW. FILLED CELLS SHALL BE REINFORCED WITH #5 REBAR @ 24" O.C. (UNLESS OTHERWISE IS SPECIFIED ON 6. GROUT SHALL BE PEA ROCK PUMP MIX (ASTM C476) WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI

DOWELS FROM FOOTINGS SHALL BE SET TO ALIGN WITH CORE REINFORCING.

L VOLUME

BK VOLUME

STRENGTH OF 1500 PSI. ALL CMU BLOCKS SHALL BE LAID UP IN RUNNING OR COMMON BOND

ADDING CALCIUM CHLORIDE TO CONCRETE OR GROUT IS NOT PERMITTED.

6. CONC. SHALL BE KEPT MOIST FOR 10 DAYS FOR PROPER CURING

CONCRETE SHALL BE MACHINE-MIXED USING A MAXIMUM OF '7' GALLONS OF WATER PER SACK OF

7. ALL INTERIOR NON-BEARING FTGS TO HAVE 3/16" Ø SHOT PINS AT 32" O.C., I.E., HILTI SHOT PINS	12.	ANCHO	R BOLT SPE	C.:
(ICC ESR-1663). . USE APA RATED PLYWOOD SHEATHING, OR O.S.B. PANEL, ALL PLYWOOD SHALL BE DOUGLAS FIR.			BOLT LEI	NGTH
4-PLY MIN. OTHER SPECIES MAY REQUIRE CHANGES.			SINGLE POUR	DOUB

9. USE 3 X 3 X 1/4 PLATE WASHERS WITH 5/8"Ø A.B. AT ALL SHEAR WALLS

OOD SHALL BE DOUGLAS FIR.			
OOD SHALL BE DOUGLAS FIR.		SINGLE POUR	DOUB
LS. USE 3 X 3 X 5/16 PLATE	2X SILL	12"	1
DII EDOVA ZII MINI EMB MAMMINI	3X SILL	14"	1
P" EPOXY 7" MIN. EMB. W/MIN.)			

REINFORCING STEEL

1. REINFORCING STEEL, #3 AND #4 GRADE 40, #5 AND LARGER GRADE 60 PER A.S.T.M. A615. . LOW HYDROGEN WELDING RODS SHALL BE USED FOR ALL WELDING OF REINFORCING BARS.

3. BARS NOTED AS "CONT" TYPICAL WALL REINFORCING AND VERTICAL COLUMN REINFORCING SHALL HAVE A MINIMUM SPLICE OF 50 BAR DIAMETERS LAP IN MASONRY OR 40 BAR DIAMETERS MINIMUM IN CONCRETE.

DRAWINGS BELOW UNDISTURBED SOIL OR COMPACTED EARTH. PROVIDE 1-#4 HORIZONTAL BARS ON TOP 4. REINFORCING SHALL BE SPLICED ONLY AS SHOWN OR NOTED. OTHER SPLICES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER

5. SPLICES IN ADJACENT HORIZONTAL WALL REINFORCING BARS SHALL BE STAGGERED 4 FEET UNLESS

3. PROVIDE DOWELS IN FOOTINGS AND/OR GRADE BEAMS THE SAME SIZE AND NUMBER AS VERTICAL WALL OR COLUMN REINFORCING. DOWELS SHALL HAVE A MINIMUM PROJECTION EQUAL TO STANDARD LAP SPLICE UNLESS OTHERWISE NOTED.

ALL REINFORCING, ANCHOR BOLTS, AND OTHER INSERTS SHALL BE SECURED IN PLACE PRIOR TO PLACEMENT OF CONCRETE OR GROUTING OF MASONRY

PROVIDE THE FOLLOWING MINIMUM PROTECTIVE COVERING OF CONCRETE: BELOW GRADE (UNFORMED) 3" CLEAR

BELOW GRADE (FORMED) 2" CLEAR COLUMNS 1.5" CLEAR BEAMS AND GIRDERS 1.5" CLEAR STRUCTURAL SLAB (ABOVE GRADE) 3/4" CLEAR

RECOMMENDATIONS.

9. #5 OR LARGER REINFORCING BARS SHALL NOT BE RE-BENT WITHOUT APPROVAL OF THE STRUCTURAL GRADING NOTES

. A GRADING PERMIT SHALL BE OBTAINED PRIOR TO ANY GRADING

2. ALL FILL ONE FOOT & GREATER SHALL BE CERTIFIED AND TESTED AS TO RELATIVE COMPACTION PER U.B.C. 3. ALL FILL SHALL BE COMPACTED IN ACCORDANCE WITH ASTM D-1557. TO MAXIMUM OF 90% DENSITY. 4. ALL UTILITY TRENCH BACKFILLS SHALL BE IN ACCORDANCE WITH THE SOILS ENGINEER'S

STRUCTURAL STEEL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36,(Fy=36.KSI) FOR PLATES AND TO ASTM A992,(Fy=50.KSI) FOR W-SHAPE STEEL SECTIONS.

2. CORTEN STEEL SHALL CONFORM TO ASTM A588, Fy=50. KSI 3. STAINLESS STEEL SHALL CONFORM TO ASTM A276 TYPE 304-HOT ROLLED, Fy=18. KSI. 4. FABRICATION, ERECTION & PAINTING SHALL COMPLY WITH THE AISC SPECS. CHAPTER M.

5. ALL BOLTS FOR STEEL MEMBERS SHALL CONFORM TO ASTM A325 OR A490, UNLESS OTHERWISE NOTED . HIGH TENSILE BOLTS WHERE INDICATED ON THE PLANS OR DETAILS SHALL BE THE FRICTION TYPE AND

HERE SHALL BE NO PAINT, OIL, LAQUER, OR GALVANIZING BETWEEN THE CONTACT SURFACES. HIGH TENSILE BOLTS SHALL CONFORM TO ASTM A325 OR A490. HIGH STRENGTH BOLTS SHALL HAVE LOAD INDICATOR WASHERS TO SERVE AS A DIRECT TENSION

INDICATOR INSTALLATION FOR HIGH STRENGTH BOLTS SHALL REQUIRE INSPECTION BY A DEPUTY

. ANCHOR RODS SHALL BE ASTM F-1554 GRD. 55 KSI U.N.O. ALL ANCHOR RODS SHALL BE. HEADED RODS.ANCHOR ROD WASHER SHALL BE ASTM A436. NUTS SHALL BE ASTM A563. 9. PIPE COLUMNS SHALL CONFORM TO ASTM A-53 GRADE B.

10. STEEL TUBE SHAPED MEMBERS SHALL CONFORM TO ASTM A-501 OR OR A-500 GRADE B. . WHERE FINISH IS ATTACHED TO STRUCTURAL STEEL, PROVIDE HOLES FOR 1/2" WELDED STUDS AT 4 EET O.C. FOR THE ATTACHMENT OF NAILERS. SEE ARCHITECTURAL DRAWINGS FOR FINISHES.

12. OPEN WEB JOISTS SHALL COMPLY WITH THE STANDARDS OR "THE STEEL JOIST INSTITUTE". 13. STEEL STUDS, JOIST, TRACKS & BRIDGING: ASTM A-570 GRADE "E" Fy = 50 KSI 12, 14 & 16 GA.

ASTM A-570 GRADE "C" Fy = 33 KSI 18 & 20 GA. 4. SPECIAL INSPECTION OF HIGH-STRENGTH A325 AND A490 BOLTS SHALL BE IN ACCORDANCE WITH APPROVED NATIONALLY RECOGNIZED STANDARDS AND REQUIREMENT OF SECTION 1701.

15. SHOP DRAWINGS SHALL BE PROVIDED TO ENGINEER OR ARCHITECT OF RECORD FOR REVIEW PRIOR

I. WELDING SHALL BE DONE BY THE ELECTRIC SHIELDED ARC PROCESS W/E70-XX ELECTRODES AND SHALL COMPLY WITH A.W.S. SPECIFICATIONS FOR WELDING AND FABRICATION. 2. WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS WHO ARE APPROVED BY THE LOCAL AUTHORITY USING ARC PROCESS WITH E70XX ELECTRODES

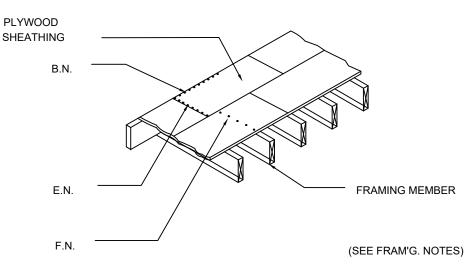
3. ALL FIELD WELDS SHALL HAVE CONTINUOUS INSPECTION PER CBC (1701) UNLESS OTHERWISE NOTED. 4. ALL BUTT WELDS SHALL BE FULL PENETRATION U.N.O.

5. A CERTIFICATE OF FABRICATION FROM THE SHOP PERFORMING WELDING OR A REPORT FROM THE SPECIAL INSPECTOR MUST BE FURNISHED TO THE JOB INSPECTOR PRIOR TO FRAMING APPROVAL WELDED, FULLY RESTRAINED CONNECTION BETWEEN MEMBERS OF ORDINARY MOMENT FRAMES OR

SPECIAL MOMENT-RESISTING FRAMES SHALL HAVE SPECIAL CONTINUOUS INSPECTION AND

CONNECTION TESTED BY NONDESTRUCTIVE METHODS PER SECTION 1703. FIELD WELDING OF REINFOCING STEEL SHALL BE DONE BY WELDERS SPECIFICALLY CERTIFIED FOR REINFORCING STEEL WELDING .BEFORE WELDING,THE "CARBON EQUIVALENT" (CE) OF STEEL SHALL BE DETERMINED. IF THE (CE) OF STEEL IS MORE THAN 0.75%, THEY SHALL NOT BE WELDED.

PLYWOOD DIAPHRAGM



NAILING: (EXCEPT WHERE NOTED OTHERWISE)

1. FRAMING SHALL COMPLY WITH CHAPTER 23 OF THE 2019 CBC

BASES UNLESS OTHERWISE NOTED ON PLANS.

OTHERWISE NOTED OR SHOWN ON PLANS.

NOTCHING MAXIMUM:

HANGERS PER (CBC 2320.12.5).

BY HANGERS PER CODE

FRAMING - JOISTS/RAFTERS

IS REQUIRED UNLESS NOTED ON PLAN.

FRAMING - CEILING (PER TABLE 2308.10.2)

APPLYING FINISH MATERIALS.

2% MIN. TO 21% MAX

MAXIMUM:

	ROOF NAIL'G	FLOOR NAIL'G
B.N. = BOUNDARY NAILING	8d @ 6" O.C.	10d @ 6" O.C.
E.N. = EDGE NAILING	8d @ 6" O.C.	10d @ 6" O.C.
F.N. = FIELD NAILING	8d @ 12" O.C.	10d @ 10" O.C.

1. NAILS SHALL BE GALV. COMMON(HOT-DIPPED OR TUMBLED), PLACED NOT LESS THAN 3/8" FROM PANEL EDGES AND SHALL

2. NO UNBLOCKED PIECE LESS THAN 12" SHALL BE USED.

FRAMING NOTES

FRAMING-GENERAL

FRAMING - WALL

3. WOOD STRUCTURAL PANELS SHALL COMPLY WITH 2019 CBC STANDARD AND SHALL BE APA RATED EXPOSURE I 4. WOOD STRUCTURAL PANELS, WHEN USED, SHALL COMPLY WITH THE REQUIREMENTS FOR THEIR TYPE IN DOC PSI-95 OR

5. ALL PANELS SHALL BE IDENTIFIED BY TRADE MARK OF AN APPROVED TESTING & GRADING AGENCIES, APA, TECO OR

1. USE SIMPSON U-HANGERS ON ALL JOIST/BEAM/BEAM CONNECTIONS UNLESS NOTED ON PLANS.

2. ALL POSTS SHALL HAVE SIMPSON "PC" CONNECTORS AT TOP AND SIMPSON "BC" OR "BCO" CONNECTORS AT

3. ALL CONNECTING HARDWARE, JOIST HANGERS, TIE STRAPS, ETC., SHALL BE SIMPSON "STRONG TIE" UNLESS

1. SIZE, SPACING & HEIGHT LIMITS FOR WOOD STUDS ARE AS FOLLOWS (UNLESS OTHERWISE NOTED ON PLANS):

2X6 @ 16" OC (BEARING WALL) SUPPORTING A MAXIMUM OF TWO FLOORS AND A ROOF SHALL HAVE A MAXIMUM

2. RAKE WALLS ADJACENT TO SLOPED CEILINGS SHALL BE BALLOON FRAMED. DOUBLE TOP PLATES SHALL

25% OF WIDTH OF STUDS ON BEARING WALLS

40% OF WIDTH OF STUDS ON BEARING WALLS

60% OF WIDTH OF STUDS ON NON-BEARING WALLS

40% OF WIDTH OF STUDS ON NON-BEARING WALLS BORING

2X4 @ 16" OC (BEARING WALL) SUPPORTING A MAXIMUM OF ONE FLOOR AND ONE ROOF SHALL HAVE A

MAXIMUM HEIGHT OF 10 FEET

HEIGHT OF 10 FEET

6. WALL BRACING SHALL BE PROVIDED PER CBC (2308.9.3)

2X6 @ 16" OC (NON-BEARING WALL) MAXIMUM HEIGHT IS 20 FEET

ALWAYS BE SUPPORTED BY A ROOF OR CEILING DIAPHRAGM

2X4 @ 16" OC (NON-BEARING WALL) SHALL HAVE A MAXIMUM HEIGHT OF 14 FEET

NOTE: A MIN. 5/8" CLEARANCE FROM EDGE OF STUD TO HOLE SHALL BE PROVIDED.

2. PROVIDE DOUBLE FLOOR JOISTS UNDER ALL PARALLEL NON- BEARING PARTITIONS.

3. PROVIDE CONTINUOUS BLOCKING BETWEEN FLOOR JOISTS UNDER BEARING WALLS WHICH ARE

4. FRAMING AROUND OPENINGS: TPT RIMMER AND HEADER JOISTS SHALL BE DOUBLED AND SUPPORTED BY

GLUE. USE 8d COMMON NAILS AT 6" OC AT ALL EDGES, BOUNDARIES, AND 12" OC FIELD. NO BLOCKING

BORING- MAX DIA OF HOLE SHALL NOT EXCEED 1/3 OF DRESSED DEPTH OF JOIST WITH A MINIMUM EDGE

2. WHERE THREE OR MORE (MULTI JOISTS) ARE USED. THE JOISTS SHALL BE BOLTED TOGETHER WITH 1/2"

DIA. MACHINE BOLTS W/ WASHERS AT 24" OC STAGGERED. BOLTS SHALL BE RETIGHTENED PRIOR TO

3. JOISTS/RAFTERS SHALL LAP AT SPLICES A MIN. OF 4 INCHES WITH 3-16d NAILS OR USE SIMPSON ST 2115 @

4. CROSS BRIDGING OR 2X BLDG. SHALL BE PROVIDED @ 8'-0" O.C. MAX. FOR ALL JOISTS AND RAFTERS MORE

MAX NOTCH AT ENDS SHALL NOT EXCEED 1/4 OF DEPTH. NO NOTCHING IS ALLOWED

IN THE CENTER THIRD OF THE JOIST SPAN. MAX NOTCH IN TOP OR BOTTTOM OF THE

1. ROOF SHEATHING (MIN) 15/32" STRUC, I PLYWOOD SHEATHING PANEL INDEX NO. 32/16 WITH EXTERIOR

2. FRAMING AROUND OPENINGS: TPT RIMMER AND HEADER JOISTS SHALL BE DOUBLED AND SUPPORTED

1. BORING AND NOTCHING OF JOISTS SHALL BE AS FOLLOWS: (CBC 2308.10) 2019 EDITION

JOIST SHALL NOT EXCEED 1/6 OF THE JOIST DEPTH.

5. 2X SOLID BLOCKING SHALL BE PLACED BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS.

. MINIMUM GRADIENTS ARE AS FOLLOWS: EARTH= 2%, PAVING= .5%

SWALES TO BE 3 FEET MIN. AWAY FROM STRUCTURES.

2. POSITIVE DRAINAGE AWAY FROM STRUCTURES SHALL BE AS FOLLOWS:

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7. HARDY FRAMES INSTALLATION PER MFR. SPECIFICATION (ICC ESR-2089)

8. STRONG WALL INSTALLATION PER MFR. SPECIFICATION (ICC-ESR-1267)

UNLESS NOTED ON PLAN. ALL EDGES BLOCKED AT DECKS.

1. CEILING JOISTS SHALL BE 2X6 @ 16" O.C. (MAX SPAN= 17'-8")

2. CEILING JOISTS SHALL BE 2X8 @ 16" O.C. (MAX SPAN= 23'-0")

5. DOUBLE 2X TOP PLATE SHALL BE LAPPED 48" AT ALL SPLICES AND SHALL OVERLAP AT CORNERS.

FRAMING-BOLTING

1. ALL BOLTS BEARING ON WOOD SHALL HAVE WASHERS UNDER HEAD OR NUT. SEE S.W. SCHEDULE 2. ALL BOLTS SHALL BE RETIGHTENED, PRIOR TO APPLICATION OF PLYWOOD, PLASTER, ETC.

NAILING SCHEDULE

CONNECTION: (TABLE 2304.9.1)

TOP PLATE TO STUD ENDINAL

STUD TO SILL PLATE. TOE NAIL

DOUBLE TOP PLATES, FACE NAI

RAFTER TO TOP PLATE. TOE NAIL

25. PARTICLE BD. - WALL SHTG. (TO FRMG.)

FIBERBD. SHTG.:

BUILT-UP CORNER STUDS

23. BUILT-UP GRADERS & BEAMS

24. 2" PLANKS

26. PLYWOOD -

1" BRACE TO EA. STUD & PLATE, FACE NAIL

1X8 SHT'G. OR LESS TO EA. BEARING WALL FACE NAIL

SUBFLR. RF. & WALL SHTG. (TO FRMG. 1/2" & LESS 5/8" - 3/4" 1 1/8" - 1 1/4

> 3/4" & LESS 7/8" - 1" 1 1/8" - 1 1/4"

COMBINATION SUBFLR. / UNDERLAYMENT (TO FRMG.)

WIDER THAN 1X8 SHT'G. TO EA. BEARING WALL FACE NAIL

CONTINUOUS HEADER, TWO PIECES

CEILING JOISTS TO PLATE TOF NAIL CONTINUOUS HEADER TO STUD, TOE NAIL CEILING JOISTS, LAPS O/ PARTITIONS, FACE NAIL CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL

DOUBLE STUDS, FACE NAIL

JOISTS TO SILL OR GURDER, TOE NAI

BRIDGING TO JOISTS, TOE NAIL EA. ENI 1X6 SUBFLR, OR LESS TO EA, JST., FACE NAIL WIDER THAN 1X6 SUBFLR. TO EA. JST., FACE NAIL 2" SUBFLR. TO JST. OR GURDER, BUND & FACE NAIL SILL PLATE TO JST. OR BLK'G., FACE NAIL

RAFT, BLK'G TO TOP PLATE, FACE OR TOE NAIL

TOP PLATES LAPS & INTERSECTIONS, FACE NAIL

4. FASTENERS IN PRESSURE-TREATED AND FIRE-RETARDANT.TREATED WOOD SHALL BE OF HOT-DIPPED, ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.

3. HOLES FOR BOLTS SHALL BE BORED 1/32" TO 1/16" LARGER THAN NOMINAL BOLT DIAMETER.

1. ALL LUMBER SHALL BE DOUGLAS FIR-LARCH OR THE FOLLOWING GRADES UNLESS OTHERWISE NOTED 4. FRAMING @ CHIMNEY ENCLOSURE SHALL BE 2x6 STUDS BALLOON FRAMED W/APPROVED STRAPS TO ROOF AND (MAX MOISTURE CONTENT SHALL NOT EXCEED 19% & GRADED IN ACCORDANCE WITH THE (WEST COAST LUMBERMAN'S ASSOCIATION.

REPETITIVE USE MEMBERS STUDS & PLATES JOISTS & RAFTERS:

2X4 TO 4X4 INCLUSIVE NO. 2 2X6 TO 3X16 INCLUSIVE SINGLE USE MEMBERS BEAMS:

N0. 2 6X OR LARGER POSTS & MULLION:

3. SHEAR WALL PANELS MUST BE CONTINUOUS TO THE TOP PLATE AT ROOF FRAMING. SHEATHING SHALL HAVE ALL EDGES BLOCKED & THE APPROPRIATE SHEAR TRANSFER THRU CEILING OR SOFFIT FRAMING 4X4 & SMALLER 4X6 & LARGER 6X6 & LARGER BLOCKING, FURRING, ETC. No. 3

> DECKING & SHEATHING 2X, 3X, 4X CONST. GRADE

2. ALL WOOD BEARING ON CONCRETE OR MASONRY IF LESS THAN 4 FEET FROM GRADE SHALL BE PRESSURE TREATED DOUG. FIR. 3. GLUED-LAMINATED WOOD BEAMS SHALL BE DOUGLAS FIR COMB. 24F-V4 (*) DF/DF (Fb=2400 PSI, Fv=165 PSI, E=180,000 PSI) INDUSTRIAL APPEARANCE WITH EXTERIOR GLUE UNLESS OTHERWISE NOTED ON

PLANS. A CERTIFICATE OF INSPECTION FOR EACH GLU-LAM BEAM FROM AN APPROVED TESTING

AGENCY TO BE SUBMITTED AND APPROVED BY THE BUILDING DEPT. PRIOR TO ERECTION. (*) USE V8

FOR CANT. BEAMS AND V4 FOR SIMPLE SPANS BEAMS] 4. SHOP DRAWING SHALL BE PROVIDED TO ENGINEER OR ARCHITECT OF RECORD FOR REVIEW PRIOR

5. ALL STRUCTURAL PLYWOOD SHALL BE IN ACCORDANCE WITH (PS 1-95) . FLOOR SHEATHING (MIN) 5/8" STRUCTURAL I T & G PLYWOOD PANEL INDEX NO. 32/16 WITH EXTERIOR GLUE, USE PARALLAM PSL PER TRUS JOIST MACMILLAN (ICC ESR-1387) (Fb= 2900 PSI, Fv=290 PSI, E= 2,000,000 PSI) 10d COMMON NAILS AT 6" OC AT ALL EDGES, BOUNDARIES, AND 10" O.C. FIELD. NO BLOCKING IS REQUIRED

7. TJI JOISTS INSTALLATION PER MANUFACTURE SPECIFICATION (ICC ES ESR-1153 AND ICC ES ESR-1387) SPECIAL INSPECTION (PER CBC SECTION 1704,1706 & 1707)

1. SPECIAL INSPECTION BY A REGISTERED DEPUTY BUILDING INSPECTOR, APPROVED BY THE ARCHITECT AND THE CHECKING AGENCY, SHALL BE REQUIRED FOR THE FOLLOWING TYPES OF WORK. SEE PROJECT SPECIFICATIONS FOR SPECIFIC REQUIREMENTS. SPECIAL INSPECTIONS SHALL NOT BE REQUIRED WHEN THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION.

ITEMS REQUIRE SPECIAL INSPECTION AS MARKED: VERIFICATION & INSPECTION CONTINUOUS PERIODIC 2a: FIELD WELDING OF MOMENT RESISTING
2b: STRUCTURAL STEEL OR REINFORCING 2c: STEEL DECKING. 3. PLACEMENT OF REINFORCING STEEL IN CMU WALL \vdash EXPANSION TYPE ANCHOR BOLTS. . HIGH STRENGTH BOLTING CONCRETE WHERE CONCRETE STRENGTH OF 3000 PSI R GREATER IS SPECIFII DIAPHRAGM CONNECTION TO STEEL SUPPORT MEMBERS WOOD SHEAR WALLS AND WOOD DIAPHRAGMS NAILING. 2. NOMINAL SIZE OF FRAMING MEMBERS AT PANEL EDGES. B. NAIL OR STAPLE DIAMETER AND LENGTH. 5. FOUNDATION -ANCHOR BOLT AND HOLD DOWN 16. INSPECTION OF LATERAL FORCE RESISTING ELEMENT

"CONTRACTOR RESPONSIBILITY:

EACH CONTRACTOR OR SUB-CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF THE WIND AND/OR SEISMIC RESISTING SYSTEM THAT IS LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY

TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK REQUIRING SPECIAL INSPECTION. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING: 1) ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS; 2) ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE

WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL: 3) PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, AND THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS; 4) IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION."

ABBREVIATIONS:

—— 16d @ 16" O.C

16d @ 8" O.C.

——— 16d @ 24" O.C

16d @ 16" O.C. ALONG EA. SIDE

_____ 16d @ 16" O.C

____ 2 - 16 d

— 4 - 8d

_____ 3 - 8d

2 - 16d @ EA. BRG.

--- NO. 11 GA. 6d, NO. 16 GA

ALL NAILS SHALL BE COMMON WIRE NAILS. WHERE DRIVING OF NAILS CAUSES SPLITTING HOLES FOR THE NAILS SHALL BE

FASTENERS IN PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL. STAINLESS

NO. 11 GA. 6d. NO. 18 GA

--- 16d @ 24" O.C

- 20d @ 32" O.C. @ TOP & BOT. & STAGG. 2 - 20d @ END & @ EA. SPLICE

> ABOVE BAR REINF, BAR BOARD BLKG. BLOCKING BLW. BELOW BEAM B.N. BOUNDARY NAIL B.W. BOTH WAYS CONT.FTG. CONTINUOUS FOOTING CEILING JOIST C.J. COLUMN CONCRETE

ANCHOR BOLT

COL. CONTINUOUS **DOUGLAS FIR** DIAMETER **EXISTING EACH WAY**

EXPANSION JOIN EDGE NAIL EQUAL FLOOR BEAM FINISH GRADE FLOOR JOIST FLUSH FRAMING

FIELD NAIL FACE OF CONCRETE F.O.M. FACE OF MASONRY F.O.S. FACE OF STUDS **FULL PENETRATION** FOOTING GALVANIZED

GLUE-LAMINATED BEAM GRADE BEAM GYPSUM WALLBOARD HDR. HEADER

HNGR. HANGER HORIZ. HORIZONTAL K.P. KING POST LENGTH LT. WT. LIGHT WEIGHT

LAMINATED VENEER LUMBER MASONRY MACHINE BOLT M.B. MLB MICRO=LAM BEAM NEW NATURAL GRADE N.G.

O.C. ON CENTER POST ABOVE PARALLAM PSL BEAM PLYWOOD PRESSURE TREATED RIDGE BEAM REINF REINFORCING REQ'D. REQUIRED

ROOF RAFTER

THREADED ROD

TYPICAL

THESE DRAWINGS AND SPECIFICATIONS AS NSTRUMENT OF SERVICE ARE PROVIDED FOR THE OWNER OR THE BUILDER. WHEN COMBINED WITH OTHER PLANS AND SPECIFICATIONS TO OBTAIN BUILDING PERMIT ONLY FOR THIS PROJECT. THEY ARE NOT INTENDED TO, NOR DO THEY, DETAIL ALL CONDITIONS, IDENTIFY ALL MATERIALS EQUIRED TO COMPLETE THE PROJECT THE BUILDER ASSUMES RESPONSIBILITY TO SELECT ALL MATERIAL AND ALL SUB-CONTRACTORS AND INSTALLERS AND TO PROVIDE ENOUGH INFORMATION ABOVE AND BEYOND THESE DRAWINGS, TO COMPLETE THE PROJECT IN CONFORMANCE WITH ALL

GOVERNING AGENCIES.

Project Name and Address:

EACH GROUTED CELL SHALL HAVE CLEANOUT OPENINGS AT THE BOTTOM. THERE SHALL BE NO LOOSE MORTAR OR OTHER DEBRIS IN THE BOTTOM OF THE CELL. USE BLAST PRESSURE WASHING FOR SURFACE

> INTERIOR REMODEL FOR PETALUMA RESIDENCE 3154 PETALUMA AVE. LONG BEACH, CA. 90808

DRAWING TITLE: APRIL 28, 2021 1/4"=1'-0"

COVER SHEET

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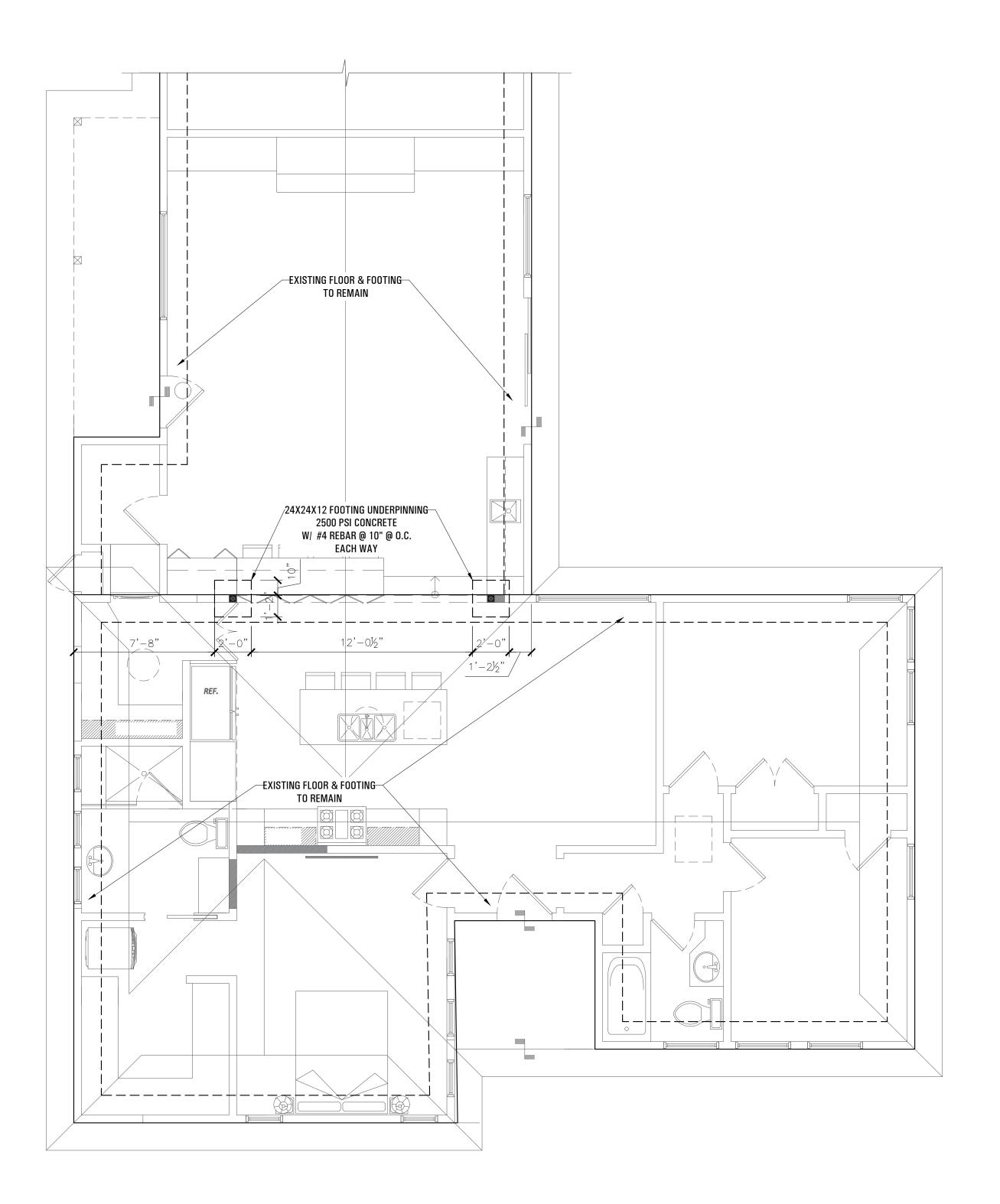
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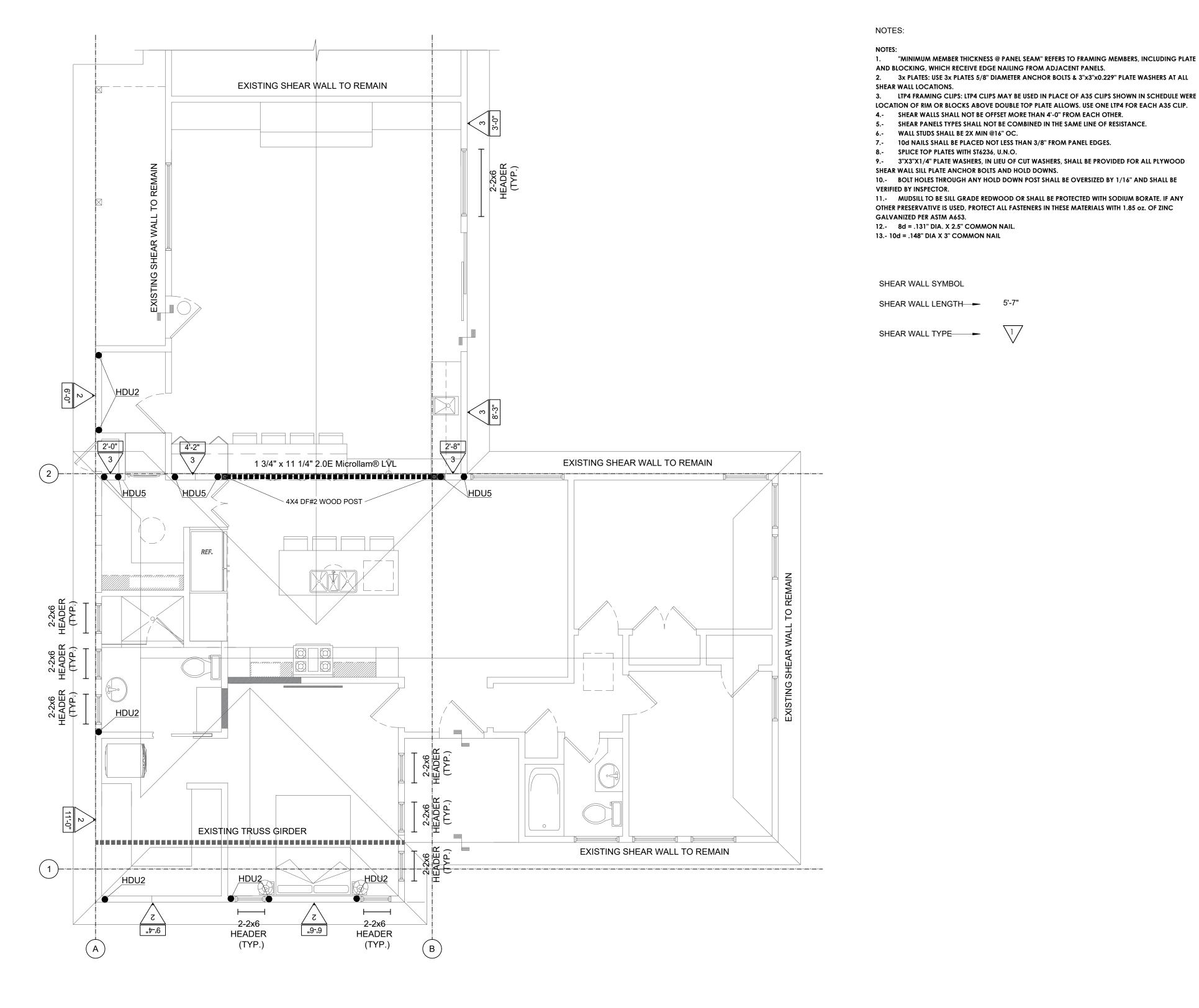
Revision/Issue ISSUED FOR PLANNING APPROVAL



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

SHEAR-WALLS PLAN

WITH OWNER, PIXELARCH LTD.

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



PixelArch ltd. US Office: 5425 Carpinteria Ave # 636, Carpinteria CA 93014 +1 805 881 7390 Info@pixelarchltd.com www.pixelarchltd.com

Project Name and Address:

INTERIOR REMODEL FOR PETALUMA RESIDENCE 3154 PETALUMA AVE. LONG BEACH, CA. 90808

DRAWING TITLE: APRIL 28, 2021 FOUNDATION & SHEAR-WALLS PLAN Scale: 1/4"=1'-0"

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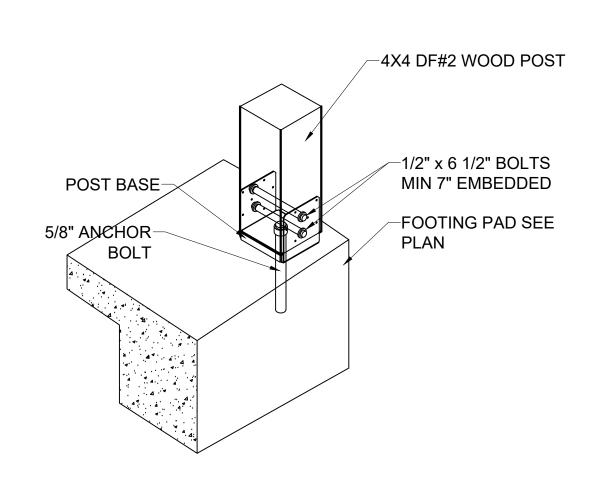
Page No. :

SHEAR WALL SYMBOL

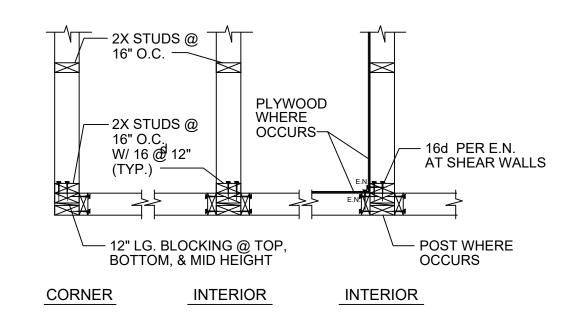
SHEAR WALL LENGTH - 5'-7"

SHEAR WALL TYPE ---

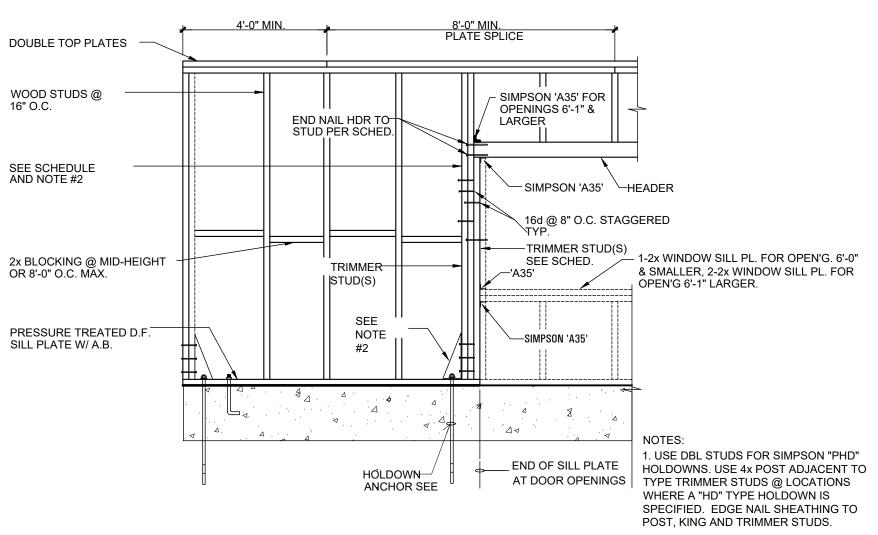
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POST TO FOOTING DETAIL SCALE 1"=1'-0"

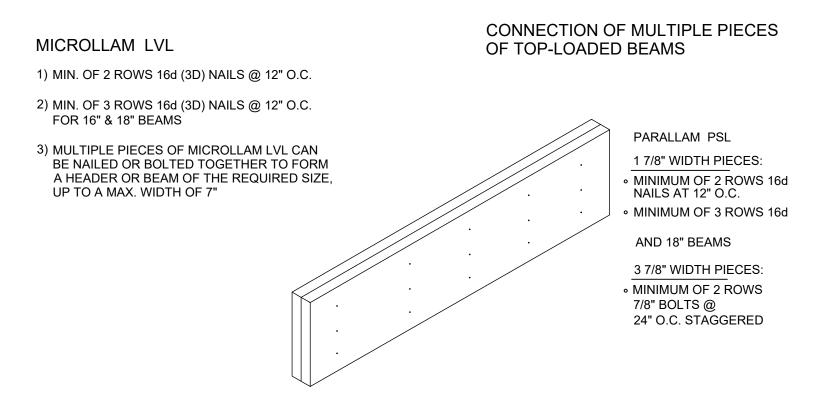


TYPICAL STUD WALL INTERSECTION SCALE 1"=1'-0"



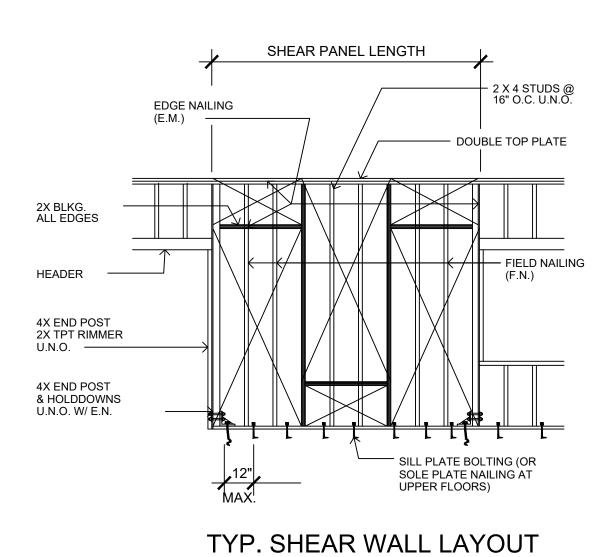
WALL FRAMING DETAIL

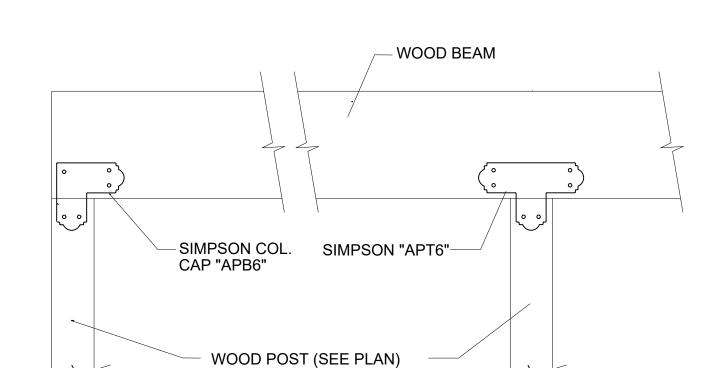
SCALE: NTS



FOR SIDE-LOADED MULTIPLE MEMBER BEAMS, ADDITIONAL NAILING OR BOLTING MAY BE REQUIRED. SEE CURRENT TRUSS JOIST Mac MILLAN LITERATURE.

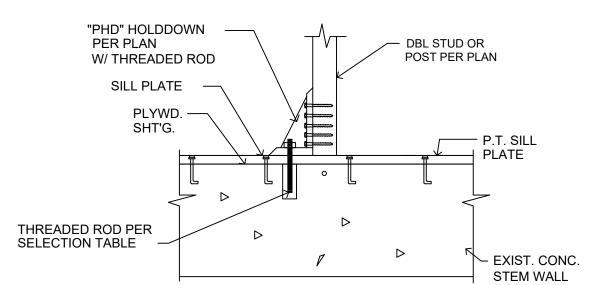
CONNECTION OF MULTIPLE PIECES SCALE: NTS





SCALE 1"=1'-0"

TYPICAL BEAM TO COLUMN DETAIL



NOTES:

1. CONT. INSPECTION REQ'D. 2. DRILL HOLES PER MANUF.

GALVANIZED, STAINLESS STEEL

- SPECS. 3. A307 THREADED RODS W/ SIMPSON SET XP ICC ESR-2508
- ROD EMBED EDGE LOAD DIA. DEPTH DIST. CAP. 5/8" Ø 10 1-3/4" -7/8" Ø | 15 | 1-3/4" | 1600 4. ALL BOLTS SHALL BE HOT-DIPPED ZINC COATED,

TYP. HOLD DOWN INSTALATION DETAILS

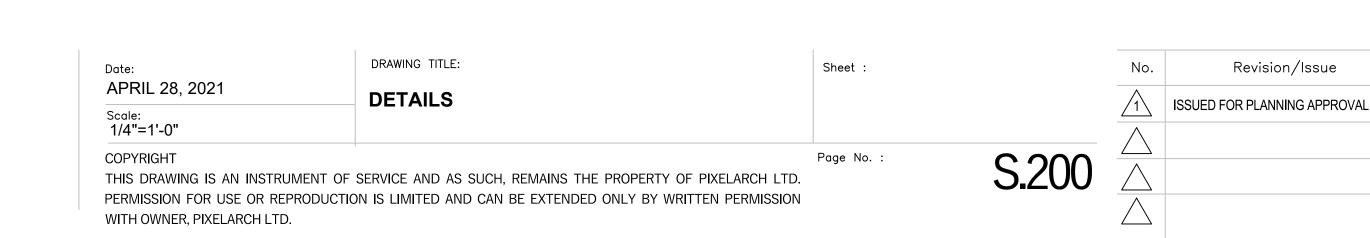
SCALE 1"=1'-0"





Project Name and Address:

INTERIOR REMODEL FOR **PETALUMA RESIDENCE** 3154 PETALUMA AVE. LONG BEACH, CA. 90808



MECHANICAL SPECIFICATIONS

PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM.

DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION. INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE. PROVIDE MEANS TO FURNISH AND INSTALL COMPLETE AND READY FOR INTENDED USE.

WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION.

PROVIDE OPERATION MANUALS, MAINTENANCE MANUALS AND SCHEMATICS FOR ALL MECHANICAL EQUIPMENT INSTALLED.

COORDINATION: COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY. IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOF WARRANTY.

DUCT DIMENSIONS: UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.

SHEET METAL DUCTWORK: PROVIDE SHEET METAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS, FOR 1" W.G. PRESSURE CLASS, SEAL CLASS "A". SHEET METAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, WITH G90 ZINC COATING, SHEET STEEL SHALL COMPLY WITH ASTM A653 STANDARD SPECIFICATION FOR STEEL SHEET METAL, ZINC COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY THE HOT DIP PROCESS, AND A924 STANDARD SPECIFICATION FOR GENERAL REQUIREMENTS FOR SHEET, METALLIC-COATED BY THE HOT DIP PROCESS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL 90° ELBOWS.

TRAPEZE DUCT HANGERS: PROVIDE MINIMUM 1" X 2" X 1" X 18 GAUGE CHANNELS WITH MINIMUM 1" X 18 GAUGE STRAPS TO STRUCTURAL SUPPORT.

ROUND SHEET METAL DUCT: PROVIDE SPIRAL SEAM (ALL SIZES) OR SNAP LOCK (DUCT SIZES UP TO 10") GALVANIZED STEEL COMPLYING WITH SMACNA STANDARDS. SPIRAL SEAM DUCTWORK SHALL HAVE SMACNA SEAM TYPE RL-1.

FIBER GLASS DUCT BOARD IS AN ACCEPTABLE ALTERNATIVE IF APPROVED BY OWNER AND THE LOCAL BUILDING CODE OFFICIAL. PRODUCT AND INSTALLATION MUST MEET NAIMA STANDARDS AND OTHER APPLICABLE CODES AND REGULATIONS.

EXPOSED DUCTWORK: EXPOSED DUCTWORK SHALL BE CLEANED OF DEBRIS AND OIL, THEN WIPED DOWN WITH VINEGAR OR OTHER SURFACE PREPARING CHEMICAL TO PREPARE DUCT FOR PAINT.

DUCT SEALANT: PROVIDE POLYMERIC RUBBER TYPE SEALANT FOR USE ON BOTH INTERIOR LOCATED DUCTWORK AND DUCTWORK EXPOSED TO OUTDOOR CONDITIONS. SEALER SHALL HAVE HIGH BONDING STRENGTH FOR SURE, FIRST TIME SEALING OF JOINTS IN LOW, MEDIUM, AND HIGH PRESSURE DUCT SYSTEMS. SEALER SHALL BE HIGH IN SOLID CONTENT. PROVIDE A TWO PART TAPE SEALING SYSTEM, CONSISTING OF WOVEN FIBER TAPE IMPREGNATED WITH A GYPSUM MINERAL COMPOUND, AND A MODIFIED ACRYLIC/SILICONE ACTIVATOR THAT REACTS EXOTHERMICALLY WITH THE TAPE. TWO PART TAPE SEALING SYSTEM MUST BE RATED FOR BOTH INDOOR AND OUTDOOR APPLICATION. TAPE SHALL NOT CONTAIN ASBESTOS.

DUCT INSULATION: MATERIAL FOR SUPPLY AND RETURN AIR DUCT ABOVE CEILING INSIDE THE BUILDING SHALL HAVE THE EQUIVALENT THERMAL RESISTANCE OF MINIMUM R-6. THE REQUIRED R VALUES ARE FOR INSTALLED INSULATION WITH 25% COMPRESSION AT THE CORNERS. PROVIDE PINS AND WASHERS IN ACCORDANCE WITH SMACNA REQUIREMENTS AND AS REQUIRED TO PREVENT INSULATION FROM SAGGING. PROVIDE ADEQUATE INSULATION AT THE SUPPLY AIR DIFFUSERS TO PREVENT CONDENSATION.

FLEXIBLE DUCT: UL #181 LISTED, CLASS 1, AND CONTAIN A 0.1 PERM RATED POLYETHYLENE INNER LINER, WITH R-8 FIBERGLASS INSULATION. FLEXIBLE DUCTS SHALL BE SECURED TO RIGID SHEET METAL COLLARS AND AIR DIFFUSERS WITH NYLON TIES OR STAINLESS STEEL WORM GEAR STRAPS. SEAL ALL CONNECTIONS AND JOINTS AIRTIGHT. SUPPORT FLEXIBLE DUCTS FROM THE BUILDINGS STRUCTURE WITH MINIMUM 1" WIDE, 18 GAUGE, GALVANIZED STEEL STRAP AT MAXIMUM 4'-0" CENTERS. PROVIDE 4" WIDE SHEET METAL SADDLES AT EACH SUPPORT EACH STRAP. SAG OF FLEXIBLE DUCT BETWEEN HANGERS SHALL NOT EXCEED 1/2" PER FOOT OF SUPPORT SPACING. RADIUS FOR TURNS OF FLEXIBLE DUCTS SHALL BE A MINIMUM OF ONE DUCT DIAMETER. FLEXIBLE DUCT RUNS SHALL NOT EXCEED 10'-0" IN LENGTH AND SHALL BE THE SAME SIZE AS THE DIFFUSER NECK CONNECTION.

ROUND VOLUME DAMPERS: PROVIDE MINIMUM 20 GAUGE GALVANIZED STEEL FRAME AND BLADES, MINIMUM 3/8" SQUARE STEEL AXLE, MOLDED SYNTHETIC BEARINGS, WITH LOCKING POSITION REGULATOR. REGULATOR SHALL BE POSITIONED WITH SHEET METAL BRACKET BEYOND DUCT COVERING. WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSTALLATION, AS REQUIRED.

RECTANGULAR VOLUME DAMPERS: PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL BLADES, MINIMUM 1/2" HEXAGONAL AXLE, BOLDED SYNTHETIC BEARINGS, WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN THE FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO A LOCKING QUADRANT WITH ADJUSTABLE LEVER. MAXIMUM BLADE WIDTH SHALL NOT

DUCT TURNING VANES: PROVIDE FABRICATED TURNING VANES AND VANE RUNNERS, CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS". PROVIDE TURNING VANES CONSTRUCTED OF CURVED BLADES, SUPPORTED WITH BARS PERPENDICULAR TO BLADES, AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK. FOLLOW SMACNA GUIDELINES FOR SPACING SUPPORT, AND CONSTRUCTION. ALL BLADES SHALL BE DOUBLE THICKNESS AIRFOIL TYPE.

FLEXIBLE DUCT CONNECTORS: PROVIDE U.L. LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS.

DUCT ACCESS DOORS: PROVIDE HINGED ACCESS DOORS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT. PROVIDE INSULATED ACCESS DOORS FOR INSULATED DUCTWORK. CONSTRUCT OF SAME OR THICKER GAUGE SHEET METAL AS DUCT IN WHICH IT IS INSTALLED. PROVIDE FLUSH FRAMES FOR UN-INSULATED DUCTS, AND EXTENDED FRAMES FOR EXTERNALLY INSULATED DUCTS. PROVIDE CONTINUOUS HINGE ON ONE SIDE, WITH ONE HANDLE-TYPE LATCH FOR ACCESS DOORS 12" HIGH AND SMALLER, AND TWO HANDLE-TYPE LATCHES FOR LARGER ACCESS DOORS.

HVAC CONTROL SYSTEM: PROVIDE ALL THE NECESSARY CONTROLS AND CONTROL WIRING IN CONDUIT COMPATIBLE TO SYSTEMS SHOWN ON EQUIPMENT SCHEDULE M2.0.

PROGRAMMABLE THERMOSTAT FOR EACH SYSTEM SHALL ENABLE THE SUPPLY FAN AND CYCLE THE COOLING AND HEATING STAGES TO MAINTAIN SPACE SET-POINT. SUPPLY FAN RUNS CONTINUOUSLY DURING THE OCCUPIED MODE.

EACH THERMOSTAT SHALL HAVE A DEAD BAND OF AT LEAST 5 DEGREES (ADJ) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING IS SHUT OFF,

EACH THERMOSTAT SHALL HAVE SETBACK AND SET-UP CAPABILITY DURING THE UNOCCUPIED MODE. FOR SETBACK, THE HEATING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE DOWN TO 55 DEGREES. FOR SET-UP, THE COOLING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE UP TO 85 DEGREES OR TO PREVENT HIGH SPACE HUMIDITY LEVELS.

EACH SYSTEM SHALL BE PROVIDED WITH A MOTORIZED OUTSIDE AIR DAMPER THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEM OR SPACES SERVED ARE NOT IN USE. VENTILATION OUTSIDE AIR DAMPERS SHALL BE CAPABLE OF AUTOMATICALLY CLOSING DURING PREOCCUPANCY BUILDING WARM-UP, COOL DOWN. AND SETBACK, EXCEPT WHEN VENTILATION REDUCES ENERGY COSTS (e.g., NIGHT PURGE) OR WHEN VENTILATION MUST BE SUPPLIED TO MEET CODE REQUIREMENTS.

COMMISSIONING/VERIFICATION: HVAC CONTROL SYSTEM SHALL BE TESTED TO ENSURE THAT CONTROL ELEMENTS ARE CALIBRATED, ADJUSTED, AND IN PROPER WORKING CONDITION, AND THAT THE SYSTEM MEETS THE DESIGN REQUIREMENTS.

TEST AND BALANCE: CONTRACT DIRECTLY A THIRD PARTY TO PROVIDE TEST AND BALANCE OF THE HVAC SYSTEM. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SCHEDULING. TEST AND ADJUST ALL MECHANICAL SYSTEM AND EQUIPMENT TO ASSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH NEBB PROCEDURAL STANDARDS-1999 OR AABC 2002, AND ASHRAE STANDARD 111. ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF CONTROLS. SUBMIT COMPLETED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCING CONTRACTOR SHALL BE INDEPENDENT AND CERTIFIED WITH NEBB OR AABC. BALANCE ALL SYSTEMS WITHIN 5% OF AIR FLOW INDICATED ON DRAWINGS, AND REPORT ALL DISCREPANCIES TO THE HVAC CONTRACTOR FOR CORRECTION. MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER.

COMPLETION REQUIREMENTS: THE CONTRACTOR SHALL PROVIDE, WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS AND AN OPERATING AND MAINTENANCE MANUAL TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE OWNER.

THE RECORD DRAWING SHALL BE OF THE ACTUAL INSTALLATION AND INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES, AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES.

THE OPERATING AND MAINTENANCE MANUALS SHALL BE IN ACCORDANCE WITH INDUSTRY-ACCEPTED STANDARDS AND SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING; (A) SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE; (B) OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED; (C) NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY; (D) HVAC CONTROLS SYSTEMS MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SYSTEM SEQUENCE DESCRIPTIONS. DESIRED OR FIELD-DETERMINED SET-PIONTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR, FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING COMMENTS; (E) A COMPLETE NARRATIVE OF HOW EACH SYSTEM EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING SET-POINTS.

HVAC GENERAL NOTES

- 1. THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE HEATING, VENTILATION, AND AIR CONDITIONING SYSTEM AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.
- 2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.
- 3. DRAWINGS FOR HVAC WORK ARE DIAGRAMATIC SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. PROVIDE ALL DUCTWORK, MATERIALS, CONNECTIONS, ACCESSORIES, FITTINGS, OFFSETS, TRANSITIONS, DAMPERS AS REQUIRED FOR A COMPLETE WORKABLE SYSTEM.
- 4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND APPROVED LISTING. ALL EQUIPMENT, PIPING AND SUPPORTS SHALL BE RESTRAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE "GUIDLINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS" BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA). ALL EQUIPMENT SHALL BE ANCHORED TO RESIST THE LATERAL FORCE REQUIREMENTS OF CHAPTER 16 OF THE 2012 INTERNATIONAL BUILDING CODE.
- 5. COORDINATE THE INSTALLATION OF THE HVAC SYSTEM WITH ALL OTHER TRADES PRIOR TO FABRICATION OR INSTALLATION. COORDINATE THE LOCATIONS OF PENETRATIONS AND FINAL LOCATION OF ALL EQUIPMENT WITH THE GENERAL CONTRACTOR. PROVIDE EQUIPMENT WEIGHTS, EQUIPMENT DIMENSIONS, PLATFORM SIZES & LOCATIONS, CURB SIZES & LOCATIONS, CONCRETE PAD SIZES AND LOCATIONS AST REQUIRED. COORDINATE LOCATIONS OF GAS & CONDENSATE LINES WITH PLUMBING CONTRACTOR. COORDINTAE LOCATIONS OF POWER, DISCONNECTS, AND CONTROL CONDUIT WITH THE ELECTICAL CONTRACTOR. COORDINATE LOCATIONS OF ALL DIFFUSERS, REGISTERS, AND GRILLES WITH ARCHITECTURAL PLANS, ELECTRICAL LIGHTING PLANS AND ARCHITECTURAL ELEVATIONS.
- 6. DETAILS FOR EQUIPMENT PADS, PLATFORMS, AND FLASHINGS SHALL BE AS INDICATED BY THE ARCHITECTURAL/STRUCTURAL/CIVIL DRAWINGS, UNLESS NOTED OTHERWISE.
- 7. ALL EQUIPMENT, DUCTS, PIPING, SUPPORTS, AND OTHER DEVICES OUTSIDE OF THE BUILDING OR EXPOSED TO WEATHER, SHALL BE COMPLETELY WEATHER-PROOFED.
- 8. OUTSIDE AIR INTAKES SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. BELOW ANY VENT OR EXHAUST
- 9. ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS. DUCTWORK SHALL BE CONSTRUCTED, ERECTED, INSULATED AND TESTED IN ACCORDANCE CHAPTER 6 OF THE 2012 INTERNATIONAL MECHANICAL CODE.
- 10. ALL EXHAUST FANS SHALL BE EQUIPED WITH A BACK DRAFT DAMPER.
- 11. DUCT AND AIR TRANSFER PENETRATIONS THRU BUILDING ASSEMBLIES REQUIRING PROTECTION SHALL BE PROTECTED WITH FIRE DAMPERS. SMOKE DAMPERS. COMBINATION SMOKE/FIRE DAMPERS AND CEILING RADIATION DAMPERS IN ACCORDANCE WITH SECTION 607 OF THE INTERNATIONAL MECHANICIAL CODE. DUCTS NOT REQUIRING DAMPERS SHALL COMPLY WITH SECTION 714 & 717 OF THE 2019 CALIFORNIA BUILDING CODE.
- 12. INSTALL SMOKED DETECTORS AND PROVIDE FOR SMOKE DETECTION AND AUTOMATIC SHUT-OFF OF ALL AIR HANDLING EQUIPMENT IN ACCORDANCE WITH SECTION 606 OF THE 2019
- 13. UNLESS NOTED OTHERWISE, ALL LINE VOLTAGE WIRING, CONDUIT, FINAL CONNECTIONS, DISCONNECTS, STARTERS, AND OVER CURRENT PROTECTION DEVICES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THESE MECHANICAL DRAWINGS AND/OR ELECTRICAL DRAWINGS AND/OR ELECTRICAL SECTION OF THE
- 14. INSTALL ALL LOW VOLTAGE HVAC CONTROL WIRE AND DEVICES PER PLAN. ALL WIRE SHALL BE IN CONDUIT PROVIDED AND INSTALLED BY THE ELECTICAL CONTRACTOR UNLESS NOTEDED
- 15. PROVIDE OWNER WITH THREE COPIES OF A CERTIFIED AIR BALANCE REPORT PREPARED IN BY A THIRD PARTY CERTIFIED BY THE AABC OR NEBB. TEST, ADJUST AND BALANCE THE HVAC SYSTEM IN ACCORDANCE WITH AABC OR NEBB PROCEDURES. PROVIDE START-UP/TEST REPORTS FOR ALL AIR HANDLING EQUIPMENT, FANS, AND REFRIGERATION EQUIPMENT. TEST AND VERIFY PROPER OPERATION OF ALL MAKE-UP AIR/EXHAUST AIR INTERLOCK SYSTEMS AND THIER SEQUENCES OF OPERATION. BALANCE ALL AIR FLOWS WITHIN 5% OF DESIGN VALUES. PERMANENTLY MARK BALANCE POSITION OF ALL REGULATING DEVICES.
- 16. PROVIDE OWNER WITH THREE SETS OF AS-BUILT PLANS AND OPERATIONS AND MAINTENANCE MANUALS. CLEARLY IDENTIFY ALL EQUIPMENT WITH PERMANENT PLASTIC OR METAL LABELS/TAGS (PEN MARKING NOT ACCEPTABLE).
- 17. PROVIDE ONE YEAR WARRANTY ON ALL LABOR, PARTS AND MATERIALS.
- 18. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.
- 19.0
- a) DUCTS FOR DEMAND CONTROLLED VENTILATION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE FAN MANUFACTURER'S INSTALLATION INSTRUCTIONS, THE PROVISIONS ASHRAE 62.2, TABLE 5.3, OR THE AIRFLOW SHALL BE MEASURED AS REQUIRED BY AND IN COMPLIANCE WITH ASHRAE 62.2, 5.4.
- b) DUCTS FOR KITCHEN COOKTOPS OR RANGES SHALL BE SHOWN OF METAL WITH A SMOOTH INTERIOR. [CMC 504.3].
- 1) IDENTIFY THE DETAILED REQUIREMENTS OF CMC DRYER DUCTS. SPECIFY--
- a) DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE INSTALLED IN ACCORDANCE WITH CMC
- b) DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE RIGID METALLIC DUCTS WITH A MINIMUM MILL THICKNESS OF 16 (0.016-INCH), SHALL HAVE A MINIMUM 4-INCH DIAMETER AND A SMOOTH INTERIOR. THE COMBINED HORIZONTAL AND VERTICAL LENGTH OF THE DUCTS OF THE DUCTS SHALL BE 14-FEET, WHICH SHALL BE REDUCED BY 2-FEET FOR EVERY 90-DEGREE ELBOW IN EXCESS OF TWO ELBOWS.
- c) LISTED CLOTHES DRYER TRANSITION DUCTS NOT MORE THAN 6-FEET IN LENGTH SHALL BE PERMITTED TO CONNECT THE DRYER TO THE EXHAUST DUCTS AS LONG AS THEY ARE NOT CONCEALED WITHIN CONSTRUCTION, AND THEY ARE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

		LEGEND
AxB		DUCT WORK (WIDTHxDEPTH)
AxB -		LINED DUCT WORK (WIDTHxDEPTH DIMENSIONS ARE FOR I.D.)
		SUPPLY DUCT, SECTION
		RETURN DUCT, SECTION
		EXHAUST DUCT, SECTION
R. OR D.		RISE OR DROP IN DIRECTION OF AIR FLOW
+	FLEX. CONN.	FLEXIBLE CONNECTION
		DUCT TRANSITION, ROUND AND RECTANGULAR
		SPLITTER DAMPER
		EXTRACTOR AT BRANCH DUCT
		TURNING VANES
		FLEXIBLE DUCT
>		SINGLE LINE DUCT WORK
	AVD	AUTOMATIC VOLUME DAMPER
+	MVD	MANUAL VOLUME DAMPER
	BDD	BACKDRAFT DAMPER
	MD	MODULATING DAMPER
	AFD	AUTOMATIC FIRE DAMPER
1 0	AD	ACCESS DOOR
→ ∑ →	SD	SUPPLY DIFFUSER
	RR	RETURN REGISTER
	ER	EXHAUST REGISTER
	SWR	SIDE WALL SUPPLY REGISTER
	SWE	SIDE WALL RETURN OR EXHAUST
	LD	LINEAR DIFFUSER
— D.L. —►	DL	DOOR LOUVER
—— U.C. ——►	UC	UNDER CUT DOOR
	VAV	VARIABLE AIR VOLUME
T		THERMOSTAT
S		DUCT SMOKE DECTECTOR

SPECIAL NOTICE TO CONTRACTORS

- 1. ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESNENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
- 2. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.
- 3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 4. NO WORK SHALL BE DONE ON ANY PART OF THE BUILDING BEYOND THE POINT INDICATED IN EACH SUCCESSIVE INSPECTION WITHOUT FIRST OBTAINING THE WRITTEN APPROVAL OF THE CODE OFFICIAL. NO CONSTRUCTION SHALL BE CONCEALED WITHOUT BEING INSPECTED AND

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- 2019 California Building Code
- 2019 California Residential Code
- 2019 California Fire Code
- 2019 California Electrical Code
- 2019 California Mechanical Code 2019 California Plumbing Code
- 2019 California Green Building Standards Code
- 2019 California Historical Building Code 2019 California Referenced Standards Code
- 2019 California Administrative Code
- 2019 California Energy Code
- ACI 318-14 (Structural Concrete) TMS 402/602-16 (Structural Masonry)
- ASCE 7-16 (Design Loads for Structures)



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Project Name and Address:

INTERIOR REMODEL FOR PETALUMA RESIDENCE

1/4"=1'-0"

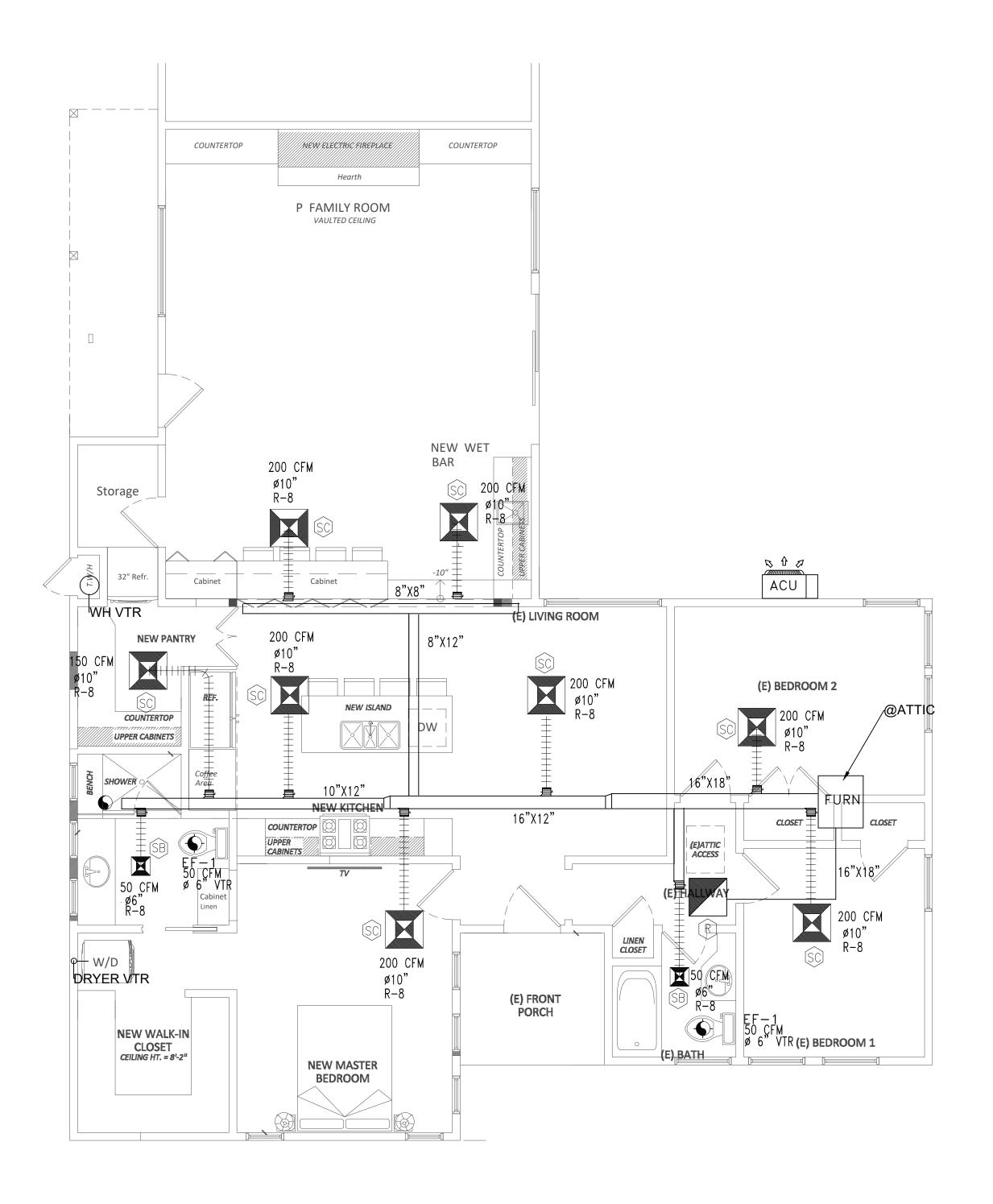
DRAWING TITLE: MECHANICAL SPECS

Page No.

Revision/Issue

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INTERIOR REMODEL FOR
PETALUMA RESIDENCE
3154 PETALUMA AVE. LONG BEACH, CA. 90808

DRAWING TITLE:

MECHANICAL PLAN

Scale:
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No. Revision/Issue Date

FORCE AIR INDOOR UNIT EVAPORATOR FAN HEATING DATA ELECTRICAL DATA /AHU OPERATING AIRFLOW **ESP OUTDOOR UNIT** MANUF. **HEATING INPUT** MOP **INDOOR UNIT MODEL NUMBER** WT (LBS) (CFM) (IN. WC) HP POWER (NAT. GAS MBTUH V/PH/HZ (AMPS) (AMPS) MARK MARK 1600 0.50 115/1/60 10.6 0.50 **FURN** ACU GOODMAN/GMVC960804CN 181.0 80.0 15

NOTES:

- 1) PROVIDE MOTORIZED DAMPER FOR OA INTAKE
- 2) PROVIDE WALL MOUNTED 7-DAY PROGRAMMABLE THERMOSTAT , 1 -STAGE COOLING AND 2-STAGE HEATING
- 3) COORDINATE CONDENSATE DRAIN WITH PLUMBING CONTRACTOR. PIPE TO NEAREST APPROVED PLUMBING FIXTURE
- 4) PROVIDE FLOAT SWITCH IN SECONDARY DRAIN PAN FOR EMERGENCY SHUT-DOWN
- 5) PROVIDE CONCENTRIC VENT KIT. ALLOWS FOR BOTH EXHAUST AND COMBUSTION AIR.

	CONDENSING UNIT SCHEDULE													
REFRIGERATION COMPRESSOR(S) CONDENSER FAN(S) ELECTRICAL DATA														
OUTDOOR UNIT MARK	SERVES										MOP (AMPS)			
ACU	FURN	GOODMAN/GSX16048	4.0	48	162.00	95.0	R-410A	1	1.00	1.0	1.5	208-230/1/60	23.7	40.00

NOTES:

- 1. UNITS ARE 1-STAGE SCROLL COMPRESSORS
- 2. PROVIDE MOUNTING PADS FOR CONDENSING UNITS PER MANUFACTURER RECOMMENDATIONS. COORDINATE LOCATION WITH ARCHITECT/OWNER.
- 3. PROVIDE TIMED LOCK-OUT, SERVICE VALVES AND DRYERS.
- 4. ELECTRICAL CONTRACTOR SHALL PROVIDE WEATHERPROOF DISCONNECT SWITCH.
- 5. PROVIDE DX LIQUID AND SUCTION REFRIGERANT PIPING SIZED FOR ACTUAL FIELD CONDITIONS AND MANUFACTURER'S RECOMMENDATIONS.
- 6. PROVIDE REFRIGERANT SAFETY RELIEF VALVE IN ACCORDANCE WITH LOCAL CODES.
- 7. PROVIDE LOW AMBIENT CONTROL.
- 8. EQUIVALENT MODEL OR EQUAL. CONTRACTOR TO VERIFY ALL PART NUMBERS WITH MANUFACTURER AND PROVIDE SUBMITTALS TO THE DESIGN TEAM.

Exhaust Ultra-Silent Humidity-Sensing Ventilation Fan schedule										
TAG NUMBER	AREA SERVED	MODEL	TYPE	CFM	RPM	AMPS	WATTS	V/PH		
EF-1	SEE PLAN	Broan-Nutone QTXE110S	CEILING	110	760.00	1.90	87.00	120.00		

REMARKS:

- 1. DISCONNECT SWITCH/STARTER
- 2. PROVIDE MANUFACTURER VIBRATION ISOLATION KIT
- 3. BACKDRAFT DAMPER
- 4. INTERLOCK W/ LIGHTS
- 5. EQUIVALENT MODEL OR EQUAL

		DII	FFUSER SCH	EDULE			FLEX DUCT SCHEDU			
SYMBOL	ADAPTOR/	FACE SIZE	MAX CFM	MAX TP	MAX NC	THROW	LEV DOC!	SCHEDULE		
	NECK SIZE						NECK SIZE	AIRFLOW (CFM)		
SB	6"Ø	12"X12"	118	0.041	_	4-WAY	6	0 10 125		
SC	14" Ø	24"X24"	535	0.028	13	4-WAY	8	126 TO 200		
R	14" Ø	24"X24"	1283	0.159	38	4-WAY	10	201 TO 275		
R2	6"Ø	12"X12"	118	0.041	_	4-WAY	12	276 TO 375		
SYMBOL	Effective	NOMINAL	MAX CFM	MAX TP	MAX NC	THROW (FT)	14	376 TO 475		
STIVIBOL	AREA	DUCT WIDTH	IVIAA CFIVI	IVIAX IP	IVIAXIVC	THROW (F1)	16	476 TO 600		
LL	0.389	11-3/4	235	0.04	22	32				
R1	0.389	11-3/4	550	0.219	43	32				

1. SA THRU SB ARE TITUS MODEL OMNI STEEL DIFFUSERS.

2. R IS TITUS MODEL OMNI STEEL DIFFUSERS.

3. ALL SUPPLY DIFFUSERS SHALL BE PROVIDED W/2" INSULATION BLANKET ON BACK OF DIFFUSER. ALL DIFFUSERS SHALL HAVE OPPOSED BLADE DAMPERS (OBD).

* RUNOUTS ARE DUCTS SERVING ONLY ONE SUPPLY DIFFUSER.

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INTERIOR REMODEL FOR PETALUMA RESIDENCE

DRAWING TITLE: MECHANICAL SCHEDULES 1/4"=1'-0"

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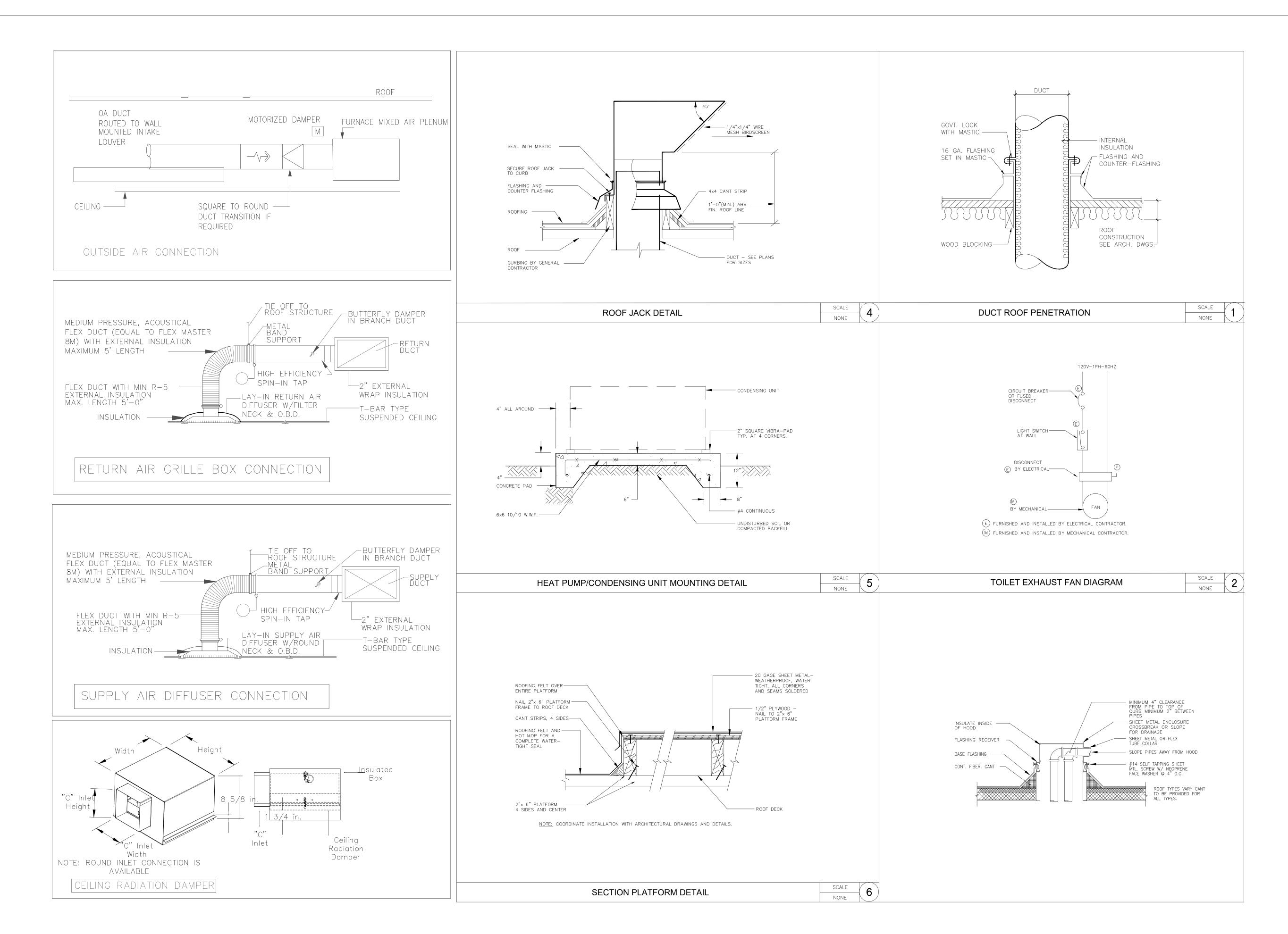
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Revision/Issue

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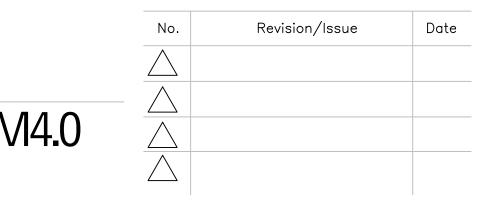
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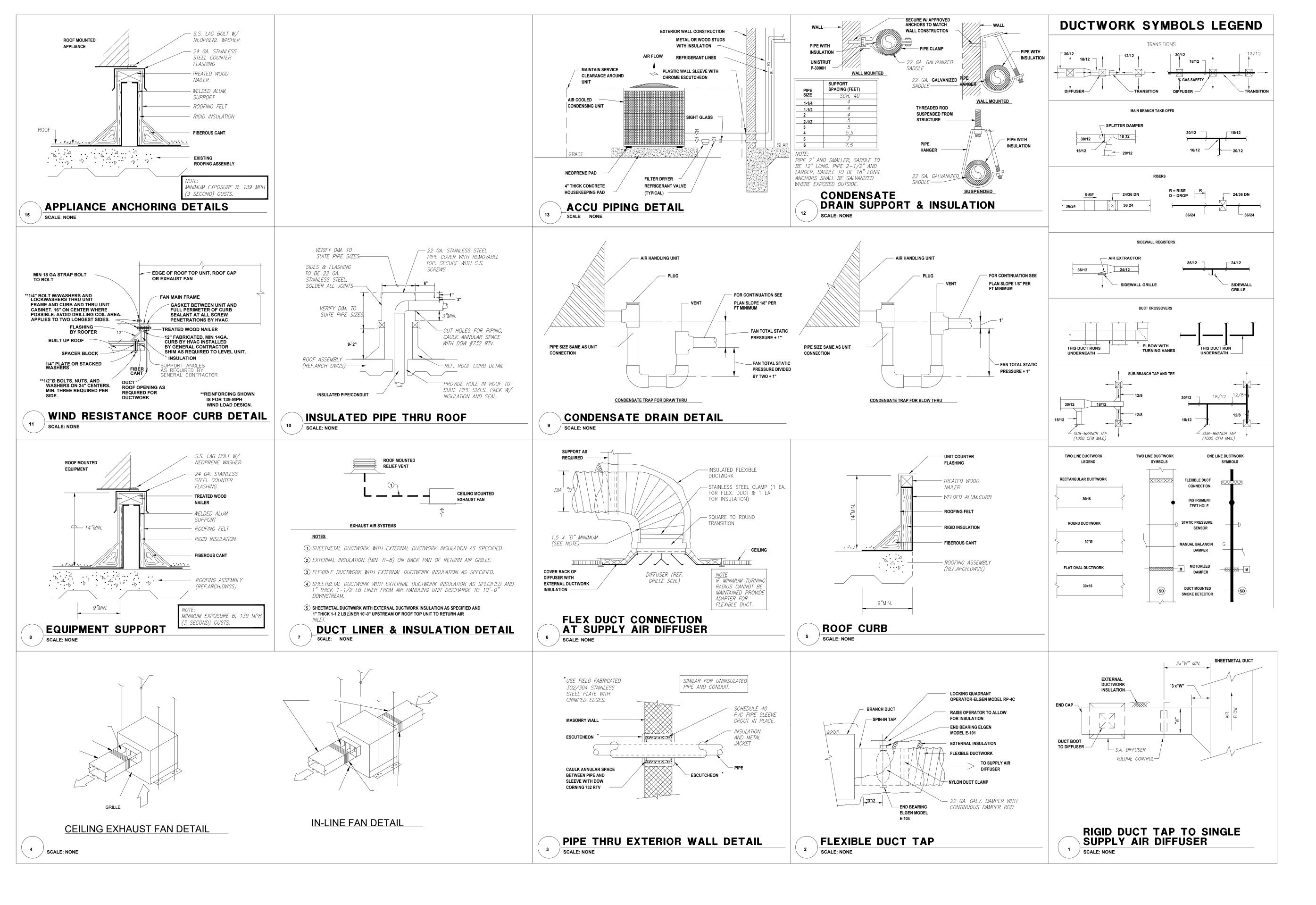
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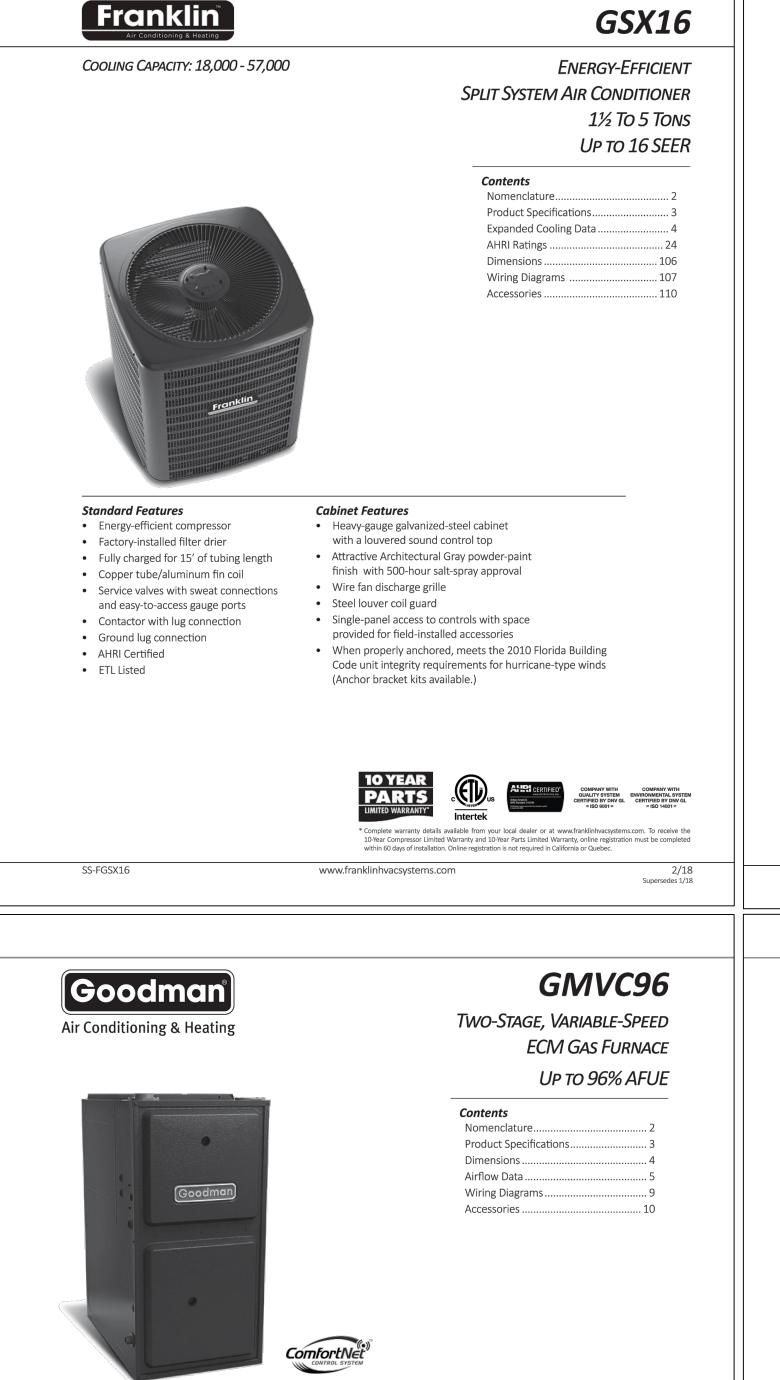
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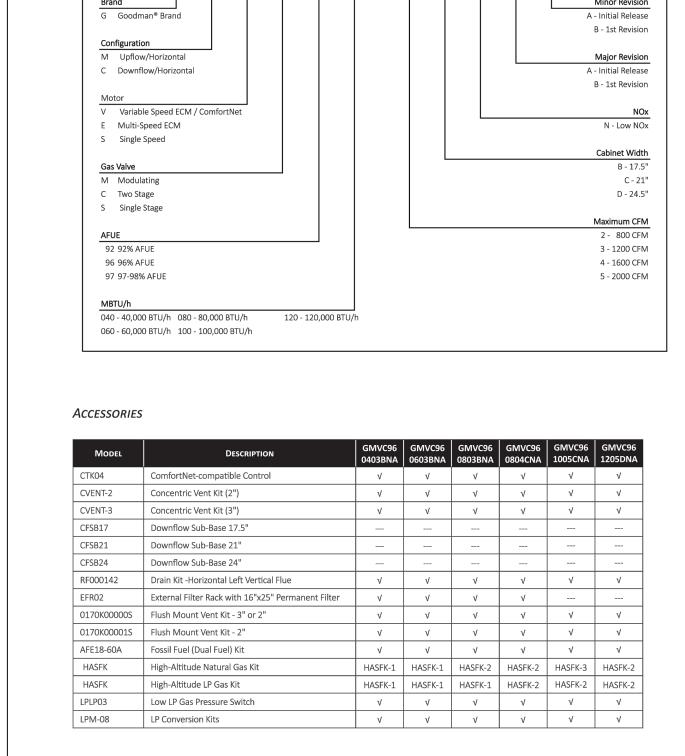
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www.goodmanmfg.com

Nomenclature

Major & Minor Revisions (not used for inventory or ordering)

1 208/230 V, 1 Phase, 60 Hz

2 220/240 V, 1 Phase, 50 Hz

3 208/230 V, 3 Phase, 60 Hz

 18
 1½ Tons
 30
 2½ Tons
 42
 3½ Tons

 19
 1½ Tons
 31
 2½ Tons
 43
 3½ Tons

24 2 Tons 36 3 Tons 48 4 Tons

25 2 Tons 37 3 Tons 60 5 Tons

Electrical

G S X 16 0 36 1 AA

www.franklinhvacsystems.com

G Goodman® Brand

Product Category

S Split System

X Condenser R-410A

Z Heat Pump R-410A

Legacy National Model

O Legacy National Model

A Sold In All Regions

NOMENCLATURE

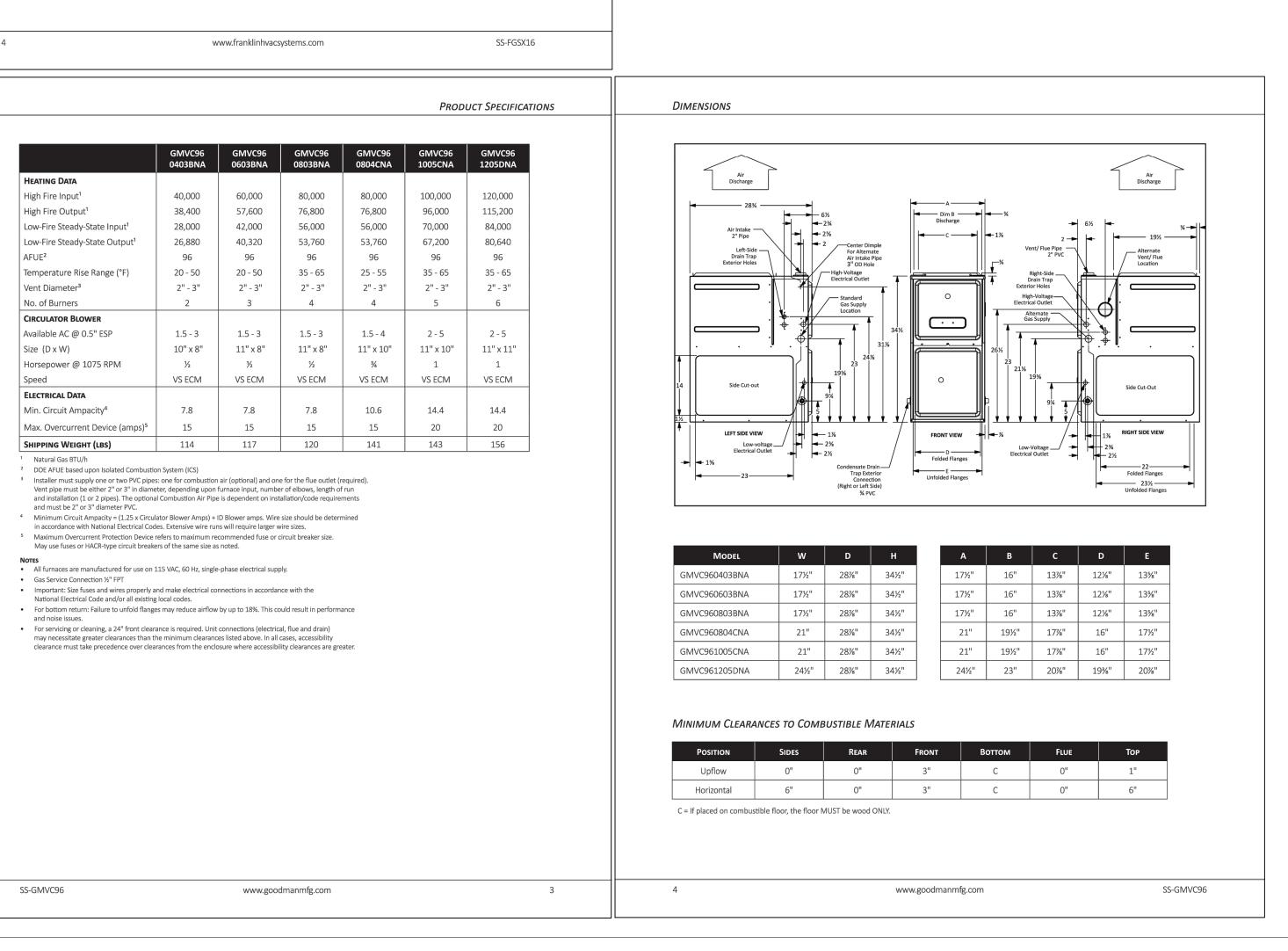
14 14 SEER 18 18 SEER

S Sold In Southeast and North Regions

16 16 SEER

Unit Type

13 13 SEER





SS-GMVC96

Standard Features

ComfortNet[™] Communicating System compatible

Stainless-steel secondary heat exchanger

Quiet two-speed induced draft blower

Utilizes ComfortNet[™] communicating,

two-stage or single-stage thermostats

electronic air cleaner and humidifier

All models comply with California 40 ng/J

Low NOx emissions standard

Durable Silicon Nitride igniter

Heavy-duty aluminized-steel tubular heat exchanger

Self-diagnostic control board with constant memory

fault code history output to a dual 7-segment display

 Efficient and quiet variable-speed airflow system gently ramps up or down according to heating or cooling demand

Multiple continuous fan speed options offer quiet air circulation

Auto-Comfort and enhanced dehumidification modes available

Color-coded low-voltage terminals with provisions for

Two-stage gas valve provides quiet, economical heating

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US Office:
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+1 805 881 7390 info@pixelarchltd.com

Exchanger Limited Warranty (good for as long as you own your home), 10-Year Unit Replacement Limited Warranty and 10-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Québec.

Designed for multi-position installation —

Easy to install top venting with optional side venting

Fully insulated heat exchanger and blower section

Airtight solid bottom or side-return with easy-cut tabs

for effortless removal in bottom air-inlet applications

upflow, horizontal left or right

Convenient left or right connection

for gas and electrical service

Cabinet air leakage (Q_{Leak}) ≤ 2%

Heavy-gauge steel cabinet with

durable baked-enamel finish

Certified for direct vent (2-pipe)

or non-direct vent (1-pipe)

Project Name and Address:

INTERIOR REMODEL FOR
PETALUMA RESIDENCE
3154 PETALUMA AVE. LONG BEACH, CA. 90808

SS-GMVC96

Date:

MECHANICAL CATALOG

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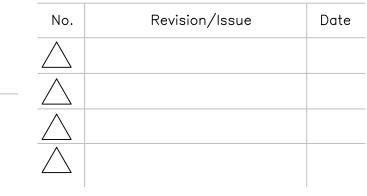
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#	DESCRIPTION
1	GENERAL CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE
<u> </u>	SUBMITTING BID. ALL WORK SHALL BE DONE IN ACCORDANCE WITH 2019 NEC, AS
2	AMENDED BY 2019 ELECTRICAL CODE, 2019 ENERGY CODE AND ANY ADDITIONAL STATE OR LOCAL CODES WHICH MAY APPLY.
3	GENERAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, CERTIFICATES, ETC. REQUIRED.
	GENERAL CONTRACTOR SHALL OBTAIN AND PAY FOR BOTH ROUGH AND FINAL UNDER-WRITERS OR OTHER APPROVED INSPECTION AGENCY
4	CERTIFICATES "ELECTRICAL INSPECTION". THESE CERTIFICATES SHALL BE PRESENTED WITH REQUEST FOR FINAL PAYMENT.
	IT IS THE INTENT OF THESE PLANS TO PROVIDE A COMPLETE OPERATING
_	ELECTRICAL SYSTEM. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL WRING, EQUIPMENT, MATERIAL. ETC. REQUIRED, EXCEPT WHERE
5	SPECIFICALLY NOTED AS BEING FURNISHED BY OTHERS. SHOULD THERE BE ANY QUESTIONS CONCERNING RESPONSIBILITY, THEY SHALL BE
	ADDRESSED TO ARCHITECT PRIOR TO BID. NO EXTRA CHARGES WILL BE ALLOWED.
6	ELECTRICAL SERVICE SHALL BE COORDINATED WITH THE EXISTING FIELD CONDITIONS.
7	CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO ALL CONTROLS, OWNER-SUPPLIED EQUIPMENT, MECHANICAL AND PLUMBING EQUIPMENT AS
	REQUIRED.
8	REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATION DETAILS. ALL FIXTURE AND DEVICE LOCATIONS SHOWN ON ARCHITECTURAL DRAWINGS
	SUPERSEDE THOSE SHOWN ON ELECTRICAL PLANS. CIRCUIT NUMBER ON THE DRAWINGS ARE FOR IDENTIFICATION ONLY AND
	DO NOT INDICATE THE POSITION ON THE PANEL BOARD. CONNECT THE CIRCUITS WITH THE LIGHTEST LOADS AND THE RECEPTACLE CIRCUITS
9	NEAR THE TOP OF THE PANEL, AND THE MORE HEAVILY LOADED CIRCUITS NEAR THE BOTTOM. BALANCE ALL CIRCUITS EVENLY BETWEEN
	PHASE SO THAT FEEDER WIRES CARRY APPROXIMATELY EQUAL CURRENT. ALL PHASES MUST BE BALANCED WITHIN 10% OR LESS. G.C. SHALL
	REBALANCE IF NECESSARY. BRANCH CIRCUIT CONDUCTOR INSULATION SHALL BE COLOR CODED AND
10	SHALL BE 600 VOLT. TYPE THHN/THWN.
11	CABLES IN HIGH TEMPERATURE AREAS SHALL HAVE INSULATION TYPE SUITABLE FOR THE TEMPERATURE. CABLES USED IN SPACES FOR
•	ENVIRONMENTAL AIR SHALL CONFORM WITH APPLICABLE N.E.C REQUIREMENTS.
12	ALL WIRING USED IN RETURN OR DISCHARGE AIR PLENUMS SHALL BE PLENUM RATED OR INSTALLED PER METHODS APPROVED BY THE LATEST
	EDITION OF THE N.E.C. FOR SUCH APPLICATION. ALL WIRE AND CABLE CONDUCTORS SHALL BE COPPER WITH INSULATION
13	RATED 600V. CONDUCTORS SIZED #10 AWG AND SMALLER SHALL BE SOLID OD STRANDED, AND CONDUCTORS SIZED LARGER THAN #10 AWG
	SHALL BE STRANDED WIRE. BRANCH CIRCUITS FOR POWER AND LIGHTING SHALL NOT BE LESS THAN
14	#12 AWG. OR AS NOTED. WIRES ARE TO BE SIZED FOR THE APPROPRIATE VOLTAGE DROPS. SEE WIRE SIZE SCHEDULE ON THIS
	SHEET. ALL DATA CABLES SHALL BE CAT6, PLENUM RATED. TO BE PROVIDED BY
15	OWNER SELECTED VENDOR. ELECTRICAL WORK SHALL BE TO PROVIDE OUTLET BOXES AND "RING AND STRING" FOR PULLING OF CABLES IN
	CONCEALED SPACES.
16	CONTROL WIRING SHALL NOT BE LESS THAN #14 AWG UNLESS OTHERWISE NOTED.
17	HOMERUNS SHOWN ARE SCHEMATIC. CONTRACTOR MAY ORIGINATE HOMERUNS FROM DIFFERENT LOCATIONS. ALL WIRE INCLUDING HOMERUNS
	SHALL BE DELINEATED ON AS-BUILT DRAWINGS. ALL WIRING INSTALLED UNDER THIS CONTRACT SHALL BE TESTED FOR
18	PROPER CONNECTIONS AND SHORT CIRCUITS PRIOR TO THE TURNING OVER OF WORK AS A COMPLETE UNIT.
	PROVIDE ALL ELECTRICAL SYSTEM GROUNDING IN ACCORDANCE WITH
	N.E.C. REQUIREMENTS EVEN IF IT IS NOT SHOWN ON THE DRAWINGS. INCLUDE ADDITIONAL GROUNDING CONDUCTORS IN ALL RACEWAYS EVEN
19	THOUGH THE DRAWINGS SHOW ONLY CIRCUIT AND/OR NEUTRALS CONDUCTORS. THE PLUMBING AND PIPING SYSTEM SHALL NOT BE USED
	AS A GROUND. ALL TRANSFORMER NEUTRALS SHALL BE GROUNDED TO BUILDING STEEL IN ACCORDANCE WITH NEC 250-70.
20	ALL CONDUITS PASSING THROUGH PARTITIONS ARE TO BE APPROPRIATELY SLEEVED AND SEALED.
21	FURNISH AND INSTALL ALL CONDUIT WITH PULL WIRES AS REQUIRED. ALL OUTLET BOXES SHALL BE STEEL, EXTRA DEEP WITH GROUNDING PIGTAILS.
21	GROUNDING PUSH-CLIPS ARE NOT ACCEPTABLE.
22	ALL PENETRATIONS SHALL BE INSTALLED AND SEALED PER NATIONAL STATE AND LOCAL CODES
23	DO NOT MAKE ANY CHANGES OR SUBSTITUTIONS WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER.
24	GUARANTEE ALL WORK, MATERIAL AND EQUIPMENT FOR A PERIOD OF
	ONE YEAR FROM THE DATE OF APPROVAL AND FINAL ACCEPTANCE. THIS DESIGN IS BASED ON INITIAL DESIGN DATA. GENERAL CONTRACTOR
25	TO SUPPLY AND INSTALL FEEDERS, FUSES AND CIRCUIT BREAKERS TO
۷	MATCH THE NAMEPLATE RATING OF ALL EQUIPMENT. THIS SHALL BE INCLUDED IN THE INITIAL BID PROPOSAL AND NO EXTRAS
	SHALL BE ENTERTAINED. LABEL ALL JUNCTION BOXES, OUTLETS, LIGHT SWITCH, ETC. WITH CIRCUIT
26	NUMBER ON INTERIOR ON COVER PLATE. USE SELF-ADHESIVE "DYMO" LABEL 1/8" HIGH LETTERS.
<u> </u>	GENERAL CONTRACTOR SHALL PROVIDE SEISMIC RESTRAINTS AND SUPPORTS FOR ALL FLOOR, WALL, AND CEILING MOUNTED ELECTRICAL
27	EQUIPMENT TO RESIST EARTHQUAKE EFFECTS DETERMINED IN ACCORDANCE WITH THE BUILDING CODE.
	THE G.C. SHALL PROVIDE ALL EQUIPMENT. MATERIALS AND LABOR TO
	COMPLETE ALL ELECTRICAL WORK IN A NEAT AND WORKMANLIKE MANNER AND IN ACCORDANCE WITH GOOD COMMERCIAL PRACTICE INCLUDING THE
	INSTALLATION OF ALL THE EQUIPMENT MATERIALS AND SYSTEMS AND THE FINAL CONNECTIONS TO THE OWNER'S EQUIPMENT AND FIXTURES AS
28	REQUIRED BY THE OWNER. THE G.C. SHALL ALSO FURNISH TEMPORARY WIRING AND LIGHTING TO PROVIDE A MINIMUM OF 25 FC IN WORK AREAS
	FOR USE OF ALL THE TRADES DURING CONSTRUCTION AND THE INSTALLATION OF THE OWNERS FIXTURES. THE G.C. IS RESPONSIBLE TO
	REMOVE ALL TEMPORARY WIRING UPON COMPLETION OF CONSTRUCTION OF ALL TRADES.
	THIS CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL ALL SUPPLEMENTARY SUPPORT, INCLUDING SUPPORT STEEL AS REQUIRED TO
29	HANG ALL EQUIPMENT AND LIGHTING FROM THE EXISTING STRUCTURE IN ACCORDANCE WITH THE ARCHITECTURAL/STRUCTURAL SUPPORT AND
	LOADING CRITERIA.
	IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE FULLY DIMENSIONED COORDINATION DRAWINGS FOR ALL OF HIS RESPECTIVE
30	WORK. THESE DRAWINGS MUST BE FULLY COORDINATED WITH ALL EXISTING CONDITIONS. ALL HVAC, PLUMBING, FIRE PROTECTION,
	ELECTRICAL, LIGHTING, STRUCTURAL AND ARCHITECTURAL SYSTEMS PRIOR TO PREPARING COMPOSITE MULTI DISCIPLINE COORDINATION DRAWINGS.
71	ALL DISCONNECTING MEANS AND EQUIPMENT INDICATED ON THE DRAWING
31	SHALL BE IDENTIFIED BY NAMEPLATE IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE 110-22.
32	ALL WRING FOR THE EMERGENCY LIGHTING AND EMERGENCY SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE
	NATIONAL ELECTRIC CODE ARTICLE 700. THE WIRING METHODS AND MATERIALS INDICATED IN THE SPECIFICATIONS
33	AND ON THE DRAWINGS SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE
	ARTICLE 300.

#	DESCRIPTION
	THE WIRING METHODS AND MATERIALS INDICATED IN THE SPECIFICATIONS AND ON THE DRAWINGS SHALL BE INSTALLED AND CONNECTED IN
33	ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE ARTICLE 300.
34	THE ELECTRICAL SERVICE AND DISTRIBUTION SYSTEM AS INDICATED ON THE RISER DIAGRAM AND MATERIALS INDICATED IN THE SPECIFICATIONS SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE ARTICLE 230, SERVICES.
35	ALL OVER CURRENT PROTECTION SHALL BE IN COMPLIANCE WITH THE NATIONAL ELECTRIC CODE SECTION 240, OVERCURRENT PROTECTION.
36	ALL GROUNDING REQUIREMENTS OF THE COMPLETE ELECTRICAL DISTRIBUTION SYSTEM AND AS INDICATED IN THE SPECIFICATIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE ARTICLE 250, GROUNDING AND BONDING.
37	PRIOR TO ANY REQUIRED CUTTING AND PATCHING OF CONCRETE FLOOR AND/OR CU OF ROOF, CONTRACTOR SHALL COORDINATE WITH BUILDING ENGINEER.
38	FOR ALL LIGHTING FIXTURES MOUNTED IN HUNG CEILING THE GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL INDIVIDUAL SUPPORT AT EACH CORNER OF RECESSED LIGHTING TROFFER CONNECTED TO BUILDING STEEL ABOVE ALL CONDUIT AND MC CABLE MOUNTED ABOVE HUNG CEILING SHALL BE INDIVIDUALLY SUPPORTED IN THE SAME FASHION AS PER NEC REQUIREMENTS.
39	DO NOT SCALE FROM THESE DRAWINGS.
40	PLANS ARE PREPARED WITH REQUIRED BRANCH CIRCUITS INDICATED BY CIRCUITS NUMBERS. PROVIDE AND INSTALL ALL CONDUITS. CONDUCTORS, BOXES, MISCELLANEOUS FITTINGS, ETC. FOR A COMPLETE AND OPERABLE SYSTEM (HOME RUN SHOWN). BRANCH CIRCUIT INSTALLATION SHALL COMPLY WITH SPECIFICATIONS AND N.E.C.
41	ELECTRICAL RECEPTACLE, SWITCH AND CONTROL HEIGHTS (CBC-1136A.1:). RECEPTACLE HEIGHTS: ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48 INCHES (1219MM) MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15 INCHES (381MM) MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF FINISHED FLOOR OR WORKING FLATFORM. IF THE REACH IS OVEN AN OBSTRUCTION (FOR EXAMPLE, A KITCHEN BASE CABINET) BETWEEN 20 AND 25 INCHES (508 AND 635MM) IN DEPTH, THE MAXIMUM HEIGHT MEASURED AT THE BOX IS REDUCED TO 44 INCHES (1118MM) FOR FORWARD APPROACH, OR 46 INCHES (1168MM) FOR SIDE APPROACH, PROVIDED THE OBSTRUCTION IS NO MORE THAN 24 INCHES (610MM) IN DEPTH. OBSTRUCTION SHALL NOT EXCEED MORE THAN 25 INCHES (635MM) FROM THE WALL BENEATH THE RECEPTACLE.
42	SWITCH AND CONTROL HEIGHTS: (CBC 1136A.2:) CONTROL OR SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES, ALARMS OR COOLING, HEATING AND VENTILATING EQUIPMENT SHALL BE LOCATED NO MORE THAN 48 INCHES (1219MM) MEASURED FROM THE TOP OF THE OUTLET BOX NOR LESS THAN 15 INCHES (381MM) MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM. IF THE REACH IS OVER A PHYSICAL BARRIER OR AN OBSTRUCTION (FOR EXAMPLE, A KITCHEN BASE CABINET) BETWEEN 20 AND 25 INCHES (508 AND 635MM) IN DEPTH, THE MAXIMUM HEIGHT IS REDUCED TO 44 INCHES (1118MM) FOR FORWARD APPROACH, OR 46 INCHES (1168MM) FOR SIDE APPROACH, PROVIDED THE OBSTRUCTION IS NO MORE THAN 24 INCHES (610MM) IN DEPTH. PHYSICAL BARRIERS OR OBSTRUCTIONS SHALL NOT EXTEND MORE THAN 25 INCHES (635MM) FROM THE WALL BENEATH A CONTROL.

Туре									
		Description Ceiling	"Lithonia				New		
L1	0	Recessed led (6" round)	Ltg" LDN6 40/05 LO6AR LD	LED	20W	120/ 277V	dimmabl lighting fixture		
L1E		Ceiling Recessed led	"Lithonia Ltg" LDN6 40/05 LD6AR LD	LED	20W	120/ 277V	New dimmabl EM lighting fixture		
L2		Surface mtd. 1'W X 4'L explosion proof lighting fixture	"Larson Electronics" EPL-48-2L- LED Explosion proof lighting fixture	LED	20W	120/ 277V	New dimmabl lighting fixture		
EX	፟	Wall mounted Emergency EXIT SIGN (Single head)	Similar to "Lithonia lighting" LE S 1 SD	LED	2W	120/ 277V	New EM SIG lighting fixture		
L3	¥	Wall mounted FIXTURE HIGH EFFICIENCY	"Lithonia Lto" FMABFL 14 20840 F20	LED	20W	120/ 277V	New dimmabl lighting fixture		
L4		Wall Mounted Bath Bar High Efficiency	"Lithonia Ltg" FMLFUTL 24 840 BN	LED	25W	120/ 277V	New dimmabl lighting fixture		
L5		Ceiling Mounted Strip Light High Efficiency	"Lithonia Ltg" CSS L48 4000LM MVOLT 40K 80CRI [CS All options]	LED	35.3W	120/ 277V	New dimmabl lighting fixture		
L6		Under-Cabinet Strip Light High Efficiency	"Lithonia Ltg" UC8 17 120 SWR	LED	17W	120/ 277V	New dimmabl lighting fixture		
L7		Outdoor Lighting	"Lithonia Ltg" TWR1 LED AL□ 40K MV□LT DDBTXD	LED	16W	120/ 277V	New dimmabl lighting fixture		
Ν		ExhaustFan w/Light	QTXE110C		31.4W				

	ELECTRICAL LEGEND
SYMBOL	DESCRIPTION
\$	SINGLE POLE SWITCH AND BOX, WALL MOUNTED +44" AFF. LOWER CASE LETTER INDICATES CIRCUIT CONTROLLED BY SWITCH.
	WALL MOUNTED DIMMER SWITCH, 0-10V DIMMING WITH ON-OFF SWITCH.
\$LV	WALL MOUNTED 3 WAY ON, CENTER OFF LOW VOLTAGE SWITCH FOR LCP CONTROLLER LIGHTS.
\Box	RECEPTACLE, DUPLEX 20A, 120V GRD, NEMA 5-20R +18"AFF U.O.N.(WP=WEATHERPROOF, GFCI=GROUND FAULT CIRCUIT
M	INTERRUPTER) DEDICATE RECEPTACLE, DUPLEX 20A, 120V GRD, NEMA 5-20R
\bigcap	+18"AFF U.O.N. (WP=WEATHERPROOF, GFI=GROUND FAULT CIRCUIT INTERRUPTER)
USB	USB RECEPTACLE, DUPLEX 20A, 120V GRD, NEMA 5-20R +42"AFF U.O.N.
Ф	RECEPTACLE, SINGLE, 20A, 120V GRD, NEMA 5-20R +18"AFF UON.
\bigoplus	RECEPTACLE, DOUBLE DUPLEX (2) 20A, 12OV, GRD — NEMA (2) 5—20R +18"AFF U.O.N.
	RECEPTACLE DUPLEX 20A, 120V GRD NEMA 5—20R FLOOR MOUNTED.
	RECEPTACLE DOUBLE DUPLEX (2) 20A, 120V GRD, NEMA 5-20R UON. FLOOR MOUNTED.
$oldsymbol{\Psi}$	2 PORT VOICE/ DATA OUTLET, WALL MOUNT +18" AFF PROVIDE RING & STRING TO PULL CABLES THRU HOLLOW WALL. VOICE/ DATA WRING BY TELECOM SYSTEM INSTALLER.
TV	TV OUTLET, WALL MOUNT +60" AFF PROVIDE RING & STRING TO PULL CABLES THRU HOLLOW WALL.
$\boxed{\mathbf{O}\mathbf{V}}$	COMBINATION 4-PLEX RECEPTACLE, NEMA 5-20R DOUBLE DUPLEX (1 DUPLEX AUTO CONTROLLED BY OCCUPANCY SENSOR PER T24, (1) DUPLEX UNCONTROLLED), & TYPE 6 VOICE/DATA OUTLET, FLOOR MOUNTED. PROVIDE MIN. 3/4" TEL/DATA CONDUIT WITH PULL WIRES.
P	4-PLEX RECEPTACLE, NEMA 5-20R DOUBLE DUPLEX (1 DUPLEX AUTO CONTROLLED BY OCCUPANCY SENSOR PER T24, (1) DUPLEX UNCONTROLLED), +18"AFF, U.O.N. SEE NOTE 2.
P	DUPLEX RECEPTACLE, NEMA 5-20R OCCUPANCY SENSOR CONTROLLED, +18"AFF. SEE NOTE 2.
GFCI	GFCI DUPLEX RECEPTACLE ABOVE COUNTER LEVEL, NEMA 5-20R.
GFCI	GFCI DUPLEX RECEPTACLE ABOVE COUNTER LEVEL, VACANCY SENSOR CONTROLLED, NEMA 5-20R.
•	SPECIAL PURPOSE CONNECTION FOR ELECTRICAL EQUIPMENT. VERIFY CONNECTION TYPE AND WIRING REQUIREMENTS PRIOR TO ROUGH-IN.
₽ EP	CLASS 1, DIVISION 1 RATED EXPLOSION-PROOF OUTLET. SEE ADDITIONAL NOTES ON SHEET E3.1.
Φ	RECEPTACLE, 120V/240V, 3PH, 4W, GRD, RATING AS INDICATED IN PLANS.
— — — — — — — — — — — — — — — — — — —	RECEPTACLE 20A, 480V, 3PH, 4W, GRD, NEMA L22-20R, +18"AFF UON.
0	DUPLEX RECEPTACLE 20A, 120V, GND (5-20R U.O.N), SUSPENDED BY TYPE S.O. CORD WITH GRIPS AT EACH END.
P	DOUBLE DUPLEX RECEPTACLE 20A, 120V, GND (5-20R U.O.N), SUSPENDED BY TYPE S.O. CORD WITH GRIPS AT EACH END.
	TWIST-LOCK RECEPTACLE 20, 250V, SINGLE PHASE (L6-20R U.O.N), SUSPENDED BY TYPE S.O. CORD WITH GRIPS AT EACH END.
<u>•</u> (S)	OCCUPANCY SENSOR LOW VOLTAGE CEILING MOUNTED FOR ROOM
<u> </u>	OCCUPANCY SENSOR LOW VOLTAGE WALL MOUNTED FOR ROOM
©S	CONTROLLER. CEILING MOUNTED DAYLIGHT SENSOR.
<u> </u>	JUNCTION BOX CEILING MOUNTED, SIZE TO CODE, TAPE AND TAG WIRES.
	JUNCTION BOX WALL MOUNTED, SIZE TO CODE, TAPE AND TAG WIRES.
	ELECTRICAL PANELBOARD, SURFACE OR FLUSH MOUNTED (277/480V).
	ELECTRICAL PANELBOARD,
	SURFACE OR FLUSH MOUNTED (120/208V).
	SPECIAL PURPOSE ELECTRICAL PANELBOARD, SURFACE OR FLUSH MOUNTED.
	TRANSFORMER - DRY TYPE.
	FUSED DISCONNECT SWITCH WITH DUAL ELEMENT FUSES. SWITCH AND FUSES RATING PER NAMEPLATE OF SERVED UNIT.
	NON-FUSED DISCONNECT SWITCH, RATING PER NAMEPLATE OF SERVED UNIT.
	MAGNETIC MOTOR STARTER, NEMA RATING AS REQUIRED PER
P	SERVED UNIT. WALL MOUNTED JUNCTION BOX FOR PRE-WIRED FURNITURE POWER SYSTEM CONNECTION. PROVIDE POWER WHIP WITH TERMINATION PLUG TO MATCH FURNITURE SYSTEM CONNECTOR. LOCATE BOX AS
<u> </u>	LOW AS POSSIBLE. FIELD COORDINATE FINAL LOCATION. COMBINATION TELEPHONE AND DATA OUTLET, WALL MOUNTED AS LOW AS POSSIBLE FOR FLEXIBLE CONNECTION TO FURNITURE
	SYSTEM. FLOOR MOUNTED FURNITURE FEEDS W/POWER & TELE/DATA PORT
	CAPACITY FOR ELECTRIFIED DESKS PER CLIENT'S REQUIREMENTS. POWER POLES W/POWER & TELE/DATA PORT CAPACITY FOR
	ELECTRIFIED DESKS PER CLIENT'S REQUIREMENTS.
	Smoke Detector
(c)	Carbon Monovide Detector

C Carbon Monoxide Detector

LEGEND NOTES:

1. MOUNTING HEIGHT INDICATED ARE AFF TO CENTER OF PLATE.
INCASE OF CONFLICT, GENERAL NOTES 41 & 42 SHALL PREVAIL.
2. NOT ALL SYMBOLS AND ABBREVIATIONS ARE NECESSARILY USED IN THIS PROJECT.

LOAD PER	WIRE SIZE MAXIMUM LENGTH OF BRANCH CIRCUIT PER UTILIZATION VOLTAGE				
PH (KVA)	(AWG)	(120, 1PH, MAX V.D. 3%)	(240, 1PH, MAX V.D. 3%)	(240, 3PH, MAX V.D. 3%)	REMARKS
	#12	56 FT	85 FT	98 FT	5
< 1.00	#10	94 FT	141 FT	163 FT	5
< 1.92	#8	144 FT	217 FT	250 FT	5
	#6	230 FT	345 FT	398 FT	5
	#12	75 FT	113 FT	130 FT	5
< 1.44	# 10	125 FT	188 FT	217 FT	5
< 1.44	#8	192 FT	289 FT	334 FT	5
	#6	306 FT	460 FT	531 FT	5
	#12	86 FT	129 FT	149 FT	
< 1.26	#10	143 FT	215 FT	248 FT	
	#8	220 FT	330 FT	381 FT	
	#12	100 FT	150 FT	173 FT	
< 1.08	#10	167 FT	250 FT	289 FT	
	#8	256 FT	385 FT	445 FT	
< 0.9	# 12	120 FT	180 FT	240 FT	
₹ 0.9	# 10	200 FT	300 FT	347 FT	
<0.72	# 12	150 FT	225 FT	260 FT	
V 0.72	# 10	250 FT	376 FT	434 FT	
#			NOTES		
1		R SHALL REFER TO TI	HIS TABLE PRIOR TO	START OF	
2	CONJUNCTION ROUTING OF	R SHALL USE THE AP N WITH THE LENGTH BRANCH CIRCUIT WIF IN, ROUTED PARALLEL I.	OF THE PROPOSED FI RING (INCLUDING VERT	ELD VERIFIED TCAL &	
3		SCHEDULE FOR THE (A PARTICULAR BRANC		LOAD PER	
4		VALUES USED ARE F OUIT. 75 DEGREE C., (ER WIRES IN	
5		S IN "120V, 1PH" COL ECEPTACLE LOADS.	UMN IS TO BE USED	FOR GENERAL	

ABBREVIATIONS AND TAGS					
ABB.	DESCRIPTION	ABB.	DESCRIPTION		
EWH	ELECTRIC WATER HEATER	SD	SMOKE DETECTOR		
(E)	EXISTING TO REMAIN	TEL	TELEPHONE		
EC	ELECTRICAL CONTRACTOR	TX	TRANSFORMER		
FA	FIRE ALARM	TV	TELEVISION		
FMT	FLEXIBLE METALLIC TUBING	UAC	UNDER ANOTHER CONTRACT		
GC	GENERAL CONTRACTOR	UAS	UNDER ANOTHER SECTION		
GFI	GROUND FAULT INTERUPTER	UON	UNLESS OTHERWISE NOTED		
IG	ISOLATED GROUND	V.D.	VOLTAGE DROP		
LL	LANDLORD	W	WIRE		
LV	LOW VOLTAGE	WP	WEATHERPROOF		
AC 1	MECHANICAL UNIT TAG. SEE MECHANICAL DRAWINGS FOR ADDITIONAL DESCRIPTION.	<u>(E-4)</u>	DETAIL TAG. REFER TO DETAIL 4 ON SHEET NUMBER E-4.		

	ELECTRICAL DRAWING SCHEDULE
#	TITLE
E1.0	ELECTRICAL LEGEND, NOTES, SCHEDULES & ABBREVIATIONS
E2.0	ELECTRICAL SPECIFICATIONS
E3.0	ELECTRICAL PLANS
E4.0	SINGLE LINE DIAGRAM AND PANEL SCHEDULES
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Project Name and Address:

INTERIOR REMODEL FOR
PETALUMA RESIDENCE

3154 PETALUMA AVE. LONG BEACH, CA. 90808

Date: APRIL 28, 2021	DRAWING TITLE:	Sheet:	No.	Revision/Issue	Date
Scale:	ELECTRICAL LEGEND				
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'		ET.O			

ELECTRICAL SPECIFICATIONS

PART 1	GENERAL	PART 2	PRODUCTS	PART 2	PRODUCTS	PART 3	EXECUTION
1.01	SCOPE OF WORK: Furnish and Install all materials and equipment and provide all labor, tools, transportation, superintendence and services required and necessary to complete the work shown on the drawings and/or specified herein. Also include all other work and miscellaneous items, not specifically mentioned, but reasonably inferred for a complete installation including all accessories and appurtenances required for testing the system. It is the intent of the drawings and specifications that all systems be complete, and ready for operation. REGULATORY REQUIREMENTS: Code compliance is mandatory. Nothing in these Drawings and Specifications work not conforming to these codes. Where work is shown to exceed minimum code requirements, comply with drawings and specifications. All work and materials shall comply with the latest rules, codes and regulations, including, but not limited to the following: 1. Occupational Safety and Health Act Standards (OSHA). 2. NFPA #70: National Electric Code (NEC), California Electrical Code (CEC).	2.01	MATERIAL APPROVAL: All materials must be new and bear Underwriter's Laboratories label. Materials that are not covered by UL testing standards shall be tested and approved by an independent testing laboratory or a governmental agency. Material not in accordance with these specifications may be rejected either before or after installation. CONDUITS AND OTHER RACEWAYS: A. Rigid Steel: Hot—dipped galvanized. B. Intermediate Metal Conduit (IMC): Hot—dipped galvanized. C. Electrical Metallic Tubing (EMT): Electro—galvanized. D. Wireway: Code gauge steel, with knockouts and hinged cover, corrosion resistant gray baked enamel finish. E. Provide fittings and accessories approved for the purpose equal in all respects to the conduit or raceway. EMT connectors and couplings shall be steel setscrew type indoors and steel compression type in wet locations and outdoors.	for Dry Type Transformers for General Electric Company's "QL," Eaton. Electrical Ratings: 1. Secondary windings voltages: Primary windings voltages: Frequency: 60 Hz. KVA rating: As shown on Taps: Six (6) 2.5% full compedance: For transform maximum. 2. Winding temperature rise sull Specification Article 50	pacity taps; 2 above and 4 below, rated voltage. ers larger than 75 KVA, 4.5% minimum, 5.75% hall be 150 degrees Centigrade in accordance with 6.	3.06	INSTALLATION OF WIRES: A. Pull no wire into any portion of the conduit system until all construction work which might damage the wire has been completed. B. Install all wire continuous from outlet to outlet or terminal to terminal. Splices in cables when required shall be made in handholes, pull boxes or junction boxes. Make branch circuit splices in outlet boxes with 8" of correctly color—coded tails left in the box. C. Splices in wires and cables shall be made utilizing materials and methods described herein before. D. Make all ground, neutral and line connections to receptacle and wiring device terminals as recommended by manufacture. Provide ground jumper from outlet box t ground terminal of devices when the device is not approved for grounding through the mounting screws. E. Provide Brady wire markers where number of conductors in a box exceeds four F. Megger and record insulation resistance of all 600 Volt insulated conductors size #4/0 and larger using 500 Volt megger for one minute. Make tests with circuits
1.03	3. NFPA #101: Life Safety Code. 4. State Fire Marshal. 5. Local Utilities Companies. LICENSE, FEES AND PERMITS: Electrical contractor shall pay for all licenses, permits and inspection fees required by the authority having jurisdiction and shall arrange for all required inspections. SAFETY AND INDEMNITY: The Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of work. This requirement will apply continuously and not be limited to normal working hours. No act, service, drawing review or construction review by the Owner, the Engineers or their Consultants, is intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site. DRAWINGS AND SPECIFICATIONS: All drawings and all Divisions of these specifications shall be considered as a whole and work of this Division shown anywhere therein shall be furnished under this	2.03	WRES AND CABLES: A. For power and lighting system 600V or less: 1. Conductor: minimum size #12 AWG. a. #12 and #10 AWG solid copper. b. #8 AWG and larger shall be stranded copper. 2. Insulation type: a. #12 to #1 AWG: THWN for wet or underground and THHN for dry locations. b. #1/0 through #4/0 AWG: XHHW (55 mils). c. #250 MCM and larger: XHHW (65 mils). d. Grounding wire: TW. B. For signal and communications circuit: 1. Special cables shall be as specified on drawings. 2. Conductors for general use shall be stranded copper conductor, #16 AWG minimum, with THWN insulation for underground or wet locations	2.12 continuously while in an a Centigrade. 4. Transformer shall meet the C57.96. Vibration Isolation, Facto Provide neoprene rubber transformer enclosure. Installation: 1. Anchor transformer secure bolts used to secure the uplift produced by force en horizontally at center of a Provide 1" thick high resili platform. Korfund "Elasto"	y with minimum 1/2" diameter bolts. Strength of transformer shall be sufficient to resist shear and qual to 1/2 of the equipment mass applied ravity. ency pads to isolate transformer from floor or Rib" or equivalent.	3.07	isolated from source and load. IDENTIFICATION: A. Provide nameplates for switchgears, panelboards, and all similar devices. Nameplates shall be screwed (no adhesives) engraved bakelite or photo—etched metallic nameplate identification showing panel designation, voltage and phase in minimum 1/4" high letters. B. Provide dymo labels on all lighting switches and convenience and special purpose receptacles to show panel and circuit number to which the device is connected. C. Each panelboard shall contain a metal—framed circuit directory inside cover, with plastic protector. D. Panelboard Schedule: After completion of work, provide typewritten updated panelboard schedules for all panelboards.
1.05	Division. Drawings are diagrammatic and indicate the general arrangement of equipment and wiring. Most direct routing of conduits and wiring is not assured. Exact requirements shall be governed by conditions of the job. Consult all other drawings in preparation of the bid. Extra lengths of wiring or addition of pull or junction boxes, etc., necessitate by such conditions shall be included in the bid. CONDITIONS AT SITE: The electrical contractor shall have examined the site and familiarized themselves with all discernible existing conditions. No extra payment will be allowed for work required because of these conditions, whether specifically mentioned or not. WORKMANSHIP AND CONTRACTOR'S QUALIFICATIONS: Only quality workmanship will be accepted. Haphazard or poor installation will be cause for rejection of work. SHOP DRAWINGS AND MATERIALS LISTS: Submit to Owner in a single package six (6) copies of complete shop drawings and materials list, as noted below, for review within fifteen (15) days after award of contract. Submittals required as follows: 1. Wiring devices: switches, receptacles, device plates. 2. Enclosures for utility company metering.	2.04	and THHN insulation for dry locations. C. Acceptable Products: General Electric, Anaconda, Okonite, Paranite or Triangle products conforming or exceeding applicable IPCEA standards. OUTLET BOXES, JUNCTION AND PULL BOXES: A. Outlet boxes: 4" square x 1-1/2" deep (or larger) galvanized sheet steel KO-type with plaster ring and cover for general interior use and cast metal type FS or FD with matching screw covers for exterior and exposed interior locations (gasketed in damp or wet locations). B. Junction boxes shall be same as outlet boxes up to 42 cu. in. and codegauge steel in larger sizes with surface or flush-type screw-mounted trim covers, both boxes and covers inhibitor-primed and painted inside out. C. Pull boxes shall be same as junction boxes unless indicated otherwise on the drawings, with covers. D. Telephone outlet boxes shall be the type and size required by the serving telephone company but not smaller than 4-11/16" square x 2-1/8" deep with single-gang ring and Sierra #S-754N split plate bushing. WRING DEVICES AND PLATES: Wiring devices and plates shall be by Pass and Seymour or approved equal. 1. Standard design:	J. Use flexible conduits at le 4. Provide grounding of each and connectors in accorde regulations. PART 3 GENERAL: A: Electric system laye and shall be followe trades will permit. of outlets by the s architectural drawin B. Consult all other dr discrepancies or ot C. All home runs to p the panel and cont	EXECUTION EXECUTION EXECUTION EXECUTION Couts indicated on the drawings are generally diagrammatic as closely as actual construction and work of other constructure and equipment served. Take all dimensions from a diagrammatic as closely as actual construction and work of other constructure and equipment served. Take all dimensions from a diagrammatic as a closely as actual constructure and equipment served. Take all dimensions from a diagrammatic as a closely as actual construction and work of other conflicts are indicated as starting from the outlet nearest an actual continue such in the general direction of that panel. Continue such	3.08	REMODELING WORK: A. Existing electrical wiring which will not be made obsolete and which will be disturbed due to construction changes required by this contract shall be restored to operating condition. Where construction changes require, outlets and conduit runs shall be relocated. Extend conduits and pull in new wiring or install junction boxes and splice in new wiring. B. Outlets from which fixtures, switches, receptacles, and/or other electrical devices are moved and which are not replaced or reused shall be removed, where outlets boxes, etc., are completely removed, the contractor shall cut off conduits and remove wiring. C. Where conduits extending through floors are to be abandoned, the contractor shall cut and cap or plug conduit, and the conduit shall not protrude above the floor. D. Where existing conduit is to be abandoned, the conduit shall be removed if it is exposed, in a crawl space or in accessible ceiling. Where it is impossible to remove the conduit, it shall be cut off and capped or plugged. E. Remove all existing wiring not reused or required to maintain continuity
1.09	3. Main fused disconnect switch. 4. Panelboards. 5. Disconnect switches. 6. Lighting fixtures, lamps and lighting control equipment. SUBSTITUTIONS: One or more makes of materials or methods may have been specified to establish the standard of quality, workmanship, finish and design required, but other materials or methods equal in quality, workmanship, finish, design, and guaranteed performance, will be accepted. However, all changes and substitutions shall be requested in letter form and shall be accompanied with a statement of the amount of money to be returned to the contract if the substitution is permitted. No work involving materials submitted for substitution shall proceed until written acceptance is received from the Owner. The Owner is the sole judge of acceptability of preferred substitutions. If a substitution item is permitted, and any re—design effort is thereby necessitated, the required redesign shall be at the Contractor's expense. COORDINATION:	2.05	a. Switch and receptacles devices shall be plastic bodies, color per architect. b. Wall plates shall be metal type 430, stainless steel, color per architect. c. Isolated ground receptacles shall be white with orange triangle as required per NEC, manufactured by "Leviton" # 5362—IGW or approved equal. CONDUIT HANGERS: For individual conduit runs not directly fastened to the structure, use rod hangers manufactured by Caddy, Unistrut or Powerstrut. For multiple conduit runs, use Unistrut or Powerstrut trapeze type conduit support designed for maximum deflection not greater than 1/8". WIRE CONNECTORS: For wire sizes #8 AWG and smaller: Insulated pressure type (with live spring) rated 105 degrees C, 600V, for building wiring and 1000V in signs or fixtures. Scotchlok or Ideal. For wire size #6 AWG and larger: T & B or equivalent compression type with	circuits to the pan Terminate homerun manner. D. Avoid cutting and be wherever possible. Or requirements when E. Furnish and install or runners, etc. requir F. Provide necessary be WIRING METHODS: A. Install all wiring in codes.Conduit shall 1. Above ground: a. Wet locatio b. Locatio c. Dry loc rigid s	el as though the routes were completely indicated. It is of signal, alarm, and communication systems in a similar coring holes through structure or structural members obtain prior approval of Owner and conform to all structural cutting or boring the structure is necessary and permitted. It is necessary hardware, hangers, blocking, brackets, bracing, and for equipment specified under this Section. It is acking required to insure rigid mounting of outlet boxes. It is acceway or use MC cable. Where approved by all Applicable be rigid steel, IMC or EMT as follows: Use rigid steel, IMC or EMT. ations: Rigid steel or IMC only. It is subject to mechanical injury: Rigid steel or IMC only. ations and not subject to mechanical injury: EMT, IMC or its level conduit.	3.09	circuits to remain. F. The contractor shall be held fully responsible for the proper restoration of all existing surfaces requiring patching, plastering, painting and/or other repairs due to the installation of electrical work under the terms of this specification. Close all openings, repair all surfaces, etc., as required. G. Maintain circuit continuity to areas outside of this work. Provide new conduit and conductors as required to maintain continuity and maintain area as existing. GROUNDING: A. Electrical service and separately derived alternating current system shall be grounded in accordance with NEC Article 250—3 to 250—26, inclusive. B. Ground non—current carrying metal parts of electrical equipment enclosures, frames, conductor raceways or cable trays to provide a low impendance path for line—to—ground fault current and to band all non—current carrying metal parts together. Provide ground conductor in each raceway system in addition to conductors shown. Fauinment ground conductor shall be electrically and mechanically continuous from
1.10	Coordinate work with other trades to avoid conflict and to provide correct rough—in and connection for equipment furnished under other trades that require electrical connections. Inform Contractors of other trades of the required access to and clearances around electrical equipment to maintain service ability and code compliance. Verify equipment dimensions and requirements with provisions specified under this Section. Check actual job conditions before fabricating work. Report necessary changes in time to prevent needless work. Changes or additions, subject to additional compensation, which are made without written authorization and an agreed price, shall be at the Contractor's risk and expense. CUTTING AND PATCHING: All cutting and patching required for work of this Division is included herein. Coordination with General Contractor and other trades is imperative. Contractor shall bear the responsibility for and the added expense of adjusting for improper holes, supports, etc. ACCEPTANCE DEMONSTRATION: Upon completion of the work, at a time to be designated by the Owner, the	2.08	 3M #33+ or Plymouth "Slipknot Grey" tape insulation. PANELBOARDS: A. Construction: Cabinets shall be of code gauge, galvanized steel, surface or flush mounted as indicated. Doors shall be of cold—rolled steel with concealed hinges and flush catch and lock. All panels shall be keyed alike. Panels located adjacent to each other shall have identically sized enclosure and trims. Minimum panel width shall be 20". Finish exposed part with one coat of primer and one coat of light grey enamel suitable for overpainting in field if desired. B. Bus Bars: Provide ground block with full complement of terminals in addition to insulated neutral bus. Future breaker spaces shall have complete provision including busses and connecting hardware. C. Manufacturers: Panelboards shall be General Electric Type "AQ" or type "AE" or equivalent products of Eaton Cutler—Hammer, Square—D or Siemens—ITE. D. Circuit Breakers: Shall be quick—make, quick—break, molded case type: 1. 120/240 Volt Panels: Shall be General Electric Type "Q" line, bolt—on 	1. Recessed light 2. Motor connect 3. At building joi At wet location INSTALLATION OF CONDUIT A. General: 1. Run all conduit 2. Run all conduit 2. Run all conduit 3. Conduits abov fixtures, air of 4. Conduits shall duct shaft had be coordinate B. Conduit Supports:	s in the following applications: Ing fixtures. Ing fixtures. Ints.		Equipment ground conductor shall be electrically and mechanically continuous from the electrical circuit source to the equipment to be grounded. Size ground conductors per NEC Article 250—95 unless larger conductors are shown on drawings C. Grounding conductors shall be identified with green insulation. Where green insulation is not available on larger sizes, black insulation shall be used and suitable identified with green tape at each junction box or device enclosure. END OF SECTION
1.12	Contractor shall demonstrate for the Owner the operation of the electrical installation, including any and all special items installed by him or installed under his supervision. Properly set automatic time switches to perform switching operations in accordance with schedules provided by the Owner's representative, and demonstrate (using the manufacturer's operating instructions) how to override and/or test time switches programming. RECORD DRAWINGS, EQUIPMENT DATA: Maintain one set of clean working drawings at the job site and enter daily such "as—built" information as feeder and service routes, pull box locations and changes in layout or arrangement which occur during construction. Deliver completed drawings to the Owner. Deliver to the Owner's representative three copies of data sheets or other current manufacturers' publications for each item of electrical equipment furnished for the project including at least these data: 1. Technical description and replaceable parts list. 2. Physical description and installation instructions. 3. Main fused disconnect switch.	2.09	type, with minimum symmetrical interrupting capacity as shown. 2. Provide multi-pole units with common trip element. 3. Circuit breakers used on "ON-OFF" control of fluorescent lighting (panelboard switching) shall be Underwriters' Laboratories listed and marked "SWD" to indicate their suitability. E. Identification: Provide screwed—on (no adhesives) bakelite or photo—etched metallic nameplate identification on outside of each panel showing panel designation, voltage and phase in minimum 1/8" high letters. Each panel shall contain a metal—framed circuit directory inside cover, with plastic protector. F. Complete shop drawings are required. See Article 1.08. INDIVIDUALLY MOUNTED MOTOR CONTROLLERS: A. For Polyphase Motors: Combination motor circuit protector and magnetic starter, with 3—leg overload protection. Provide two interlock contacts of the interchangeable open—close type. Provide hand—off—automatic selector switch, motor running pilot light and reset button in cover. Circuits 300V and over shall be provided with 120V control transformers. B. Starters for fractional horsepower 120V motors shall be manual type unless	3.03 supports at in sheet metal shangers for a multiple cond pipes. 2. Individual condiciling support Only one condict from portion attachminimize tran CONNECTIONS TO EQUIPME A. General:	its with Underwriter's Laboratories listed steel conduit atervals required by the National Electric Code. Wires or strips are not acceptable for conduit support. Use conduit all conduits not directly fastened to structure and for all uit runs. Do not attach any conduit to mechanical ducts or uits 1/2" and 3/4" size for lighting may be supported from the wires with Caddy clips only if acceptable to local code. Suit is permitted to be attached to any ceiling support wire, and it is necessary to support for plenum, provide a length of flexible conduit between a lead for plenum and portion attached to the building to semission of vibration to the building structure. NT: Install required power supply conduit and wiring to all		
1.14	4. Manufacturer's Warranty. CLEAN—UP: Rid the premises of scrap materials, trash and debris both during construction and at completion of the project. Leave the building and surrounding area in a clean and orderly condition. GUARANTEE: Guarantee the installation free from defects of workmanship and materials for a period of one year after Date of Certification of final payment and promptly remedy any defects developing during this period, without charge. TEMPORARY SERVICES: Provide adequate and safe temporary electrical power and lighting throughout the construction and finishing of the premises. In addition to special or unusual requirements, provide at least these items:	2.10	shown otherwise, equipped with built—in overload protection. C. Acceptable manufacturers: General Electric, Siemens, Square D, Eaton, and Allen Bradley. LIGHTING: A. Furnish and install all fixtures complete, including lamps and ballast ready for service. B. Supports: Proper supports and mounting accessories, such as hangers, stems, yokes, plaster frames, etc. shall be provided as required by the type of ceiling installed. Where swivel canopies or ball aligners are specified, they shall couse fixture to hang plump regardless of ceiling slope. C. Fixture Designation: Fixture types are designated on drawings. Where only one fixture designation is shown, it applies to all fixtures in that room or area. For	equipment. S 2. Furnish and adjacent to appliance is circuit break prior to inst 3. Install all rousuit the spe 4. Furnish and integrally equals in terms in terms in terms in terms in tegrally equals in terms in term	See below for other wiring required. nstall a disconnect switch immediately ahead of and each magnetic motor starter or appliance unless the motor located adjacent and within sight of the serving panelboard, er or switch. Verify all equipment nameplate current ratings		
1.16	 Three 20—amp circuits for construction power tools. Provide GFI temporary circuits with coverplates to meet OSHA requirements. Three or more light strings suspended approximately one foot below the height of finish ceiling with lamps spaced not more than twelve feet on centers. Strings shall be run the length of the store space parallel to the demising walls, with one string within eight feet of each wall and one (or more) intermediate string(s) arranged to limit the spacing between rows to sixteen feet or less. Flood lighting and task lighting for painting and other finish work. When permanent electrical service is operable, disconnect and remove from the premises the materials and equipment used for temporary power and lighting, and restore modifications and repair damage caused by the installation, use or removal of temporary service provisions. 	2.11	exact fixture count and location refer to reflected ceiling plan. MISCELLANEOUS MATERIALS: A: Safety Switches: Heavy duty type, 600V, horsepower rated for motors, fused or non—fused as required. Mount in enclosure with NEMA rating as required for the specific application General Electric, Square D or Eaton.		A Phase B Phase C Neutral Ground Red Blue White Green		
2 4	PixelArch ltd. US Office:	Project N	ame and Address: INTERIOR REMODEL FOR		Date: APRIL 28, 2021	DRAWING TIT	LE: Sheet:



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INTERIOR REMODEL FOR
PETALUMA RESIDENCE 3154 PETALUMA AVE. LONG BEACH, CA. 90808 APRIL 28, 2021

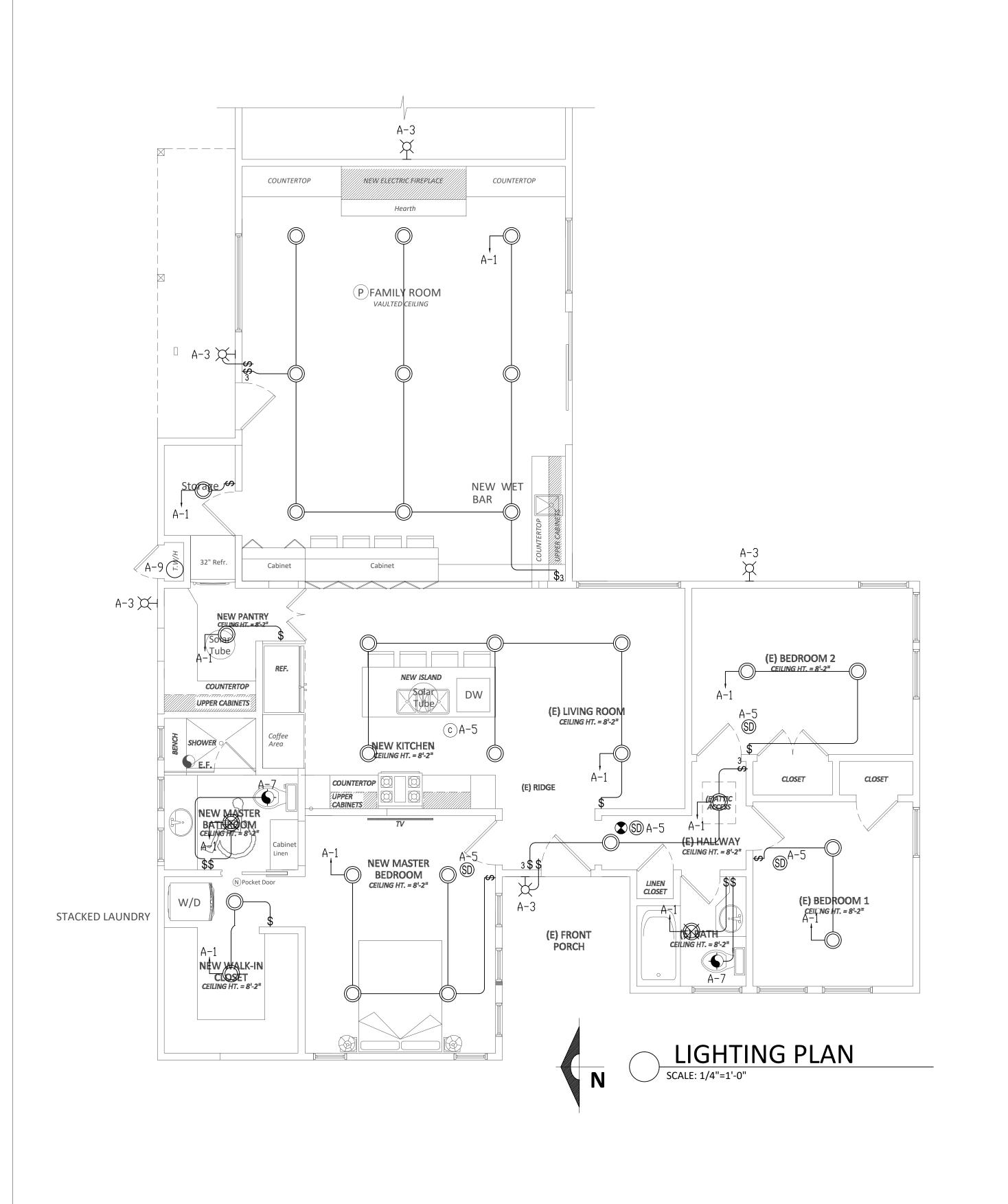
ELECTRICAL SPECS

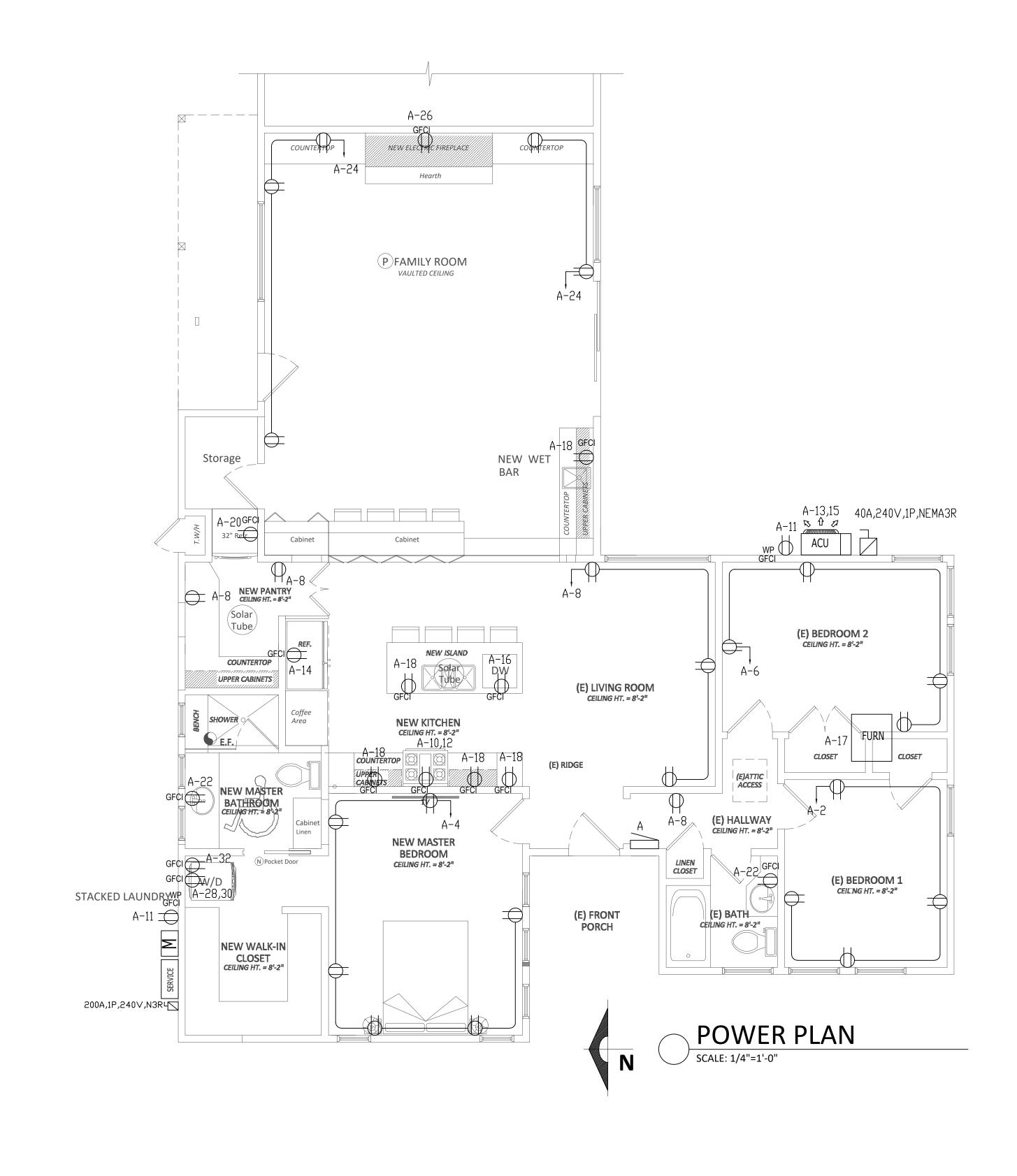
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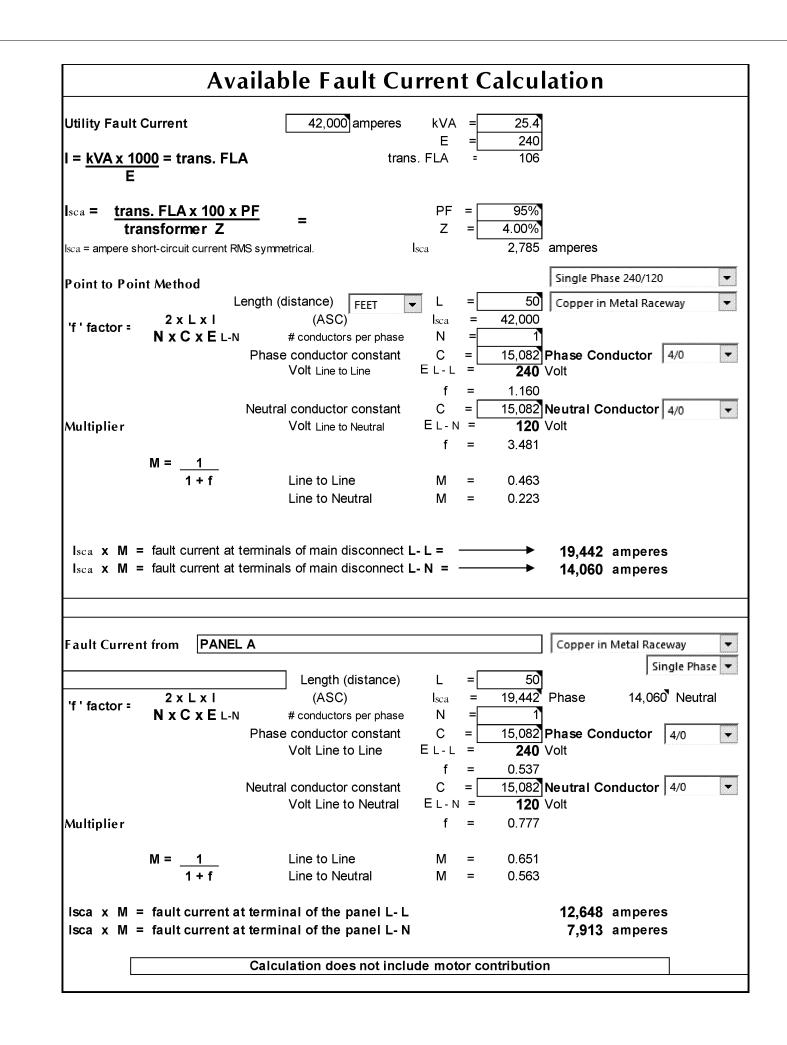
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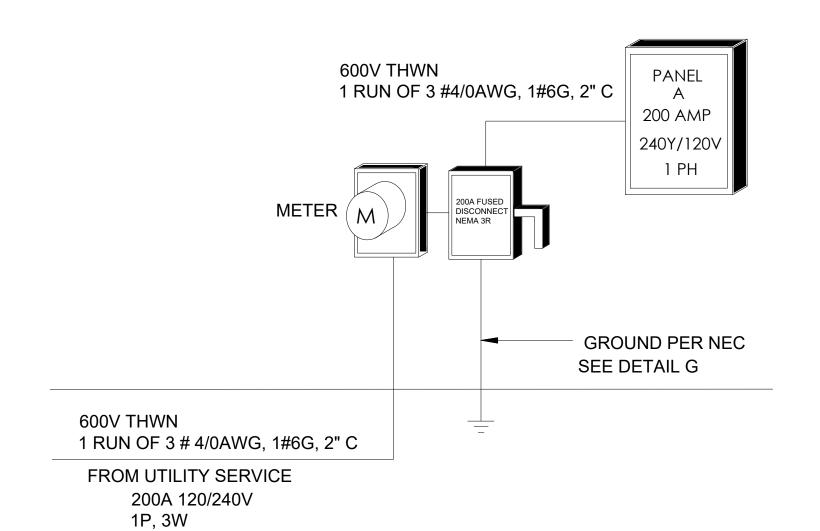
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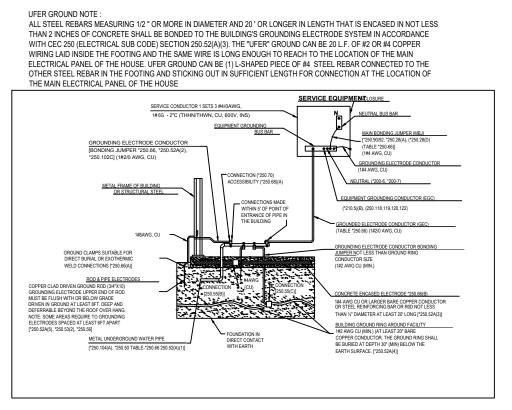
INTERIOR REMODEL FOR
PETALUMA RESIDENCE
3154 PETALUMA AVE. LONG BEACH, CA. 90808

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Date: APRIL 28, 2021	DRAWING TITLE:	Sheet :	No.	Revision/Issue	Dat
Scale:	ELECTRICAL PLAN				
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								_		<u>-</u>	ANEL A		_
		T		CONNEC	CTEDL	OAD.	DEMAND)					_
*	LOAD SUMMARY	CL	DF	-	-	3	TOTAL	4					_
-	Lighting	0.72	1.2	-		08	0.90	4		/OLTAGE	240/120V, 1Ф, 3W		
_	Convenience Recept	13.62		5.85	7.	77	11.81	4	BUS SIZE		200A-1P C/B BUS PLU	UG	
	Heating (Space)	0.50	1.2	-	1		0.63	4	SYSTEM TYPE		NORMAL		_
-	Cooling	7.50	1.0	-	3.	40	7.50	4	FEEDER P		200	_	-
_		ļ	1.0	-	+	→		4	CONDUCT		4/0 AWG - #6G	<u>C</u>	•
-			1.0	┺	+	→	,	4		OR/PHASE	200A MCB		-
0	Other Continuous	0.40	1.2	$\overline{}$		-	0.07	4	MAINS SCCR				
_	Kitchen	6.10	0.6	-	3.,	20	3.97	4	MCB RATI	NC	SERIES RATED		
N	Noncontinuous	0.60	1.0	+	-	→	0.60	4	GROUND		80%		
		20.04	1.0	-	1	15	05.40	4			NO 50		
	Total	29.04		14.59	14	.45	25.40			ENGTH (FT)			
	Total Demand Load (KVA)	25.40	1					\neg	FAULT CU	DROP (%)	0.508		
	Total Demand Current (A)	105.83	+						KAIC RAT		22		
	Min. Feeder Ampacity (A)	132.29	+						ENCLOSU		TYPE 3R		
	Ivilit. Feeder Ampacity (A)	102.23	_						LINOLOGO		111 2310		
	DESCRIPTION	N	*	СВ	KVA	Α	В	KVA	СВ	DI	ESCRIPTION	*	
1				20A-1P	0.64	1.36		0.72	20A-1P		ET AT BEDROOM#1	F	
3	OUTDOOR LIGHTIN		L	20A-1P	0.08		1.16	1.08	20A-1P	OUTLET A	T MASTER BEDROOM#2	F	
5	SMOKE DETECTO	 R	N	20A-1P	0.60	1.32		0.72	20A-1P	OUTL	ET AT BEDROOM#2	F	
7	EXHAUST FAN		С	20A-1P	0.60		1.68	1.08	20A-1P	OUTLI	ET AT LIVINGROOM	F	
9	WATER HEATER		Н	20A-1P	0.50	2.50		2.00				۲	
11	GFCI OUTLET AT OUTI	DOOR	R	20A-1P	0.36		2.36	2.00	30A-2P	F	RANGE / OVEN	r	
13	ACU		С	40A-2P	2.80	3.70		0.90	20A-1P	R	REFRIGERATOR	k	
15			С	10/12/	2.80		4.00	1.20	20A-1P	ו	DISH WASHER	ľ	
17	FURN		С	20A-1P	1.30	2.20		0.90	20A-1P	GFCI C	DUTLET AT KITCHEN	F	
19	SPARE			20A-1P			0.90	0.90	20A-1P	R	REFRIGERATOR	F	
21	SPARE			20A-1P		0.36		0.36	20A-1P	GFCI OL	JTLET AT BATHROOM	F	
23	SPARE			20A-1P			0.90	0.90	20A-1P	OUTLE	TAT FAMILY ROOM	F	
25				20A-1P		0.90		0.90	20A-1P	ELE	CTRIC FIREPLACE	F	
27				20A-1P			2.25	2.25	30A-2P		DRYER	F	
29				20A-1P		2.25	\parallel	2.25				F	
31				20A-1P			1.20	1.20	20A-1P	WA	SHING MACHINE	F	
33				20A-1P					20A-1P		SPARE	+	
35				20A-1P			\parallel		20A-1P		SPARE	+	
37				20A-1P					20A-1P		SPARE	_	
39				20A-1P			-		20A-1P		SPARE	1	
41	SPARE SPARE	 ,	Ш	20A-1P					20A-1P		SPARE		
			"(K√	'A)									







DETAIL "G" OF GROUNDING ELECTRODE SYSTEM ("250.50)

& GROUNDING ELECTRODES ("250.52) AS SERVICE

SCALE: NTS



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Project Name and Address:

INTERIOR REMODEL FOR **PETALUMA RESIDENCE** 3154 PETALUMA AVE. LONG BEACH, CA. 90808

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PLUMBING SPECIFICATIONS

THE WORK INCLUDES MODIFICATION TO THE EXISTING PLUMBING SYSTEM AND PROVIDING NEW MATERIALS, FITTINGS AND ACCESSORIES NECESSARY FOR A COMPLETE FUNCTIONING PLUMBING SYSTEM. THE WORK ALSO INCLUDES ROUGH-IN AND FINAL CONNECTIONS TO FOOD SERVICE EQUIPMENT AND BEVERAGE DISPENSING EQUIPMENT PROVIDED BY OTHERS. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND/OR ORDINANCES AND IS SUBJECT TO INSPECTION.

HOOK-UP CHARGES, PERMITS AND ALL OTHER EXPENSES RELATED TO A COMPLETE AND FUNCTIONING PLUMBING SYSTEM ARE INCLUDED AS A PART OF THIS SECTION.

WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION.

THE INTENT OF THE DRAWINGS IS TO INDICATE THE GENERAL EXTENT OF WORK REQUIRED FOR THE PROJECT. THE DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, FIXTURES AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD ROUGH-IN DRAWINGS FOR PLUMBING FIXTURE INSTALLATION REQUIREMENTS. COMPLY WITH ALL APPLICABLE ADA INSTALLATION REQUIREMENTS.

COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

PIPING SYSTEMS - GENERAL: ALL PIPING SHALL BE RUN PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. ALL PIPING SHALL BE CONCEALED EXCEPT IN UNFINISHED SPACES. INSTALL AS REQUIRED TO MEET ALL CONSTRUCTION CONDITIONS AND TO ALLOW FOR INSTALLATION OF OTHER WORK SUCH AS DUCTS AND ELECTRICAL CONDUIT. AT ALL CONNECTIONS BETWEEN FERROUS PIPING AND NONFERROUS PIPING, PROVIDE AN ISOLATING DIALECTIC UNION. ALL HANGERS SHALL BE COMPATIBLE WITH PIPING MATERIAL TO PREVENT CORROSION.

PROVIDE ALL FITTINGS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE PLUMBING SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED.

FIXTURES/EQUIPMENT FURNISHED BY OTHERS: PLUMBING CONTRACTOR SHALL PROVIDE UTILITY CONNECTIONS REQUIRED SUCH AS WATER, GAS, AIR, SUPPLIES, WASTE OUTLET, TRAPS, ETC. AT ALL PLUMBING TYPE FIXTURES OR EQUIPMENT FURNISHED BY OWNER, GENERAL CONTRACTOR, FOOD SERVICE CONTRACTOR, EQUIPMENT SUPPLIER, ETC. INCLUDED ARE STOP VALVES, ESCUTCHEONS, AND CHROME PLATED BRASS TUBING WITH COMPRESSION FITTINGS.

SEWER AND WASTE PIPING: PROVIDE ALL DRAINS AND SEWERS WITHIN THE SPACE WITH CONNECTION TO THE EXISTING DRAINAGE SYSTEMS ON-SITE. SANITARY DRAINAGE PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (ASTM D1785) PIPE, FITTINGS AND CONNECTIONS. SANITARY DRAINAGE PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV (ASTM D1785) PIPE WITH SOLVENT WELD FITTINGS MAY BE USED (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES). ALL DRAINAGE PIPING SHALL BE UNIFORMLY PITCHED, 1/4" PER FOOT UNLESS OTHERWISE REQUIRED BY EXISTING CONDITIONS, OR INDICATED ON THE DRAWINGS.

VENTS: PROVIDE A COMPLETE SYSTEM OF STANDARD WEIGHT CAST IRON NO-HUB VENT RISERS WHERE THE CEILING SPACE IS USED AS A RETURN AIR PLENUM OR USE CO-EXTRUDED PVC DWV (ASTM D1785) PIPE (WHERE PERMITTED BY CODE / OCAL AUTHORITIES) WHERE THERE IS A DUCTED RETURN AIR SYSTEM. DO NOT USE PVC PIPE IN RETURN AIR PLENUM SPACES. THE VENT SYSTEM SHALL BE CARRIED THROUGH THE ROOF WITH APPROPRIATE FLASHING.

CONDENSATE AND INDIRECT DRAIN PIPING: PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (ASTM D1785) PIPE, FITTINGS AND CONNECTIONS. PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV(ASTM D1785) PIPE WITH SOLVENT WELD FITTINGS.

CLEANOUTS: PROVIDE CLEANOUTS AT THE END OF EACH HORIZONTAL RUN. AND AT THE BASE OF ALL VERTICAL WASTE AND DRAIN PIPES. CLEANOUTS SHALL BE OF THE SAME SIZE AS THE PIPES THEY SERVE, CONFORMING TO CODE REQUIREMENTS. PROVIDE SUITEABLE WALL OR FLOOR CLEANOUTS WITH ACCESSORIES TO OBSCURE FROM VIEW.

WATER DISTRIBUTION PIPING: LAYOUT WATER PIPING SO THAT THE ENTIRE SYSTEM CAN BE DRAINED. HOT AND COLD WATER PIPING SHALL BE 1/2" MIN. CPVC PIPE WITH SOLVENT FITTING. PROVIDE WATER HAMMER ARRESTERS AT EACH FIXTURE OR GROUP OF FIXTURES AS REQUIRED. INSTALL CHROME PLATED BRASS ESCUTCHEON PLATES AT ALL PENETRATIONS THROUGH FINISHED SURFACES (INCLUDING CABINET INTERIORS).

PIPE INSULATION: INSULATE (AS ALLOWED BY CODE) ALL LISTED SERVICE PIPING AS FOLLOWS. DOMESTIC COLD/HOT WATER, HOT WATER RETURN, STORM WATER PIPING. PROVIDE 1" PREFORMED FIBERGLASS, ASJ/SS-11, FLAME SPREAD 25, SMOKE DEVELOPED 50, ASTM C-547. FOR CONDENSATE PIPING PROVIDE 1/2" THICK INSULATION OF SAME CHARACTERISTICS AS LISTED FOR 1" ABOVE. WHERE PERMITTED BY LOCAL CODES, PROVIDE 1/2" SELF-ADHESIVE UNICELLULAR FOAM PIPE INSULATION WITH PRE-FORMED PVC FITTING COVERS - EQUAL TO SELF-ADHESIVE ARMSTRONG 2000 WITH K FACTOR OF 0.27 AT 75 DEGREES MEAN TEMPERATURE. INSULATE ANY EXPOSED CONDENSATE PIPING WITH WASTE TEMPERATURE BELOW 60 DEGREES F.

SHUTOFF VALVES, WITH UNIONS SHALL BE PROVIDED FOR SERVICE TO EACH PLUMBING FIXTURE, FOOD SERVICE EQUIPMENT ITEM OR OTHER EQUIPMENT ITEM, TO FACILITATE ISOLATION FOR REPAIR OR REPLACEMENT. VALVES SHALL BE EQUAL TO JENKINS #902-T BALL VALVE, CHROME-FINISHED BRONZE, TEFLON SEATS AND PACKING, 400 LB. W.O.G., SOLDER END.

ACCESS PANELS SHALL BE PROVIDED WHERE CONCEALED CONTROL DEVICES, VALVES, ETC. ARE CONCEALED WITHIN WALLS. WHERE ACCESS FOR ADJUSTMENT AND MAINTENANCE IS POSSIBLE THROUGH LAY-IN SUSPENDED CEILINGS, ACCESS PANELS ARE NOT REQUIRED.

PIPING SYSTEM- PVC ASTM D1785, SCHEDULE 80 AND CPVC PIPE WITH SOLVENT FITTINGS SHALL BE USED WHERE PEMITTED BY CODE/LOCAL AUTHORITIES.

INSTALLATION: THOROUGHLY CLEAN ITEMS BEFORE INSTALLATION. CAP PIPE OPENINGS TO EXCLUDE DIRT UNTIL FIXTURES ARE INSTALLED AND FINAL CONNECTIONS HAVE BEEN MADE. PROCFFD AS RAPIDLY AS CONSTRUCTION WILL PERMIT. SET FIXTURES LEVEL AND IN PROPER ALIGNMENT. INSTALL SUPPLIES IN PROPER ALIGNMENT WITH FIXTURES. INSTALL SILICONE SEALANT BETWEEN FIXTURES AND ADJACENT MATERIAL, FOR SANITARY JOINT, AND OMIT ESCUTCHEONS.

REPAIR EXISTING PLUMBING SYSTEM COMPONENTS DAMAGED BY CONSTRUCTION OPERATIONS AND RESTORE TO ORIGINAL CONDITIONS.

TEST WATER SYSTEM UNDER 150 PSIG HYDROSTATIC PRESSURE, FOR FOUR (4) HOURS MINIMUM. WHEN TESTING INDICATES MATERIALS OR WORKMANSHIP IS DEFICIENT, REPLACE OR REPAIR AS REQUIRED, AND REPEAT TEST UNTIL STANDARDS ARE ACHIEVED.

ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY, IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOFING WARRANTY.

GENERAL NOTES

- THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE PLUMBING INSTALLATION AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.
- 2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2006 UNIFORM PLUMBING CODE, 2006 INTERNATIONAL BUILDING CODE, 2006 INTERNATIONAL ENERGY CONSERVATION CODE AND ALL OTHER APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.
- 3. COORDINATE ENTIRE INSTALLATION OF THE PLUMBING SYSTEM WITH THE WORK OF OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS. REPORT ANY DISCREPANCIES, IN WRITING, TO THE ENGINEER PRIOR TO COMMENCEMENT
- 4. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT IN ACCORDANCE WITH THE SPECIFICATIONS.
- 5 PROVIDE ONE YEAR WARRANTY ON ALL PARTS AND LABOR.
- 6. THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCT, PIPE, CONDUIT, ETC.
- 7. ALL CUTTING AND PATCHING OF THE EXISTING STRUCTURE SHALL BE PROVIDED UNDER OTHER SECTIONS OF THE WORK. PROVIDE NECESSARY REQUIREMENTS TO THE PROJECT SUPERINTENDENT.
- 8. ALL HOT WATER PIPING AND RECIRCULATION PIPING (EXCEPT RUNOUTS 12 FT. OR SHORTER TO INDIVIDUAL FIXTURES) SHALL BE INSULATED TO MEET THE REQUIREMENTS OF THE 2006 INTERNATIONAL ENERGY CONSERVATION CODE
- 9. CONDENSATE DRAINS SHALL BE PROVIDED FOR EACH AIR CONDITIONING UNIT. HORIZONTAL CONDENSATE DRAINS ABOVE ANY CEILING SHALL BE INSULATED WITH MIN. 3/8" THICK CLOSED CELL INSULATION.
- A. WASTE, VENT, AND STORM DRAIN PIPING SHALL BE CO-EXTRUDED PVC ASTM D1785) PIPE
- B. WATER PIPE SHALL BE CPVC PIPE
- C. CONDENSATE PIPING SHALL BE CO-EXTRUDED PVC (ASTM D1785) PIPE D. INSIDE GAS PIPING SHALL BE BLACK IRON ASTM D1785 WITH MALLEABLE IRON FITTINGS. OUTSIDE SHALL BE GALVANIZED IRON ASTM D1785 WITH GALVANIZED FITTINGS. GAS LINE TO BE PAINTED GRAY IN COLOR. A 24 HOUR METERED GAS TEST SHALL BE REQUIRED.
- E. ALL PIPING NOT ENCLOSED IN CONDITION SPACE OR AT EXTERIOR WALLS SHALL BE INSULATED.
- F. PIPING: PVC ASTM D1785, SCHEDULE 80 AND CPVC PIPING WITH SOLVENT WELD FITTINGS SHALL BE USED WHERE PERMITTED BY CODE/LOCAL AUTHORITIES
- 11. ALL VENTS OR EXHAUSTS SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. ABOVE ANY WINDOW, DOOR, OPENING, OR AIR INTAKE.
- 12. CLEANOUTS SHALL BE INSTALLED PER THE UNIFORM PLUMBING CODE.
- 13. PROVIDE WATER TIGHT FLASHINGS WHEREVER PIPES PASS THROUGH EXTERIOR WALLS, ROOFS, OR FLOORS.
- 14. PROVIDE ISOLATION FOR ALL PIPES THAT COME IN CONTACT WITH THE
- 15. LOCATION OF EXISTING UTILITIES AND POINTS OF CONNECTION ARE APPROXIMATE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICES PRIOR TO STARTING WORK OF THIS SECTION. IF INDICATED POINTS OF CONNECTION CANNOT BE MADE TO EXISTING UTILITIES AS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO INSTALLING ANY WORK WHICH MAY BE AFFECTED.
- 16. VALVES SHALL BE NIBCO, JENKINS, HAMMOND, RED & WHITE OR APPROVED EQUAL. SERVICE PRESSURE SHALL BE SUITEABLE FOR SERVICE INTENDED. THE MAIN WATER SHUT OF VALVE SHALL BE A FULL PORT BALL TYPE AND APPROVED FOR SERVICE INTENDED.
- 17. CONTRACTOR SHALL PROVIDE ALL SHUT OFF VALVES AS NECESSARY TO ISOLATE ANY EQUIPMENT, PLUMBING ITEMS, OR FIXTURES, THAT MAY NEED SERVICING OR ARE SUBJECT TO FAILURE WHETHER OR NOT SUCH VALVES ARE SHOWN ON THE DRAWINGS.
- 18. PROVIDE HANGERS AND SUPPORTS AS REQUIRED. PLUMBERS TAPE AND WIRE ARE NOT ACCEPTABLE.
- 19. CONTRACTOR IS RESPONSIBLE FOR HIS OWN TRENCHING, BACKFILL, AND COMPACTION OF TRENCHES NECESSARY TO COMPLETE HIS SCOPE OF WORK. BACKFILLED TRENCHES SHALL BE RETURNED TO THEIR ORIGINAL GRADE UNLESS NOTED OTHERWISE.
- 20. CONTRACTOR SHALL AFFIX A MAINTENANCE LABEL TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE AND SHALL PROVIDE MAINTENANCE AND OPERATIONAL MANUALS IN ACCORDANCE WITH THE SPECIFICATIONS.
- 21. ALL EQUIPMENT THAT REQUIRES KEYS OR SPECIAL TOOLS TO OPERATE SHALL SUPPLY THE OWNER WITH TWO OF ANY SUCH KEYS OR TOOLS FOR EACH PIECE OF EQUIPMENT THAT REQUIRE THE SAME.
- 25. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE APPROVAL, IN WRITING, OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.
- 26. ALL PLUMBING, ELECTRICAL, AND GAS LINES SHALL BE CONCEALED WITHIN THE THE BUILDING STRUCTURE TO AS GREAT EXTENT AS POSSIBLE. ALL LINES NOT CONCEALED SHALL BE SECURED 6" OFF THE FLOOR AND 3/4" FROM THE WALLS USING STANDOFF BRACKETS
- 27. AN APPROVED BACKFLOW PREVENTOR SHALL BE PROPERLY INSTALLED UPSTREAM OF ANY POTENTIAL HAZARD BETWEEN THE POTABLE WATER SUPPLY AND SOURCE OF COMTAMINATION.
- 28. WATER SUPPLY CARBONATORS SHALL BE PROTECTED BY AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR. THE RELIEF VALVE SHALL DRAIN IN-DIRECTLY TO A FLOOR SINK WITH A 1" MIN. AIR GAP.

SPECIAL NOTICE TO CONTRACTORS

ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE LISTED BELOW

MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.

- CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS. LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.
- . ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION. IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

WATER SAVING STANDARDS.

- THE WATER SAVING PERFORMANCE STANDARDS FOR A PLUMBING FIXTURE ARE THOSE ESTABLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), CURRENT REVISION, OR THE FOLLOWING STANDARDS, WHICHEVER ARE THE MORE RESTRICTIVE
- THE MAXIMUM FLOW FROM A SINK OR LAVATORY FAUCET OR A FAUCET AERATOR SHALL NOT EXCEED 0 5 GALLONS OF WATER PER MINUTE AT A PRESSURE OF 60 POUNDS PER SQUARE INCH WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES 2.THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A TOILET SHALL NOT EXCEED AN AVERAGE OF 1 28 GALLONS WHEN TESTED IN ACCORDANCE WITH ANSI TESTING
- PROCEDURES THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A URINAL AND THE ASSOCIATED
- FLUSH VALVE, IF ANY, SHALL NOT EXCEED AN AVERAGE OF ONE GALLON WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES

	PIPE MATERIAL SCHEDULE													
055)//05		COPPER	COPPER	COPPER	CAST	BLACK	GALV.	VTRI.	ABS	SCH.40 PVC	SCH.40 CPVC	REMARKS		
SERVICE		TYPE "M"	TYPE "L"	TYPE "K"	IRON	STEEL	STEEL	CLAY				1		
WATER PIPING	INSIDE										Х			
	OUTSIDE									Х				
SANITARY DRAIN	INSIDE									Х				
	OUTSIDE									Х				
SANITARY VENT	INSIDE									Х				
	OUTSIDE									Х				
GAS PIPING	INSIDE					Х								
	OUTSIDE						Х							
STORM DRAIN	INSIDE									Х				
	OUTSIDE									Х				
INDIRECT	INSIDE									Х				
DRAINAGE	OUTSIDE									Х				
CONDESATE	INSIDE									Х				
	OUTSIDE									Х				
COMPRESSED	INSIDE					Х								
AIR	OUTSIDE						Х							

BUILDING CODES:

CITY OF HOUSTON CITY CURRENT BUILDING CODES:

2015 INTERNATIONAL BUILDING CODE*

2015 INTERNATIONAL FIRE CODE*
2015 INTERNATIONAL MECHANICAL CODE*

2015 INTERNATIONAL PLUMBING CODE*

2015 INTERNATIONAL FUEL GAS CODE* 2015 INTERNATIONAL ENERGY CODE*

2014 NATIONAL ELECTRICAL CODE*

*AMENDMENTS

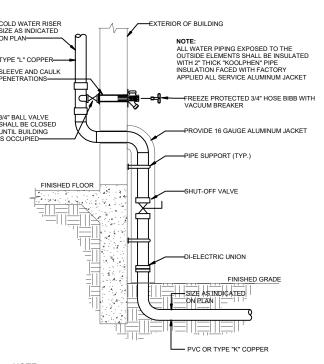
MAXIMI IM FIXTURE FUOW RATE

1/4"=1'-0"

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MAXIMUM FIXTURE FLOW RA	<u>VIE</u>		
FIXTURE TYPE	MAXIMUM FLOW RATE		
NONRESIDENTIAL LAVATORY FAUCETS	0.5 GPM @ 60 PSI		
KITCHEN FAUCETS	1.8 GPM @ 60 PSI		
METERING FAUCETS	0.2 GALLONS/CYCLE		
WATER CLOSET	1.28 GALLONS/FLUSH		
URINALS	0.5 GALLONS/FLUSH		



VERIFY REQUIREMENTS FOR METERING AND PIPING WITH WATER COMPANY. INSTALL OTHER UTILITIES A MINIMUM OF 10'-0" FROM WATER LINE, PLUMBING CONTRACTOR SHALL PAY ALL WATER COMPANY FEES FOR INSTALLATION. USE WELDED OR SCREWED PIPE AND FITTINGS PER PLUMBING SPECS, WATER COMPANY SHALL EXCAVATE, BACKFILL AND REPAIR ANY PAVING OR SOD FOR WATER SERVICE LINE INSTALLATION FROM MAIN TO

EXTERIOR COLD WATER BUILDING ENTRY



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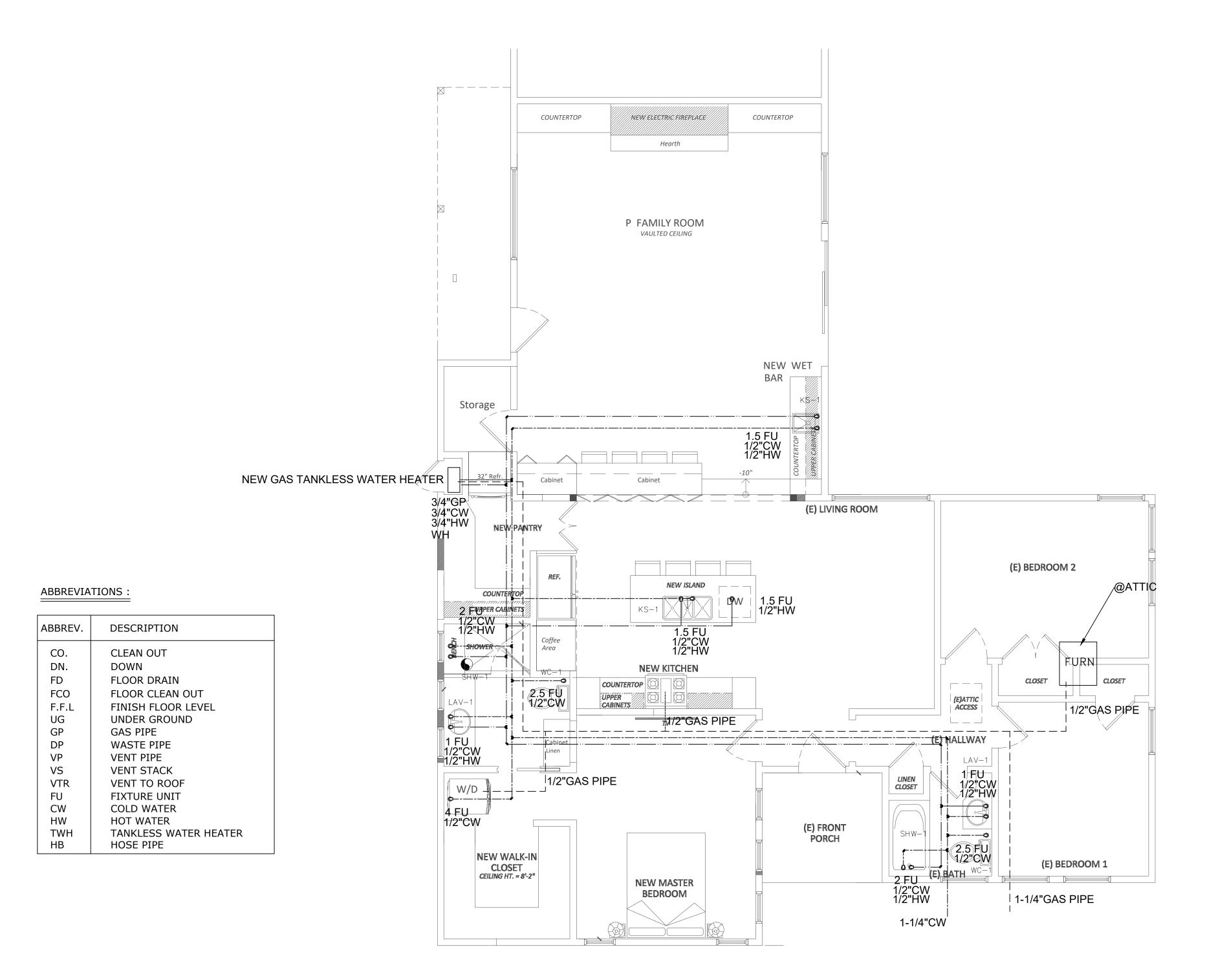
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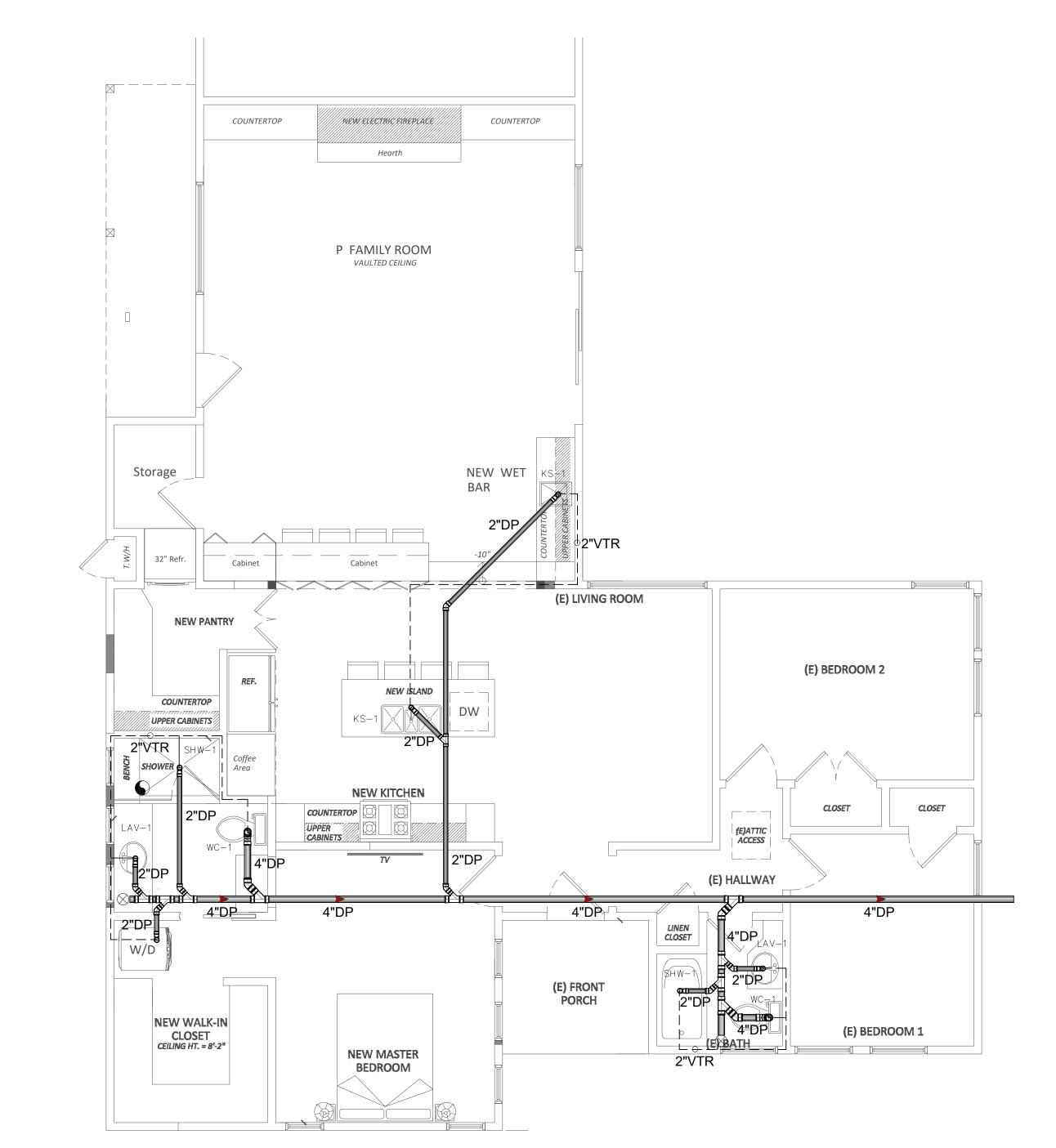
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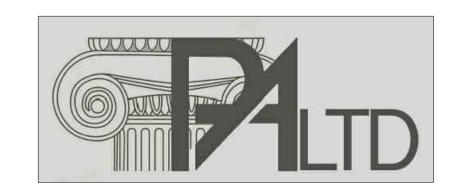
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ABBREVIATIONS:

ABBREV.	DESCRIPTION
CO.	CLEAN OUT
DN.	DOWN
FD	FLOOR DRAIN
FCO	FLOOR CLEAN OUT
F.F.L	FINISH FLOOR LEVEL
UG	UNDER GROUND
GP	GAS PIPE
DP	WASTE PIPE
VP	VENT PIPE
VS	VENT STACK
VTR	VENT TO ROOF
FU	FIXTURE UNIT
CW	COLD WATER
HW	HOT WATER
TWH	TANKLESS WATER HEATER
НВ	HOSE PIPE



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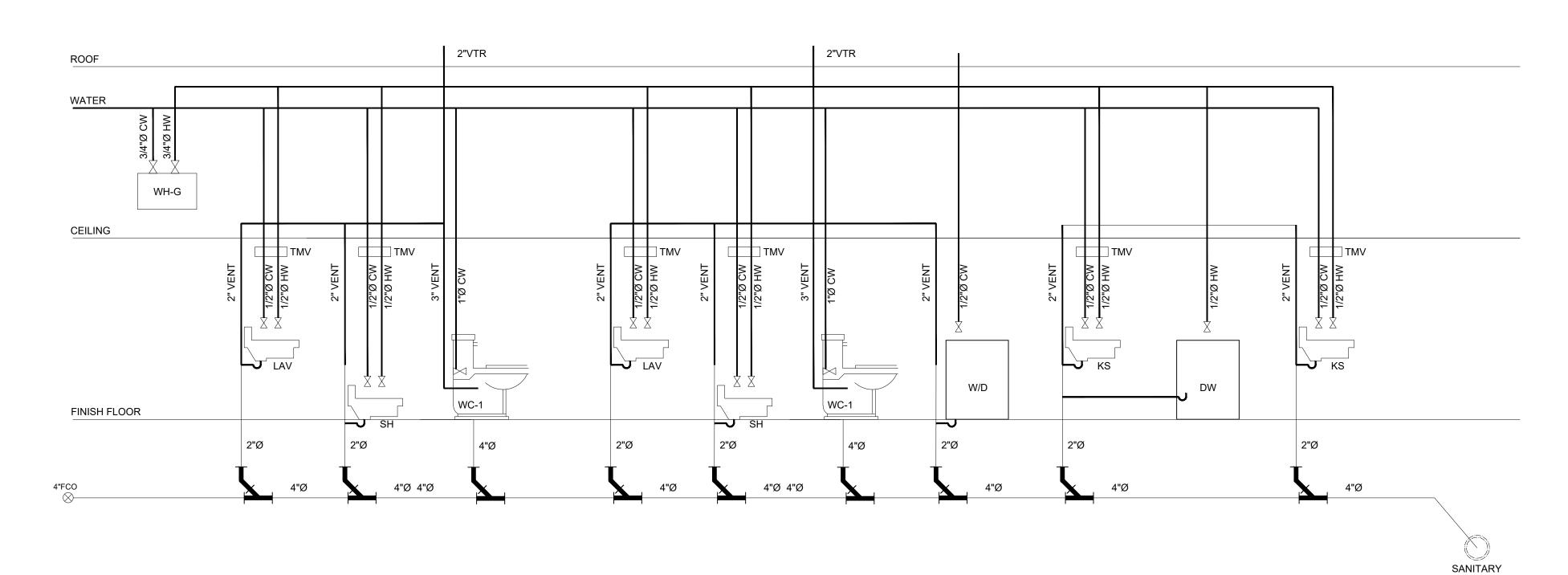
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	PLUMBING FIXTURE SCHEDULE											
ITEM	FIXTURE	COLD WATER	HOT WATER	WASTE	TRAP	VENT	DESCRIPTION					
WC-1	WATER CLOSET (ADA APPROVED)	3/4"	-	4"	INT.	2"	DELTA MODEL # C41908-WH4.5547(411) TURNER 2-PIECE 1.28 GPF SINGLE FLUSH ROUND FRONT TOILET IN WHITE. TOILET SHALL BE ADA AND ASME A112.19.1 COMPLIANT (OR APPROVED EQUAL).					
LAV-1	LAVATORY (ADA APPROVED)	1/2"	1/2"	2"	1-1/2"	2"	"KOHLER" HUDSON MODEL K-2849 WHITE VITREOUS CHINA WALL MOUNTED LAVATORY WITH 4" CENTERS OR APPROVED EQUAL. INCLUDE MODEL K-7401-5A FAUCET WITH STANDARD AERATOR AND WRISTBLADE HANDLES. LAVATORY AND FAUCETS SHALL BE ADA AND ASME A112.19.1M COMPLIANT (OR APPROVED EQUAL)					
FD	FLOOR DRAIN	1/2"	-	_	-	_	WATTS DRAINAGE FD-320-Y EPOXY COATED CAST IRON AREA DRAIN WITH ANCHOR FLANGE, WEEPHOLES, 8"DIAMETER FIXED TOP WITH HEEL PROOF DUCTILE IRON GRATE, AND NO HUB (STANDARD) OUTLET					
TP-1	TRAP PRIMER	-	-	2"	-	2"	WATTS DRAINAGE LFTP300-DR PRESSURE DROP ACTIVATED LEAD FREE*BRASS TRAP PRIMER WITH EPDM SEALS, INTEGRAL AIR GAP, AND 1/2"SWEAT OR NPT THREADED CONNECTIONS. OPERATING PRESSURE 25 PSI - 125 PSI. TESTED AND APPROVED IN CONFORMANCE WITH ASSE STANDARD 1018. SPECIFY MODEL LFTP300-DU-DR FOR DISTRIBUTION UNIT.					
KS-1	KITCHEN SINK	1/2"	1/2"	2"	1-1/2"	2"	KOHLER UNDERTONE UNDER-MOUNT KITCHEN SINK K-3182 14-1/4"L X 18"W X 7-5/8" DEPTH, 18 GAUGE STAINLESS STEEL, WITH SIMPLICE BAR SINK FAUCET SWING SPOUT, MODEL # K-22034 (OR APPROVED EQUAL).					
SHW-1	SHOWER	1/2"	1/2"	2"	1-1/2"	2"	KOHLER ARCHER K-1946-RA ACRYLIC, RIGHT-HAND DRAIN WITH K-TS395-4SE FAUCET					



WATER CALCULATIONS

"WATER SUPPLY FIXTURE UNITS (WSFU) AND MINIMUM FIXTURE BRANCH PIPE SIZES"

2 – LAV $1 ext{FU} = 2$ 2 - WC $2.5 ext{ FU } = 5$ 1 - CLOTHES WASHER 4 FU = 42 - SHOWER (SHR) BATHTUB 2 - KITCHEN SINK 1.5 FU = 32.5 FU = 2.5 HOSE BIBB TOTAL WSFU: 22 FU

THE FIXTURES BEING SHOWN FOR THIS PERMIT WILL BE CONNECTED TO 1-1/4" METER PIPE SIZES ARE CONSERVATIVELY SIZED USING 8 PSI/100'

WATER PIPING CONSERVATIVELY SIZED AT 8 0 PSI/100'

NOTE: PIPE SIZING CHART SIZED WITH 2015 UPC FIGURE A 103.1(1) @ 8 0 P.SI/100' FOR FRICTION LOSS CHART A 105.1(1). = 290 GPM = 1668 FU

WATER CONSERVING PLUMBING FIXTURES AND FITTINGS

Plumbing fixtures and fittings shall comply with the following:

(2019 CGBSC, California Plumbing Code (CPC) and Table 1401.1 of the CPC) 4303.1.1 All Water closets: <1.28 gal/flush

Tank type water closet shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.

4303.1.2 Urinals: <u><</u>0.5 gal/flush

4303.1.3.1 Single showerheads: ≤1.8 gpm @ 80 psi

4303.1.3.2 Multiple showerheads: combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gpm @ 80 psi or only one shower outlet is to be in operation at a time.

4303.1.4.1 Residential Lavatory Faucets: 0.8 gpm @ 20 psi ≤ Flow Rate ≤1.2 gpm @ 60 psi 4303.1.4.2 Lavatory Faucets in common and Public Use Areas (outside of dwellings or sleeping units) in residential buildings: <0.5 gpm @ 60 psi

4303.1.4.3 Metering Faucets: <0.25 gallons per cycle

4303.1.4.4 Kitchen Faucets: ≤1.8 gpm @ 60 psi; Maximum Flow Rate of 1.8 gpm

PLUMBING FIXTURE CERTIFICATION REQUIRED:

A plumbing fixture certification must be completed and signed by either a licensed general contractor, or a plumbing subcontractor, or the building owner certifying the flow rate of the fixtures installed. A copy of the certification can be obtained from the development services



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RISER DIAGRAM

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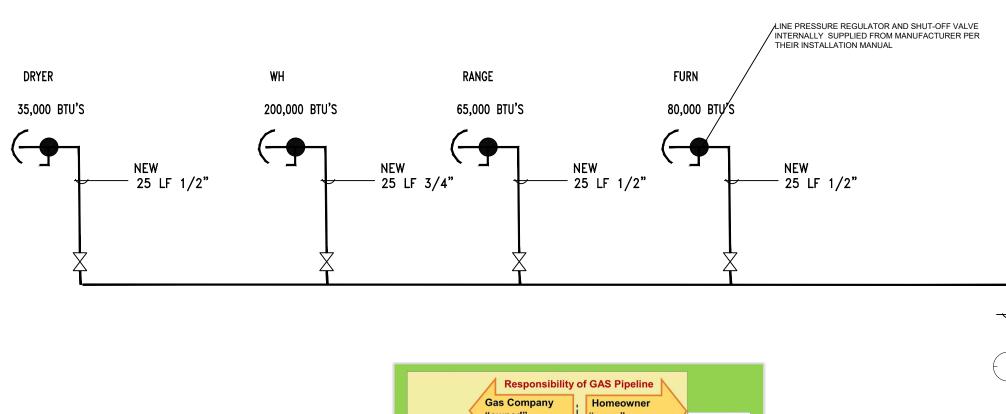
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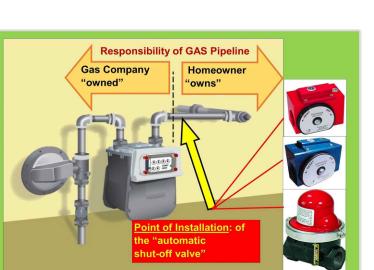
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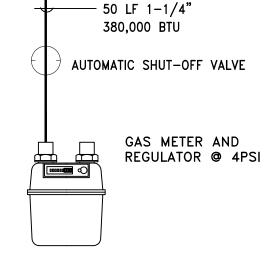
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TABLE 1216.2(1) SCHEDULE 40 METALLIC PIPE [NFPA 54: TABLE 6.2(b)]1, 2

											GAS:	NATURAL		
										INLET PE	RESSURE:	LESS THAN 2 psi		
									PRESSURE DROP:		0.5 in. w.c.			
										SPECIFIC GRAVITY:		0.60		
	PIPE SIZE (inch)													
NOMINAL:	1/2	3/4	1	11/4	11/2	2	21/2	3	4	5	6	8	10	12
ACTUAL ID:	0.622	0.824	1.049	1.380	1.610	2.067	2.469	3.068	4.026	5.047	6.065	7.981	10.020	11.938
LENGTH (feet)	CAPACITY IN CUBIC FEET OF GAS PER HOUR													
10	172	360	678	1390	2090	4020	6400	11 300	23 100	41 800	67 600	139 000	252 000	399 000
20	118	247	466	957	1430	2760	4400	7780	15 900	28 700	46 500	95 500	173 000	275 000
30	95	199	374	768	1150	2220	3530	6250	12 700	23 000	37 300	76 700	139 000	220 000
40	81	170	320	657	985	1900	3020	5350	10 900	19 700	31 900	65 600	119 000	189 000
50	72	151	284	583	873	1680	2680	4740	9660	17 500	28 300	58 200	106 000	167 000
60	65	137	257	528	791	1520	2430	4290	8760	15 800	25 600	52 700	95 700	152 000
70	60	126	237	486	728	1400	2230	3950	8050	14 600	23 600	48 500	88 100	139 000
80	56	117	220	452	677	1300	2080	3670	7490	13 600	22 000	45 100	81 900	130 000
90	52	110	207	424	635	1220	1950	3450	7030	12 700	20 600	42 300	76 900	122 000
100	50	104	195	400	600	1160	1840	3260	6640	12 000	19 500	40 000	72 600	115 000
125	44	92	173	355	532	1020	1630	2890	5890	10 600	17 200	35 400	64 300	102 000
150	40	83	157	322	482	928	1480	2610	5330	9650	15 600	32 100	58 300	92 300
175	37	77	144	296	443	854	1360	2410	4910	8880	14 400	29 500	53 600	84 900
200	34	71	134	275	412	794	1270	2240	4560	8260	13 400	27 500	49 900	79 000
250	30	63	119	244	366	704	1120	1980	4050	7320	11 900	24 300	44 200	70 000
300	27	57	108	221	331	638	1020	1800	3670	6630	10 700	22 100	40 100	63 400







CALGREEN CODE NOTES:

- 1. For the purpose of CalFreen Code, Residential buildings include all those newly constructed occupancies under HCD which includes all buildings three stories or less with any of the following occupancies: Single family dwellings, duplexes, hotels, motels, apartments, condominiums, row homes, etc...
- 2. Storm water drainage management shall be implemented during construction. (CGBSC 4.106)
- 3. Plan and develop the site to keep surface water away from the buildings. Construction plans shall indicate how
- site grading or a drainage system will manage all surface water flows. (CGBSC 4 106.3) 4. Vapor retarder and capillary break is installed at slab on grade foundations. Show one of the following methods
- a) 4 inch thick base of 1/2 inch or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design which addresses bleeding, shrinkage, and curing shall be used. For additional information, see ACI 302.2R-02.
- b) A slab design specified by a licensed design professional. (CGBSC 4.505.2.1)
- 5. Automatic irrigation systems controllers installed at the time of final inspection shall be weather based. (CGBSC 4.304.1)
- 6. Joints and openings, Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar method acceptable to the enforcing agency. (CGBSC 4.406.1)
- 7. A minimum of 65 percent of the construction waste generated at the site is diverted to recycle or salvage per CGBSC Section 4.408.1 and City ordinance. 8. A plumbing fixture certification must be completed and signed by either a licensed general contractor, or a plumbing
- subcontractor, or the building owner certifying the flow rate of the fixtures installed. A copy of the certification can be obtained from the development services department.
- 9. Before Final Inspection, a complete operation and maintenance manual shall be provided to the building occupant or Owner. Contractor or owner shall submit an affidavit that confirms the delivery of such. (Section 4.410.1). A sample
- of the manual is available on the Housing and Community Development (HCD) web site. The Manual should include in addition to other aspects the following:
- 1) Direction to the building owner or occupant that the manual shall remain with the building for 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, water-heating systems
- and other major appliances and equipment.
- b. Roof and yard drainage, including gutters and downspouts.
- c. Space conditioning systems, including condensers and air filters.
- e. Water re-use systems.3) Information from local utility, water and waste recovery providers on methods to further reduce resource
- consumption, including recycle programs and locations. 4) Public transportation and / or carpool options available in the area.
- 5) Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain such humidity levels.

 6) Information about water-conservation 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' away from foundation.
- 8) Information on required routine maintenance measures, including, but not limited to caulking, painting,
- grading around the building, etc...
- 9) Information about state solar energy and incentive programs available.
- 10) A copy of all special inspection verifications required by the enforcing agency or this code. 10. A copy of a complete operation and maintenance manual as outlined in the notes above will be delivered
- to the building owner prior to final inspection.
- 11. An owner manual certificate should be completed and signed by either a licensed General Contractor or a home owner certifying that a copy of the manual has been delivered/received to the building owner. A copy
- of the certification form can be obtained from the development services department. 12. Duct openings and other related air distribution component openings shall be covered during
- construction. (CGBSC 4.504.1) 13. Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits. (CGBSC 4.504.2.1) 14. Paints, stains and other coatings shall be compliant with VOC limits set in Section 4.504.2.2 and Table 4.504.3
- 15. Aerosol paints and coatings shall be compliant with product weighted MIR limits for VOC and other toxic compounds as specified in Section 4.504.2.3 of the California Green Building Code. 16. A certification completed and signed by either the general contractor or subcontractor, or the building owner
- certifying that the paint, stain, and adhesives, complies with the requirements of the California Green Building Code. A copy of the form can be obtained from the development services department.
- 17. Documentation shall be provided to verify that compliant VOC limit finish materials have been used. A letter from the contractor and or the building owner certifying what material has been used and its compliance with the code must be submitted to the building inspector. (CGBSC 4.504.2.4)
- 18. Carpet and carpet systems shall be compliant with VOC limits. (Section 4.504.3) A letter from the contractor, subcontractor, and or the building owner certifying what material used complies with the CGBC.
- 19. Eighty percent of floor area receiving resilient flooring shall comply with one or more of the following: 1. VOC-emission limits defined in the collaborative for High Performance Schools (CHPS) High Performance
- Products compliant with CHPS criteria certified under the Greenguard Children & School program.
 Certification under the Resiliant Floor Covering Institute (RFCI) Floor Score Program.
 Meet the California Department of public Health, "Standard Method for the Testing and Evaluation of Volatile
- Organic Chemical Emissions from indoor Sources Using Environmental Chambers, "Version 1.1, February 2010 (also known as Specification 01350). 20. Hardwood plywood, particleboard, medium density fiberboard (MDF), composite wood product used on the interior
- or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxic Control Measure for composite wood as specified in Section 4.504.5 and Table 4.504.5 of CALGREEN.
- 21. A certification completed and signed by the general contractor, subcontractor or building owner certifying that the resillient flooring, composite wood product, plywood, particle board etc. comply with the VOC limits and formaldehyde limits specified in the notes above and the California Green Building Coide.
- 22. Building materials with visible signs of water damage shall not be installed. Walls and Floors framing shall not be enclosed when framing members exceed 19% moisture content. 23. The moisture content of building materials used in wall and floor framing is checked before enclosure. Moisture
- content shall be verified by either a probe type or contact type moisture meter. A certificate of compliance indicating date of test location and results issued by the framer subcontractor or General contractor must be submitted to the
- building inspector. (CGBSC 4.505.3) 24. Exhaust fans which terminate outside the building are provided in every bathroom that contains a shower or tub.
- Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidistat which can adjust between 50 to 80 percent.
- 25. Whole house exhaust fans shall have insulated louvers or covers which close when the fan is off. Covers or louvers shall have a minimum insulation value of R-4.2. (CGBSC 4.507)
- 26. Duct systems are sized, designed, and equipment is selected using the following methods:
- Establish heat loss and heat gain values according to Air Conditioning Contractors of America (ANSI, ACCA) Manual J, ASHRAE handbooks or equivalent. 2. Size duct systems according to ACCA 29-D (Manual D) or equivalent.
- 3. Select heating and cooling equipment according to ACCA 36-S (Manual S) or equivalent. 27. INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS: HVAC system installers are trained and certified in the proper installation of HVAC systems. (CGBSC 702) Verification of compliance with this code may include construction documents, plans specifications builder or installer certification, inspection reports, or other methods acceptable to the
- enforcing agency which show substantial conformance. (CGBSC 703) 28. Automatic irrigation system controllers for landscaping provided by the builder and installed at the
- time of final inspection shall comply with the following:

 1. Controllers shall be weather or soil moisture-based controllers that automatically adjust irrigation
- in response to changes in plants needs as weather conditions change. 2. Automatic irrigation systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controllers. Soil moisture controllers are required to have rain sensor input.



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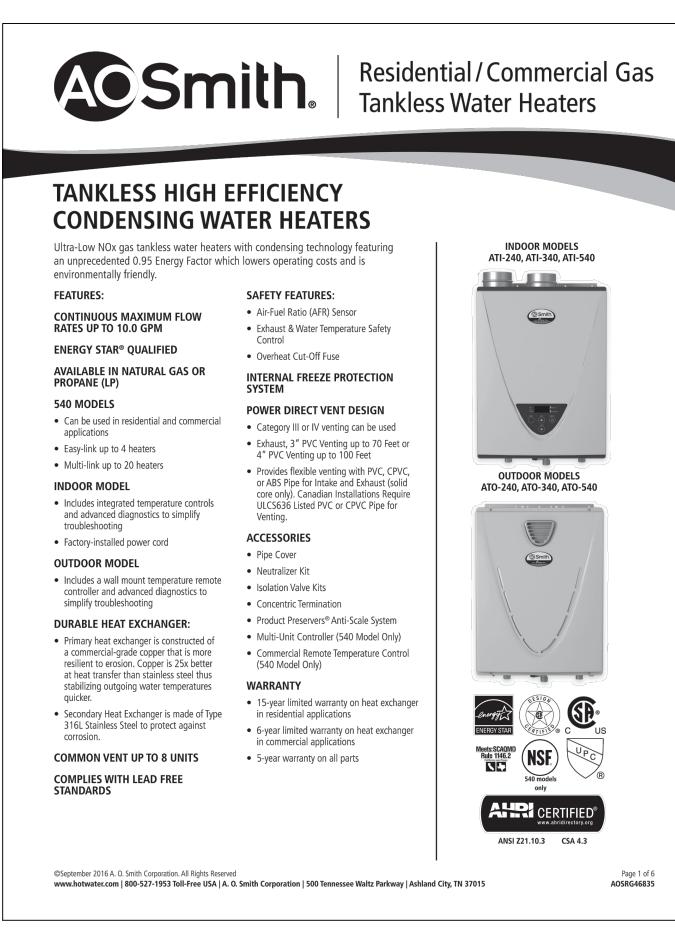
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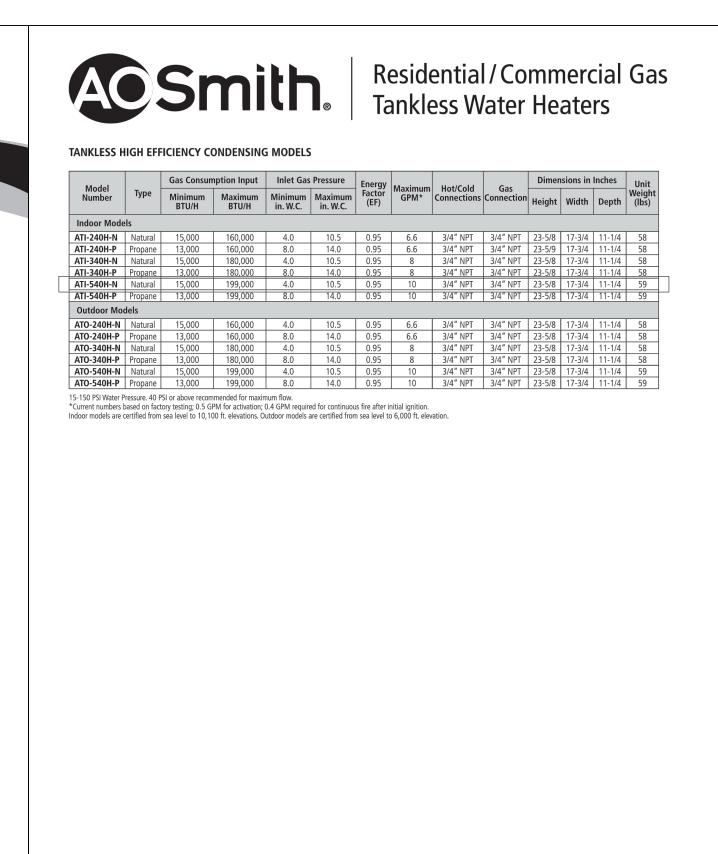
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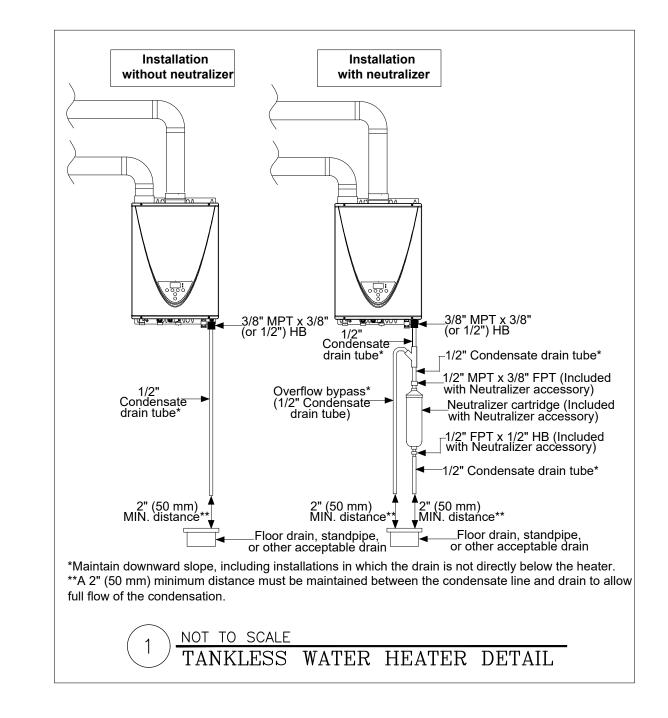
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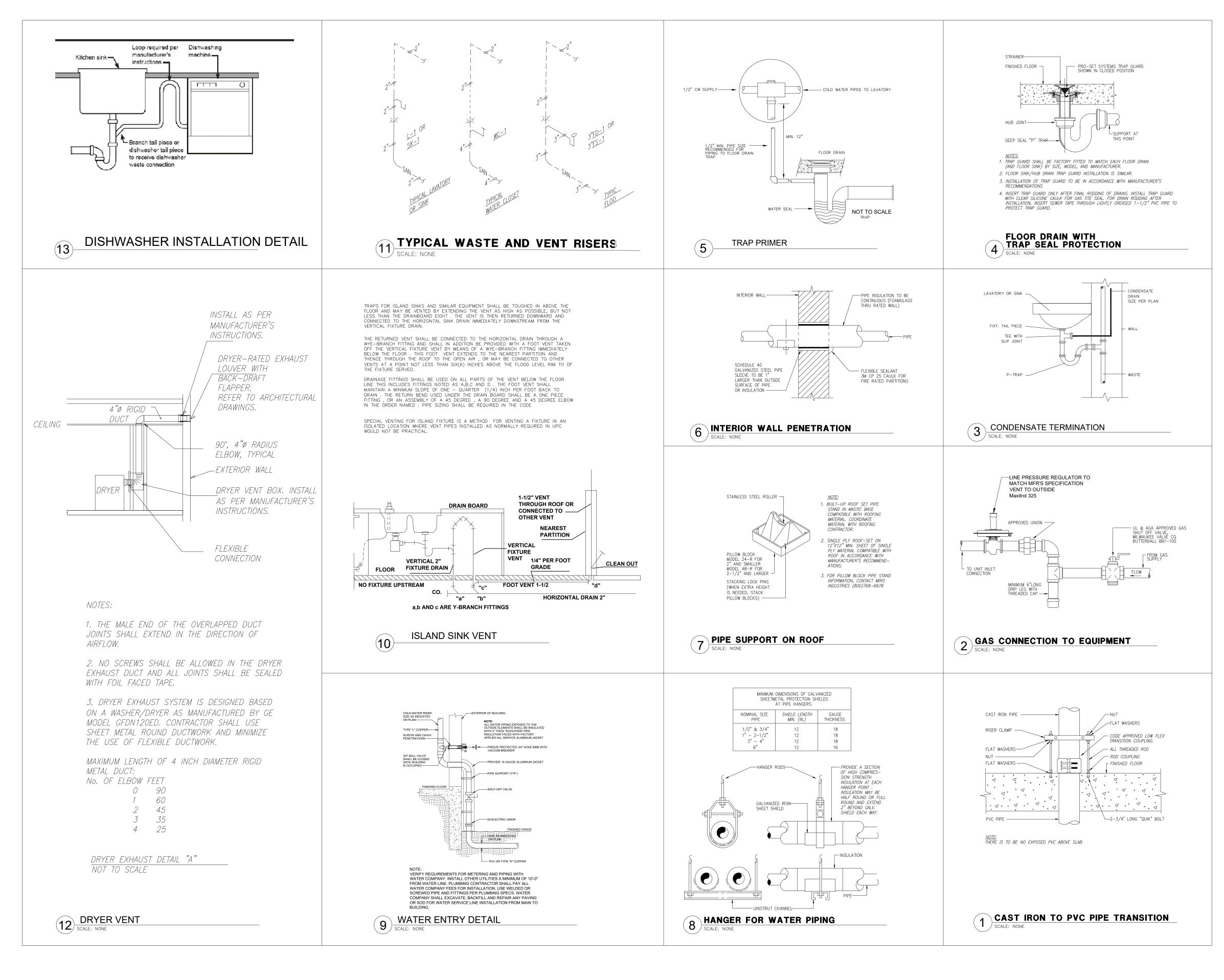
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