

Electrical receptacles outlets, switches and controls shall be located not more than 48 inches measured from the top of the outlet box and not less than 15 inches measured from the bottom of the outlet box above the finished floor. (CRC R327.1.2)

Effective July 1st, 2024, at least one bathroom and one bedroom on the entry level shall provide a doorway with a net clear opening of not less than 32 inches measured with the door open at a 90-degree angle. (CRC R327.1.3)

Doorbell buttons shall be installed not more than 48" above the finished floor measured to the top of the button. (CRC R327.1.4)

Provide each bedroom, basement, and habitable attics with a minimum of one exterior window with a 44" maximum clear opening height, 5.7 sq. ft. minimum clear openable area (minimum 5.0 sq. ft. at grade floor openings), 24" minimum clear openable height and 20" minimum clear width, or an openable exterior exit door. (CRC R310.2.1 and CRC R310.2.2) Window wells, ladders, and steps shall comply with CRC R310.2.3. Bars, grilles, covers, ands screens shall be releasable or removable from the inside without the use of a key, tool, special knowledge, or force greater than 15lbs to operate the emergency escape and rescue openings. (CRC R310.4.4) Photovoltaic panels & modules shall not be below an emergency escape and rescue opening within 36". (R324.6.3)

Each bathroom containing a bathtub, shower or tub/shower combination shall be mechanically ventilated with Energy Star approved equipment (minimum 50cfm) with an integral humidistat installed. (CRC R303.3.1)

Provide attic cross ventilation: 1/150 of attic area or 1/300 with at least 40% but not more than 50% of vents are a maximum 3 ft. below the ridge or highest space in the attic and the balance is provided in the lower third of the attic space (not limited to eaves or cornice vents). As an alternative in Climate Zone 16 (Truckee region), the net area may be reduced to 1/300 when a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling. Baffles are required at vents for insulation. Provide minimum of 1" inch of air space between insulation and roof sheathing. (CRC

Enclosed rafter spaces shall have a 1-inch clear cross ventilation. (Properly sized rafters for insula-

Under floor cross ventilation: minimum 1.0 sq. ft. for each 150 sq. ft. of under floor area. When a class 1 vapor retarder is installed on the ground surface the minimum area of ventilation may be limited to 1sq.ft for each 1,500 square feet of under-floor space. One ventilation opening shall be within three (3) feet of each corner of the building (CRC R408.1). Unvented crawl spaces shall comply with CRC R408.2. Unvented crawl space added option for dehumidification of 70 pints moisture per day per 1,000 sf to requirement for exemption. (R408.3)

Exterior balconies and elevated walking surfaces exposed to water, where structural framing is protected by an impervious moisture barrier require construction documents with manufacturer's installation instructions. (R106.1.5) Must be inspected and approved before concealing barrier. (R109.1.5.3)

Enclosed framing in exterior balconies and elevated walking surfaces exposed to rain, snow or drainage from irrigation shall be provided with cross-ventilation area of at least 1/150. (R317.1.3)

Provide landings and a porch light at all exterior doors. Landings are to be minimum 3 ft deep x width of door. Landings at required egress doors may step down a maximum of 7.75 inches when the door does not swing over the landing and 1.5 inches when door swings onto the landing. Other than required exterior exit doors may have a threshold of 7.75 inches maximum; a landing is not required if a stair with two or fewer risers is located on the exterior side and the door does not swing over the stairway. (CRC R311.3-R311.3.2)

Mezzanines shall not be greater than 1/3 of the story unless fire sprinklers are installed then the area can be ½ of the story. (R325.3)

At least one egress door shall be provided for each dwelling unit, the egress door shall be side hinged with a minimum openable width of 32 inches; the minimum clear openable height shall be 78 inches minimum (other doors shall not be required to comply with these dimensions). Egress doors shall be readily openable from the inside without the use of a key, special knowledge, or effort. (CRC R311.2)

Operable windows more than 72" above finish grade with a clear opening height less than 24" shall have openings not more than 4" apart or needs a compliant guard. (R312.2)

FOUNDATIONS & CONCRETE SLABS

Slope drainage 6" within the first 10ft. from the foundation wall. If physical obstructions or lot lines prohibit the 10ft distance, a 2-5 percent slope shall be provided to an approved alternative method of diverting the water away from the foundation. Impervious surfaces shall also be sloped a minimum of 2 percent for 10ft away from structures to an approved drainage way. (CRC R401.3)

Footings shall extend at least 12 inches into the undisturbed ground surface. (CRC R403.1.4) Unless erected on solid rock, to protect against frost and freezing, the minimum foundation depth is 18 inches below grade if between 4,000-7,000 foot elevation and 24 inches below grade for 7,000 foot elevation and above. Exception: Interior footings shall be a minimum of 12 inches below grade. (L-V 3.14)

Stepped footings shall be used when slope of footing bottom is greater than 1 in 10 (V: H). Step footing detail shall be shown on building elevations and foundation plan. (CRC R403.1.5)

Concrete slabs: 3 ½" minimum (CRC R506.1). Slabs under living areas and garages shall be reinforced with wire 6" x 6", 10 gauge x 10 gauge welded mesh or equivalent steel reinforcement and 4" thickness of 3/8 minimum gravel under the concrete slab. Separate from soil with a 6 mil polyethylene vapor retarder with joints lapped not less than 6 inches in living areas. A capillary break shall be installed when a vapor retarder is required.

Site excavation and grading shall comply with Chapter V, Article 13 of the Nevada County Land-

A minimum 18" x 24" under-floor access, unobstructed by pipes or ducts and within 5' of each under-floor plumbing cleanout and not located under a door to the residence, is required. Provide a solid cover or screen. (CRC 408.4 & CPC 707.9)

Minimum sill bolting: ½" anchor bolts or approved anchors at 6 ft. o.c. maximum for one-story. (CRC R403.1.6) Use anchor bolts at 4 ft. o.c. maximum for three story construction. Embed bolts 7" minimum. The anchor bolts shall be placed in the middle third of the width of the plate. Locate

end bolts not less than 7 bolt diameters, nor more than 12" from ends of sill members. In SDC DO and above: Provide 3"X3"X0.229 plate washers on each bolt at braced or shear wall locations, standard cut washers shall be permitted for anchor bolts not located in braced/shear wall lines. The hole in the plate washer is permitted to be diagonally slotted with a width of up to 3/16" rger than the bolt diameter; the slot length shall not exceed 1 ¾", provided a standard cut vasher is placed between the plate washer and the nut. (CRC R403.1.6.1 & R602.11.1)

LEARANCES AND TREATMENT FOR WOOD FRAMING

All joists, girders, ledgers, structural blocking and support posts/column shall be wood of natural sistance to decay or pressure-treated lumber when exposed to the weather. (CRC R317.1(8))

Columns in basements when supported on concrete pier or metal pedestals shall be pressure reated or natural resistance to decay <u>unless</u> the pier/pedestals project 1" above concrete or 6" above earth and the earth is covered by an approved impervious moisture barrier. (CRC R317.1

olumns in enclosed crawl spaces or unexcavated areas located within the periphery of the building shall be pressure treated or natural resistance to decay unless the column is supported by a increte pier or metal pedestal of a height 8" or more and the earth is covered by an impervious noisture barrier. (CRC R317.1(9))

Under-floor areas with storage, fuel-fired equipment or electric-powered equipment with less than 2x10 solid joists shall be protected on the underside by half-inch sheetrock or a sprinkler system. (R302.13)

Balconies must be designed for a minimum live load of 60lbs per square foot. (CRC T-R301.5)

Specify post to beam connections. Positive connection shall be provided to ensure against uplift and lateral displacement. (CRC R502.9 & CBC 2304.10.7)

All fasteners used for attachment of siding & into pressure treated lumber shall be of a corrosion

Fire-block in concealed spaces of stud walls/partitions, vertically at ceiling/floor levels, & horizontally at 10ft. intervals. Fire-block at soffits, drop ceilings/similar locations & in concealed spaces at the top/bottom of stair stringers. (CRC R302.11)

Provide approved building paper under the building siding and approved flashing at exterior openings. (CRC R703.2) Specify a minimum of 2 layers of Grade D paper under stucco and 2 layers of 15lb felt (or equivalent) under stone veneer.

Stucco shall have a minimum clearance to earth of 4 inches and 2 inches to payed surfaces with an approved weep screed. (CRC R703.7.2.1) Masonry stone veneer shall be flashed beneath the first course of masonry and provided with weep holes immediately above the flashing. (CRC R703.8.5 and R703.8.6)

Show minimum 22" x 30" access opening to attic (CRC R807); may be required to be 30"x30" to remove the largest piece of mechanical equipment per the California Mechanical Code.

Roof drains/gutters required to be installed per the California Plumbing Code with leaf/debris

Roof construction and coverings shall comply with CRC Chapters 8, 9 and local ordinance. All pofing shall be tested/listed Class A minimum.

Asphalt shingles with sloped roofs 2/12 to <4/12 shall have two layers of underlayment applied per CRC R905.2.2.

GARAGE AND CARPORT

Garage shall be separated from the dwelling unit & attic area by ½ inch gypsum board applied to the garage side. Garage beneath habitable rooms shall be separated by not less than 5/8" type X gypsum board. Structure supporting floor/ceiling assemblies used for required separations shall have ½" gypsum board installed minimum. Door openings from the garage to the dwelling shall be solid wood/steel doors or honeycomb steel doors not less than 1 3/8" thick or a 20-minute ated fire door. Doors shall be self-closing & self-latching. No openings directly into a sleeping oom from the garage. When the dwelling and garage have fire sprinklers installed per R309.6 and R313, doors into the dwelling unit from the garage only need to be self-closing and selfatching. (CRC R302.5.1 & T-R302.6)

Ducts penetrating the garage to dwelling separation shall be a minimum of 26 gauge with no openings into the garage. (CRC R302.5.2)

Penetrations through the garage to dwelling separation wall (other than ducts as listed above) shall be fire-blocked per CRC section R302.11, item #4.

Garage and carport floor surfaces shall be non-combustible material and slope to drain towards

Appliances and receptacles installed in garage generating a glow, spark or flame shall be located | 8" above floor unless it is listed as flammable vapor ignition resistant. (CMC 305.1) Provide pro-

Appliances in private garages and carports shall be installed with a minimum clearance of 6ft \mid above the floor unless they are protected from vehicular impact. (CBC 406.2.9.3)

STAIRWAYS & RAMPS

the garage door opening. (CRC R309.1)

Stair landings required every 12'7" of vertical rise. (CRC R311.7.3)

in newel posts, or safety terminals. (CRC R311.7.8.2)

tective post or other impact barrier from vehicles. (CMC 305.1.1)

Exterior stair stringers must be naturally resistant to decay or pressure treated. (CRC R317.1)

Rise shall be maximum 7.75": Run shall be 10" minimum: headroom 6'-8" minimum: width 36' ninimum, 31.5" between a handrail on one side and 27" with handrails on two sides. Variation petween riser heights 3/8" maximum. A nosing not less than .75 inches but not more than 1.25 inches shall be provided on stairways with solid risers where the tread depth is less than 11 inchs. The leading edge of treads shall project not more than 1.25 inches beyond the tread below. Open risers are permitted, provided the opening between the treads does not permit the passage of a 4" sphere. (Openings are not limited when the stair has a rise of 30" or less). (CRC

stairways with 4 or more risers shall have a handrail on one side 34" to 38" above the tread nosing. Circular handrails shall have an outside diameter of 1.25"-2"; if not circular, it shall have a perimeter dimension of 4"-6.25" with a maximum cross-sectional dimension of 2.25". See R311.7.8.3 item# 2 for type II handrails with a parameter over 6.25". A minimum clearance of 1.5" shall be maintained from the wall or other surface. Handrails shall be returned, terminate

Guards shall be 42" minimum height (unless acting as a handrail/guard for a stairway; the guard neight may be 34"-38" in height), with openings less than 4" inches clear (guards on the open sides of stairs may have 4 3/8" openings). (CRC R312)

Provide landings at the top/bottom of the stairway the width of the stairway. The depth of the anding shall be 36" minimum. (CRC R311.7.6)

Usable spaces underneath enclosed/unenclosed stairways shall be protected by a minimum of ½" gypsum board. (CRC R302.7)

Ramps serving the egress door shall have a slope of not more than 1 unit vertical in 12 units norizontal (8.3-percent slope). All other ramps shall have a maximum slope of 1 unit vertical in 8 units horizontal (12.5-percent slope). Exception: Where it is technically infeasible to comply because of site constraints, ramps shall have a slope of not more than 1 unit vertical in 8 units horizontal (12.5-percent slope) (CRC R311.8.1). Provide 3'X3' landings at the top and bottom of ramps, where doors open onto ramps, and where ramps change directions. (CRC R311.8.2)

Guards are required if deck or floor is over 30" above grade, minimum 42" high, with openings less than 4". (CRC R312) Guardrails shall be designed and detailed for lateral forces according to CRC Table 301.5.

Provide deck lateral load connections at each end of the deck and at deck intersections per CRC R507.9.2. Specify connectors with a minimum allowable stress design capacity of 1,500lbs and install with 24" of the end of the deck. 750lb rated devices are allowed (DTT1Z as example) if located at 4 points along the deck.

Posts/columns shall be retrained at the bottom end to prevent lateral displacement; clearly show approved post bases, straps, etc to achieve this per CRC R407.3

Joists, girders, structural blocking and support posts shall be wood of natural resistance to decay or pressure-treated lumber when exposed to the weather. (CRC R317.1(8))

Never install electrical panels in closets of bathrooms. Maintain a clearance of 36" inches in front of panels, 30" wide or width of equipment and 6'-6" high for headroom. (CEC 110.26)

Provide a minimum 3 lug intersystem bonding busbar at the main electrical service. (CEC

Provide a four-wire feed (two ungrounded conductors, one grounded conductor and an equipment grounding conductor) to all detached structures.

Provide electrical service load calculations for dwellings over 3,000 sq. ft, services 400 amperes or greater or as determined by the Plans Examiner.

All automatic garage door openers that are installed in a residence shall have a battery backup function that is designed to operate when activated because of an electrical outage. (CBC

A concrete-encased electrode (ufer) consisting of 20' of rebar or #4 copper wire placed in the bottom of a footing is required for all new construction. (CEC 250.52(A)(3)) Bond all metal gas and water pipes to ground. All ground clamps shall be accessible and of an approved type. (CEC

All 15/20 ampere receptacles installed per CEC 210.52 including attached and detached garages and accessory buildings shall be listed tamper-resistant receptacles. (CEC 406.12)

All branch circuits supplying 15/20 ampere outlets in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, kitchens, laundry room or similar rooms/areas shall be protected by a listed combination type arc-fault circuit interrupter. (CEC 210.12)

Provide a minimum of one 20A circuit to be used for the laundry receptacle. (CEC 210.11(C)(2))

Provide a minimum of one 20A circuit for bathroom receptacle outlets. (CEC 210.11(C)(3)

Provide at least 1 outlet in basements, garages, laundry rooms, decks, balconies, porches and within 3' of the outside of each bathroom basin. (CEC 210.52 (D), (F) & (G))

Furnaces installed in attics and crawl spaces shall have an access platform (catwalk in attics), light switch and receptacle in the space. Provide a service receptacle for the furnace. (CEC

All dwellings must have one exterior outlet at the front and the back of the dwelling. (CEC

Provide a minimum of one 20A circuit for attached and detached garage outlets. The circuit shall supply no other receptacle outlet. Exception: Garage circuit may serve readily accessible outdoor receptacle outlets. ((CEC 210.11 (C)(4))

A minimum of 1 receptacle shall be provided for each car space. (210.52(G)(1))

At least one wall switched lighting outlet or fixture shall be installed in every habitable room. bathroom, hallways, stairways, attached garages and detached garages with electrical power, equipment spaces (attics, basements, etc). (CEC 210.70).

Kitchens, dining rooms, pantries, breakfast nooks, and similar areas must have a minimum of two 20A circuits. Kitchen, pantry, breakfast nooks, dining rooms, work surfaces and similar areas counter outlets must be installed in every counter space 12" inches or wider, not greater than 4' o.c., within 24" inches of the end of any counter space and not higher than 20" above counter. (CEC 210.52 (C)) A minimum of 1 receptacle is required at each kitchen island as follows: one receptacle is required for first 9 ft² two receptacles required from 10 ft² – 27 ft² three receptacles required for 28 ${\rm ft}^2$ – 47 ${\rm ft}^2$ and four receptacles required for 48 ${\rm ft}^2$ or more. (CEC 210.52(C)(1)) Island counter spaces shall have at least 1 receptacle outlet unless a range top or sink is installed than 2 receptacles may be required. 1 receptacle is required for peninsular counter spaces. Receptacles shall be located behind kitchen sinks if the counter area depth behind the sink is more than 12" for straight counters and 18" for corner installations. (CEC Figure 210.52(C)(1))

Receptacles shall be installed at 12' o.c. maximum in walls starting at 6' maximum from the wall end. Walls longer than two feet shall have a receptacle. Hallway walls longer than 10 ft shall have a receptacle in hallways, (CEC 210.52(A))

Stairways with 6 or more risers shall have wall switch at each floor level at the stair landings.

Receptacles shall not be installed within or directly over a bathtub or shower stall. (CEC 406.9 (C)) Light pendants, ceiling fans, lighting tracks, etc shall not be located within 3ft horizontally and 8ft vertically above a shower and/or bathtub threshold. (CEC 410.10(D))

All lighting/fan fixtures located in wet or damp locations shall be rated for the application. (CEC

GFCI outlets are required: for all kitchen receptacles that are designed to serve countertop surfaces, dishwashers, bathrooms, in under-floor spaces or below grade level, in unfinished basements, crawl space lighting outlets, in exterior outlets, within 6' of a laundry/utility/wet bar sinks, indoor damp locations, mud rooms, finished basements, laundry areas, and in all garage outlets including outlets dedicated to a single device or garage door opener. (CEC 210.8).

Carbon-monoxide alarms shall be installed in dwelling units with fuel-burning appliances or with attached garages (CRC R315):

- Outside of each separate sleeping area in the immediate vicinity of bedrooms
- On every level of a dwelling unit including basements
- Alterations, repairs, or additions exceeding 1,000 dollars (May be battery operated)
- Smoke alarms shall be installed (CRC R314):
- In each room used for sleeping purposes.
- Outside of each separate sleeping area in the immediate vicinity of bedrooms. In each story, including basements.
- At the top of stairways between habitable floors where an intervening door or obstruction prevents smoke from reaching the smoke detector.
- Shall not be installed within 20ft horizontally of cooking appliances and no closer than 3ft to mechanical registers, ceiling fans and bathroom doors with a bathtub or shower unless

Alterations, repairs, or additions exceeding 1,000 dollars. (May be battery operated.)

- this would prevent placement of a smoke detector (R314.3(4)).
- All smoke and carbon-monoxide alarms shall be hardwired with a battery backup (smoke alarms shall have a 10-year sealed battery), (CRC R314.4 & R315.1.2)
- Smoke detectors within 10 feet to 20 feet of the stove shall be ionization type with alarm silencing switch. (CRC R314.3.3)

All 15/20 ampere receptacles in wet locations shall have in-use (bubble) covers installed. All receptacles in wet locations shall also be listed weather-resistant type. (CEC 406.9(B)(1))

ENERGY STORAGE SYSTEMS

Energy storage systems shall only be installed in detached garages and accessory structures, attached garages, outdoor not less than 3' from door and windows and enclosed utility clos ets, basements, storage or utility closets within dwelling units with finished or noncombustible walls and ceiling. (CRC R328.4)

Individual ESS units shall have a maximum rating of 20 kWh. The aggregate rating of the ESS shall not exceed 40 kWh within utility closets, basements and storage or utility spaces, 80 kWh in attached or detached garages or detached accessory structures, 80 kWh on exterior walls and 80 kWh outdoors on the ground. (CRC R328.5)

Rooms and areas within structures in which ESS are installed shall be protected by smoke alarms. A heat detector shall be installed in locations within structures where smoke alarms cannot be installed based on their listing. (CRC R328.7)

ESS installed in locations subject to vehicle damage shall be provided with impact protection

Underfloor cleanouts shall not be more than 5' from an underfloor access, access door or trap door. (CPC 707.9)

Kitchen sinks require a cleanout above the floor level of the lowest floor of the building.

ABS piping shall not be exposed to direct sunlight unless protected by water based synthetic latex paints. (CPC 312.13)

PVC piping shall not be exposed to direct sunlight unless protected by water based synthetic latex paint, .04" thick wrap or otherwise protected from UV degradation. (CPC 312.14)

Underground water supply lines shall have a 14 awg blue tracer wire. (CPC 604.10.1)

The entire floor space in a room containing a shower without thresholds shall be considered "wet location" when using the CRC, CBC, and the CEC. (CPC 408.5)

Shower compartments, regardless of shape, shall have a minimum finished interior of 1024 square inches (32" by 32") and shall also be capable of encompassing a 30" circle. The required area and dimensions shall be measured at a height equal to the top of the threshold and shall be maintained to a point of not less than 70" above the shower drain outlet. (CPC 408.6) Pro vide curtain rod or door a minimum of 22" in width (CPC 408.5). Showers and tubs with showers require a non-absorbent surface up to 6' above the floor. (CRC R307.2) Minimum shower receptor slope is 1/8" per foot. (CPC 408.5)

Show location and size of the water heater on plans. Provide pressure relief valve with drain to outside for water heater. (CPC 504.6) Provide seismic strapping in the upper & lower third of the water heater a minimum of 4" above controls. (CPC 507.2)

Water heaters using gas or propane shall designate a space 2.5 feet by 2.5 feet and 7 feet tall suitable for future installation of a heat pump water heater. Additional features are required. (California Energy Code 150.0(n))

Domestic hot water lines shall be insulated. Insulation shall be the thickness of the pipe diameter up to 2" in size and minimum 2" thickness for pipes larger than 2" in diameter. (CPC 609.12)

A 3-inch gravity drain shall be provided at the low point of the space, installed which provides 1/4-inch per foot grade and terminate at an exterior point of the building protected from blockage. The opening shall be screened with a corrosion-resistant wire mesh with mesh opening of 1/4-inch in dimension. Lengths of the gravity drains over 10 feet in length shall be first approved by the Building Official. (L-V 8.8)

Water heaters located in attics, ceiling assemblies and raised floor assemblies shall show a water-tight corrosion resistant minimum $1 \frac{1}{2}$ " deep pan under the water heater with a minimum ¾ inch drain to the exterior of the building. (CPC 507.5)

Water closets shall be located in a space not less than 30" in width (15" on each side) and 24' minimum clearance in front. (CPC 402.5)

Indicate on the plans that the maximum hot water temperature discharging from a bathtub or whirlpool bathtub filler shall not exceed 120 degrees F. (CPC 408.3.2)

Provide anti-siphon valves on all hose bibs. (CPC 603.5.7)

Floor drains shall be provided with a trap primer. (CPC 1007)

Clearly label on the plans the maximum water flow rates per the (CGBSC 4.303.1): Water Closets: 1.28gpf

Kitchen Faucets: 1.8gpm @ 60psi

Urinals: .125gpf

- Lavatory Faucets: 1.2gpm @ 60psi
- Showerheads: 1.8gpm

All newly installed gas fireplaces shall be direct vent and sealed-combustion type. (CMC 912.2)

Any installed wood stove or pellet stove shall meet the U.S. EPA New Source Performance Standard emission limits and shall have a permanent label certifying emission limits.

Top of chimney must extend a minimum of 2 ft. above any part of the building within 10 ft. (CMC 802.5.4)

Fireplaces shall have closable metal or glass doors, have combustion air intake drawn from the outside and have a readily accessible flue dampener control. Continuous burning pilot lights

Provide combustion air for all gas fired appliances per CMC Chapter 7.

are prohibited. (California Energy Code 150.0(e))

Roof top equipment on roofs with over 4/12 slope shall have a level 30"x30" working platform.

Exhaust openings terminating to the outdoors shall be covered with a corrosion resistant screen ¼"-1/2" in opening size (not required for clothes dryers). (CMC 502.1)

Vent dryer to outside of building (not to under-floor area). Vent length shall be 14 ft. maximum. Shall terminate a minimum of 3' from the property line and any opening into the building.

Environmental Air Ducts shall not terminate less than 3' to a property line, 10' to a forced air inlet, 3' to openings into the building and shall not discharge on to a public way. (CMC 502.2.1)

Provide minimum 100 square inches make-up air for clothes dryers installed in closets. (CMC

Heating system is required to maintain 68 degrees at 3 ft. above floor level and 2ft from exteri-

or walls in all habitable rooms. (CRC R303.10)

Provide compliance documentation for mandatory measures to shown throughout the plans. All ducts in conditioned spaces must include R-4.2 insulation. (California Energy Code 150.1(c)9) Minimum heating and cooling filter ratings shall be MRV 13. (California Energy Code 150.0(m)

Isolation water valves required for instantaneous water heaters 6.8kBTU/hr and above. Valves shall be installed on both cold and hot water lines. Each valve will need a hose bib or other fitting allowing for flushing the water heater when the valves are closed. (California Energy Code 110.3(c)6)

Energy storage system (ESS) ready. At least one of the following shall be provided:

- ESS ready interconnection equipment with a minimum backed-up capacity of 60 amps and a minimum of four ESS-supplied branch circuits, or
- A dedicated raceway from the main service panel to a panelboard (subpanel) that supplies the following branch circuits: refrigerator, lighting circuit near primary egress door, sleeping room receptacle and one additional.

The main panelboard shall have a minimum busbar rating of 225 amps. Space shall be re-

served to allow future installation of a system isolation equipment/transfer switch within 3

system isolation equipment to allow the connection of backup power source. Heat pump space heater ready. Systems using a gas or propane furnace shall include a dedicated 240 volt branch circuit with 3 feet of the furnace. The branch circuit shall be rated at 30

Electric cooktop ready. Systems using a gas or propane cooktop shall include a dedicated 240 volt branch circuit with 3 feet of the cooktop. The branch circuit shall be rated at 50 amps minimum. The main electrical service shall have a reserved space to allow for the installation of a double pole circuit breaker. The reserved space shall be permanently marked as "For

Electrical clothes dryer ready. Systems using a gas or propane dryer shall include a dedicated 240 volt branch circuit with 3 feet of the clothes dryer. The branch circuit shall be rated at 30 amps minimum. The main electrical service shall have a reserved space to allow for the installation of a double pole circuit breaker. The reserved space shall be permanently marked as "For future 240V use". (California Energy Code 150.0(v))

ALL luminaires must be high efficacy. (California Energy Code 150.0(k)1A)

- minaries recessed in insulated ceilings must meet five requirements (California Energy Code
- They must be rated for direct insulation contact (IC).

as "For future 240V use". (California Energy Code 150.0(t))

future 240V use". (California Energy Code 150.0(u))

- They must be certified as airtight (AT) construction. They must have a sealed gasket or caulking between the housing and ceiling to prevent
- They may not contain a screw base sockets They shall contain a JA8 compliant light source

flow of heated or cooled air out of living areas and into the ceiling cavity.

in bathrooms, garages, walk-in closet, laundry rooms, and utility rooms, at least on luminaire in

occupant sensor is initially programmed like a vacancy sensor (manual-on operation). (California Energy Code 150.0(k)2I) Lighting in habitable spaces, including but not limited to living rooms, dining rooms, kitchens

and bedrooms, shall have readily accessible dimming controls. (California Energy Code 150(k)

All exterior lighting shall be high efficacy, be controlled by a manual on/off switch and have one of the following controls (the manual switch shall not override the automatic control device)

- Photo-control and motion sensor
- Photo-control and automatic time switch control

Astronomical time clock control turning lights off during the day

All high efficacy light fixtures shall be certified as "high-efficacy" light fixtures by the California Energy Commission.

luminaires installed. (CGBSC 10-103(b))

Contractor shall provide the homeowner with a luminaire schedule giving the lamps used in the

The number of blank electrical boxes more than 5 feet above the finished floor shall not be

General notes based on the 2022 California Building Standard Codes. This is not an all inclusive list of code requirements specific to the project. Reference

locations of fixtures/equipment, structural components, structural design criteria, building finishes and other components specific to the project construction

applicable sheets and specific areas of the plans for

greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacance sensor, or fan speed control. (California Energy Code 150(k)1B) Radiant barrier shall be installed, and it shall also be installed on all gable ends per the manufac-

WILDLAND URBAN INTERFACE (WUI)

Exterior wall coverings shall be noncombustible, ignition resistant, heavy timber, log wall or fire resistive construction. (CRC R337.7)

Exterior wall coverings shall extend from the foundation to the roof and terminate at 2 inch nominal solid blocking between rafters and overhangs. (CRC R337.7.3.2)

Open/enclosed roof eaves and soffits, exterior porch ceilings, floor projections, under-floor areas and undersides of appendages to comply with ignition resistant construction requirements. (CRC

als or have one layer of minimum 72lb mineral surfaced non-perforated cap sheet complying with ASTM D 3909. (CRC R337.5.2) Indicate on the plans where valley flashing is installed, the flashing shall be not less than 26awg and

Spaces created between roof coverings and roof decking shall be fire stopped by approved materi-

installed over not less than one layer of minimum 72lb mineral surfaced non-perforated cap sheet

complying with ASTM D 3909 and at least 36 inches wide running the full length. (CRC R337.5.3)

All vents are required to resist building ignition from the intrusion of flame and burning embers through the ventilation openings including crawlspace vents, gable end vents, eave vents, etc.

Exception: Ridge vents and vents installed in a sloped roof.

mance requirements of SFM Standard 12-7A-1. (CRC R337.8.3)

Indicate on plans exterior glazing shall have a minimum of one-tempered pane, glass block, have a fire resistive rating of 20 minutes or be tested to meet performance requirements of SFM Standard 12-7A-2. (CRC R337.8.2)

(R337.8.2.2) Exterior doors including garage doors shall be noncombustible, ignition resistant material, minimum 1 3/8 inch solid core, minimum 20 minute fire resistive rating or shall be tested to meet the perfor-

Operable skylights shall be protected by a noncombustible mesh screen 1/8" max openings

Garage door perimeter gap maximum 1/8". Metal flashing, jamb and header overlap, and weatherstripping meeting section requirements are permitted. (R337.8.4)

The walking surface material of decks, porches, balconies and stairs within 10ft of grade level shall

be ignition resistant material, exterior fire-retardant treated wood or noncombustible material.

feet of the main panelboard. Raceways shall be installed between the panelboard and the | (CRC R337.9)

waste. (CGBSC 4.408.2)

tion systems, etc

proved by the enforcing agency.

GREEN BUILDING jects which disturb less than one acre of soil and are not part of a larger common plan of dev opment which in total disturbs one acre or more, shall manage storm water drainage during conamps minimum. The main electrical service shall have a reserved space to allow for the instruction, one or more of the following measures shall be implemented to prevent flooding of adjastallation of a double pole circuit breaker. The reserved space shall be permanently marked

> Retention basins of sufficient size shall be utilized to retain storm water on site Where storm water is conveyed to a public drainage system, collection point, gutter, or similar dis posal method, water shall be filtered by use of a barrier system, wattle or other method ap-

cent property, prevent erosion and retain soil runoff on the site (CGBSC 4.106.2):

All new residential construction with attached private garages shall have the following for electric

- vehicle (EV) charging stations (CGBSC 4.106.4): Install a minimum 1-inch conduit capable of supplying a 208/240V branch circuit to a suitable box location for EV charging. The other end shall terminate to the main service and/or subpan-
- The main panel and/or subpanel shall be of sufficient size to install a 40-ampere dedicate branch circuit. The dedicated overcurrent protection space shall be labeled "EV CAPABLE". Multiple shower heads serving a single shower shall have a combined flow rate of 1.8 gpm or the

Residential projects with an aggregate landscape area equal to or greater than 500 square feet shall comply with either a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Automatic irrigation system controllers installed at time of final inspection shall have weather or soil based controllers and/or weather based controllers with rain sensors. Soil moisture

shower shall be designed to allow only one shower outlet to be in operation at a time. (CGBSC

based controllers are not required to have rain sensor input. (CGBSC 4.304) Recycle and/or reuse a minimum of 65 percent of nonhazardous construction and demolition

each of these spaces shall be controlled by a vacancy sensor or occupant sensor provided the At time of final inspection, a building operation and maintenance manual, compact disc, etc shall be provided containing the following: (CGBSC 4.410)

- Directions that manual shall remain onsite for the life of the building Operation and maintenance instructions for equipment, appliances, roof/yard drainage, irriga-
- Information from local utility, water and waste recovery providers
- Material regarding importance of keeping humidity levels between 30-60 percent

Information regarding routine maintenance procedures

Public transportation and carpool options

State solar energy incentive program information A copy of any required special inspection verifications that were required (if any)

Clearly note on the plans how the project will meet minimum pollutant control requirements f adhesives, sealants, caulks, paints, carpet, resilient flooring systems, etc. (CGBSC 4.504)

Duct openings related to HVAC systems shall be covered with tape, plastic, sheet metal or other methods to reduce the amount of water, dust and debris which may enter the system. (CGBSC

RUSSELL DAVIDSON ARCHITECTURE + DESIGN



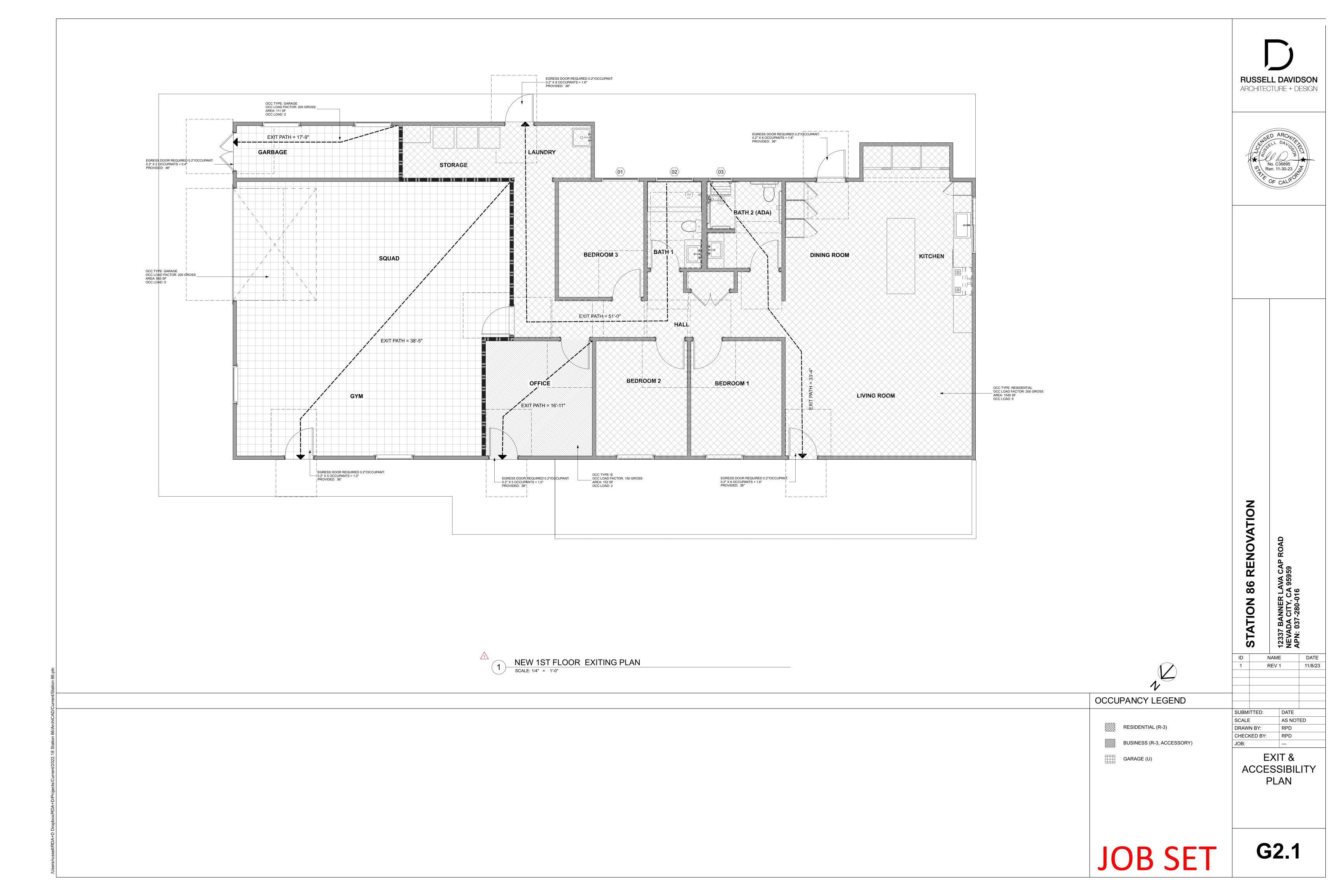
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REV 1

GENERAL NOTES



California 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023)

electrical load calculations. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in

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concealed areas and spaces shall be installed at the time of original construction.

NOT APPLICABLE
RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, installed in close proximity to the location or the proposed location of the EV space at the time of original **CHAPTER 3** construction in accordance with the California Electrical Code. I.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities. **GREEN BUILDING** 4.304 OUTDOOR WATER USE When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the 4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with **SECTION 301 GENERAL** requirements of Sections 4.106.4.2.1 and 4.106.4.2.2. Calculations for spaces shall be rounded up to the nearest The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water whole number. A parking space served by electric vehicle supply equipment or designed as a future EV charging future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code. Efficient Landscape Ordinance (MWELO), whichever is more stringent. space shall count as at least one standard automobile parking space only for the purpose of complying with any **301.1 SCOPE.** Buildings shall be designed to include the green building measures specified as mandatory in applicable minimum parking space requirements established by a local jurisdiction. See Vehicle Code Section 22511.2 4.106.4.2.5 Electric Vehicle Ready Space Signage. the application checklists contained in this code. Voluntary green building measures are also included in the Electric vehicle ready spaces shall be identified by signage or pavement markings, in compliance with Caltrans application checklists and may be included in the design and construction of structures covered by this code, Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its 1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code Regulations, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7. 4.106.4.2.1Multifamily development projects with less than 20 dwelling units; and hotels and motels with less Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are than 20 sleeping units or guest rooms. 301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to available at: https://www.water.ca.gov/ The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to 4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE When new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or specific area of the addition or alteration. 1.EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types altered and the work requires a building permit, ten (10) percent of the total number of parking spaces added or **EFFICIENCY** of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 altered shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. The mandatory provision of Section 4.106.4.2 may apply to additions or alterations of existing parking EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical 4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE facilities or the addition of new parking facilities serving existing multifamily buildings. See Section system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all 4.106.4.3 for application. 4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in EVs at all required EV spaces at a minimum of 40 amperes. sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such 1.Construction documents are intended to demonstrate the project's capability and capacity for facilitating future Note: Repairs including, but not limited to, resurfacing, restriping and repairing or maintaining existing openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved lighting fixtures are not considered alterations for the purpose of this section. for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code. 2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use 4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. **DIVISION 4.2 ENERGY EFFICIENCY 4.408.1 CONSTRUCTION WASTE MANAGEMENT.** Recycle and/or salvage for reuse a minimum of 65 Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate percent of the non-hazardous construction and demolition waste in accordance with either Section 1.When EV chargers (Level 2 EVSE) are installed in a number equal to or greater than the required number of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and **4.201.1 SCOPE.** For the purposes of mandatory energy efficiency standards in this code, the California Energy other important enactment dates. 2.When EV chargers (Level 2 EVSE) are installed in a number less than the required number of EV capable Commission will continue to adopt mandatory standards. spaces, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed. 301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION 1. Excavated soil and land-clearing debris. individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential 2. Alternate waste reduction methods developed by working with local agencies if diversion or 4.303 INDOOR WATER USE buildings, or both. Individual sections will be designated by banners to indicate where the section applies recycle facilities capable of compliance with this item do not exist or are not located reasonably 4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and a. Construction documents are intended to demonstrate the project's capability and capacity for facilitating urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, high-rise buildings, no banner will be used. 3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility. b. There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or **SECTION 302 MIXED OCCUPANCY BUILDINGS** Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving I.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final in conformance with Items 1 through 5. The construction waste management plan shall be updated as **302.1 MIXED OCCUPANCY BUILDINGS.** In mixed occupancy buildings, each portion of a building completion, certificate of occupancy, or final permit approval by the local building department. See Civil necessary and shall be available during construction for examination by the enforcing agency. 2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power shall comply with the specific green building measures applicable to each specific occupancy. Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per buildings affected and other important enactment dates. 1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, dwelling unit when more than one parking space is provided for use by a single dwelling unit. 1. [HCD] Accessory structures and accessory occupancies serving residential buildings shall reuse on the project or salvage for future use or sale. 4.303.1.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per comply with Chapter 4 and Appendix A4, as applicable. 2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or Exception: Areas of parking facilities served by parking lifts. 2. [HCD] For purposes of CALGreen, live/work units, complying with Section 419 of the California flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense bulk mixed (single stream) Building Code, shall not be considered mixed occupancies. Live/Work units shall comply with Specification for Tank-type Toilets. 3. Identify diversion facilities where the construction and demolition waste material collected will be I.106.4.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more Chapter 4 and Appendix A4, as applicable. sleeping units or guest rooms Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume 4. Identify construction methods employed to reduce the amount of construction and demolition waste DIVISION 4.1 PLANNING AND DESIGN The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to of two reduced flushes and one full flush. 5. Specify that the amount of construction and demolition waste materials diverted shall be calculated **ABBREVIATION DEFINITIONS:** 4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. by weight or volume, but not by both. 1.EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types Department of Housing and Community Development The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush. of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 California Building Standards Commission 1.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical Division of the State Architect, Structural Safety 4.303.1.3 Showerheads. enforcing agency, which can provide verifiable documentation that the percentage of construction and system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all OSHPD Office of Statewide Health Planning and Development demolition waste material diverted from the landfill complies with Section 4.408.1. EVs at all required EV spaces at a minimum of 40 amperes. Low Rise **4.303.1.3.1 Single Showerhead.** Showerheads shall have a maximum flow rate of not more than 1.8 High Rise gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA Note: The owner or contractor may make the determination if the construction and demolition waste The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserve AA Additions and Alterations WaterSense Specification for Showerheads. materials will be diverted by a waste management company. for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code. 4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one I.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined CHAPTER 4 Exception: When EV chargers (Level 2 EVSE) are installed in a number greater than five (5) percent of weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by parking spaces required by Section 4.106.4.2.2, Item 3, the number of EV capable spaces required may be a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in **RESIDENTIAL MANDATORY MEASURES** reduced by a number equal to the number of EV chargers installed over the five (5) percent required. allow one shower outlet to be in operation at a time. Note: A hand-held shower shall be considered a showerhead 4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds **SECTION 4.102 DEFINITIONS** a. Construction documents shall show locations of future EV spaces. 4.303.1.4 Faucets. per square foot of the building area, shall meet the minimum 65% construction waste reduction 4.102.1 DEFINITIONS requirement in Section 4.408.1 The following terms are defined in Chapter 2 (and are included here for reference) b.There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or 4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall EV chargers are installed for use. not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall I.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar not be less than 0.8 gallons per minute at 20 psi. compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4... **2.EV Ready.** Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power pervious material used to collect or channel drainage or runoff water. Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required pe **4.303.1.4.2** Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials dwelling unit when more than one parking space is provided for use by a single dwelling unit. faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also buildings shall not exceed 0.5 gallons per minute at 60 psi. 1. Sample forms found in "A Guide to the California Green Building Standards Code Exception: Areas of parking facilities served by parking lifts. used for perimeter and inlet controls. (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in **4.303.1.4.3 Metering Faucets.** Metering faucets when installed in residential buildings shall not deliver documenting compliance with this section. 4.106 SITE DEVELOPMENT 3.EV Chargers. Five (5) percent of the total number of parking spaces shall be equipped with Level 2 EVSE. 2. Mixed construction and demolition debris (C & D) processors can be located at the California **4.106.1 GENERAL**. Preservation and use of available natural resources shall be accomplished through evaluation Where common use parking is provided, at least one EV charger shall be located in the common use parking Department of Resources Recycling and Recovery (CalRecycle). and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, area and shall be available for use by all residents or guests. **4.303.1.4.4 Kitchen Faucets.** The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons management of storm water drainage and erosion controls shall comply with this section. 4.410 BUILDING MAINTENANCE AND OPERATION per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not When low power Level 2 EV charging receptacles or Level 2 EVSE are installed beyond the minimum required, to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per **4.410.1 OPERATION AND MAINTENANCE MANUAL.** At the time of final inspection, a manual, compact I.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less an automatic load management system (ALMS) may be used to reduce the maximum required electrical disc, web-based reference or other media acceptable to the enforcing agency which includes all of the than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers following shall be placed in the building: or more, shall manage storm water drainage during construction. In order to manage storm water drainage shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) Note: Where complying faucets are unavailable, aerators or other means may be used to achieve during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes, and installed EVSE shall 1. Directions to the owner or occupant that the manual shall remain with the building throughout the property, prevent erosion and retain soil runoff on the site. have a capacity of not less than 30 amperes. ALMS shall not be used to reduce the minimum required electrical life cycle of the structure. capacity to the required EV capable spaces. 4.303.1.4.5 Pre-rinse spray valves. 2. Operation and maintenance instructions for the following: Retention basins of sufficient size shall be utilized to retain storm water on the site. When installed, shall meet the requirements in the California Code of Regulations, Title 20 (Appliance a. Equipment and appliances, including water-saving devices and systems, HVAC systems, 2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar 4.106.4.2.2.1 Electric vehicle charging stations (EVCS). Efficiency Regulations), Sections 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607 photovoltaic systems, electric vehicle chargers, water-heating systems and other major disposal method, water shall be filtered by use of a barrier system, wattle or other method approved Electric vehicle charging stations required by Section 4.106.4.2.2, Item 3, shall comply with Section 4.106.4.2.2.1. (d)(7) and shall be equipped with an integral automatic shutoff. appliances and equipment. by the enforcing agency. b. Roof and yard drainage, including gutters and downspouts. 3. Compliance with a lawfully enacted storm water management ordinance. Exception: Electric vehicle charging stations serving public accommodations, public housing, motels and hotels FOR REFERENCE ONLY: The following table and code section have been reprinted from the California c. Space conditioning systems, including condensers and air filters. shall not be required to comply with this section. See California Building Code, Chapter 11B, for applicable Code of Regulations, Title 20 (Appliance Efficiency Regulations), Section 1605.1 (h)(4) and Section d. Landscape irrigation systems. Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or e. Water reuse systems. are part of a larger common plan of development which in total disturbs one acre or more of soil. Information from local utility, water and waste recovery providers on methods to further reduce 4.106.4.2.2.1.1 Location. resource consumption, including recycle programs and locations. (Website: https://www.waterboards.ca.gov/water issues/programs/stormwater/construction.html) EVCS shall comply with at least one of the following options: TABLE H-2 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 1.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will 1.The charging space shall be located adjacent to an accessible parking space meeting the requirements of and what methods an occupant may use to maintain the relative humidity level in that range. the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space. manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY 6. Information about water-conserving landscape and irrigation design and controllers which conserve water include, but are not limited to, the following: VALUES MANUFACTURED ON OR AFTER JANUARY 28, 2019 2. The charging space shall be located on an accessible route, as defined in the California Building Code, 7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation. 2. Water collection and disposal systems PRODUCT CLASS 8. Information on required routine maintenance measures, including, but not limited to, caulking, French drains Exception: Electric vehicle charging stations designed and constructed in compliance with the California MAXIMUM FLOW RATE (gpm) [spray force in ounce force (ozf)] painting, grading around the building, etc. Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1.1 and Section Water retention gardens 9. Information about state solar energy and incentive programs available. 5. Other water measures which keep surface water away from buildings and aid in groundwater 10. A copy of all special inspections verifications required by the enforcing agency or this code. Product Class 1 (≤ 5.0 ozf) 1.00 11. Information from the Department of Forestry and Fire Protection on maintenance of defensible 4.106.4.2.2.1.2 Electric vehicle charging stations (EVCS) dimensions. space around residential structures. **Exception**: Additions and alterations not altering the drainage path. The charging spaces shall be designed to comply with the following: Product Class 2 (> 5.0 ozf and \leq 8.0 ozf) 1.20 12. Information and/or drawings identifying the location of grab bar reinforcements. Product Class 3 (> 8.0 ozf) 1.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 1. The minimum length of each EV space shall be 18 feet (5486 mm). **4.410.2 RECYCLING BY OCCUPANTS.** Where 5 or more multifamily dwelling units are constructed on a 4.106.4.1 or 4.106.4.2 to facilitate future installation and use of EV chargers. Electric vehicle supply Title 20 Section 1605.3 (h)(4)(A): Commercial prerinse spray values manufactured on or after January building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625. 2. The minimum width of each EV space shall be 9 feet (2743 mm). 1, 2006, shall have a minimum spray force of not less than 4.0 ounces-force (ozf)[113 grams-force(gf)] depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling 3.One in every 25 charging spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum 4.303.2 Submeters for multifamily buildings and dwelling units in mixed-used residential/commercial ordinance, if more restrictive. 1. On a case-by-case basis, where the local enforcing agency has determined EV charging and aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is infrastructure are not feasible based upon one or more of the following conditions: Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the **Exception:** Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 1.1 Where there is no local utility power supply or the local utility is unable to supply adequate California Plumbing Code. 42649.82 (a)(2)(A) et seq. are note required to comply with the organic waste portion of a.Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 1.2 Where there is evidence suitable to the local enforcing agency substantiating that additional percent slope) in any direction. **4.303.3 Standards for plumbing fixtures and fittings**. Plumbing fixtures and fittings shall be installed in local utility infrastructure design requirements, directly related to the implementation of Section accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 4.106.4.2.2.1.3 Accessible EV spaces. 4.106.4, may adversely impact the construction cost of the project. 1701.1 of the California Plumbing Code. 2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional In addition to the requirements in Sections 4.106.4.2.2.1.1 and 4.106.4.2.2.1.2, all EVSE, when installed, shall DIVISION 4.5 ENVIRONMENTAL QUALITY comply with the accessibility provisions for EV chargers in the California Building Code, Chapter 11B. EV ready parking facilities. spaces and EVCS in multifamily developments shall comply with California Building Code, Chapter 11A, Section **SECTION 4.501 GENERAL** THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER. 4.501.1 Scope 4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway TABLE - MAXIMUM FIXTURE WATER USE irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors. shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main 1.Single EV space required. Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the **FIXTURE TYPE FLOW RATE SECTION 4.502 DEFINITIONS** proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close 5.102.1 DEFINITIONS concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere proximity to the location or the proposed location of the EV space. Construction documents shall identify the SHOWER HEADS (RESIDENTIAL) 1.8 GMP @ 80 PSI The following terms are defined in Chapter 2 (and are included here for reference) 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit raceway termination point, receptacle or charger location, as applicable. The service panel and/ or subpanel shall have a 40-ampere minimum dedicated branch circuit, including branch circuit overcurrent protective device **AGRIFIBER PRODUCTS.** Agrifiber products include wheatboard, strawboard, panel substrates and door MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 installed, or space(s) reserved to permit installation of a branch circuit overcurrent protective device. LAVATORY FAUCETS (RESIDENTIAL) cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements. Exemption: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the proposed location of an EV charger at the time of original construction in Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is LAVATORY FAUCETS IN COMMON & PUBLIC **COMPOSITE WOOD PRODUCTS.** Composite wood products include hardwood plywood, particleboard and 0.5 GPM @ 60 PSI accordance with the California Electrical Code. installed in close proximity to the location or the proposed location of the EV space, at the time of original **USE AREAS** medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, construction in accordance with the California Electrical Code. structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated **4.106.4.1.1 Identification.** The service panel or subpanel circuit directory shall identify the overcurrent 1.8 GPM @ 60 PSI KITCHEN FAUCETS wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination 2.Multiple EV spaces required. Construction documents shall indicate the raceway termination point and the location shall be permanently and visibly marked as "EV CAPABLE". METERING FAUCETS 0.2 GAL/CYCLE location of installed or future EV spaces, receptacles or EV chargers. Construction documents shall also provide information on amperage of installed or future receptacles or EVSE, raceway method(s), wiring schematics and

WATER CLOSET

URINALS

1.28 GAL/FLUSH

0.125 GAL/FLUSH

RUSSELL DAVIDSON ARCHITECTURE + DESIGN



ENOVA ∞

SUBMITTED: DATE AS NOTED DRAWN BY: CHECKED BY: JOB:

NAME

REV 1

CGBSC

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustic

combustion from the outside atmosphere and discharges all flue gases the outside atmosphere.



California 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2023)



MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O3/g ROC). Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR. Title 17. Sections 94700

MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood. PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).

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

Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).

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

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

4.504 POLLUTANT CONTROL

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

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

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

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

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

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

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

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

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

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

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

Less Water and Less Exempt Compounds in Gr	ams per Liter)
SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
THER	750

TABLE 4.504.3 - VOC CONTENT LIMITS FOR

ARCHITECTURAL COATINGS2,

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS1	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

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

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

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

TABLE 4.504.5 - FORMALDEHYDE LIMITS			
MAXIMUM FORMALDEHYDE EMISSIONS IN PA	RTS PER MILLION		
PRODUCT	CURRENT LIMIT		
HARDWOOD PLYWOOD VENEER CORE	0.05		
HARDWOOD PLYWOOD COMPOSITE CORE	0.05		
PARTICLE BOARD	0.09		
MEDIUM DENSITY FIBERBOARD	0.11		
THIN MEDIUM DENSITY FIBERBOARD2	0.13		

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

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

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued) 4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the requirements of 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 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of 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 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

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

4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall meet the requirements of 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 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

hhtps://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

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

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

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

4.505 INTERIOR MOISTURE CONTROL

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

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

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

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

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

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

acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

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

4.506 INDOOR AIR QUALITY AND EXHAUST **4.506.1 Bathroom exhaust fans.** Each bathroom shall be mechanically ventilated and shall comply with the

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.

- 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a
 - equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)

a. Humidity controls shall be capable of adjustment between a relative humidity range less than or

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

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

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

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

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

Equipment Selection), or other equivalent design software or methods.

NOT APPLICABLE
RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER,

CHAPTER 7 INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

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

1. State certified apprenticeship programs. Public utility training programs.

702 QUALIFICATIONS

Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. 4. Programs sponsored by manufacturing organizations.

Other programs acceptable to the enforcing agency.

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

- Certification by a national or regional green building program or standard publisher.
- 2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
- Successful completion of a third party apprentice training program in the appropriate trade. 4. Other programs acceptable to the enforcing agency.
- 1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
- HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

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

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

703 VERIFICATIONS

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

RUSSELL DAVIDSON ARCHITECTURE + DESIGN

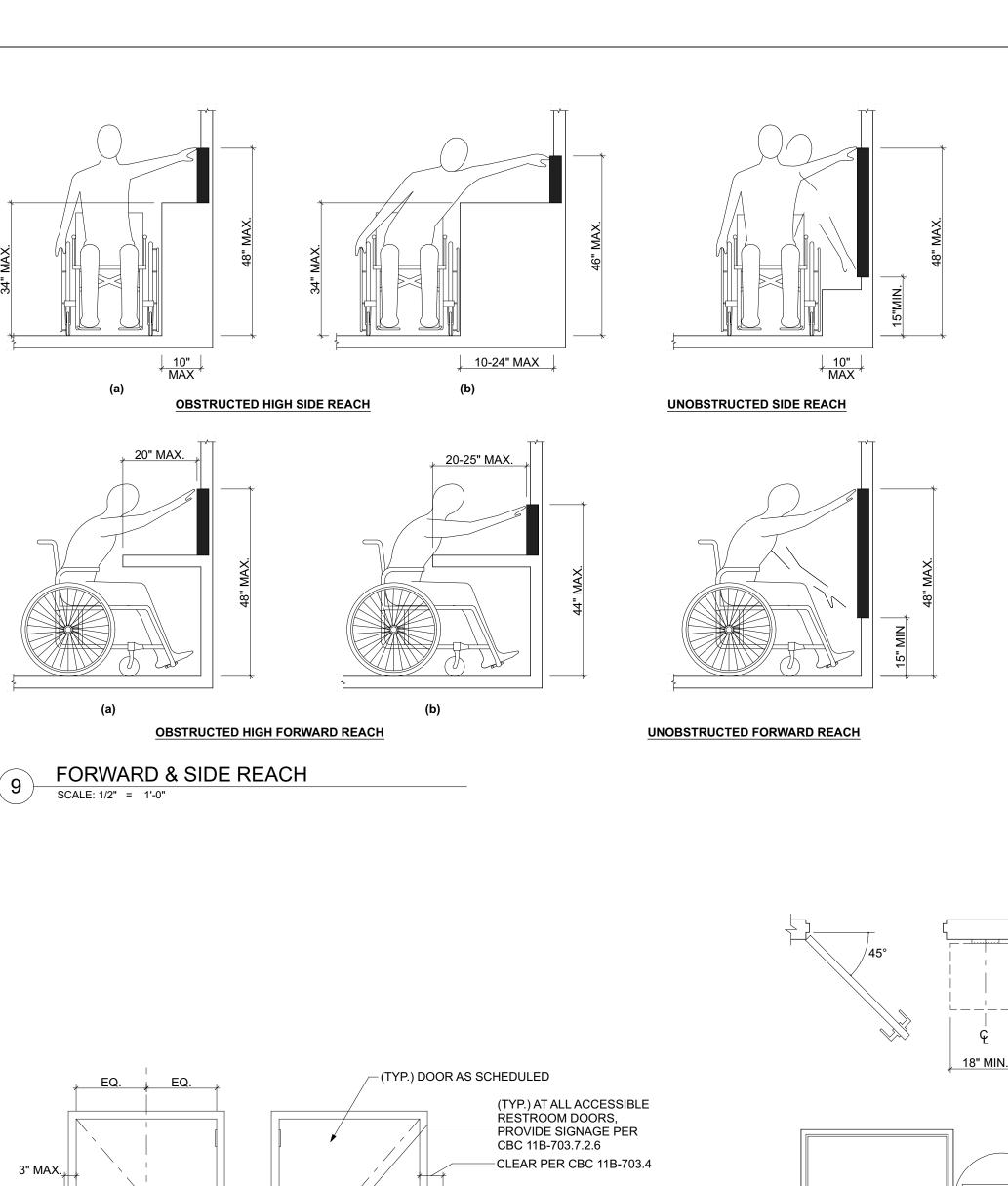


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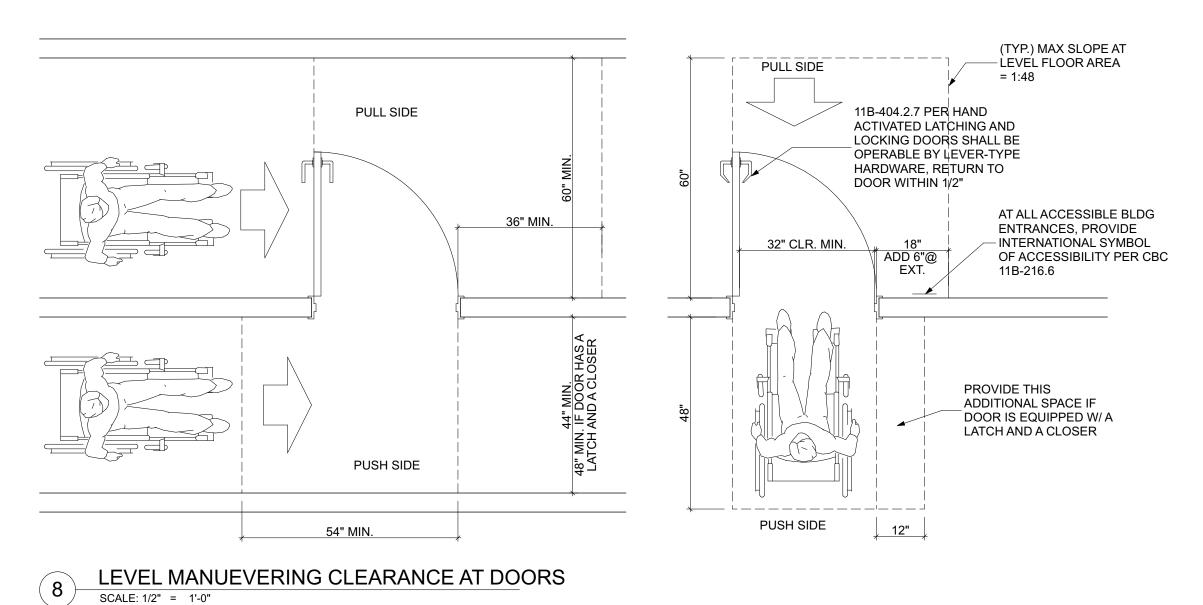
(TYP.) AT ALL DESIGNATED

PER CBC 11B-309.4, HAND-ACTIVATED LATCHING AND - LOCKING DOORS SHALL BE OPERABLE BY LEVER-TYPE

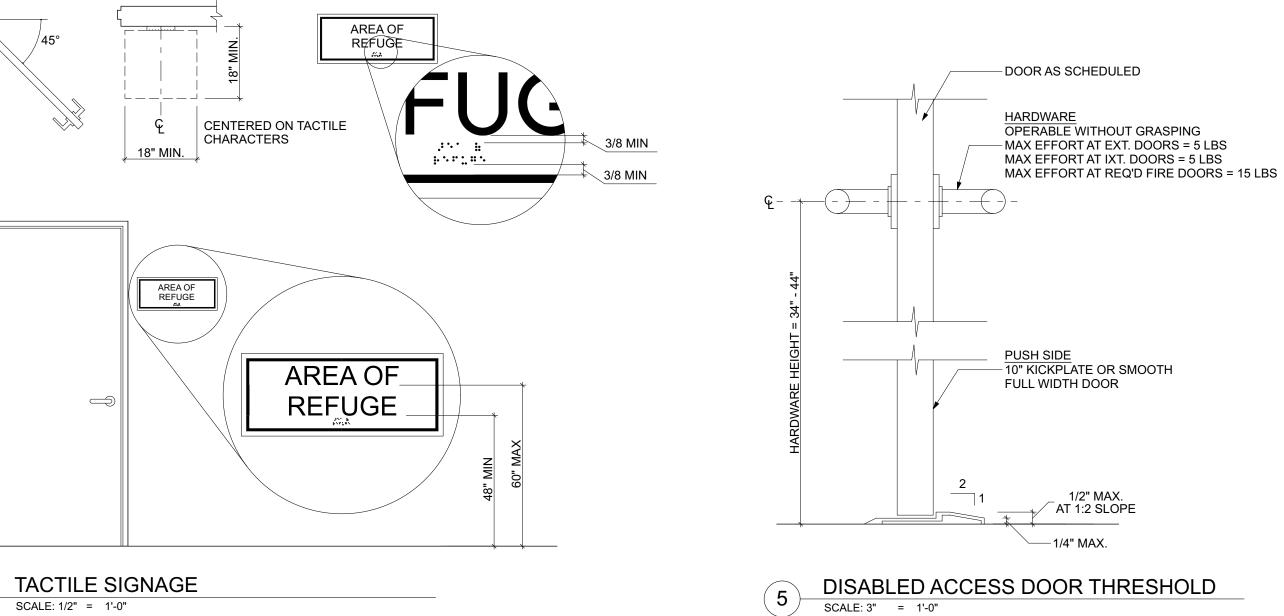
11B-703.7.2.1

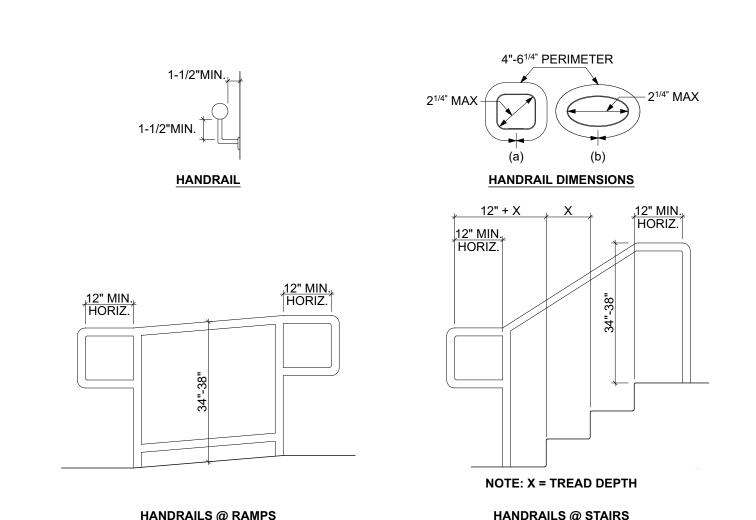
HARDWARE

ACCESSIBLE DOORWAYS, PROVIDE PERMANENT INTERNATIONAL SYMBOL OF ACCESSIBLITY AND ROOM SIGNAGE PER CBC

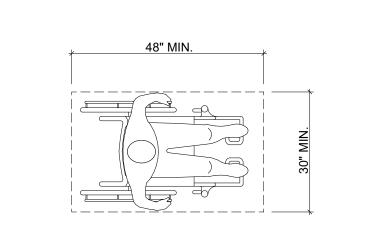


SCALE: 3" = 1'-0"





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



CLEAR FLOOR SPACE

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

ACCESSIBILITY NOTES:

- 1. A CLEAR OPENING OF 32 INCHES WITH THE DOOR OPEN 90 DEGREES MEASURED BETWEEN THE FACE OF THE DOOR AND THE
- OPPOSITE STOP. 2. WHERE THE DOORS ARE LOCATED WITHIN THE ACCESSIBLE ROUTE. THE DOOR LANDING IS REQUIRED TO HAVE A DEPTH CLEARANCE OF 60 INCHES MINIMUM IN THE DIRECTION OF THE DOOR SWING. THE DEPTH CLEARANCE SHALL BE 48 INCHES IN THE OPPOSITE
- DIRECTION OF DOOR SWING OR: A. IF APPROACH CAN BE MADE FROM THE LATCH SIDE, THE CLEARANCE DEPTH CAN BE 44 INCHES IF THE DOOR HAS NO
- B. IF APPROACH CAN BE MADE FROM THE STRIKE SIDE AND THE DOOR, THE CLEARANCE DEPTH CAN BE 44 INCHES IF IT HAS
- NEITHER LATCH NOR CLOSER (CBC 1003.3.3.2) 3. DOORS SHALL BE EQUIPPED WITH SINGLE-EFFORT, NON-GRASP HARDWARE (I.E., LEVER) CENTERED BETWEEN 34" AND 44" ABOVE THE FLOOR AND THE DOOR SHALL HAVE A 10" KICK-PLATE. (CBC 11B-404.2.7, 11B-404.2.10)
- 4. THE FORCE FOR PUSHING OR PULLING OPEN EXTERIORS ACCESSIBLE EGRESS DOORS IS 5 LB. AND 15 LB AT REQUIRED FIRE
- DOORS. (CBC 11B-404.2.9) 5. LANDINGS AT DOORS SHALL BE LEVEL EXCEPT THAT EXTERIOR DOOR LANDINGS MAY HAVE A SLOPE NOT TO EXCEED 1/4" PER FT (2%
- SLOPE). (CBC 11B-404.2.4.4) 6. WHEN THE ACCESSIBLE DOOR HAS A CLOSER, THE SWEEP PERIOD OF THE CLOSER SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECONDS MIN. (CBC 11B-404.2.8.1)
- 7. WHERE THERE IS A CARPET DOORMAT, ACCESSIBILITY WILL BE MAINTAINED AND THE DOORMAT SHALL BE SECURELY ATTACHED; EXPOSED EDGES SHALL BE FASTENED TO FLOOR SURFACES AND HAVE A TRIM ALONG ENTIRE LENGTH OF THE EXPOSED EDGE. PILE HEIGHT SHALL BE NO MORE THAN 1/2". CHANGES IN LEVEL OF 1/4" MAX SHALL BE PERMITTED TO BE VERTICAL AND WITHOUT EDGE TREATMENT. (CBC 11B-303 AND CBC 11B-302.2).
- 8. 4" STRIKE SIDE X 60" DEEP CLEARANCE AT EXTERIOR DOORS. THE TOTAL CLEARANCE DIMENSIONS ON THE PULL SIDE OF THE DOOR ARE 60"X60" (36" DOOR WIDTH PLUS 24" SIDE STRIKE). (CBC 11B-404.2.4)
- 9. EXIT DOOR'S SHALL HAVE WITH AN ILLUMINATED EXIT SIGN AND TACTILE SIGNAGE WITH SPECIAL PROVISIONS PER (CBC 1007.9) 10. MANUALLY OPERATED EDGE OR SURFACE MOUNTED FLUSH BOLTS
- AND SURFACE BOLTS OR ANY OTHER TYPE OF DEVICE THAT MAY BE USED TO CLOSE OR RESTRAIN THE DOOR OTHER THAN OPERATION OF THE LOCKING DEVICE SHALL NOT BE USED PER CBC 1008.1.9.4. 11. EXIT DOORS ARE TO BE OPENABLE FROM INSIDE WITHOUT USE OF A KEY, SPECIAL KNOWLEDGE OR EFFORT. HOWEVER, KEY-LOCKING HARDWARE MAY BE USED ON THE MAIN EXIT WHEN THE MAIN EXIT DOOR HAS A DURABLE SIGN ON OR ADJACENT TO THE DOOR STATING THIS DOOR MUST REMAIN UNLOCKED DURING BUSINESS HOURS. THE SIGN SHALL BE IN LETTERS NOT LESS THAN ONE INCH HIGH ON A CONTRASTING BACKGROUND. WHEN UNLOCKED, THE DOOR MUST BE FREE TO SWING WITHOUT OPERATION OF ANY LATCHING DEVICE. (CBC 1008.1.9.3)
- 12. FLOORS AND WALL BASE FINISH MATERIALS. IN OTHER THAN DWELLING UNITS, TOILET, BATHING AND SHOWER ROOM FLOOR FINISH MATERIALS SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE. THE INTERSECTIONS OF SUCH FLOORS WITH WALLS SHALL HAVE A SMOOTH, HARD, NONABSORBENT VERTICAL BASE THAT EXTENDS UPWARD ONTO THE WALLS AT LEAST 4 INCHES. (CBC 1210.2.1)
- 13. WALLS AND PARTITIONS. WALLS AND PARTITIONS WITHIN 2 FEET OF URINALS AND WATER CLOSETS SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE, TO A HEIGHT OF 4 FEET ABOVE THE FLOOR, AND EXCEPT FOR STRUCTURAL ELEMENTS, THE MATERIALS USED IN SUCH WALLS SHALL BE OF A TYPE THAT IS NOT ADVERSELY AFFECTED BY MOISTURE. (CBC 1210.2) **EXCEPTIONS:**
- 1. DWELLING UNITS AND SLEEPING UNITS. 2. TOILET ROOMS THAT ARE NOT ACCESSIBLE TO THE PUBLIC AND WHICH HAVE NOT MORE THAN ONE WATER CLOSET. ACCESSORIES SUCH AS GRAB BARS, TOWEL BARS, PAPER DISPENSERS AND SOAP DISHES, PROVIDED ON OR WITHIN WALLS, SHALL BE INSTALLED AND SEALED TO PROTECT STRUCTURAL ELEMENTS FROM MOISTURE. (CBC 2010.2)







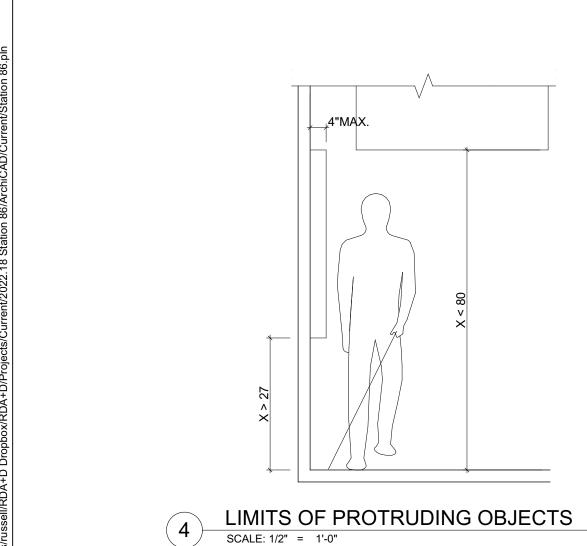
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ITFICAL **ACCESSIBILITY DETAILS**

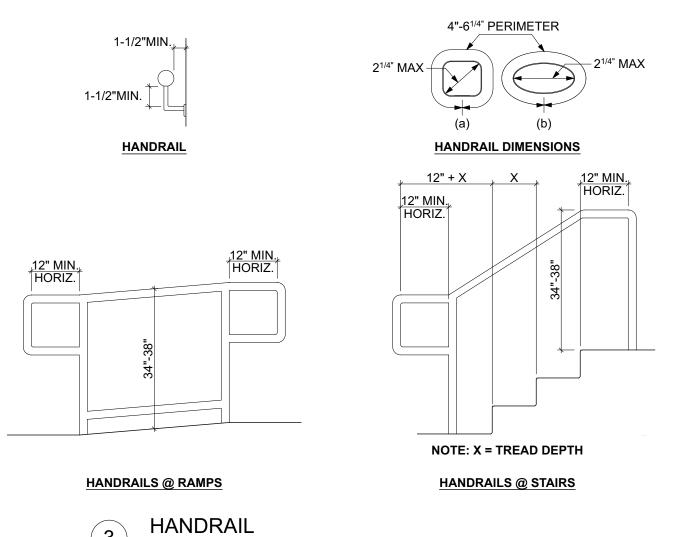
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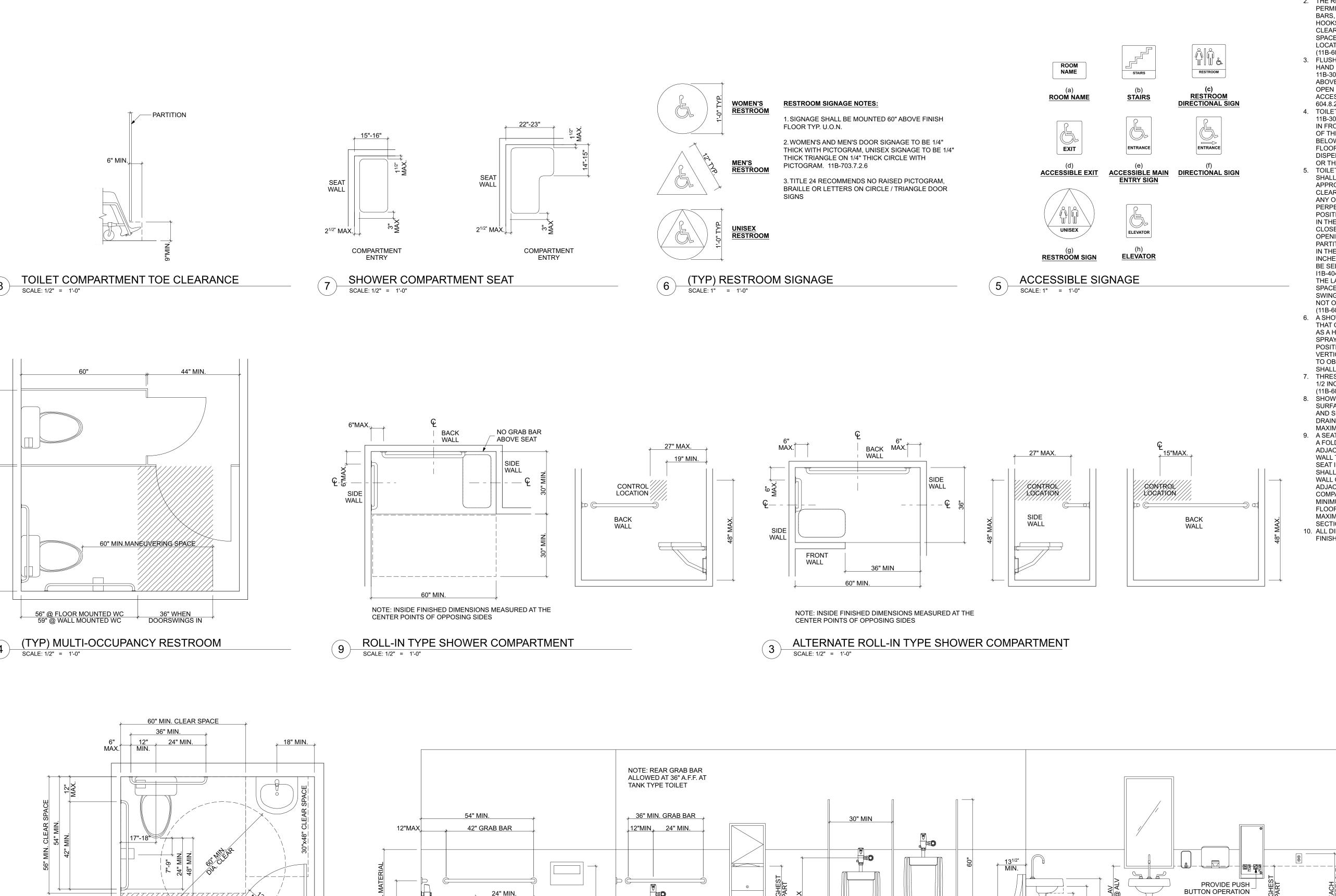


BEVELED CHANGE IN LEVEL



DISABLED ACCESS DOOR SIGNAGE





4" MIN. COVED FLOOR AND

WALL BASE

FIXTURE MOUNTING HEIGHTS

17-18"

DOOR PERMITTED TO SWING OVER

HATCHED PORTION OF -

MANEUVERING SPACE

(TYP) ACCESSIBLE RESTROOM

ACCESSIBILITY NOTES:

1. ALL DRINKING FOUNTAINS SHALL EITHER BE LOCATED COMPLETELY WITHIN ALCOVES, POSITIONED COMPLETELY BETWEEN WING WALLS, OR OTHERWISE POSITIONED SO AS NOT TO ENCROACH INTO PEDESTRIAN WAYS. THE PROTECTED AREA WITHIN WHICH A DRINKING FOUNTAIN IS LOCATED SHALL BE 32 INCHES WIDE MINIMUM AND 18 INCHES DEEP MINIMUM, AND SHALL COMPLY WITH SECTION 11B-305.7. WHEN USED, WING WALLS OR BARRIERS SHALL PROJECT HORIZONTALLY AT LEAST AS FAR AS THE DRINKING FOUNTAIN AND TO WITHIN 6 INCHES VERTICALLY FROM THE FLOOR OR GROUND SURFACE. (11B-602.9)

2. THE REQUIRED CLEARANCE AROUND THE WATER CLOSET SHALL BE PERMITTED TO OVERLAP THE WATER CLOSET, ASSOCIATED GRAB BARS, DISPENSERS, SANITARY NAPKIN DISPOSAL UNITS, COAT HOOKS, SHELVES, ACCESSIBLE ROUTES, CLEAR FLOOR SPACE AND CLEARANCES REQUIRED AT OTHER FIXTURES, AND THE TURNING SPACE. NO OTHER FIXTURES OR OBSTRUCTIONS SHALL BE LOCATED WITHIN THE REQUIRED WATER CLOSET CLEARANCE.

(11B-604.3.2) 3. FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC.

HAND OPERATED FLUSH CONTROLS SHA11 COMPLY WITH SECTION 11B-309 EXCEPT THEY SHALL BE LOCATED 44 INCHES MAXIMUM ABOVE THE FLOOR. FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET EXCEPT IN AMBULATORY ACCESSIBLE COMPARTMENTS COMPLYING WITH SECTION 11B-604.8.2. (11B-604.6)

4. TOILET PAPER DISPENSERS SHALL COMPLY WITH SECTION 11B-309.4 AND SHALL BE 7 INCHES MINIMUM AND 9 INCHES MAXIMUM IN FRONT OF THE WATER CLOSET MEASURED TO THE CENTERLINE OF THE DISPENSER. THE OUTLET OF THE DISPENSER SHALL BE BELOW THE GRAB BAR, 19 INCHES MINIMUM ABOVE THE FINISH FLOOR AND SHALL NOT BE LOCATED BEHIND GRAB BARS. DISPENSERS SHALL NOT BE OF A TYPE THAT CONTROLS DELIVERY

OR THAT DOES NOT ALLOW CONTINUOUS PAPER FLOW. (11B-604.7) 5. TOILET COMPARTMENT DOORS, INCLUDING DOOR HARDWARE. SHALL COMPLY WITH SECTION 11B-404 EXCEPT THAT IF THE APPROACH IS FROM THE PUSH SIDE OF THE COMPARTMENT DOOR. CLEARANCE BETWEEN THE DOOR SIDE OF THE COMPARTMENT AND ANY OBSTRUCTION SHALL BE 48 INCHES MINIMUM MEASURED PERPENDICULAR TO THE COMPARTMENT DOOR IN ITS CLOSED POSITION. DOORS SHALL BE LOCATED IN THE FRONT PARTITION OR IN THE SIDE WALL OR PARTITION FARTHEST FROM THE WATER CLOSET. WHERE LOCATED IN THE FRONT PARTITION, THE DOOR OPENING SHALL BE 4 INCHES MAXIMUM FROM THE SIDE WALL OR PARTITION FARTHEST FROM THE WATER CLOSET. WHERE LOCATED IN THE SIDE WALL OR PARTITION, THE DOOR OPENING SHALL BE 4 INCHES MAXIMUM FROM THE FRONT PARTITION. THE DOOR SHALL BE SELF-CLOSING. A DOOR PULL COMPLYING WITH SECTION 11B-404.2.7 SHALL BE PLACED ON BOTH SIDES OF THE DOOR NEAR THE LATCH. DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE OR CLEARANCE REQUIRED FOR ANY FIXTURE. DOORS MAY SWING INTO THAT PORTION OF MANEUVERING SPACE WHICH DOES NOT OVERLAP THE CLEARANCE REQUIRED AT A WATER CLOSET. (11B-604.8.1.2)

6. A SHOWER SPRAY UNIT WITH A HOSE 59 INCHES LONG MINIMUM THAT CAN BE USED BOTH AS A FIXED-POSITION SHOWER HEAD AND AS A HANDHELD SHOWER SHALL BE PROVIDED. THE SHOWER SPRAY UNIT SHALL HAVE AN ON/OFF CONTROL WITH A NON-POSITIVE SHUT-OFF. IF AN ADJUSTABLE-HEIGHT SHOWER HEAD ON A VERTICAL BAR IS USED, THE BAR SHALL BE INSTALLED SO AS NOT TO OBSTRUCT THE USE OF GRAB BARS. SHOWER SPRAY UNITS SHALL DELIVER WATER THAT IS 120 F (49°C) MAXIMUM. (11B-605.6) 7. THRESHOLDS IN ROLL-IN TYPE SHOWER COMPARTMENTS SHALL BE 1/2 INCH HIGH MAXIMUM IN ACCORDANCE WITH SECTION 11B-303.

(11B-605.7) 8. SHOWER FLOOR OR GROUND SURFACE. FLOOR OR GROUND SURFACES OFSHOWERS SHALL COMPLY WITH SECTION 11B-302.1 AND SHALL BE SLOPED 1:48 MAXIMUM IN ANY DIRECTION. WHERE DRAINS ARE PROVIDED, GRATE OPENINGS SHALL BE 1/4 INCH

MAXIMUM AND FLUSH WITH THE FLOOR SURFACE. (11B-605.9) 9. A SEAT IN A STANDARD ROLL-IN SHOWER COMPARTMENT SHALL BE A FOLDING TYPE, SHALL BE INSTALLED ON THE SIDE WALL ADJACENT TO THE CONTROLS, AND SHALL EXTEND FROM THE BACK WALL TO A POINT WITHIN 3 INCHES OF THE COMPARTMENT ENTRY. A SEAT IN AN ALTERNATE ROLL-IN TYPE SHOWER COMPARTMENT SHALL BE A FOLDING TYPE, SHALL BE INSTALLED ON THE FRONT WALL OPPOSITE THE BACK WALL, AND SHALL EXTEND FROM THE ADJACENT SIDE WALL TO A POINT WITHIN 3 INCHES OF THE COMPARTMENT ENTRY. THE TOP OF THE SEAT SHALL BE 17 INCHES MINIMUM AND 19 INCHES MAXIMUM ABOVE THE BATHROOM FINISH FLOOR. WHEN FOLDED, THE SEAT SHALL EXTEND 6 INCHES MAXIMUM FROM THE MOUNTING WALL. SEATS SHALL COMPLY WITH SECTION 11B-610.3.1 OR 11B-610.3.2. (11B-610.3)

10. ALL DIMENSIONS ARE TO FINISHED INTERIOR ÓR EXTERIOR WALL FINISH. VERIFY IN FIELD.

48" MIN. FOR DOUBLE

32" MIN. FOR SINGLE

LOW REACH BOTTOM OF

RECEPTACLE

PROVIDE INSULATION FOR

EXPOSED PIPES

RUSSELL DAVIDSON ARCHITECTURE + DESIGN



RENOVATION 86 STATION

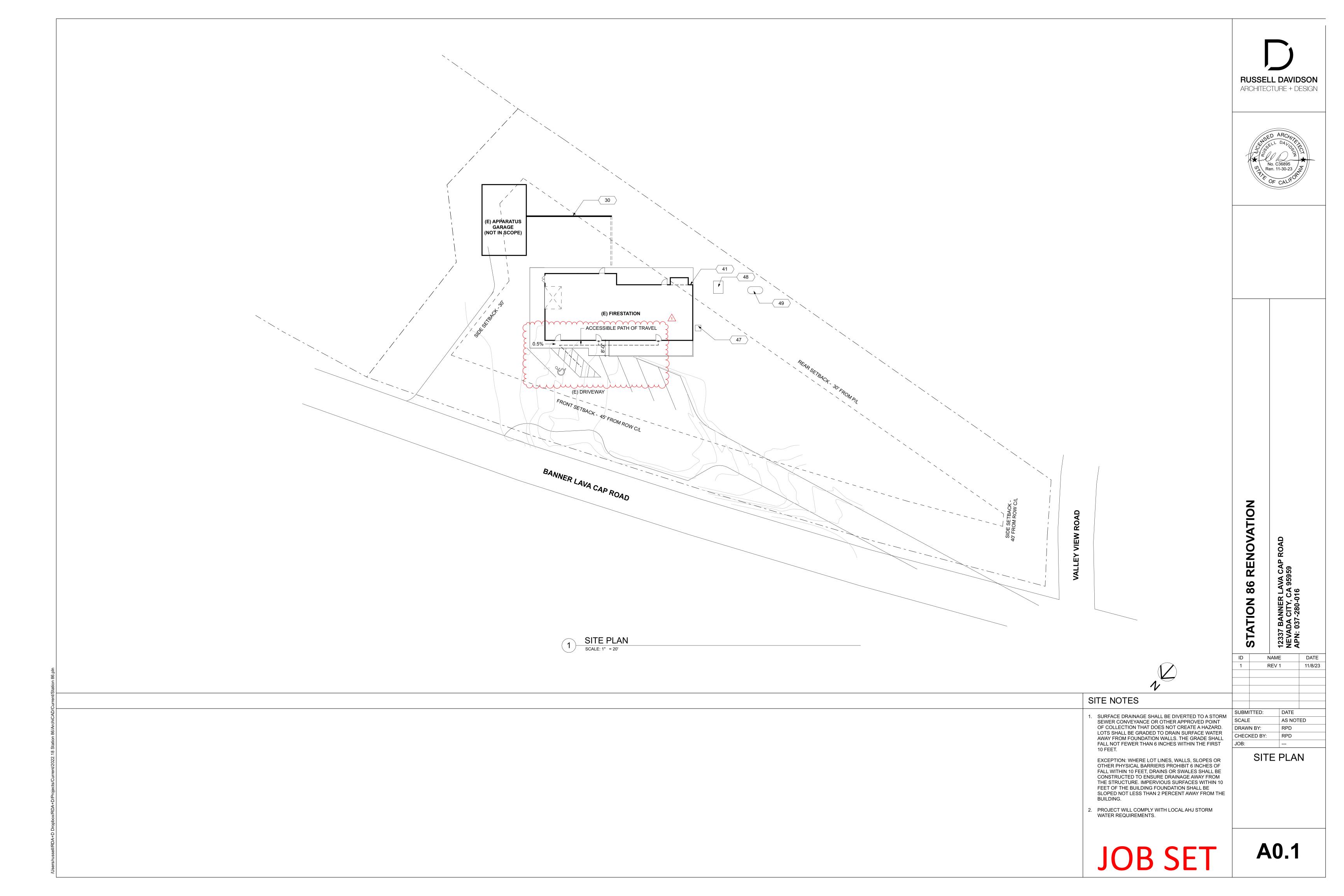
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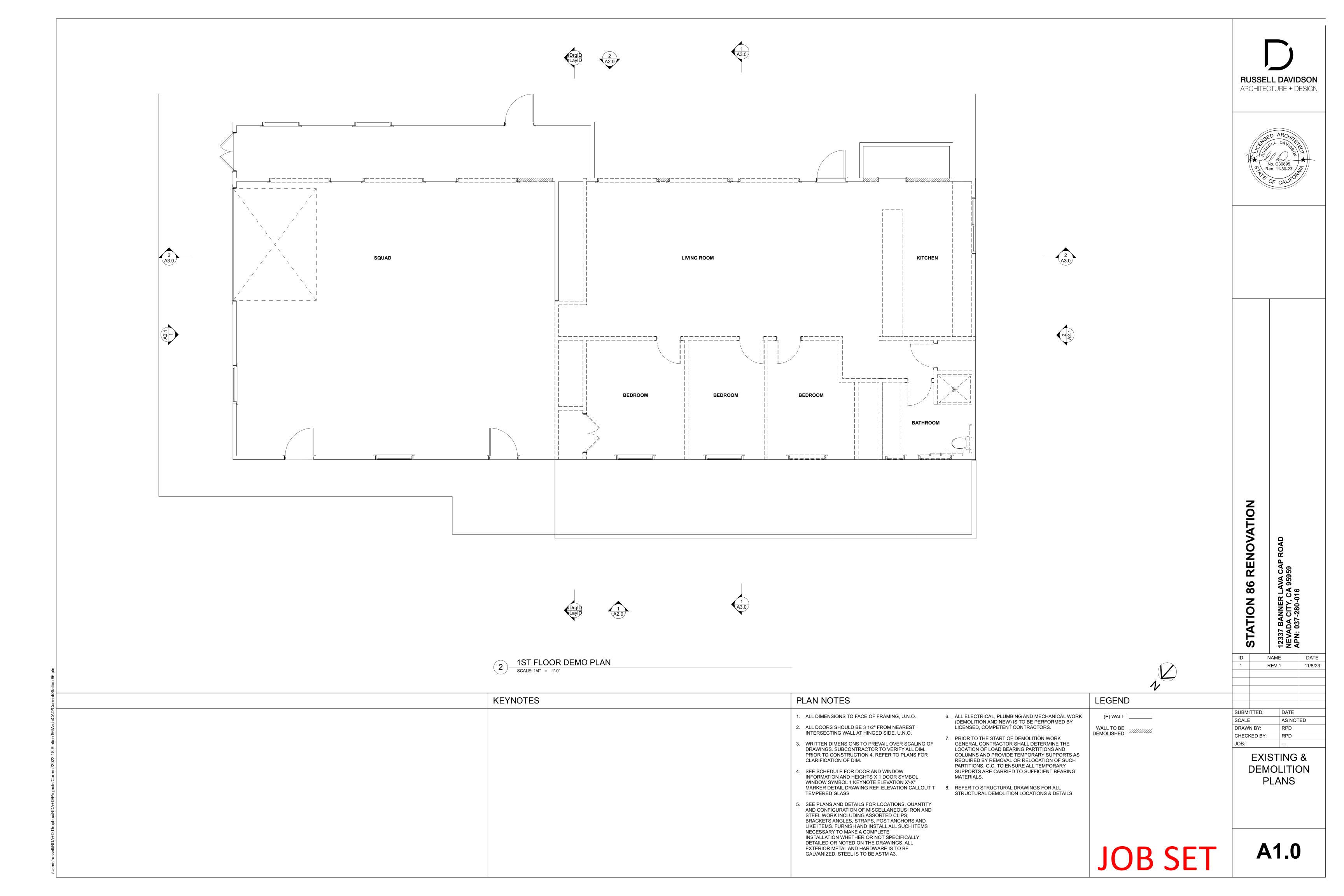
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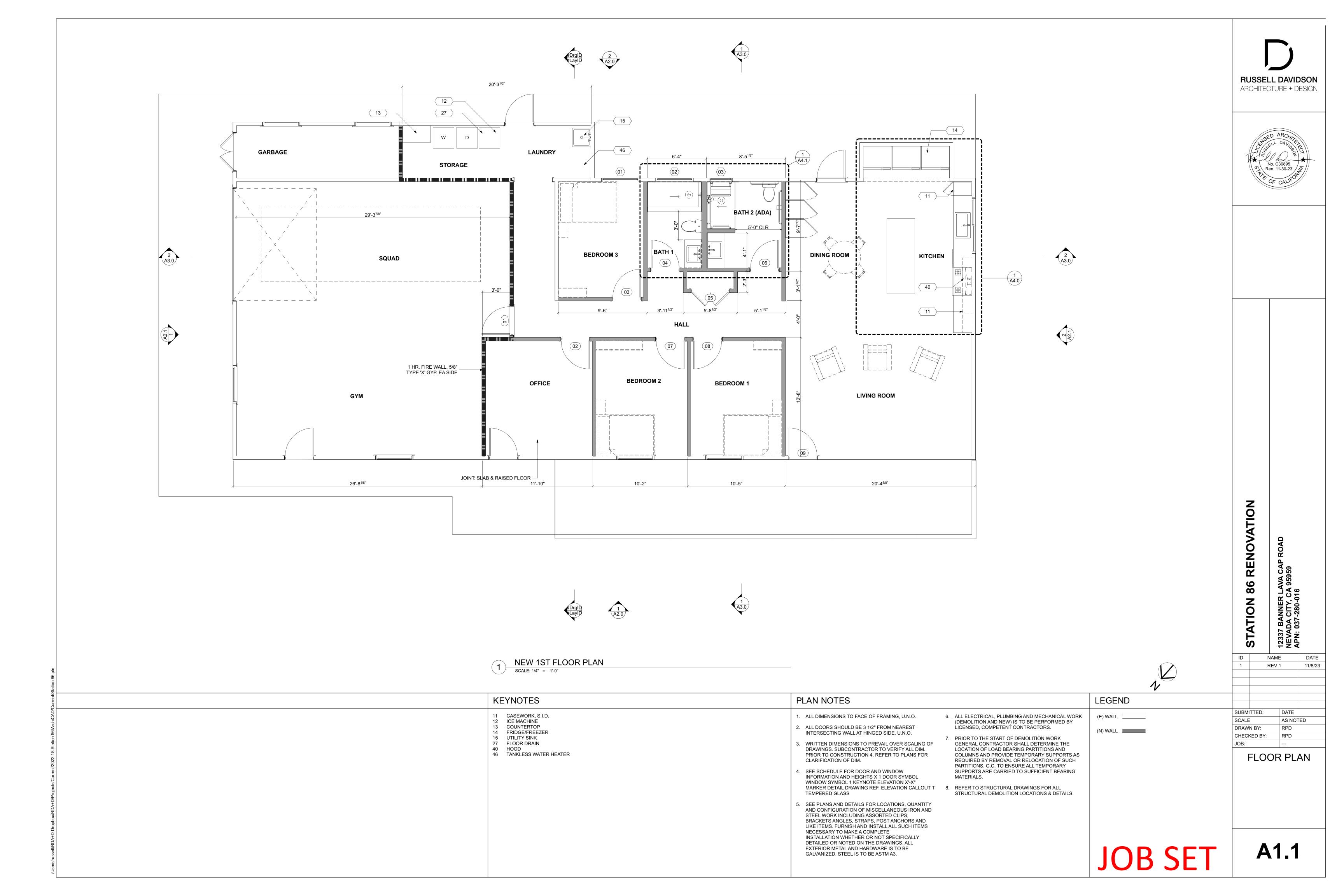
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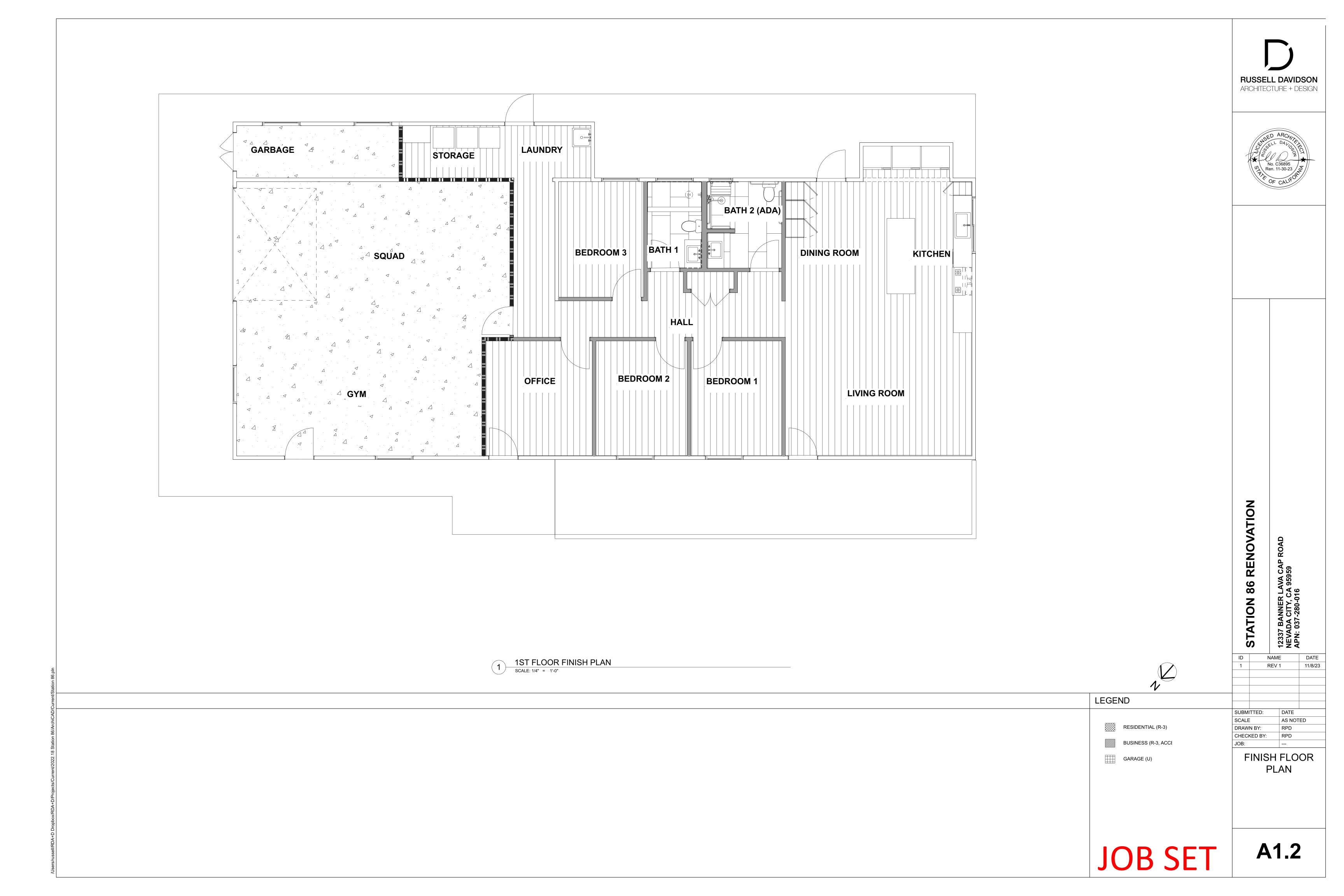
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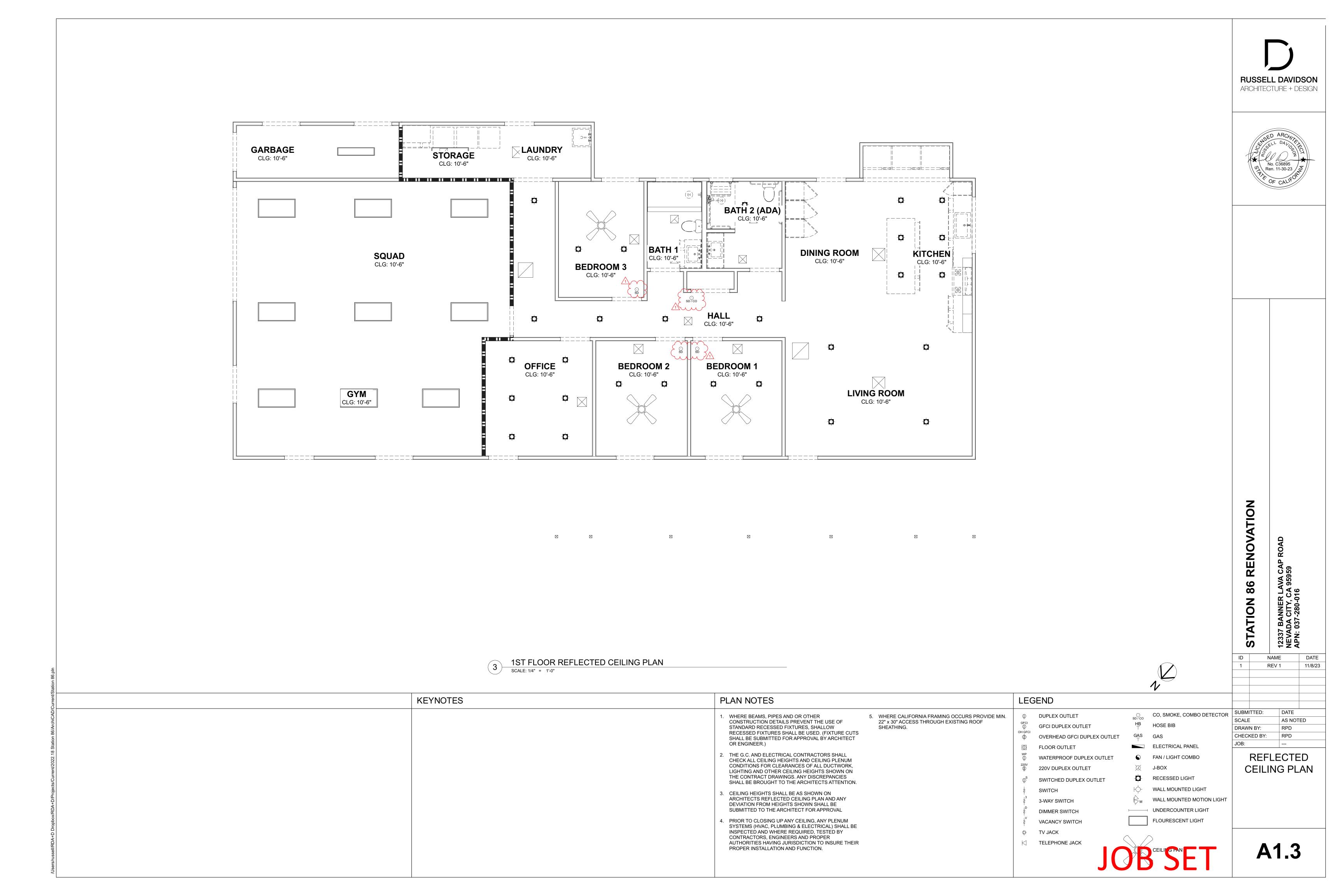
15" MIN. WINGWALLS

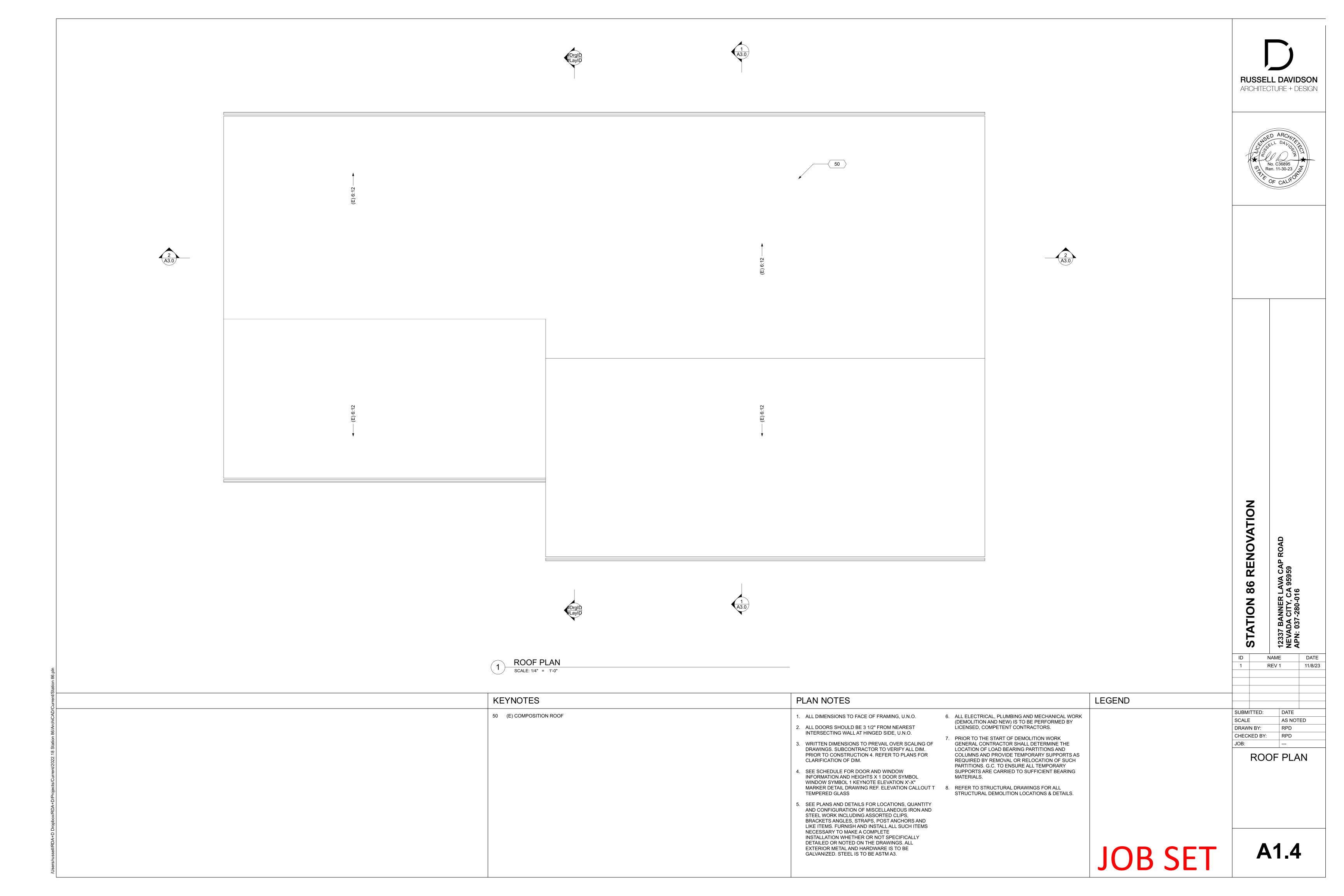


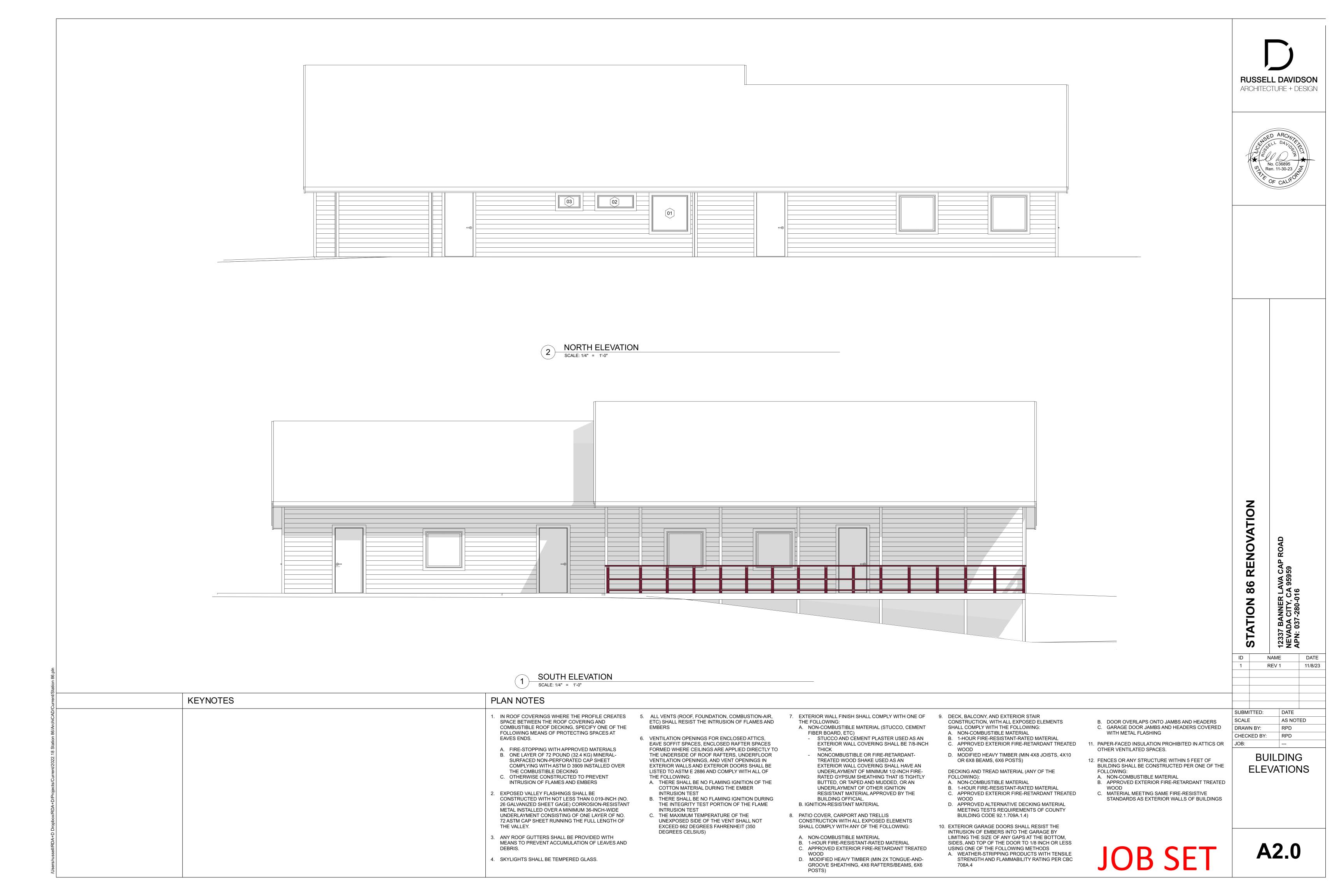


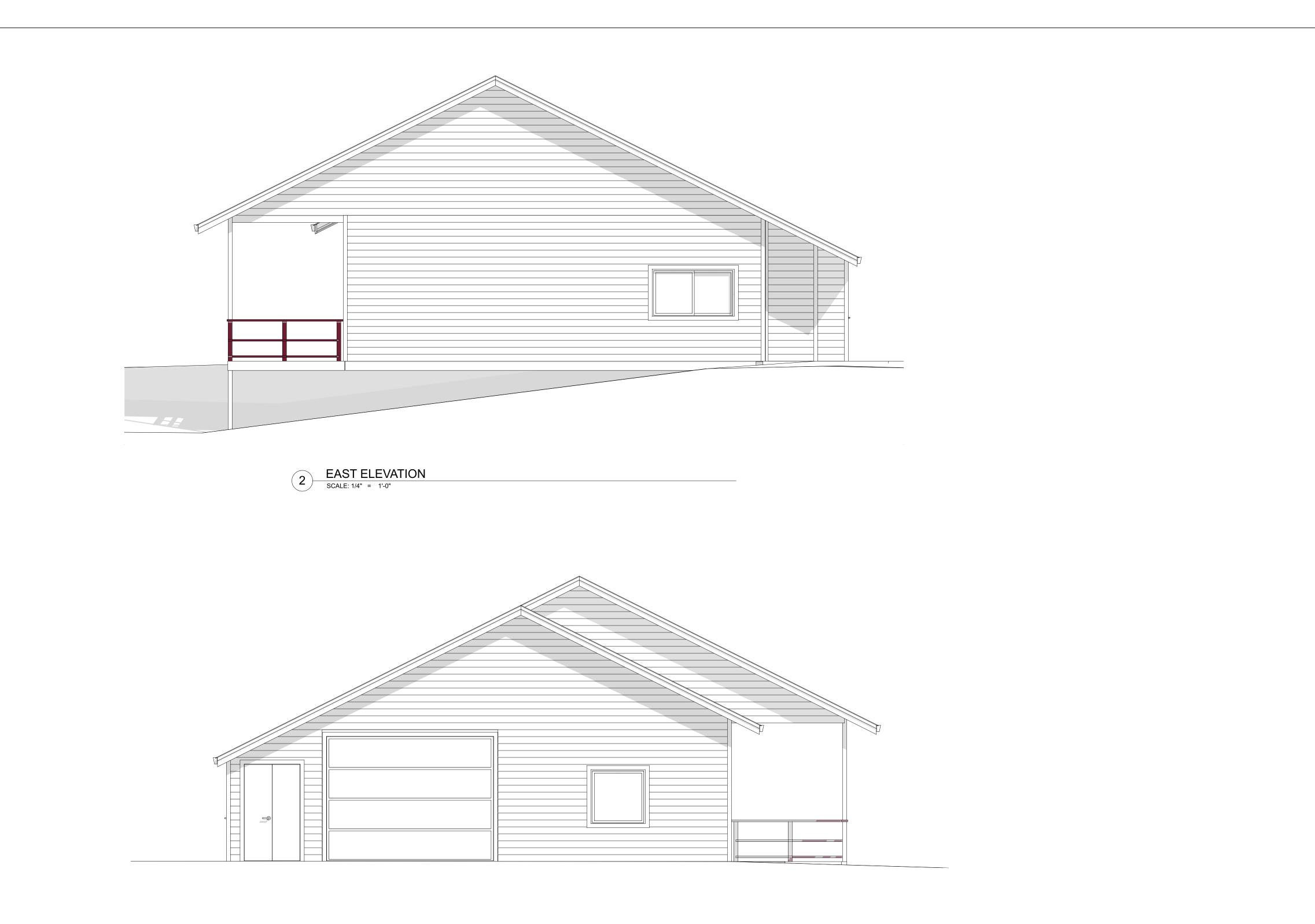












1 WEST ELEVATION

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

KEYNOTES PLAN NOTES IN ROOF COVERINGS WHERE THE PROFILE CREATES SPACE BETWEEN THE ROOF COVERING AND COMBUSTIBLE ROOF DECKING, SPECIFY ONE OF THE FOLLOWING MEANS OF PROTECTING SPACES AT EAVES ENDS. A. FIRE-STOPPING WITH APPROVED MATERIALS B. ONE LAYER OF 72 POUND (32.4 KG) MINERAL-SURFACED NON-PERFORATED CAP SHEET COMPLYING WITH ASTM D 3909 INSTALLED OVER THE COMBUSTIBLE DECKING C. OTHERWISE CONSTRUCTED TO PREVENT INTRUSION OF FLAMES AND EMBERS

- EXPOSED VALLEY FLASHINGS SHALL BE CONSTRUCTED WITH NOT LESS THAN 0.019-INCH (NO. 26 GALVANIZED SHEET GAGE) CORROSION-RESISTANT METAL INSTALLED OVER A MINIMUM 36-INCH-WIDE UNDERLAYMENT CONSISTING OF ONE LAYER OF NO. 72 ASTM CAP SHEET RUNNING THE FULL LENGTH OF THE VALLEY.
- ANY ROOF GUTTERS SHALL BE PROVIDED WITH MEANS TO PREVENT ACCUMULATION OF LEAVES AND

4. SKYLIGHTS SHALL BE TEMPERED GLASS.

INTRUSION TEST B. THERE SHALL BE NO FLAMING IGNITION DURING THE INTEGRITY TEST PORTION OF THE FLAME INTRUSION TEST

THE FOLLOWING:

EMBERS

C. THE MAXIMUM TEMPERATURE OF THE UNEXPOSED SIDE OF THE VENT SHALL NOT EXCEED 662 DEGREES FAHRENHEIT (350 DEGREES CELSIUS)

5. ALL VENTS (ROOF, FOUNDATION, COMBUSTION-AIR,

ETC) SHALL RESIST THE INTRUSION OF FLAMES AND

EXTERIOR WALLS AND EXTERIOR DOORS SHALL BE

LISTED TO ASTM E 2886 AND COMPLY WITH ALL OF

A. THERE SHALL BE NO FLAMING IGNITION OF THE

COTTON MATERIAL DURING THE EMBER

- 7. EXTERIOR WALL FINISH SHALL COMPLY WITH ONE OF THE FOLLOWING: A. NON-COMBUSTIBLE MATERIAL (STUCCO, CEMENT
- FIBER BOARD, ETC) 6. VENTILATION OPENINGS FOR ENCLOSED ATTICS, - STUCCO AND CEMENT PLASTER USED AS AN EAVE SOFFIT SPACES, ENCLOSED RAFTER SPACES EXTERIOR WALL COVERING SHALL BE 7/8-INCH FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS, UNDERFLOOR VENTILATION OPENINGS, AND VENT OPENINGS IN
 - NONCOMBUSTIBLE OR FIRE-RETARDANT-TREATED WOOD SHAKE USED AS AN EXTERIOR WALL COVERING SHALL HAVE AN UNDERLAYMENT OF MINIMUM 1/2-INCH FIRE-RATED GYPSUM SHEATHING THAT IS TIGHTLY BUTTED, OR TAPED AND MUDDED, OR AN UNDERLAYMENT OF OTHER IGNITION RESISTANT MATERIAL APPROVED BY THE
 - BUILDING OFFICIAL. B. IGNITION-RESISTANT MATERIAL
 - 8. PATIO COVER, CARPORT AND TRELLIS CONSTRUCTION WITH ALL EXPOSED ELEMENTS SHALL COMPLY WITH ANY OF THE FOLLOWING:
 - A. NON-COMBUSTIBLE MATERIAL B. 1-HOUR FIRE-RESISTANT-RATED MATERIAL
 - C. APPROVED EXTERIOR FIRE-RETARDANT TREATED D. MODIFIED HEAVY TIMBER (MIN 2X TONGUE-AND-GROOVE SHEATHING, 4X6 RAFTERS/BEAMS, 6X6

- 9. DECK, BALCONY, AND EXTERIOR STAIR CONSTRUCTION, WITH ALL EXPOSED ELEMENTS
- SHALL COMPLY WITH THE FOLLOWING: A. NON-COMBUSTIBLE MATERIAL B. 1-HOUR FIRE-RESISTANT-RATED MATERIAL C. APPROVED EXTERIOR FIRE-RETARDANT TREATED
- D. MODIFIED HEAVY TIMBER (MIN 4X8 JOISTS, 4X10 OR 6X8 BEAMS, 6X6 POSTS)
- DECKING AND TREAD MATERIAL (ANY OF THE FOLLOWING):

BUILDING CODE 92.1.709A.1.4)

- A. NON-COMBUSTIBLE MATERIAL B. 1-HOUR FIRE-RESISTANT-RATED MATERIAL
- C. APPROVED EXTERIOR FIRE-RETARDANT TREATED D. APPROVED ALTERNATIVE DECKING MATERIAL

MEETING TESTS REQUIREMENTS OF COUNTY

10. EXTERIOR GARAGE DOORS SHALL RESIST THE INTRUSION OF EMBERS INTO THE GARAGE BY LIMITING THE SIZE OF ANY GAPS AT THE BOTTOM, SIDES, AND TOP OF THE DOOR TO 1/8 INCH OR LESS USING ONE OF THE FOLLOWING METHODS A. WEATHER-STRIPPING PRODUCTS WITH TENSILE STRENGTH AND FLAMMABILITY RATING PER CBC

- B. DOOR OVERLAPS ONTO JAMBS AND HEADERS C. GARAGE DOOR JAMBS AND HEADERS COVERED
- WITH METAL FLASHING 11. PAPER-FACED INSULATION PROHIBITED IN ATTICS OR OTHER VENTILATED SPACES.
- 12. FENCES OR ANY STRUCTURE WITHIN 5 FEET OF BUILDING SHALL BE CONSTRUCTED PER ONE OF THE FOLLOWING:
- A. NON-COMBUSTIBLE MATERIAL B. APPROVED EXTERIOR FIRE-RETARDANT TREATED
- WOOD C. MATERIAL MEETING SAME FIRE-RESISTIVE STANDARDS AS EXTERIOR WALLS OF BUILDINGS

JOB SET

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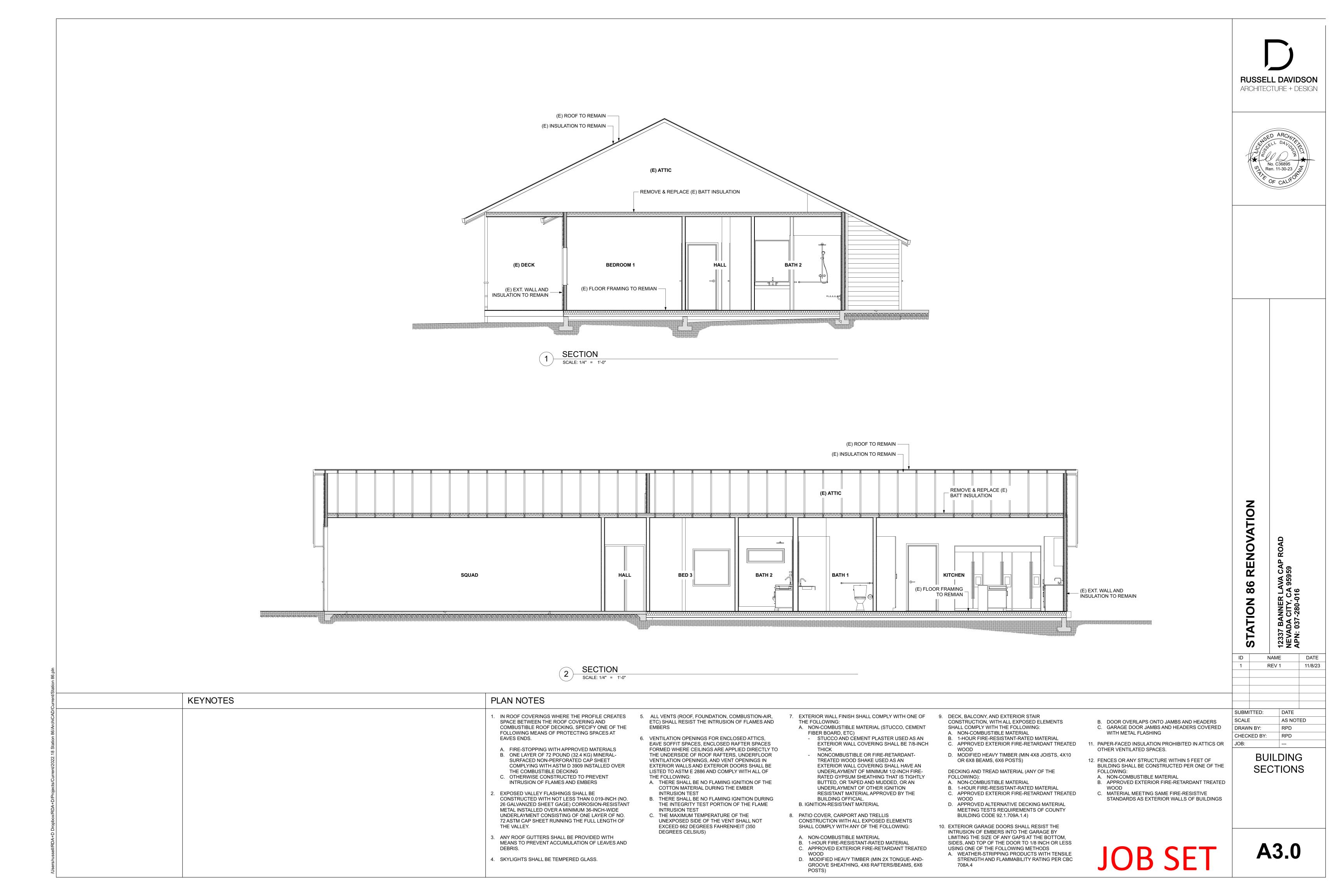
ELEVATIONS

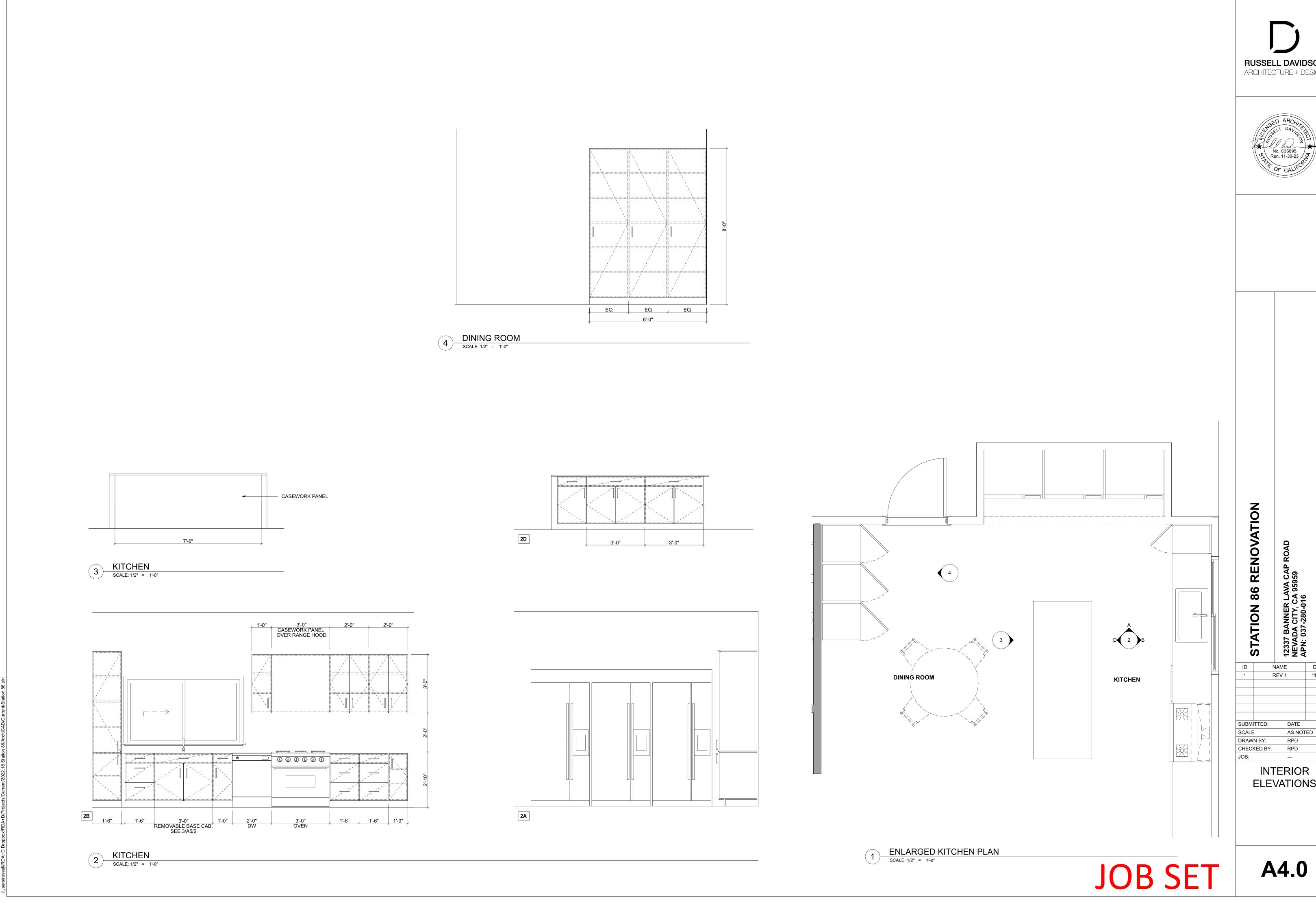
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RUSSELL DAVIDSON ARCHITECTURE + DESIGN

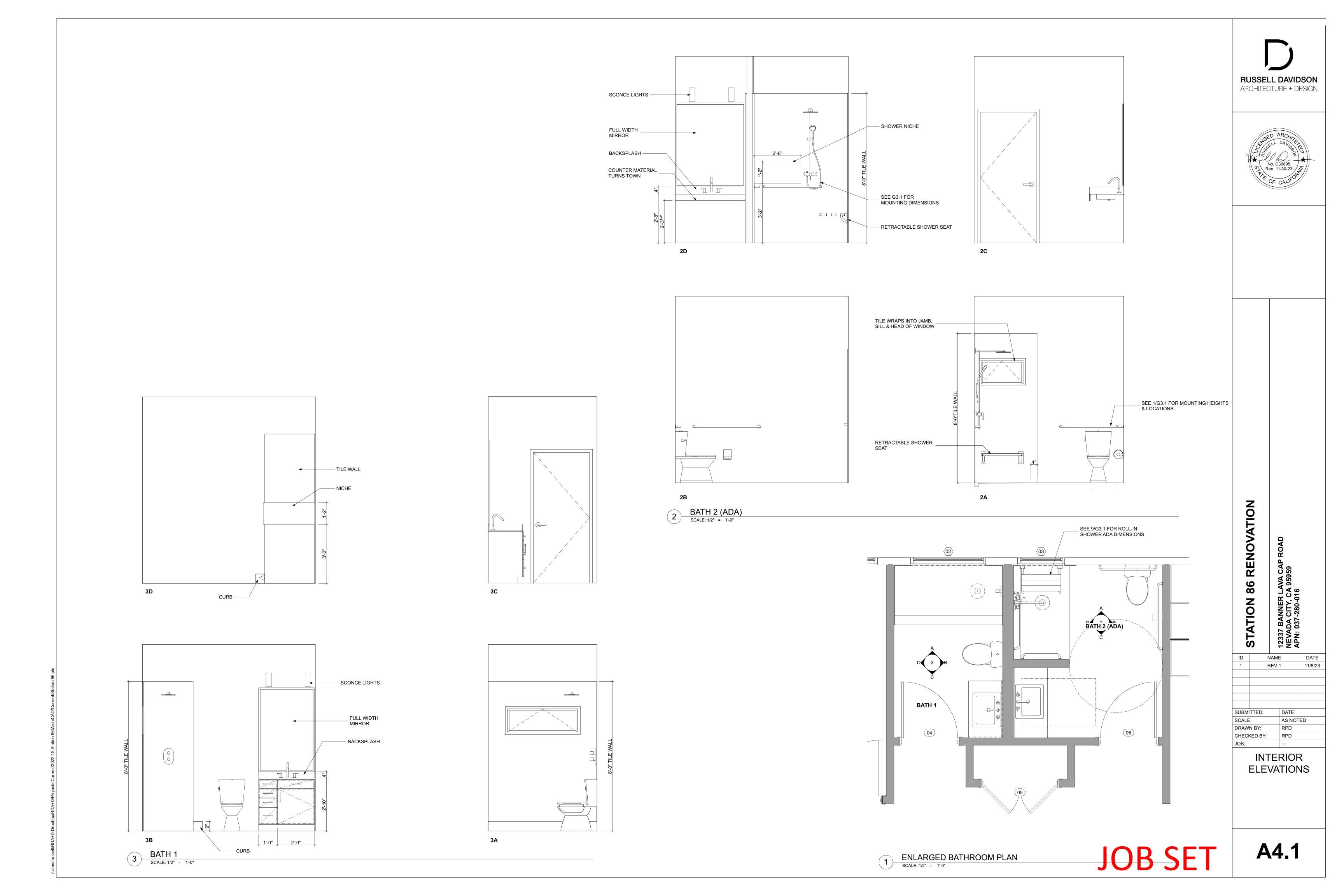


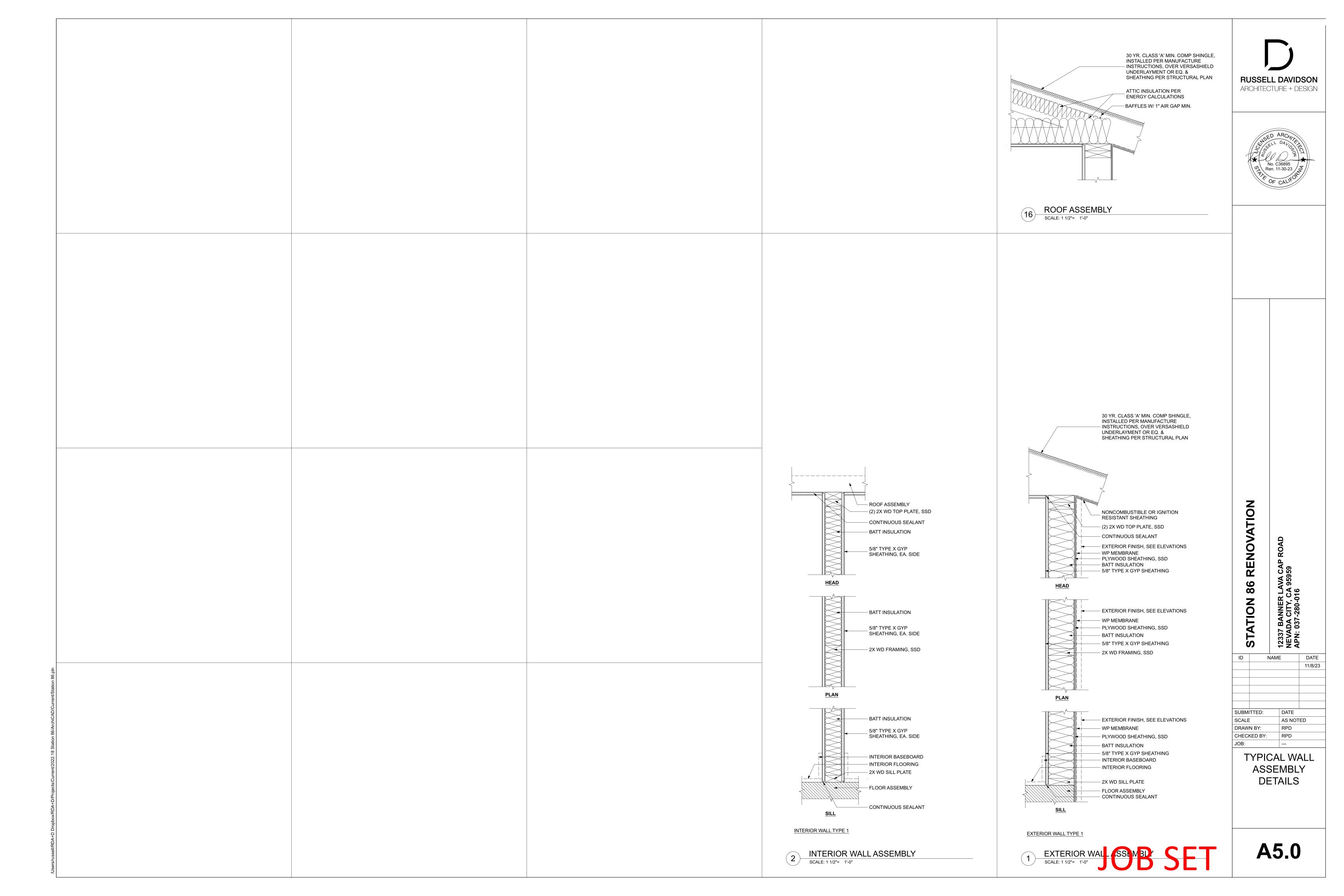


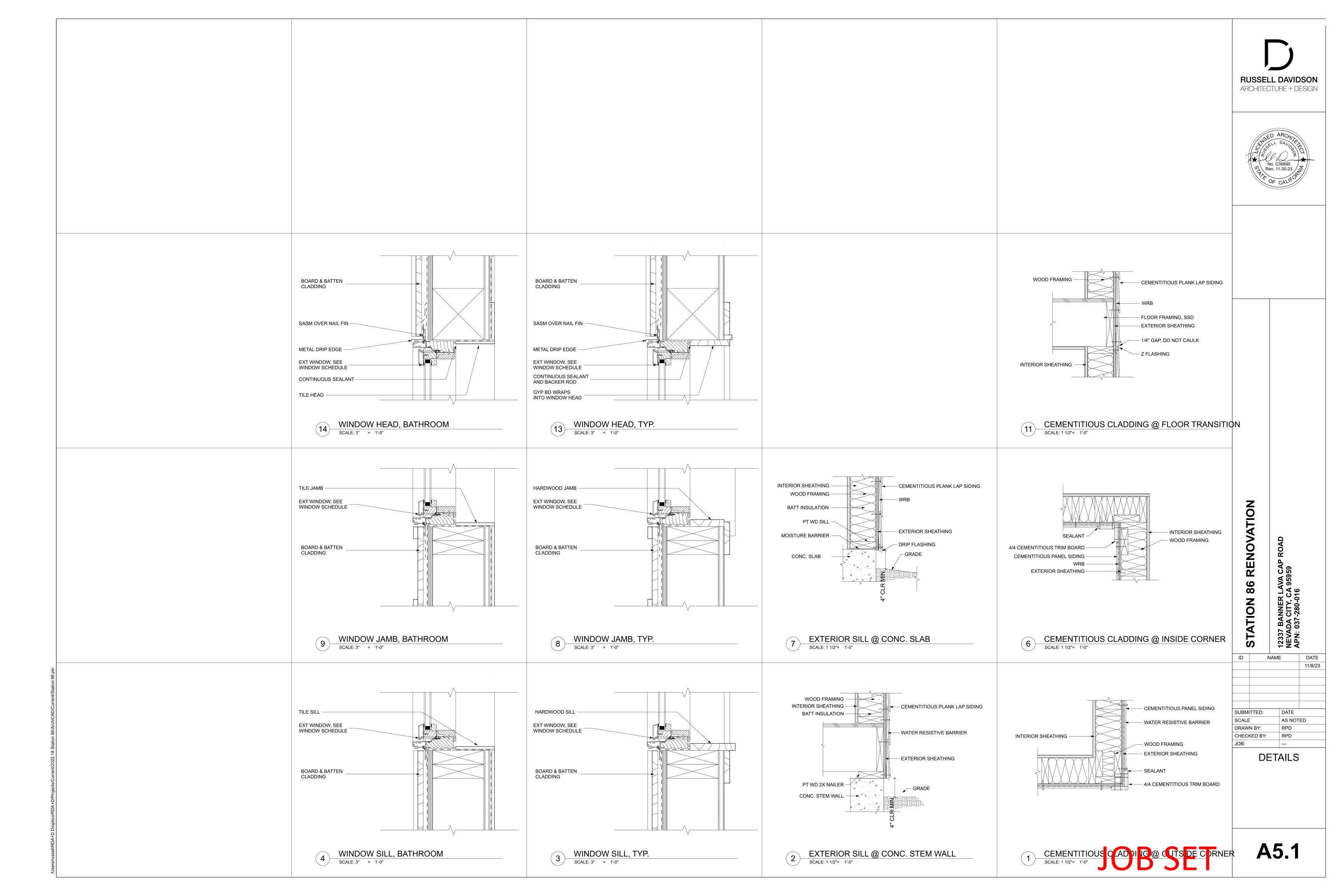
RUSSELL DAVIDSON ARCHITECTURE + DESIGN

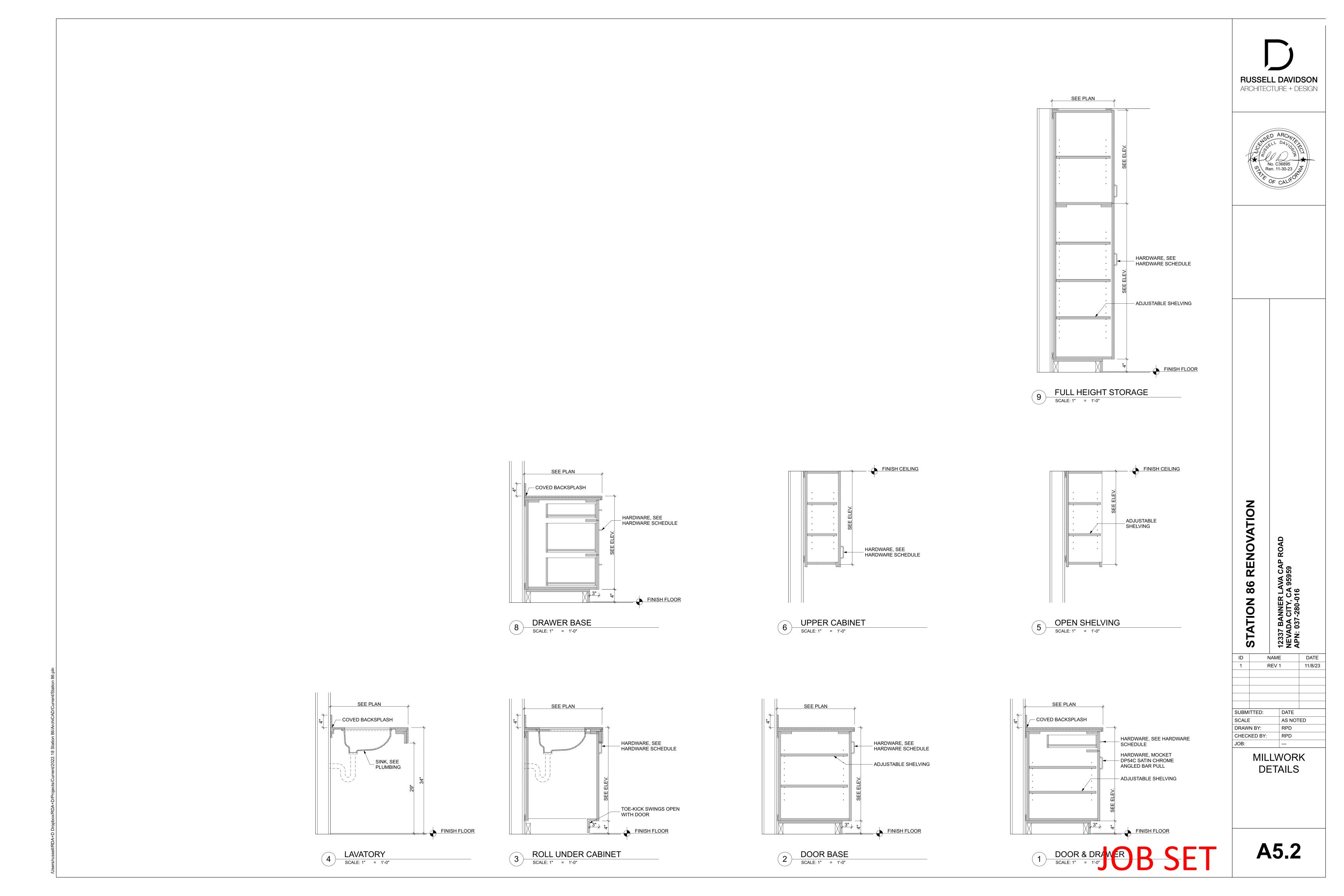


INTERIOR **ELEVATIONS**









								DOOR SCHEDULE						
DOOR#	LOCATION	TYPE	EXPOSURE	w	Н	TH	MFG	MODEL	MATERIAL	FINISH	HARDWARE	CLOSER	FIRE RATING	REMARKS
01	SQUAD		INT	3'-0"	7'-0"	1 ^{5/8} "				PTD	TYPE 2	Υ	45 MIN.	
02	OFFICE		INT	3'-0"	7'-0"	1 ^{3/8} "	TRIMLITE	3068FSCPHB	SCWD	PTD	TYPE 3	N		
03	BEDROOM 3		INT	3'-0"	7'-0"	1 ^{3/8} "	TRIMLITE	3068FSCPHB	SCWD	PTD	TYPE 3	N		
04	BATH 1		INT	3'-0"	7'-0"	1 ^{3/8} "	TRIMLITE	3068FSCPHB	SCWD	PTD	TYPE 3	N		
05	HALL		INT	4'-0"	7'-0"	1 ^{3/8} "			SCWD	PTD	TYPE 4	N		
06	BATH 2 (ADA)		INT	3'-0"	7'-0"	1 ^{3/8} "	TRIMLITE	3068FSCPHB	SCWD	PTD	TYPE 3	N		
07	BEDROOM 2		INT	3'-0"	7'-0"	1 ^{3/8} "	TRIMLITE	3068FSCPHB	SCWD	PTD	TYPE 3	N		
08	BEDROOM 1		INT	3'-0"	7'-0"	1 ^{3/8} "	TRIMLITE	3068FSCPHB	SCWD	PTD	TYPE 3	N		
09	LIVING ROOM		EXT	3'-0"	7'-0"	1 ^{3/8} "	ANDERSEN	STRAIGHTLINE #334	SCWD/GLASS	FACTORY	TYPE 1	N		



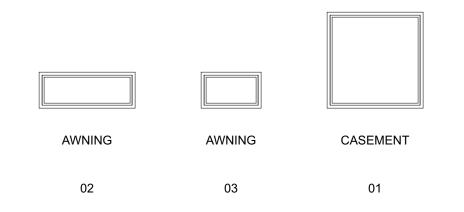


00, 01, 02, 03, 04, 05, ...

2 DOOR TYPES

SCALE: 1' = 1'-0"

WINDOW SCHEDULE							
ID	TYPE	LOCATION	W	Н	MFG	FRAME MATL	REMARKS
01	CASEMENT	BEDROOM 3	4'-0"	4'-0"	ANDERSEN		
02	AWNING	BATH 1	4'-0"	1'-6"	ANDERSEN		
03	AWNING	BATH 2 (ADA)	2'-6"	1'-6"	ANDERSEN		



SCALE: 1' = 1'-0"

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ASSEMBLIES TO HAVE AN STC RATING OF 30 OR GREATER. 9. TEMPERED GLASS SHALL BE PERMANENTLY IDENTIFIED AND VISIBLE WHEN THE UNIT IS GLAZED.

DOOR & WINDOW

SHALL BE PROVIDED WITH NATURAL VENTILATION AND

DOOR & WINDOW 10. EVERY SPACE INTENDED FOR HUMAN OCCUPANCY NATURAL LIGHT BY MEANS OF VENTILATION / ARTIFICIAL LIGHT. CBC SECTIONS 1203.4 AND 1205.1 AND R303

8. ALL EXTERIOR WINDOW AND EXTERIOR DOOR

A) THE MINIMUM NET GLAZED AREA FOR NATURAL LIGHT SHALL NOT BE LESS THAN 8%OF THE FLOOR AREA OF THE ROOM SERVED. CBC

SECTION 1205.2 B) THE MINIMUM OPENABLE AREA TO THE OUTDOORS FOR NATURAL VENTILATION SHALL BE 4% OF THE FLOOR AREA BEING VENTILATED. **SECTION 1203.4**

WINDOW FOR EMERGENCY ESCAPE OR RESCUE WITH 11. EXTERIOR WINDOWS AND EXTERIOR GLAZED DOOR ASSEMBLIES SHALL BE CONSTRUCTED OF MULTIPANE GLAZING WITH ONE TEMPERED PANE, HAVE A FIRE

SCHEDULES

1.	ALL GLASS IN DOORS SHALL BE TEMPERED. TEMPERED GLASS SHALL BE PERMANENTLY IDENTIFIED AND VISIBLE WHEN THE UNIT IS GLAZED.
2.	ALL GLAZING WILL BE INSTALLED WITH A CERTIFYING LABEL ATTACHED, SHOWING THE "U" VALUE.
3.	REFER TO FLOOR PLANS FOR DIRECTION OF DOOR SWING.
4.	DOORS SHALL MEET THE MINIMUM INFILTRATION REQUIREMENTS PER SECTION 116 E.E.S.
5.	VENTILATION SHALL COMPLY WITH C.B.C. 1203.4 AND R303.
6.	ALL EXTERIOR WINDOW AND EXTERIOR DOOR ASSEMBLIES TO HAVE AN STC RATING OF 36 OR GREATER.
7.	DOORS MAY OPEN TO THE EXTERIOR ONLY IF THE

DOOR NOTES

EXTERIOR ONLY IF THE FLOOR OR LANDING IS NOT MORE THAN 11/2 INCH LOWER THAN THE DOOR THRESHOLD. SECTION R311.3.1 CRC

A MIN. NET CLEAR OPENABLE AREA OF 5.7 SQ. FT, MIN. NET CLEAR OPENABLE HEIGHT OF 24" MIN., NET CLEAR WIDTH OF 20" AND A FIN. SILL HEIGHT OF NOT MORE THAN 44" A.F.F. PER CRC SECTION 3101

WINDOW NOTES

TO HAVE SCREENS).

SEE EXTERIOR ELEVATION FOR DIRECTION OF

ALL WINDOW DIMENSIONS PERTAIN TO ROUGH

ACTUAL DIMENSIONS FOR WINDOWS.

OPENINGS (R.O.), CONTRACTOR TO FIELD VERIFY

. ALL GLAZING WILL BE INSTALLED WITH A CERTIFYING LABEL ATTACHED, SHOWING THE NFRC LABEL.

. ALL GLAZING SHALL BE SPECTRALY SELECTIVE LOW E

COATED TO MEET TITLE 24 ENERGY REQUIREMENTS.

WINDOWS SHALL MEET THE MINIMUM INFILTRATION

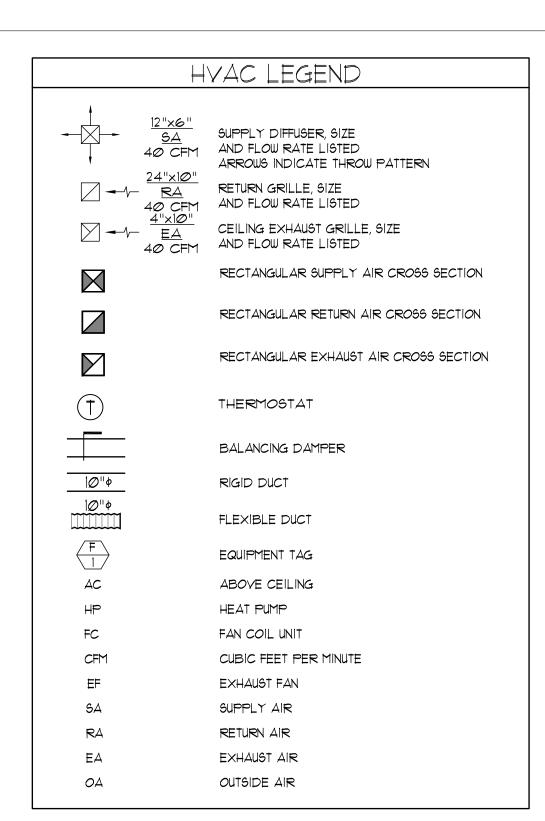
6. VENTILATION SHALL COMPLY WITH C.B.C. 1203.4 AND

. EVERY SLEEPING ROOM SHALL HAVE ONE OPERABLE

REQUIREMENTS PER SECTION 116 E.E.S.D

OPERATION OF WINDOWS (ALL OPERABLE WINDOWS

8. GLAZED OPENINGS WITHIN EXTERIOR DOORS SHALL BE INSULATING-GLASS UNITS WITH A MINIMUM OF ONE TEMPERED PANE,



HVAC NOTES

SCOPE OF WORK

REMOVE EXISTING FURNACE AND CONDENSING UNIT.

• REMOVE EXISTING DUCTING, DIFFUSERS AND GRILLES, • PATCH SURFACES WHERE REGISTERS AND GRILLES HAVE BEEN

REMOVED. PATCH TO MATCH EXISTING CONDITION. ANY DISCREPANCIES BETWEEN THE PLANS AND EXISTING CONDITIONS DISCOVERED DURING DEMOLITION SHALL BE BROUGHT TO THE

NECESSARY. • INSTALL NEW INVERTER DRIVEN VARIABLE SPEED HEAT PUMP AS INDICATED ON PLANS.

ARCHITECT AND ENGINEER'S ATTENTION TO REVISE PLANS AS

• INSTALL NEW EXHAUST FANS.

• INSTALL ALL NEW DUCTING. 2. FURNISH AND INSTALL ALL MATERIALS AND PERFORM ALL LABOR NECESSARY FOR A COMPLETE INSTALLATION OF HYAC WORK INDICATED ON THE DRAWINGS. ALSO, PROVIDE ANY INCIDENTAL WORK NOT SHOWN OR SPECIFIED, WHICH CAN REASONABLY BE INFERRED OR TAKEN AS

3. IT IS THE INSTALLING CONTRACTOR'S RESPONSIBILITY TO ASSURE ALL MECHANICAL SYSTEMS FUNCTION PROPERLY, SAFELY, AND MEET ALL

BELONGING TO THE WORK AND NECESSARY TO PROVIDE THE COMPLETE

LOCAL, STATE AND REGIONAL CODES. 4. ALL WORK SHALL CONFORM TO THE ACCEPTED STANDARDS OF THE TRADE. THE ENGINEER IS TO BE NOTIFIED IF ANY SUBSTITUTIONS ARE SEEN TO BE NECESSARY.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF EQUIPMENT INDICATED TO BE REMOVED, UNLESS OTHERWISE INSTRUCTED BY THE OWNER. EXISTING REFRIGERANT SHALL BE RECLAIMED AND PROPERLY DISPOSED OF IN ACCORDANCE WITH THE 1990 CLEAN AIR ACT AMENDMENT.

6. THE CONTRACTOR SHALL PARTICIPATE IN BID WALK-THRU AND SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS. BIDS SHALL BE ADJUSTED TO ACCOMMODATE ANY EXISTING CONDITIONS WHICH ARE NOT SHOWN ON PLANS AND ARE VISIBLE DURING WALK-THRU. ANY AND ALL DEVIATIONS FROM PLANS SHALL BE BROUGHT TO THE ARCHITECTS' ATTENTION.

<u>. Controls - General</u>

COOLING.

INSTALL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATION

A.THE VENTILATION SYSTEM SHALL BE WIRED TO OPERATE CONTINUOUSLY DURING OCCUPIED HOURS. DURING UNOCCUPIED HOURS THE UNIT SHALL CYCLE ON AND OFF WITH A DEMAND FOR HEATING AND

B.ROOM THERMOSTATS SHALL BE PROGRAMMABLE WITH 5-1-1 DAY C.PROGRAMMING AND 24-HOUR HEATING AND COOLING SETBACK CAPABILITY.

D.THERMOSTATS SHALL HAVE DEMAND RESPONSIVE CAPABILITIES IN ACCORDANCE WITH CEC SECTION 110.12(A). ALL THERMOSTATS MUST BE CERTIFIED OPENADR 2.0A OR OPENADR 2.0B VIRTUAL END NODE (VEN) CAPABLE, AND BE CAPABLE OF COMMUNICATING WITH THE VEN USING A WIRED OR WIRELESS BIDIRECTIONAL COMMUNICATION PATHWAY.

E.THERMOSTATS SHALL BE INSTALLED WHERE INDICATED ON PLANS, 48

INCHES ABOVE FINISHED FLOOR LEVEL. F. INSTALLING SUB-CONTRACTOR SHALL PROVIDE ENGINEER WITH COMPLETE CONTROL SCHEMATIC INCLUDING SUBMITTALS FOR EACH

G.ALL LOW YOLTAGE WIRING FOR CONTROLS AND SENSORS IS THE RESPONSIBILITY OF THE MECHANICAL/HYAC CONTRACTOR. ALL CONDUIT PULLS (AND LOW YOLTAGE WIRING INSTALLATION) IS TO BE COORDINATED WITH ELECTRICAL CONTRACTOR DURING CONSTRUCTION.

8. AIR DIFFUSERS AND RETURN/EXHAUST GRILLES SHALL BE SHOEMAKER, OR EQUAL. PROPOSED MODEL NUMBERS FOR DIFFERENT APPLICATIONS ARE AS FOLLOWS:

<u>APPLICATION</u> MODEL # REMARKS CLG GYPSUM SUPPLY MA (W/ OBD) MODULAR CORE THROW PATTERN INDICATED CLG GYPSUM RETURN 915 HORIZONTAL BAR FIXED BLADE

EXTERIOR LOUVER 4525 STORM RESISTANT, DRAINABLE BLADE EXTERIOR LOUVER WITH BIRDSCREEN 9. FOR THE EXACT LOCATION OF DIFFUSERS AND GRILLES REFER TO

EGGCRATE GRILLE

ARCHITECTURAL REFLECTED CEILING PLAN. 10. PROVIDE CAM-FARR, 2 INCH DEEP, MERV-13 FILTERS IN RETURN AIR PLENUM OF AIR HANDLERS. INSTALL DOWNSTREAM OF RETURN AIR AND FRESH AIR INTAKE.

11. OUTSIDE AIR INTAKE SHALL BE A MINIMUM OF 10 FEET AWAY OR 3 FEET BELOW EXHAUST AIR DISCHARGE OR PLUMBING VENTS. COVER AIR INTAKE WITH I" MESH WIRE.

12. SLOPE ALL CONDENSATE LINES AT 1/4" PER FOOT. PRIMARY CONDENSATE SHALL TERMINATE OUTSIDE A MINIMUM OF 6" ABOVE GRADE WITH A DOWNWARD ELBOW OR INDIRECTLY TO APPROVED PLUMBING FIXTURE. SECONDARY CONDENSATE SHALL TERMINATE IN A CONSPICUOUS LOCATION. PIPING SHALL BE 3/4" SCHEDULE 40 PVC UNLESS OTHERWISE NOTED.

13. DUCT MATERIAL AND SEALING:

CLG GYPSUM EXHAUST 600

A.DUCTING IN CONCEALED LOCATION SHALL BE GALVANIZED SHEET METAL. PRE-INSULATED FLEX DUCT MAY BE USED AS LEADERS (5' MAX.) TO AND FROM AIR TERMINALS, PER CMC 603.4.1. DUCT SHALL BE MANUFACTURED IN ACCORDANCE WITH CHAPT. 6 OF THE 2022 CMC AND SMACNA GUIDELINES.

B.PRE-INSULATED FLEX DUCT SHALL HAVE AN R-VALUE = 8.0. C.FACTORY-FABRICATED DUCT SYSTEMS SHALL COMPLY WITH ULIBI. D.METAL TO METAL JOINTS SHALL BE SEALED WITH MASTIC SEALANT TO PROVIDE AIRTIGHT PROTECTION PRIOR TO INSULATION. APPLY SEALANT ACCORDING TO MANUFACTURER'S RECOMMENDATION.

E.INNER LINING OF FLEX DUCTING SHALL BE SECURELY FASTENED WITH A PANDUIT STRAP. THE EXTERIOR LINING (INSULATION) SHALL BE SECURELY TAPED TO THE SHEET METAL FITTING.

F. WHERE TURNS AND/OR TRANSITIONS EXCEED 45 DEGREES USE SHEET METAL FITTINGS AND ELBOWS. PROVIDE SHEET METAL SLEEVES FOR ALL SPLICES.

G.CORRUGATED ALUMINUM FLEX DUCT SHALL NOT BE ALLOWED. H.ALL TAPES AND MASTIC SEALANTS SHALL COMPLY WITH ULISI, UL 181A,

OR ULISIB. 14. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE WHEREVER POSSIBLE. DIVERGENCE UPSTREAM OF EQUIPMENT SHALL NOT EXCEED 20 DEGREES + CONVERGENCE DOWNSTREAM SHALL NOT EXCEED 30 DEGREES.

15. SUPPORTS AND HANGERS FOR DUCTING SHALL BE IN ACCORDANCE WITH THE 2022 CALIFORNIA MECHANICAL CODE AND IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE. DUCTS SHALL BE SUPPORTED AT EACH CHANGE OF DIRECTION. SUPPORTS AND 8' INTERVALS (MIN.).

16. WRAP ALL UNLINED CONCEALED SUPPLY AND RETURN DUCTS WITH O.C. FIBERGLASS DUCT WRAP OR JM MICROLITE, 2" THICK AND 1" PER CUBIC FOOT DENSITY. WRAP INSULATION ENTIRELY AROUND DUCT AND WIRE SECURELY IN PLACE WITH #16 WIRE 12" O.C. ON EACH SIDE OF STANDING SEAM AND OVER INSULATION JOINT, LAP ALL INSULATION JOINTS 3" MIN. INSULATE DUCTS TIGHT AGAINST OTHER WORK BEFORE HANGING IN

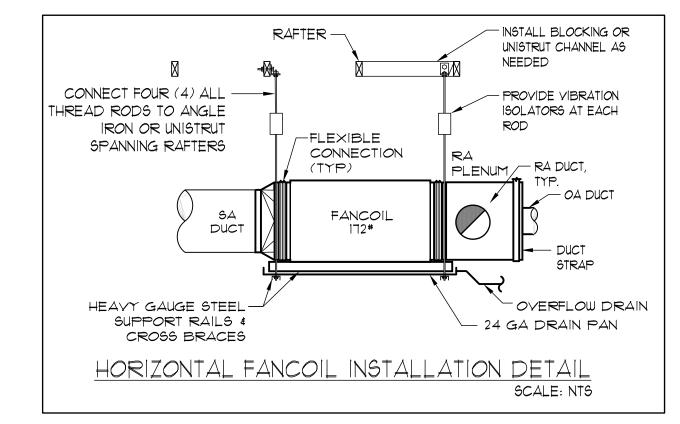
17. DUCTS WITHIN 5 FEET OF AIR MOVING DEVICE SHALL BE LINED ON THE INTERIOR WITH 1" OWENS CORNING TYPE 150 AEROFLEX, OR EQUAL. MATERIAL HAS A 'K' OF 0.28 (BTU/HR-FT-°F)

18. AT TIME OF ROUGH INSTALLATION OR DURING STORAGE OF THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HYAC SYSTEM, ALL DUCTING AND RELATED AIR DISTRIBUTION COMPONENTS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL, OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST OR DEBRIS WHICH MAY COLLECT IN THE SYSTEM.

19. AIR DISTRIBUTION SYSTEM SHALL BE BALANCED WITH AN APPROVED AND CALIBRATED AIR FLOW MEASURING DEVICE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH BY THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). PROVIDE INDICATED AIR FLOW RATES (WITHIN ±5%). PROVIDE OWNER WITH COMPLETE AIR BALANCE REPORT.

20. NO DUCTED OR NON-DUCTED AIR MOVING DEVICE SHALL TERMINATE IN ATTIC. 21. INSULATE CONDENSATE LINE WITH ARMSTRONG® 1/2" WALL THICKNESS "DG TUBO-9LIT". COND=0.29 (BTU-IN/HR-°F) AT 75°F IN ACCORDANCE WITH

ASTM C 177 OR C 518 WITH THIRD PARTY TESTING SUPERVISION.



	HVAC EQUIPMENT SCHEDULE																
			FAN ELECT.														
SYMBOL	AREA SERVED	TOTAL (BTU/HR)	SENSIBLE (BTU/HR)	COIL EDB/EWB (°F)	HIGH INPUT/OUTPUT (BTU/HR)	DB (°F)	CFM	S.P. (WC)	O.A. (CFM)	VOLTAGE	MCA	COMP. LRA	FUSE/MOCP	MFGR & MODEL NO.	WEIGHT (LBS)	EFFICIENCY	REMARKS
FC-1	FIRE STATION	47,000	38,500	80/63	54,000	47	1,485	0.8	375	208/230 V. 1 PHASE	5.63		15	MITSUBISHI # PVFY-P54NAMU-E1	172		MULTI-POISE FANCOIL, INSTALL IN HORIZONTAL POSITION DIMENSIONS: W=21-5/8", H=21", L=54-1/4" BUILT-IN FLOAT SWITCH FOR CONDENSATE SOUND - 50 DbA
HP-1	FIRE STATION	47,000	38,500	80/63	54,000	47				208/230 V. 1 PHASE	36		50	MITSUBISHI # MXZ-SM60NAM	302	HSPF = 10.7 SEER = 17.8 EER = 11.1	GROUND MOUNTED OUTDOOR HEAT PUMP SOUND - 46 DbA DIMENSIONS: W=41-11/32", D=18", H=52-11/16"

						EX	HAUST F	AN SCHE	DULE	
			COOLING		FAN			ELECT.		
SYMBOL	QTY.	AREA SERVED	DESCRIPTION	CFM	S.P. (WC)	RPM	VOLTAGE	ВНР	WATTS	

	EXTINOST TATA SCITE DOLL													
			COOLING		FAN			ELECT.						
SYMBOL	QTY.	AREA SERVED	DESCRIPTION	CFM	S.P. (WC)	RPM	VOLTAGE	ВНР	WATTS	MFGR & MODEL NO.	WEIGHT (LBS)	SONES	REMARKS	
EF-1	1	LAUNDRY	IN-LINE EXHAUST FAN	200	0.4		115 V. 1 PHASE		53.2	PANASONIC WHISPERLINE™ FV-20-NLF1	19.1	1.2	UNIT HAS BUILT-IN BACKDRAFT DAMPER FAN SHALL BE ENERGIZED BY FAN IN FC-1 SUSPEND FAN FROM ROOF FRAMING L=13-3/8", W=9-1/2',H=7-7/8"; 6" DUCT CONNECTION	
EF-2	1	BATH 1	CEILING CABINET FAN	110	0.25		115 V. 1 PHASE		12.5	PANASONIC WHISPERGREENFIT™ FV-0511VF1	11.2	1.2	UNIT HAS BUILT-IN BACKDRAFT DAMPER EXHAUST FAN SHALL HAVE 6" DUCT CONNECTION FAN HAS 3 HIGH SPEED SETTINGS: 50, 80, OR 110 CFM FAN SHALL BE ENERGIZED BY ROOM LIGHT SWITCH	
EF-3	1	BATH 2	CEILING CABINET FAN	110	0.25		115 V. 1 PHASE		12.5	PANASONIC WHISPERGREENFIT™ FV-0511VF1	11.2	1.2	UNIT HAS BUILT-IN BACKDRAFT DAMPER EXHAUST FAN SHALL HAVE 6" DUCT CONNECTION FAN HAS 3 HIGH SPEED SETTINGS: 50, 80, OR 110 CFM FAN SHALL BE ENERGIZED BY ROOM LIGHT SWITCH	

(1) INSTALL/MOUNT EXHAUST FANS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. (2) FIELD LOCATE DUCT TERMINATIONS FOR EXHAUST FANS. THEY SHALL NOT TERMINATE IN ATTIC OR WITHIN 3 FEET OF OPERABLE DOOR OR WINDOW.

NGINEERIN

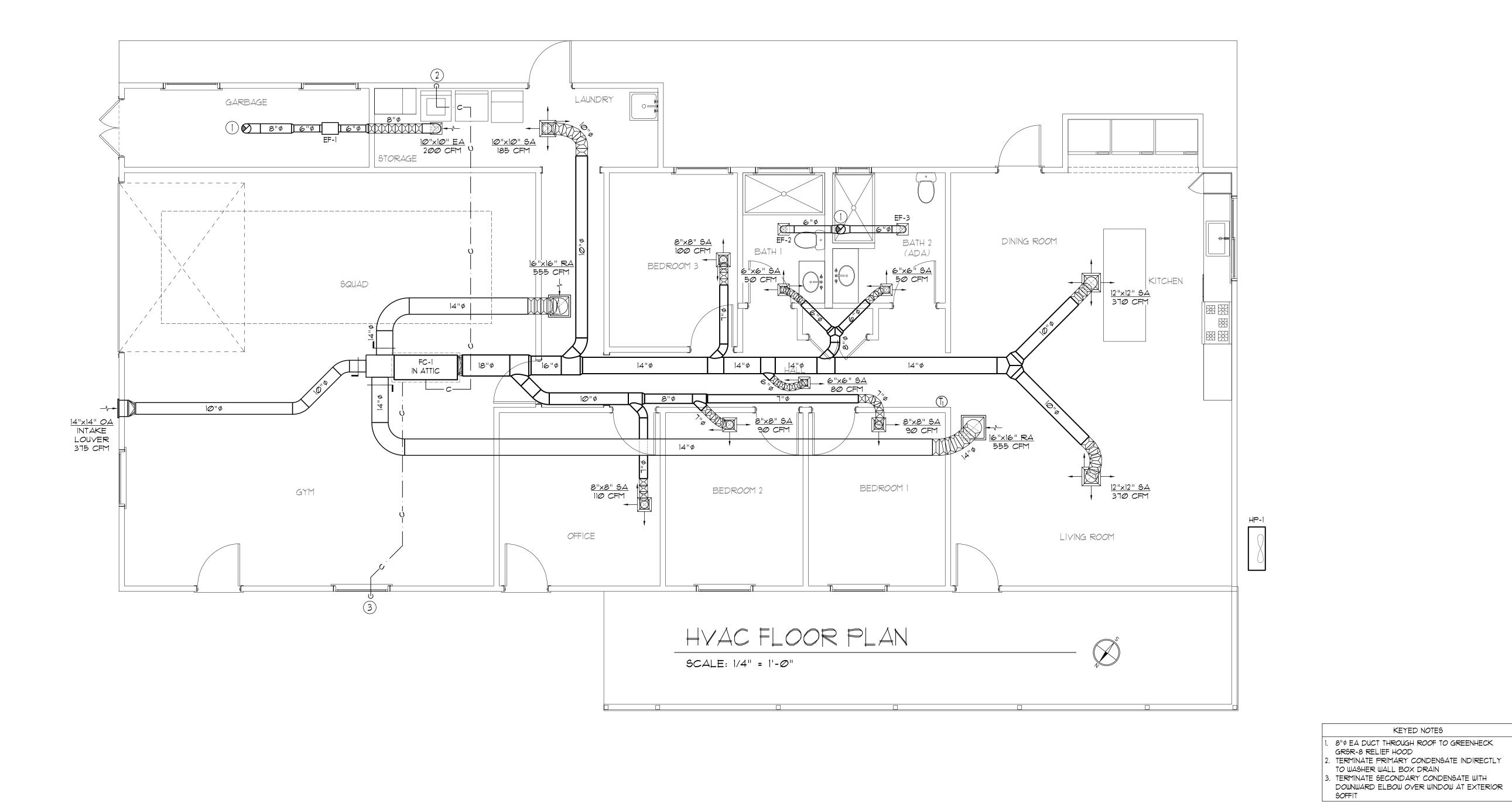
ENERGY & MECHANICAL CONSULTANTS 547 UREN STREET NEVADA CITY, CA 95959 PHONE (530) 265-2492 FAX (530) 265-2273



TIONS 12337 BANNER LAVA CAP ROAD NEVADA CITY, CA 95959

as noted

9-11-2023



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ENERGY & MECHANICAL CONSULTANTS 541 UREN STREET NEVADA CITY, CA 95959 PHONE (530) 265-2492 FAX (530) 265-2273



STATION 86 RENOVATION 12337 BANNER LAVA CAP ROAD NEVADA CITY, CA 95959 Plot Date: 9/11/2023 23-235 Job# as noted 9-11-2023

JOBSET Sheet Number M1.1

KEYED NOTES

PIPE MATERIAL SCHEDULE

- SANITARY WASTE & VENTING MATERIALS
- (A) DRAINAGE WASTE AND VENT PIPING SHALL BE SCHEDULE 40 ABS DWY, NO HUB CAST IRON OR OTHER APPROVED MATERIAL HAVING A SMOOTH AND UNIFORM BORE. FITTINGS SHALL BE MADE OF SIMILAR MATERIAL.
- EXCEPTION: 1) NO HUB CAST IRON SHALL BE USED WHERE SLOPE OF WASTE LINE IS LESS THAN 1/4 IN PER FOOT, OR WHERE WASTE PIPING IS ROUTED BETWEEN FLOORS OR RISERS IN WALLS.
- (A) VENT PIPING SHALL EXTEND 12 INCHES ABOVE THE ROOF (MIN.) AND SHALL BE FLASHED WITH GALVANIZED ROOF JACKS AND RUBBER. WATERPROOF, VENT COLLARS. THE MINIMUM VENT SIZE AT VENT EXTENSION THROUGH ROOF SHALL BE 3" (MIN.) TO PREVENT FROST/SNOW CLOSURE. THE CHANGE IN DIAMETER SHALL BE MADE INSIDE THE BUILDING AT LEAST ONE (1) FOOT BELOW THE ROOF, VENTS SHALL BE PLACED ADJACENT TO UPPER RIDGE OF ROOF AND SHALL BE PROTECTED BY "MURPHY SPLITTER" OR METAL FORMED CRICKET APPROVED BY ADMINISTRATIVE AUTHORITY.

POTABLE WATER PIPING

- (A) SCHEDULE 40 PVC PIPE MEETING THE REQUIREMENTS OF ATM D 1785 MAY BE USED FOR COLD WATER DISTRIBUTION OUTSIDE THE BUILDING.
- FITTINGS SHALL BE IN COMPLIANCE ASTMD 2464. (B) WATER PIPE AND FITTINGS SHALL BE TYPE K COPPER, ASTM B88. COPPER PIPING SHALL BE JOINED WITH VIEGA® PRESS FITTING. ALL MATERIAL USED WITHIN THE WATER SUPPLY SYSTEM EXCEPT VALVES AND SIMILAR DEVICES, SHALL BE OF SIMILAR MATERIAL, EXCEPT
- (C) ALL PIPING 2" AND SMALLER MAY BE NON-BARRIER PEX TUBING BY UPONOR®, VIEGA®, OR EQUAL. PEX TUBING SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM \$876-08 AND F877. FITTINGS SHALL BE ZERO LEAD FITTINGS MEETING THE REQUIREMENTS OF ASTM F1807. PEX PIPING SHALL MEET THE REQUIREMENTS OF SECTION 604.1.2 OF THE 2016 CPC. POTABLE PEX PIPING PLACED IN SOIL SHALL BE SLEEVED WITH IN ACCORDANCE WITH TABLE 604.1 (FOOTNOTE 2). THE FOLLOWING ARE EXCEPTIONS TO THE USE OF PEX PIPING:

WHERE OTHERWISE APPROVED BY THE ADMINISTRATIVE AUTHORITY.

(1) PIPING WITHIN 18 INCHES OF WATER HEATER SHALL BE TYPE L

PLUMBING SYMBOLS AND LEGEND

VTR

WD,R

CWR,D

HWR,D

HWRT

P.O.C.

WCO, GCO

____ сw

----- V

---- IND

-----G------ G

1" G (378)

0+

WH

ABOVE CEILING UNDER COUNTER

BELOW FLOOR

BELOW SLAB BELOW GROUND

SURFACE MOUNT VENT RISER

VENT THRU ROOF

GREASE WASTE

WASTE DROP, RISER

WATER HEATER (SEE SCHEDULE)

WALL CLEANOUT, GRADE CLEANOUT

COLD WATER RISER DROP

HOT WATER RISER, DROP

HOT WATER RETURN

POINT OF CONNECTION

COLD WATER PIPING

INDIRECT WASTE LINE

GAS REGULATOR

GAS SHUT-OFF BIBB

HOT WATER RETURN PIPING SANITARY WASTE PIPING

GAS PIPING, SIZE INDICATED

GAS FLOW IN KBTU/hr

SHUT OFF VALVE (S.O.V.) (LINE SIZED)

INDICATED IN PARENTHESIS

HOT WATER PIPING

VENT PIPING

FLOOR SINK

CLEANOUT

IN WALL

- (A) SCHEDULE 40 BLACK STEEL PIPE, ASTM A53, SCHEDULE 40 BLACK, WITH MALLEABLE IRON OR FORGED STEEL FITTINGS, SCREWED (THROUGH 2"). PROVIDE GAS COCK, DIRT LEG AND UNION AT EACH CONNECTION. GAS PIPING SHALL NOT BE BURIED BELOW SLAB UNLESS SPECIFICALLY INDICATED ON PLANS AND MEETING THE REQUIREMENTS OF CPC SECTION 1211.1.6.
- (B) BURIED GAS PIPING MAY BE BLACK STEEL PIPE WITH FACTORY WRAPPED PLASTIC COVER AS APPROVED BY LOCAL ADMINISTRATIVE AUTHORITY, ASTM A53, SCHEDULE 40 BLACK, WITH MALLEABLE IRON OR FORGED STEEL FITTINGS, SCREWED (THROUGH 2").

NAVIEN NPE-240A2

a) PROVIDE ADDITIONAL "HOT BUTTON SWITCH" ACCESSORY FOR

b) RECIRCULATION LOOP SHALL BE ENERGIZED PUSH-BUTTON OR

c) PUSH-BUTTONS SHALL BE HARD WIRED TO RECIRCULATION PUMP.

d) OCCUPANCY SENSORS SHALL BE TACO ONCOMMAND MOTION SENSOR.

e) PROVIDE PUSHBUTTONS AND OCCUPANCY SENSORS WHERE INDICATED

ON MECHANICAL PLANS. BUTTON AND OCCUPANCY SENSORS ENERGIZE

INSTALL ADDITIONAL SENSOR ACCORDING TO NAVIEN TECHNICAL

EXPANSION TANK SHALL BE WILKINS MODEL # XT-8, OR EQUAL. TANK

RECIRCULATION LOOP

ON-DEMAND RECIRCULATION.

BULLETIN NO. 2016-A-009.

f) INSULATE ENTIRE RECIRCULATION LOOP.

VOL.=2.1 GALLONS, MAX WORKING PRESS.=150 PSIG.

RECIRCULATION PUMP.

EXPANSION TANK:

OCCUPANCY SENSOR.

-EXPANSION TANK

- SCOPE OF WORK • REMOVE ONE BATHROOM AND ADD TWO (2) NEW BATHROOMS.
- · REVISED PLUMBING IN KITCHEN. • REFER TO ARCHITECTURAL DEMOLITION PLANS FOR PLUMBING
- FIXTURES TO BE REMOVED. • REPLACE EXISTING WATER HEATER WITH NEW ON-DEMAND WATER
- HEATERS. • FIELD YERIFY PIPING CONFIGURATION. ANY ALTERATION FROM WHAT IS INDICATED ON PLANS SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION.
- REMOVE EXISTING PIPING NOT SHOWN TO BE REUSED ON PLANS. 2. ALL WATER AND WASTE PLUMBING INSTALLATION WORK AND ALL PLUMBING MATERIALS SHALL BE IN ACCORDANCE WITH THE 2022
- CALIFORNIA PLUMBING CODE. 3.IT IS THE INSTALLING CONTRACTORS' RESPONSIBILITY TO ASSURE ALL MECHANICAL SYSTEMS FUNCTION PROPERLY, SAFELY, AND MEET ALL
- LOCAL, STATE AND REGIONAL CODES. 4.ALL WORK SHALL CONFORM TO THE ACCEPTED STANDARDS OF THE TRADE. THE ENGINEER IS TO BE NOTIFIED IF ANY SUBSTITUTIONS ARE SEEN TO BE NECESSARY.
- 5.HOT AND COLD-WATER PIPE SIZING IS BASED ON CHART A 105.1 OF THE 2022 CPC AT THE FRICTION LOSS PER 100 FT INDICATED ON WATER AND WASTE SERVICE CALCULATIONS.
- 6.GAS PIPING SIZED ACCORDING TO TABLE 1216.2(1) OF THE 2022 CPC. PIPE SIZING FOR NATURAL GAS LESS THAN 2 PSI WITH PRESSURE
- DROP = 0.5 IN.WC. • DISTANCE FROM METER TO FURTHEST APPLIANCE = 65 FEET.
- FITTING EQUIVALENT LENGTH = 40 FEET. • USE 125 FEET ROW IN TABLE 1216.2(1).
- 1. PROVIDE SHUTOFF VALVES OR STOPS AT EACH CONNECTION. AT GAS CONNECTIONS, PROVIDE GAS COCK, DIRT LEG, UNION AND FLEX CONNECTION.
- 8.CONTRACTOR SHALL PARTICIPATE IN BID WALK-THRU AND SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS. BIDS SHALL BE ADJUSTED TO ACCOMMODATE ANY EXISTING CONDITIONS WHICH ARE NOT SHOWN ON PLANS AND ARE VISIBLE DURING WALK-THRU. ANY AND ALL DEVIATIONS FROM PLANS SHALL BE BROUGHT TO THE ENGINEERS' ATTENTION.
- 9. CONTRACTOR SHALL VERIFY SITE DIMENSIONS. NO CHANGE ORDERS WILL BE ALLOWED FOR CONDITIONS WHICH COULD BE VERIFIED BEFORE CONSTRUCTION.
- 10. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES. NO CHANGE ORDERS WILL BE ALLOWED FOR ITEMS THAT COULD HAVE BEEN COORDINATED IN THE FIELD.

PLUMBING NOTES

AND CAL-GREEN CODES. MAXIMUM FLOW RATES SHALL BE AS

- II. PLUMBING FIXTURES NOT SPECIFIED ON PLANS SHALL BE SELECTED BY INSTALLING SUB-CONTRACTOR AND SUBMITTED TO OWNER'S REPRESENTATIVE FOR APPROVAL, FIXTURES SHALL MEET 2022 CPC
- FOLLOWS: SINKS 1.8 GPM
- LAVATORIES (RESIDENTIAL) 1.2 GPM • LAYATORIES (COMMERCIAL) Ø.5 GPM
- 1.8 GPM SHOWERS • WATER CLOSETS 1.28 GPF
- URINALS Ø.125 GPF METERING FAUCETS 0.25 GAL/CYCLE
- 12.FURNISH AND INSTALL ALL MATERIALS AND PERFORM ALL LABOR NECESSARY FOR A COMPLETE INSTALLATION OF PLUMBING WORK INDICATED ON THE DRAWINGS. PROVIDE ANY INCIDENTAL WORK NOT SHOWN OR SPECIFIED, WHICH CAN REASONABLY BE INFERRED OR TAKEN AS BELONGING TO THE WORK AND NECESSARY TO PROVIDE THE COMPLETE SYSTEM.
- 13. PROVIDE ALL NECESSARY PLUMBING CONNECTIONS TO EQUIPMENT FURNISHED UNDER OTHER DIVISIONS OR SECTION OR BY OWNERS. PROVIDE SHUTOFF VALVES OR STOPS AT EACH CONNECTION.
- 14. PIPING IS TO BE FIELD LOCATED IN SUCH A WAY AS TO AVOID OBSTACLES, MEET CALIFORNIA PLUMBING CODE (CPC) REQUIREMENTS AND ALLOW SERVICE CLEARANCE TO AREAS AND EQUIPMENT THAT MAY REQUIRE SERVICING.
- 15. ALL HORIZONTAL WASTE / YENT PIPES SHALL HAVE A MINIMUM SLOPE OF 1/4" PER FOOT. IF EXISTING INVERT ELEVATION DOES NOT FOR 1/4" PER FOOT, 1/8" PER FOOT WILL BE ALLOWED WITH THE WASTE PIPING UPSIZED.
- 16. HORIZONTAL VENT PIPE SHALL BE SO GRADED AND CONNECTED AS TO DRIP BACK BY GRAVITY TO THE DRAINPIPE IT SERVES PER 2022 CPC 905.2. VENT PIPE SHALL TERMINATE A MINIMUM OF 10 FEET FROM FRESH AIR INTAKE.
- 17.INSULATE ALL POTABLE HOT WATER SUPPLY & RETURN PIPING WITH K-FLEX 3/1" WALL THICKNESS INSUL-TUBE® OR EQUAL CONDUCTIVITY = 0.29 (BTU-IN/HR-°F) AT 75°F IN NON-CONDITIONED SPACE, IN ACCORDANCE WITH ASTM CITT OR C518.
- 18. FOR EXACT LOCATION OF PLUMBING FIXTURES AND MOUNTING HEIGHTS, SEE ARCHITECTURAL ELEVATIONS.
- 19. PIPING SHALL BE SUPPORTED AND BRACED IN ACCORDANCE WITH CHAPTER 3 OF THE 2022 CPC WITH SUPERSTRUT HANGERS, OR EQUAL. PROVIDE ISOLATORS AT ALL HANGERS WHERE PIPING IS NOT INSULATED.
- 20.TRAP PRIMERS SHALL BE PROVIDED FOR ALL FLOOR DRAINS. 21.CLEANOUTS IN FIRE RATED WALLS SHALL HAVE BOTH METAL BODY AND COVER CONSISTENT WITH PIPE MATERIAL SCHEDULE. 22. PLUMBING VENTS SHALL BE AT LEAST 10' FROM OR 3' ABOVE ANY

DOOR, OPENABLE WINDOW, MECHANICAL AIR INTAKE, OR OTHER

INLETS INTO THE BUILDING PER CPC 906.2.

- 23. DISINFECTION OF WATER SYSTEM
- PRIOR TO FINAL INSPECTION, CLEAN AND DISINFECT DOMESTIC HOT AND COLD-WATER PIPING CONNECTED TO DOMESTIC WATER MAINS. • PIPING SHALL BE STERILIZED WITH A MIXTURE OF 2 POUNDS CHLORINATED LIME TO EACH 1,000 GALLONS OF WATER (50 PPM
- OF AVAILABLE CHLORINE). • RETAIN THE MIXTURE IN PIPES 24 HOURS AND FLUSH IT THOROUGHLY WITH POTABLE WATER PRIOR TO PLACING IT IN SERVICE.
- PERFORM ALL WORK PER AWWA STANDARD PROCEDURES FOR DISINFECTING WATER MAINS AND AS REQUIRED BY LOCAL BUILDING AND HEALTH DEPARTMENT CODES.
- 24. GAS PIPE TESTING
- · ALL TESTING SHALL BE IN COMPLIANCE WITH SECTION 1316 OF THE 2010 CALIFORNIA MECHANICAL CODE.
- TEST ALL NEW PIPING AT FOUR (4) TIMES THE WORKING PRESSURE BUT NOT LESS THAN 3 PSI FOR A PERIOD OF NOT LESS THAN TWO (2) HOURS, ANY LOSS IN PRESSURE DURING THAT TIME PERIOD WILL BE SEEN AS A LEAK IN THE SYSTEM. CONNECTIONS BETWEEN NEW PIPING AND EXISTING PIPING SHALL BE TESTED USING SOAP AND WATER OR OTHER APPROVED LEAK-DETECTING FLUID.
- ALL JOINTS AND WELDS SHALL BE LEFT EXPOSED FOR EXAMINATION DURING TEST.
- REPAIR ANY LEAKS FOUND BY REMAKING THE JOINT, DO NOT USE CAULKING OR SIMILAR METHODS TO CORRECT LEAKS. AFTER LEAKS ARE REPAIRED, AGAIN TEST THAT PORTION OF THE SYSTEM AS DESCRIBED ABOVE.

25. TESTING OF PIPING

- (A) ALL PIPING SHALL TESTED AT COMPLETION OF ROUGH-IN. TEST IN ACCORDANCE WITH THE FOLLOWING SCHEDULE TO SHOW NO LOSS IN PRESSURE OR VISIBLE LEAKS AFTER A MINIMUM DURATION OF FOUR (4) HOURS AT THE TEST PRESSURE INDICATED.
- (B) ISOLATE FROM THE SYSTEM ALL EQUIPMENT WHICH MAY BE DAMAGED BY TEST PRESSURE. TEST SCHEDULE AS FOLLOWS:
 - SYSTEM TESTED TEST PRESSURE PSIG TEST WITH ALL SOIL, WASTE, DRAIN FILL WITH WATER TO TOP OF WATER AND VENT PIPING WITHIN HIGHEST JOINT IN SYSTEM!
 - BUILDINGS. ALLOW TO STAND 2 HOURS OR LONGER AS DIRECTED BY INSPECTOR.
 - ALL HOT TEMPERED AND 150 PSIG WATER COLD PIPING.

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MFGR. & MODEL No.	NOTES						
FS	FLOOR SINK	J.R. SMITH 320-Y02	ENAMEL 3/4 GRATE, 2"Ø NO-HUB OUTLET						
WCO	WALL CLEANOUT	ZURN Z-1468	ROUND STAINLESS STEEL WALL ACCESS COVER WITH BRONZE RAISED HEX HEAD PLUG						
NOTE: SEE ARCHITECTURAL PLANS FOR OTHER PLUMBING FIXTURE SPECIFICATIONS									

DI LIMBING FOLLIDMENT SCHEDLILE

		r L	UMBING EQUIPMENT 30	HILDULL
SYMBOL	DESCRIPTION	MFGR. & MODEL No.	SPECIFICATIONS	ACCESSORIES
	NPE SERIES TANKLESS GAS WATER HEATER	NAVIEN NPE-240A2	TANKLESS WATER HEATER, UEF=0.95 RECOVERY = 5.8 GPM AT 67°F RISE INPUT = 13,300 - 199,900 BTU/HR DIMENSIONS: 17.3"W x 13.2"D x 27.4" HT POWER: 120V, 350W, 4A	1. PROVIDE 2" PVC INTAKE AND EXHAUST VENTS TROUGH ROOF 2. PROVIDE HARDWIRED PUSH BUTTONS AND OCCUPANCY SENSORS TO ENERGIZE RECIRCULATION PUMP, LOCATION OF CONTROLS INDICATED ON PLANS. 4. DRAIN T&P TO EXTERIOR PER CODE 5. DRAIN CONDENSATE INDIRECTLY TO MOP SINK

WATER AND WASTE SERVICE CALCULATIONS STATION 86

FIXTURE COUNT/DHW														
	(EXSTING BUILDING A) Fixture Units (Ea.) D.H.W. Fixture Units D.H.W.													
		Fixture U	Jnits (Ea.)	D.H.W.	Fixture Unit	ure Units								
Fixtures	Quantity	Water	Waste	(GPH) (Ea.)	Water	Waste	(GPH)							
Water Closet FT	2	2.5	4	0	5	8	(
Lavatory	2	1	1	6	2	2	12							
Shower	2	2	3	30	4	6	60							
Washer/Lau Sink	1	4	3	30	4	3	30							
Dishwasher	1	2	3	30	2	3	30							
Mop Sink	1	3	3	30	3	3	30							
Kitchen Sink	1	1.5	3	30	1.5	3	30							
Hose Bibb (1st)	1	2.5	0	0	2.5	0	(
Hose Bibbs (Each Additional)	3	1	0	0	3	0	(
Total	14			-	27	28	192							
Hot Water FU"s		16.5	X 0.75 =	12.3	(9 GPM)	•								
Peak Flow =	20	(GPM)	(Ref. Char	t A-3 2022 C	PC)									

Lacit Maditional	U			U	O	U	
Total	14				27	28	19
Hot Water FU"s		16.5	5 X 0.75 =	12.3	(9 GPM)		
Peak Flow =	20	(GPM)	(Ref. Chart A-	-3 2022 CF	PC)		
Pressure Available at Site					65 psi		
Pressure Booster					0 psi		
Total Available Pressure					65 psi		
3/4" Meter Loss at 20 GPM					5.1 psi		
Elevation Rise (Ft)	10	FT			4.3 psi		
Backflow Preventer Loss					10 psi		

3/4" Meter Loss at 20 GPI	M	5.1 psi
Elevation Rise (Ft)	10 FT	4.3 psi
Backflow Preventer Loss		10 psi
Required Residual Pressu	ure required for WC	15 psi
Equivalent pipe length from	n meter to most remote fixture	200 ft
Friction Loss Available Pro	essure	30.6 psi
Maximum Allowable Friction	on Loss (psi/100Ft)	15.3

Minimum required water pipe size (inches) |Minimum required waste pipe size (inches) Piping Ouside the Building -

Piping downstream of SOV -

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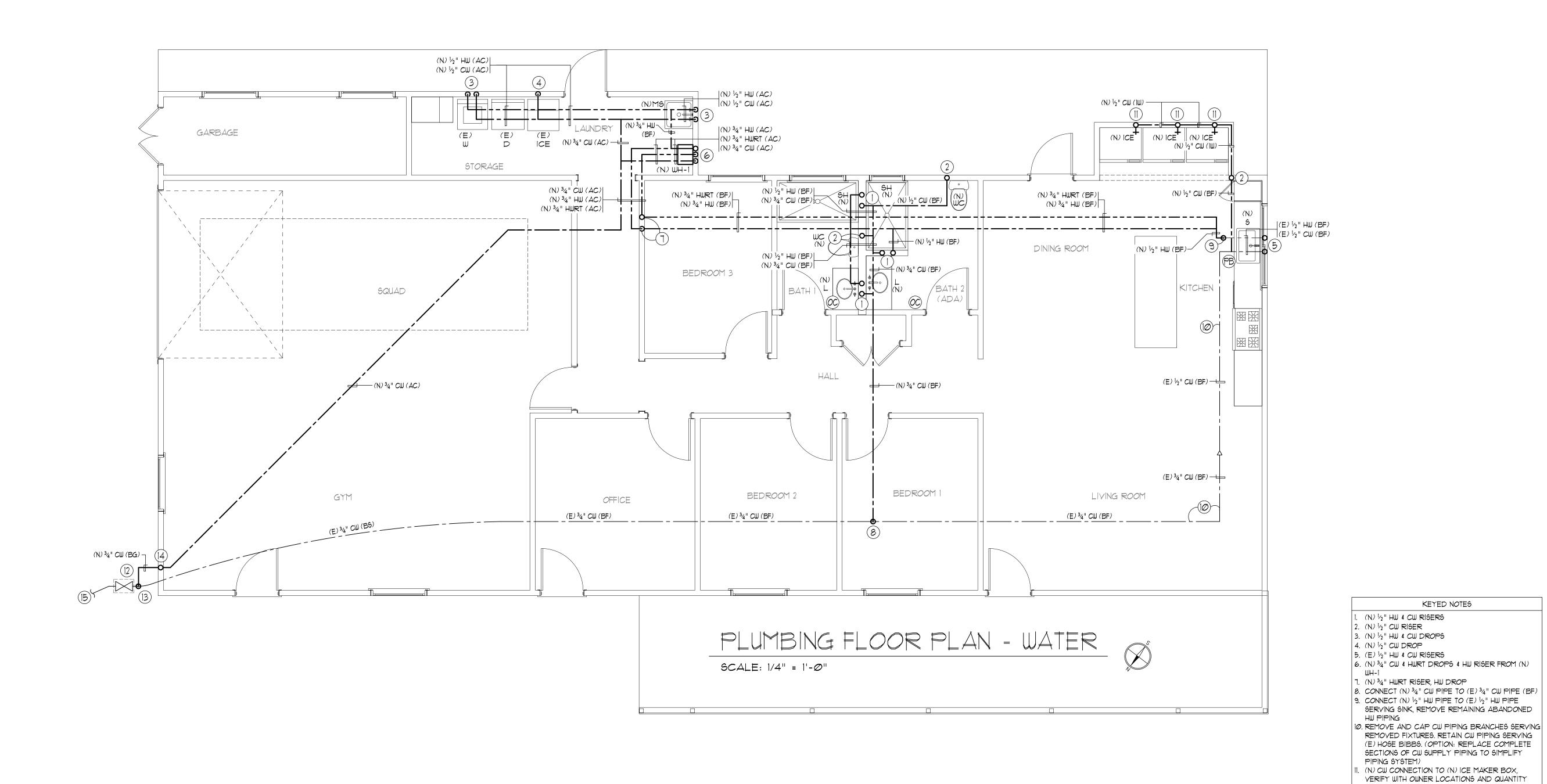
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Revisions: By: Description: No. Date: - |-Plot Date: 9/11/2023 23-235 Job# as noted

9-11-2023

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MELAS ENERGY ENGINEERING

ENERGY & MECHANICAL CONSULTANTS
541 UREN STREET
NEVADA CITY, CA 95959
PHONE (530) 265-2492
FAX (530) 265-2213



STATION SE BENOVATION				NEVADA CITY, CA 95959	PLUMBING FLOOR PLAN - WATER	
•			Project Location:		Sheet Title:	
evis	ions: Date	•	Ву:	Des	scription:	
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ot D	ate:		9/11/2	2023		
b #		2	3-2	35		

as noted

9-11-2023

12. (E) S.O.V. IN VALVE BOX

STREAM OF (E) S.O.V. (BG)

14. (N) 34" CW RISER TO ATTIC

13. CONNECT (N) 34" CW PIPE TO (E) CW PIPE DOWN

15. (E) CW SUPPLY TO (E) WATER METER AT STREET

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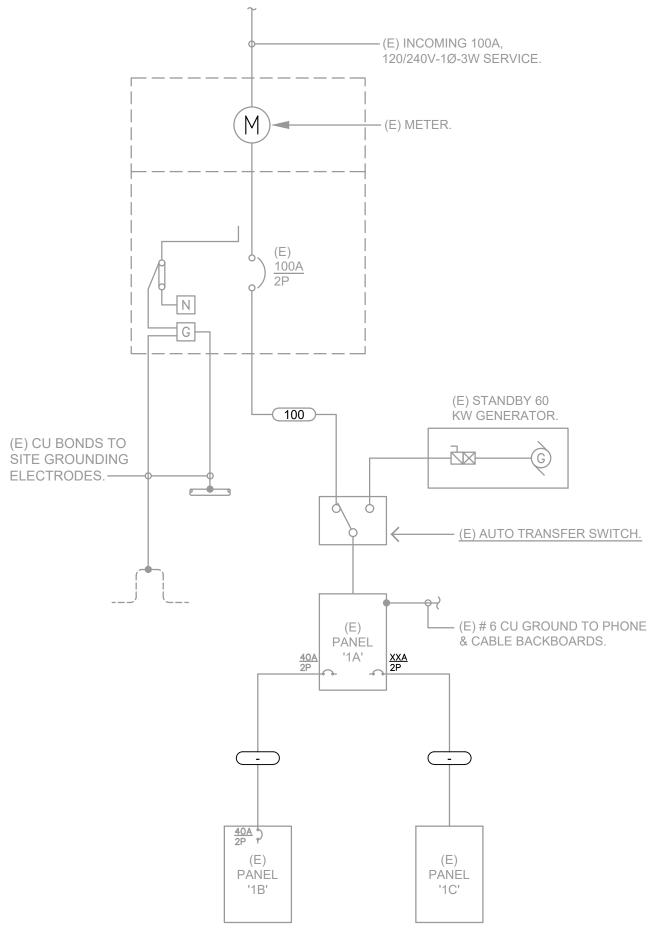
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GENERAL NOTES

- 1. ELECTRICAL CONTRACTOR SHALL VERIFY ALL ONSITE UTILITY
 REQUIREMENTS WITH THE ELECTRIC UTILITY AND THE TELEPHONE
 COMPANY PRIOR TO SUBMITTING A BID. INCLUDE ALL PULLBOXES,
 CONDUITS, SPLICEBOXES, TRANSFORMER PAD, TERMINAL BOXES, RISERS,
 TRENCHING, ETC. AS REQUIRED FOR COMPLETE AND OPERATIONAL UTILITY
 SERVICES, WHETHER INDICATED ON DRAWINGS OR NOT. VERIFY POINT OF
 SERVICE FEEDS WITH UTILITY COMPANIES AT JOBSITE.
- 2. PRIOR TO SUBMITTING BID, CONTRACTOR SHALL VISIT JOBSITE AND THOROUGHLY EXAMINE ALL EXISTING CONDITIONS WHICH MAY AFFECT THE WORK. NO ADDITIONAL COSTS WILL BE CONSIDERED FOR CONTRACTOR'S FAILURE TO DO SO. REPORT ANY DISCREPANCIES OR PROBLEMS ENCOUNTERED TO ARCHITECT.
- 3. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS. **DO NOT SCALE FROM ELECTRICAL DRAWINGS.**
- 4. CONTRACTOR SHALL INSTALL A #14 AWG OR 3/16" POLYPYLENE PULL LINE IN ALL EMPTY CONDUITS.
- 5. PROVIDE WEATHERPROOF CAPS ON ALL ENDS OF CONDUITS TERMINATED OUTSIDE OF BUILDING. STAKE AND RECORD ALL CONDUIT LOCATIONS. PLACE AN ELECTRONIC MARKER FOR ALL STUB OUTS.
- 6. THE CALCULATED AVAILABLE FAULT CURRENT THAT COULD BE PROVIDED TO THE SERVICE EQUIPMENT SHALL BE FIELD MARKED AS REQUIRED BY
- 9. FIRE SEAL ALL FIRE WALL PENETRATIONS FOR CONDUITS WITH AN APPROVED FIRE SEALANT AFTER CONDUIT INSTALLATION. FIRE SEAL SHALL PROVIDE EQUAL FIRE RATING AS WALL.
- 10. ELECTRICAL EQUIPMENT SHALL BE LISTED OR CERTIFIED BY A RECOGNIZED ELECTRICAL TESTING LABORATORY OR APPROVED BY THE DEPARTMENT.
- 11. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED SPACE ABOVE THE INDOOR/OUTDOOR ELECTRICAL EQUIPMENT.
- 12. PROVIDE AND MAINTAIN REQUIRED WORK SPACE, ACCESS TO WORK SPACE, AND HEAD ROOM ABOUT ELECTRICAL EQUIPMENT PER TABLE 110.34(A)

ELECTRICAL NOTES

- 1. LOADS SHOWN IN PANEL SCHEDULES ARE TAKEN FROM (E) PANEL SCHEDULES. E.C. TO FIELD VERIFY BREAKERS & CIRCUITING.
- PROVIDE UPDATED TYPEWRITTEN PANEL SCHEDULES SHOWING NEW/EXISTING/SPACE/SPARES.
- 3. PANEL FEEDERS SHALL BE FIELD VERIFIED. E.C. TO PERFORM CODE MANDATED 30-DAY TEST TO VERIFY FEEDER LOADING & ISSUE RESULTS TO ARCHITECT & E.E.
- 4. CONNECT NEW LOADS TO SPARE BREAKERS RESULTING FROM DEMO WORK.



(E) ONE-LINE DIAGRAM

SCALE: NONE

NOTE TO CONTRACTOR

SYMBOL LIST

RECESSED FIXTURE

⊢O→ STRIPLIGHT

RECESSED LIGHT FIXTURE

SURFACE MOUNTED LIGHT FIXTURE

O SURFACE MOUNTED LIGHT FIXTURE

EXIT LIGHT - CEILING MOUNTED WITH ARROWS AS SHOWN

\$K KEY OPERATED SINGLE POLE TOGGLE SWITCH, @ +44" UNO

JUNCTION BOX, SIZE & TYPE AS INDICATED OR AS REQUIRED

☐ 15 AMP 125V 3W NEMA 5-15R DUPLEX RECEPTACLE, @ +18" UNO

DEDICATED, 15 AMP 125V 3W NEMA 5-15R DUPLEX RECEPTACLE, @ +18" UNO

SWITCHED, 15 AMP 125V 3W NEMA 5−15R DUPLEX RECEPTACLE, @ +18" UNO

⇒ 15 AMP 125V 3W NEMA 5-15R DOUBLE DUPLEX RECEPTACLE, © +18" UNO

EXIT LIGHT - WALL MOUNTED WITH ARROWS AS SHOWN

EMERGENCY LIGHTING FIXTURE - SURFACE MOUNTED

\$ SINGLE POLE TOGGLE SWITCH, @ +44" UNO

\$3 THREE-WAY TOGGLE SWITCH, @ +44" UNO

\$M MOTOR RATED SINGLE POLE SWITCH, @ UNIT UNO

FU FUSED DISCONNECT SWITCH, SIZE PER UNIT LABEL

□ CONTROL EQUIPMENT, N.I.E.S. CONNECT AS REQUIRED

w/ DOUBLE DUPLEX RECEPTACLE & 1 #6 GND

HOMERUN TO RESPECTIVE PANEL OR TERMINAL CABINET

—— CONDUIT CONCEALED IN CEILING OR WALL

── CONDUIT RISER — UP

EL EMERGENCY LIGHT

NL NIGHT LIGHT

WP WEATHERPROOF

PIR PASSIVE INFRARED

SMOKE DETECTOR

FACP FIRE ALARM CONTROL PANEL

UNO UNLESS NOTED OTHERWISE

(1) FLAG NOTE SHOWN ON SAME SHEET

E1 BOTTOM LETTER/NUMBER INDICATES SHEET

BOTTOM LETTER/NUMBER INDICATES SHEET

DT DUAL-TECH

OR OVERRIDE

(E) EXISTINGC. CONDUIT

CONDUIT RISER - DOWN

MT EMPTY CONDUIT WITH PULLSTRING

---- CONDUIT RUN CONCEALED BELOW FLOOR OR FINISHED GRADE

NIES NOT IN ELECTRICAL SECTION OF THESE PLANS & SPECIFICATIONS

SECTION DESIGNATION; TOP LETTER INDICATES SECTION,

DETAIL DESIGNATION; TOP NUMBER INDICATES DETAIL,

MECHANICAL & PLUMBING EQUIPMENT DESIGNATION

SPECIAL OUTLET. SEE PLANS FOR SPECIFICATION

MOTOR, N.I.E.S. CONNECT AS REQUIRED, NUMBER INDICATES HP

MAIN SWITCHBOARD OR MOTOR CONTROL CENTER, SEE ONE LINE DIAGRAM

DATA OUTLET, 4" SQ. BOX w/ SINGLE DEVICE RING & PLATE @ +18" UNO

† ⊕ TELEPHONE TERMINAL BACKBOARD; 4' x 8' x 3/4" PLYWOOD OR AS NOTED

▼ TELEPHONE OUTLET, 4" SQ. BOX w/ SINGLE DEVICE RING & PLATE @ +18" UNO

▼ COMBINATION PHONE/DATA OUTLET, 4" SQ. BOX w/ SINGLE DEVICE RING & PLATE @ +18" UNO

BRANCH CIRCUIT WITHOUT FURTHER DESIGNATION INDICATES A 2 #12 WIRE CIRCUIT

SIZES; $\frac{1}{10}$, 2 #10 & 1 #12 GND; $\frac{1}{10}$, 3 #4 & 1 #8 GND;

ADDITIONAL NO. OF #12; \longrightarrow , 3 #12; \longrightarrow , 2 #12 &

FIXTURE TAG; LETTER INDICATES TYPE

□ NON-FUSED DISCONNECT SWITCH

PANELBOARD - SEE SCHEDULE

CIRCUIT BREAKER DISCONNECT SWITCH

\$2 TWO POLE TOGGLE SWITCH, @ +44" UNO

OH WALL MOUNTED LIGHT FIXTURE

\$D DIMMER SWITCH, @ +44" UNO

THE CONTRACTOR SHALL THOROUGHLY REVIEW THESE ELECTRICAL CONSTRUCTION DOCUMENTS PRIOR TO PREPARING A BID FOR THE ELECTRICAL WORK SHOWN. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF EXISTING ELECTRICAL SERVICES AND CONNECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS OR DISCREPANCIES FOUND PRIOR TO BID. BY SUBMITTING A BID FOR THE ELECTRICAL WORK, THE ELECTRICAL CONTRACTOR IS AFFIRMING THAT THE REQUIRED FIELD VERIFICATION OF EXISTING CONDITIONS HAS BEEN COMPLETED AND ASSUMES FULL RESPONSIBILITY FOR CONFLICTS FOUND AFTER THE AWARD OF THE ELECTRICAL CONTRACT. NO ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR CONFLICTS AND/OR DISCREPANCIES FOUND TO EXIST AFTER THE AWARD OF THE ELECTRICAL CONTRACT.

RUSSELL DAVIDSON ARCHITECTURE + DESIGN

ELECTRICAL ENGINEERING, INC

3130 Twitchell Island Rd., West Sacramento, CA 95691

T/F - 916.371.3202

442 Livingston Avenue, Placentia, CA 92870

T - 916.826.1825

36 RENOVATION

STATION

1237 BANNER

NEVADA CITY, CANNER

APN: 037-280-01

SCALE AS NOTED
DRAWN BY: JL/JP
CHECKED BY: JP
JOB: 23025

ONE-LINE &
DANIEL

PANEL SCHEDULES

E1.0



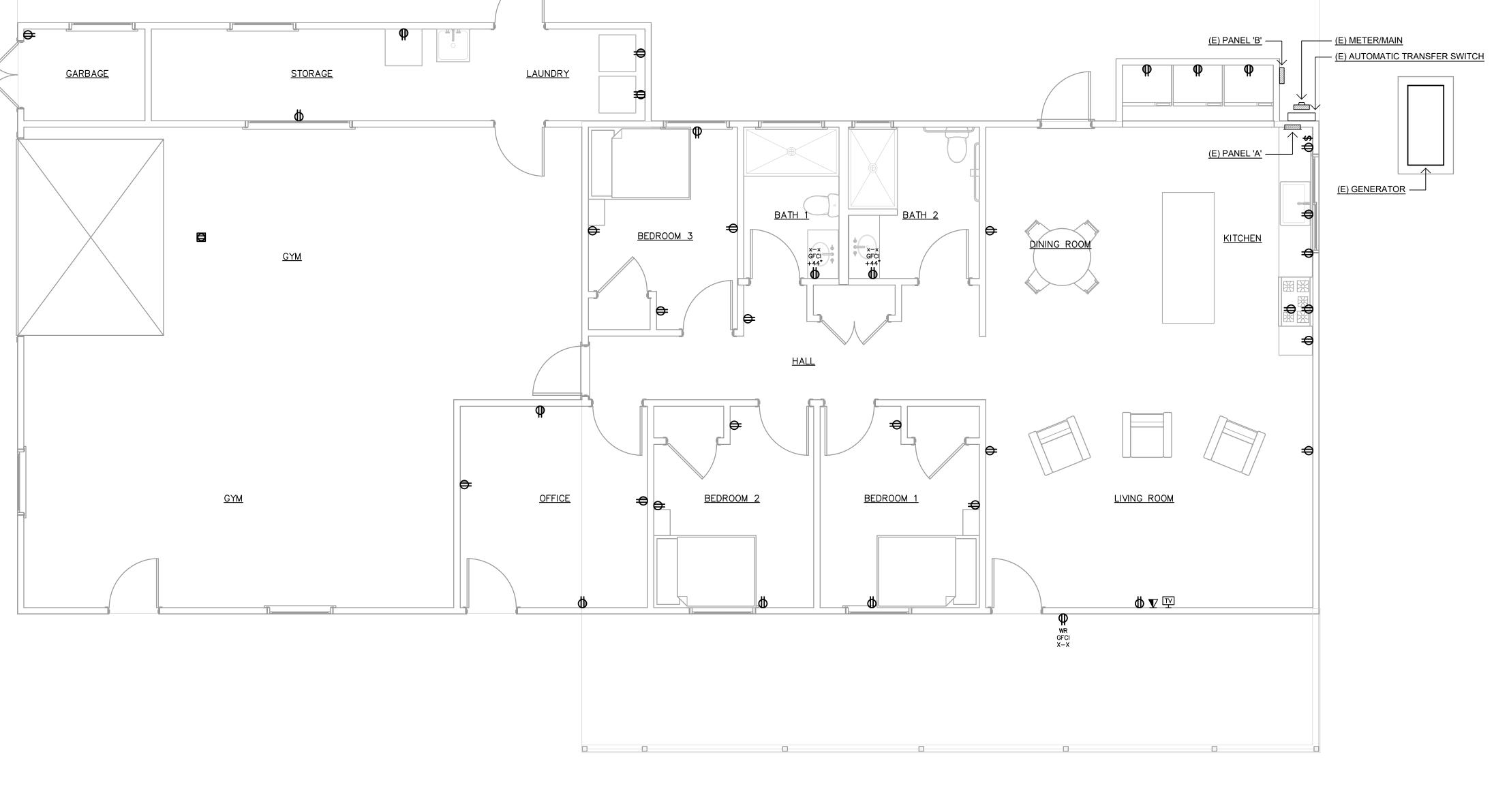


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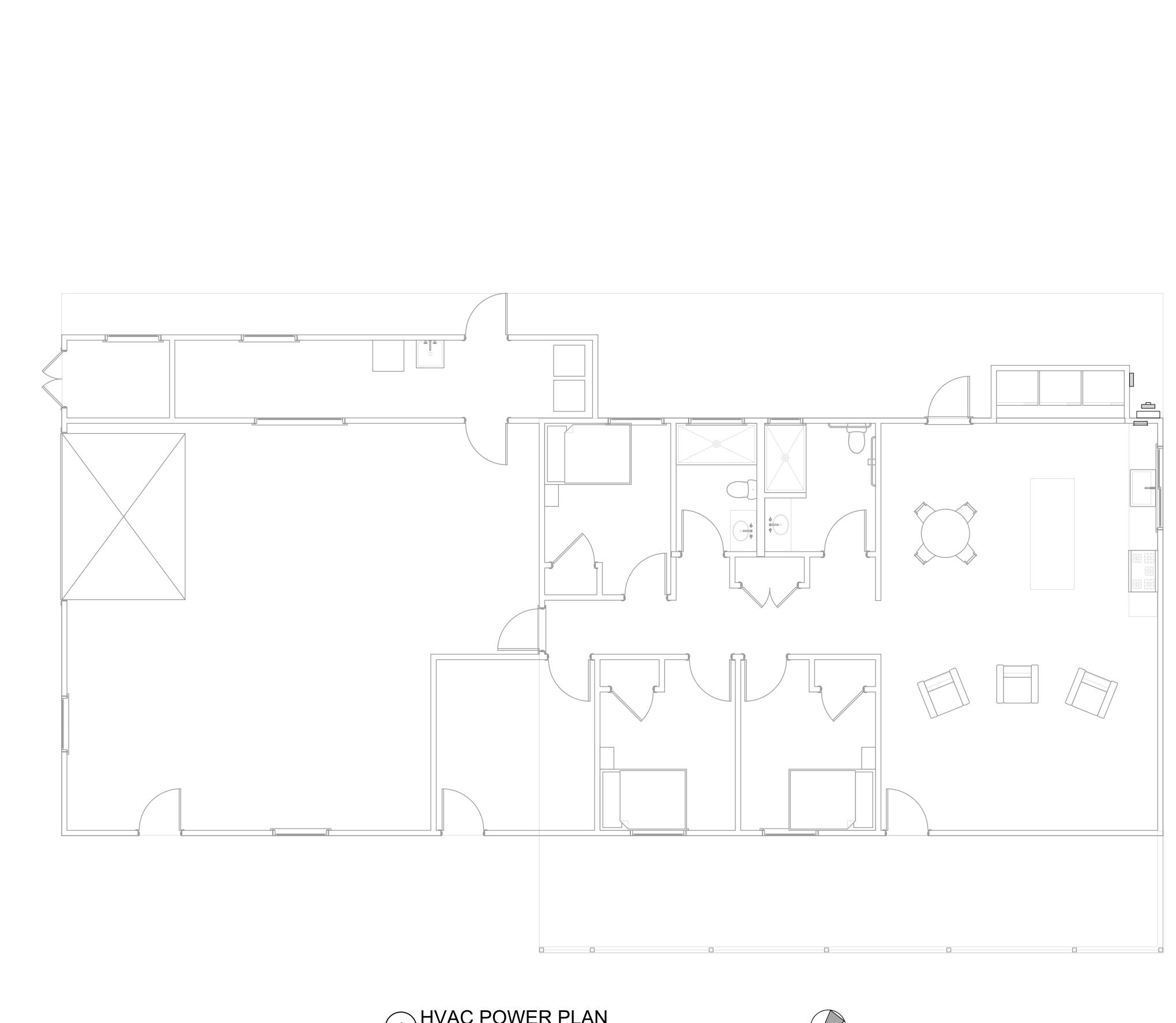
POWER & SIGNAL PLAN

E2.0



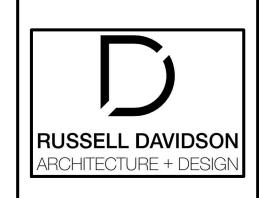
POWER & SIGNAL PLAN

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



1 HVAC POWER PLAN

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



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STATION 86 RENOVATION

12337 BANNER LAVA C. NEVADA CITY, CA 95959 APN: 037-280-016

SUBMITTED: DATE
SCALE AS NOTED
DRAWN BY: JL/JP
CHECKED BY: JP
JOB: 23025

HVAC POWER PLAN

E2.1





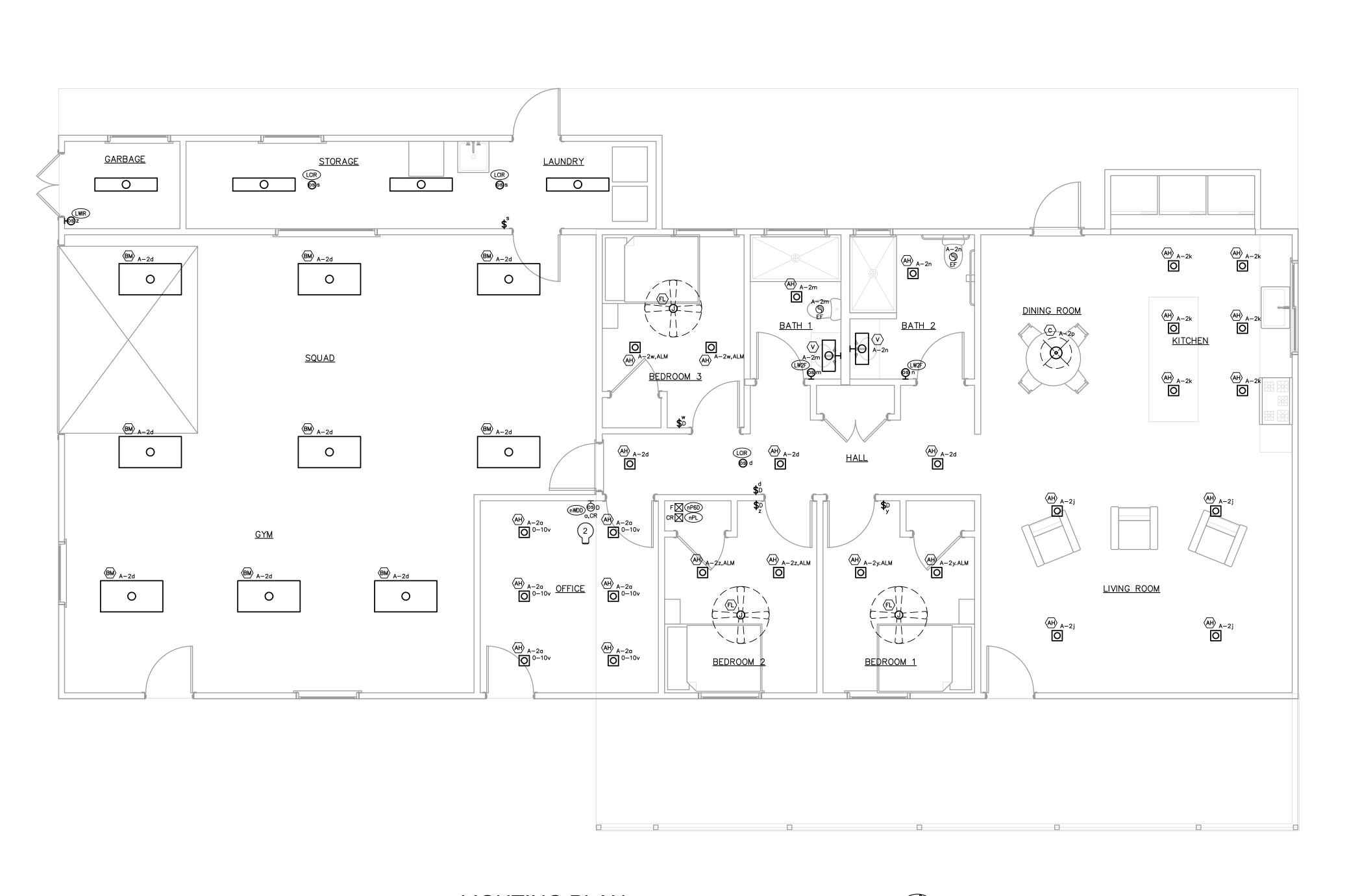
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DATE

SUBMITTED: AS NOTED DRAWN BY: CHECKED BY: 23025

LIGHTING PLAN

E3.0



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LIGHTING FIXTURE SCHEDULE								
TAG	DESCRIPTION	MANUFACTURER	V	LAMPS	W	DIMMING	MOUNTING	REMARKS
(AH)	4" DIA. RECESSED LED DOWNLIGHT w/ SELECTABLE LUMENS & CCT. (HIGH SETTING)	LITHONIA LBR4 ALO2 SWW1 AR LSS MWD MVOLT UGZ QDS w/ LBR4PFWQDS NC FRAME	MV	LED 2,000 LUMENS 3,000K, 80CRI	25	0-10V	RECESSED	
AM	4" DIA. RECESSED LED DOWNLIGHT w/ SELECTABLE LUMENS & CCT. (MEDIUM SETTING)	LITHONIA LBR4 ALO2 SWW1 AR LSS MWD MVOLT UGZ QDS w/ LBR4PFWQDS NC FRAME	MV	LED 1,500 LUMENS 3,000K, 80CRI	19	0-10V	RECESSED	
(AL)	4" DIA. RECESSED LED DOWNLIGHT w/ SELECTABLE LUMENS & CCT. (LOW SETTING)	LITHONIA LBR4 ALO2 SWW1 AR LSS MWD MVOLT UGZ QDS w/ LBR4PFWQDS NC FRAME	MV	LED 1,000 LUMENS 3,000K, 80CRI	13	0-10V	RECESSED	
(BM)	2 FT. x 4 FT. LAY-IN FLAT PANEL LUMINAIRE w/ SELECTABLE LUMENS & CCT. (MEDIUM SETTING)	LITHONIA CPANL 2X4 ALO6 SWW7 M2	MV	LED 5,000 LUMENS 4,000K, 80CRI	45	0-10V	LAY-IN GRID	
(BME)	SAME AS ABOVE EXCEPT w/ 90 MIN EMERGENCY BATTERY BACK-UP	LITHONIA CPANL 2X4 ALO6 SWW7 M2 w/ ILBLP CP10 HE SD A	MV	LED 5,000 LUMENS 4,000K, 80CRI	45	0-10V	LAY-IN GRID	PROVIDE ADDITIONAL UNSWITCHED CIRCUIT PER NEC REQUIREMENTS
$\overline{\mathbb{C}}$	6" DIA LED WAFER DOWNLIGHT	LITHONIA WF6 LED 30K MW w/ WF6 PAN	120	LED 800 LUMENS 3,000K, 80CRI	13	N/A	RECESSED IN GYPBOARD	
D	4 FT. SURFACE MOUNTED WRAPAROUND LUMINAIRE	LITHONIA LBL 4 LP840	MV	LED 4300 LUMENS 4,000K, 80CRI	32	0-10V	CEILING SURFACE	
(EMS)	LED EMERGENCY LIGHT w/ 90 BATTERY BACK-UP	LITHONIA ELM2L (WHITE)	120	LED CA APPROVED BATTERY	3	N/A	UNIVERSAL	PROVIDE UNSWITCHED CIRCUIT PER NEC REQUIREMENTS
$\langle x \rangle$	EXIT SIGN WITH 90 MIN. BATTERY BACK-UP	LITHONIA LQM LED G	120	LED	4	N/A	WALL OR CEILING	PROVIDE UNSWITCHED CIRCUIT PER NEC REQUIREMENTS
(XLE)	COMBO EXIT SIGN & EM. LIGHT WITH 90 MIN. HIGH OUTPUT BATTERY FOR ADDITIONAL REMOTE HEADS	LITHONIA LHQM LED G HO	120	LED	4	N/A	WALL OR CEILING	PROVIDE UNSWITCHED CIRCUIT PER NEC REQUIREMENTS
XR	EXTERIOR REMOTE WEATHERPROOF TWIN HEAD ADJUSTABLE LOW VOLTAGE EMERGENCY LIGHTS	LITHONIA ELA QWP LO309	LV	LED	-	N/A	WALL OR CEILING	PROVIDE LOW VOLTAGE CONNECTION TO NEAREST H.O. BATTERY PACK

LIGHT FIXTURE AND CONTROL NOTES:

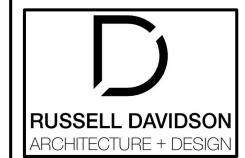
- 1. SUBSTITUTIONS AND/OR EQUAL FIXTURES MUST RECEIVE APPROVAL PRIOR TO BIDDING, THEY MUST BE SUBMITTED TO THE ENGINEER & LIGHTING DESIGNER NO LESS THAN ONE (1) WEEK PRIOR TO BID OPENING. ANYTHING SUBMITTED AFTER THIS TIME FRAME WILL NOT BE REVIEWED AND WILL BE CONSIDERED NON-APPROVED FOR BIDDING PURPOSES. ALL LIABILITY ASSOCIATED WITH NON-APPROVED FIXTURES THAT DO NOT MEET THE PROJECT REQUIREMENTS AS DETERMINED BY THE ENGINEERING TEAM, LIGHTING DESIGNER AND THE OWNER WILL REST SOLELY WITH THE CONTRACTOR.
- 2 ALL SUBSTITUTIONS AND/OR EQUAL FIXTURES SHALL BE ACCOMPANIED WITH THE APPROPRIATE IES FILE, SPECIFICATION SHEET, LM-79 REPORT & WARRANTY INFORMATION. ADDITIONAL INFORMATION ABOUT THE MANUFACTURER ITSELF AND FIXTURE COMPONENTS MAY BE REQUESTED.
- 3 ALL FIXTURES SHALL BE LISTED AND APPROVED FOR THEIR INTENDED USE.
- 4. VERIFY THE PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS.
- 5. SAMPLES FOR TABLE TOP EVALUATION MUST BE PROVIDED FOR ANY AND ALL FIXTURES UPON REQUEST.
- 6. ALL LIGHTING VALUE ENGINEERING PROVIDED FOR THIS PROJECT SHALL BE SUBMITTED TO THE ELECTRICAL ENGINEER & LIGHTING DESIGNER FOR REVIEW AND APPROVAL AFTER THE PROJECT HAS BEEN BID AND AWARDED. ANY CREDITS FOR VE SHALL INCLUDE TIME TO COMPENSATE OUR OFFICES FOR ENGINEERING REVIEW AND VERIFICATION OF BRANCH CIRCUIT LOADING, ENERGY CODE COMPLIANCE AND/OR PHOTOMETRIC REVIEW. NO VE SUBMITTALS WILL BE APPROVED WITHOUT THIS PROCESS IN PLACE.
- 7. ALL LIGHT FIXTURES TO BE COMPATIBLE WITH FRESCO LIGHTING CONTROL SYSTEM.

LINE VOLTAGE LIGHTING CONTROL SCHEDULE						
TAG	DESCRIPTION	MANUFACTURER	OPERATION	REMARKS		
(CDT)	CEILING MOUNTED DUAL-TECH OCCUPANCY SENSOR	SENSOR SWITCH # CMR 9 WH	AUTO-ON / AUTO OFF, DETERMINES OCCUPANCY OF SPACE.			
LWIR	WALL MOUNTED SINGLE POLE SWITCH w/ INTEGRATED LINE VOLTAGE IR OCC. SENSOR	SENSOR SWITCH # WSXA SA WH	MANUAL OR AUTO-ON WITH VACANCY OFF			
(W1D)	WALL MOUNTED 0-10V DIMMING WALL SWITCH	SENSOR SWITCH # SPODMRD WH	MANUAL ON / OFF / 0-10V DIMMING			

LOW VOLTAGE LIGHTING CONTROL SCHEDULE					
TAG	DESCRIPTION	MANUFACTURER	OPERATION	REMARKS	
nP6D	nLIGHT 0-10V DIMMING POWER PACK AND RELAY, AUTO ON 50%	ABC - nLIGHT nPP16 D	PROVIDES FOR ON/OFF AND DIMMING OF 0-10V LIGHTING LOADS	PROVIDE ALL CAT 5 CONNECTIONS AND PROGRAMMING	
nPL	nLIGHT PLUG LOAD CONTROL POWER PACK	ABC - nLIGHT nPP20 PL	PROVIDES FOR ON/OFF CONTROL OF RECEPTACLE LOADS UPON VACANCY SIGNAL FROM NETWORKED SENSOR	REQUIRES BUS POWER FROM ANOTHER DEVICE	
nWRD	nLIGHT SINGLE POLE DIMMING WALL SWITCH w/ INTEGRAL INFRARED OCCUPANCY SENSOR	ACUITY BRANDS CONTROLS - nLIGHT nWSXA LV DX WH	MANUAL OR AUTO ON / OFF & DIMMING	PROVIDE ALL CAT 5 CONNECTIONS AND PROGRAMMING	

LIGHTING GENERAL NOTES:

- . ALL EMERGENCY & EXIT SIGN LUMINAIRES SHALL BE CONNECTED TO THE UNSWITCHED SIDE OF THE LIGHTING BRANCH CIRCUIT. LIGHT FIXTURES W/ EMERGENCY DRIVERS SHALL BE NORMALLY SWITCHED & CONTROLLED W/ THE AREA LIGHTING. HOWEVER, THEIR EMERGENCY DRIVERS SHALL BE CONNECTED UPSTREAM OF THE AREA LIGHT SWITCH, LIGHTING CONTROL PANEL OR RELAY. FIXTURES ARE TO REMAIN ON FOR NOT LESS THAN 90 MINUTES PER NATIONAL ELECTRIC CODE REQUIREMENTS.
- 2. IT IS THE INTENT OF THESE CONSTRUCTION DOCUMENTS THAT ALL CONDUIT IS TO BE INSTALLED WITHIN WALLS, ABOVE CEILINGS, & CONCEALED WHERE
- COORDINATE ALL MOUNTING HEIGHTS OF CORD, PENDANT, OR WALL HUNG LUMINAIRES W/ ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN OF ELECTRICAL BOXES.
- 4. ELECTRICIAN TO VERIFY LUMINAIRE DIMMING CONTROLS & TO PROVIDE NECESSARY WIRING & DEVICES REQUIRED FOR DIMMING OPERATION.
- 5. ALL LUMINAIRE & FIXTURE DRIVERS TO BE CONCEALED IN ACCESSIBLE LOCATIONS, OUT OF DIRECT VIEW OF BUILDING OCCUPANTS.
- . LIGHTING CONTROL SYSTEM BASIS OF DESIGN IS ACUITY BRANDS SENSOR SWITCH & nLIGHT DIGITAL LIGHTING SYSTEM (FRESCO). ELECTRICAL CONTRACTOR TO SEE MANUFACTURER SHOP DRAWINGS & DESIGN FOR A COMPLETE AN OPERATIONAL SYSTEM. PROVIDE ALL HARDWARE, SET-UP, PROGRAMMING, OWNER TRAINING, ETC., PER OWNER & TITLE-24 REQUIREMENTS.





TION RENOVA 86 STATION

NAME DATE SUBMITTED: DATE AS NOTED DRAWN BY: JL/JP

CHECKED BY:

LIGHTING & CONTROL **SCHEDULES**

JOB SET

E3.1

BUILDING LIGHTING CONTROL NOTES: THE CONTROL BASIS OF DESIGN IS ACUITY BRANDS CONTROLS. CONTROL MANUFACTURER TO THOROUGHLY REVIEW THE ELECTRICAL PLANS AND PROVIDE THE REQUIRED DEVICE QUANTITIES AND DESIGN FOR A COMPLETE CURRENT TITLE-24 COMPLIANT SYSTEM, INCLUDING ALL REQUIRED PROGRAMMING. SINGLE-STALL RESTROOM 130.1 (a) AREA LIGHTING CONTROL ■ YES; WALL SWITCH □ N/A □ EXCEPTION: 130.1 (b) MULTI-LEVEL LIGHTING CONTROL ☐ YES; □ N/A ■ EXCEPTION: <0.5W/SQ.FT.</p> 130.1.(c) AUTOMATIC SHUT-OFF CONTROL ■ YES; OCC. SENSOR □ N/A □ EXCEPTION: 130.1 (d) AUTOMATIC DAYLIGHT CONTROL ☐ YES: ■ N/A ☐ EXCEPTION: 130.1 (e) DEMAND RESPONSE CONTROL ☐ YES; ☐ N/A ■ EXCEPTION: <10,000 SF @ >0.5W/SF

130.5 (d) CONTROLLED RECEPTACLES ☐ YES; SEQUENCE OF OPERATION: (STAND ALONE LINE VOLTAGE CONTROL) LIGHTING: AUTO-ON / AUTO OFF AFTER 20 MINUTES. 130.1 (a) AREA LIGHTING CONTROL ■ YES; WALL SWITCH 130.1 (b) MULTI-LEVEL LIGHTING CONTROL ■ YES; WALL DIMMER 130.1.(c) AUTOMATIC SHUT-OFF CONTROL ■ YES; OCC. SENSOR

130.1 (d) AUTOMATIC DAYLIGHT CONTROL ☐ YES; 130.1 (e) DEMAND RESPONSE CONTROL ☐ YES; 130.5 (d) CONTROLLED RECEPTACLES ■ YES; OCC. SENSOR □ N/A □ EXCEPTION: SEQUENCE OF OPERATION: (LOW VOLTAGE) WALL SWITCH FOR ON / OFF & DIMMING. PROGRAM FOR AUTO-ON TO 50%; MANUAL ON TO 100%. CONTROLLED RECEPTACLES VIA

OCCUPANCY SENSOR.

130.1 (a) AREA LIGHTING CONTROL ■ YES; WALL SWITCH □ N/A □ EXCEPTION: 130.1 (b) MULTI-LEVEL LIGHTING CONTROL ■ YES; WALL DIMMER □ N/A □ EXCEPTION: <0.5W SQ. FT. 130.1.(c) AUTOMATIC SHUT-OFF CONTROL ■ YES; OCC. SENSORS □ N/A □ EXCEPTION: 130.1 (d) AUTOMATIC DAYLIGHT CONTROL ☐ YES; 130.1 (e) DEMAND RESPONSE CONTROL ☐ YES;

130.5 (d) CONTROLLED RECEPTACLES ☐ YES; SEQUENCE OF OPERATION: (STAND ALONE LINE VOLTAGE CONTROL) LIGHTING; AUTO-ON / AUTO-OFF AFTER 20 MINS.

FRONT OF HOUSE, RETAIL 130.1 (a) AREA LIGHTING CONTROL ■ YES; WALL SWITCH □ N/A □ EXCEPTION: 130.1 (b) MULTI-LEVEL LIGHTING CONTROL YES; WALL DIMMER N/A EXCEPTION: <0.5W SQ. FT. 130.1.(c) AUTOMATIC SHUT-OFF CONTROL ■ YES; ASTRO TIMECLOCK □ N/A □ EXCEPTION: 130.1 (d) AUTOMATIC DAYLIGHT CONTROL ☐ YES; 130.1 (e) DEMAND RESPONSE CONTROL ☐ YES; 130.5 (d) CONTROLLED RECEPTACLES ☐ YES; SEQUENCE OF OPERATION: (STAND ALONE LINE VOLTAGE CONTROL)

130.1 (a) AREA LIGHTING CONTROL 130.1 (d) AUTOMATIC DAYLIGHT CONTROL ☐ YES;

130.1 (e) DEMAND RESPONSE CONTROL ☐ YES; 130.5 (d) CONTROLLED RECEPTACLES ☐ YES; LIGHTING; AUTO-ON / AUTO OFF

130.1 (b) MULTI-LEVEL LIGHTING CONTROL ☐ YES; WALL DIMMER 130.1.(c) AUTOMATIC SHUT-OFF CONTROL ■ YES; OCC SENSOR SEQUENCE OF OPERATION: (STAND ALONE LINE VOLTAGE CONTROL)

LIGHTING; ASTRONOMICAL TIME-CLOCK CONTROL WITH 2 HOUR AFTER HOURS BY-PASS SWITCH □ N/A □ EXCEPTION:

□ N/A ■ EXCEPTION: ONE FIXTURE □ N/A □ EXCEPTION: ■ N/A ☐ EXCEPTION: <120W IN EITHER ZONE □ N/A ■ EXCEPTION: <10,000 SF @ >0.5W/SF ■ N/A ☐ EXCEPTION:

■ N/A ☐ EXCEPTION:

□ N/A □ EXCEPTION:

■ N/A ☐ EXCEPTION:

■ N/A ☐ EXCEPTION:

■ N/A ☐ EXCEPTION:

☐ EXCEPTION:

☐ EXCEPTION:

□ N/A ■ EXCEPTION: <10,000 SF @ >0.5W/SF

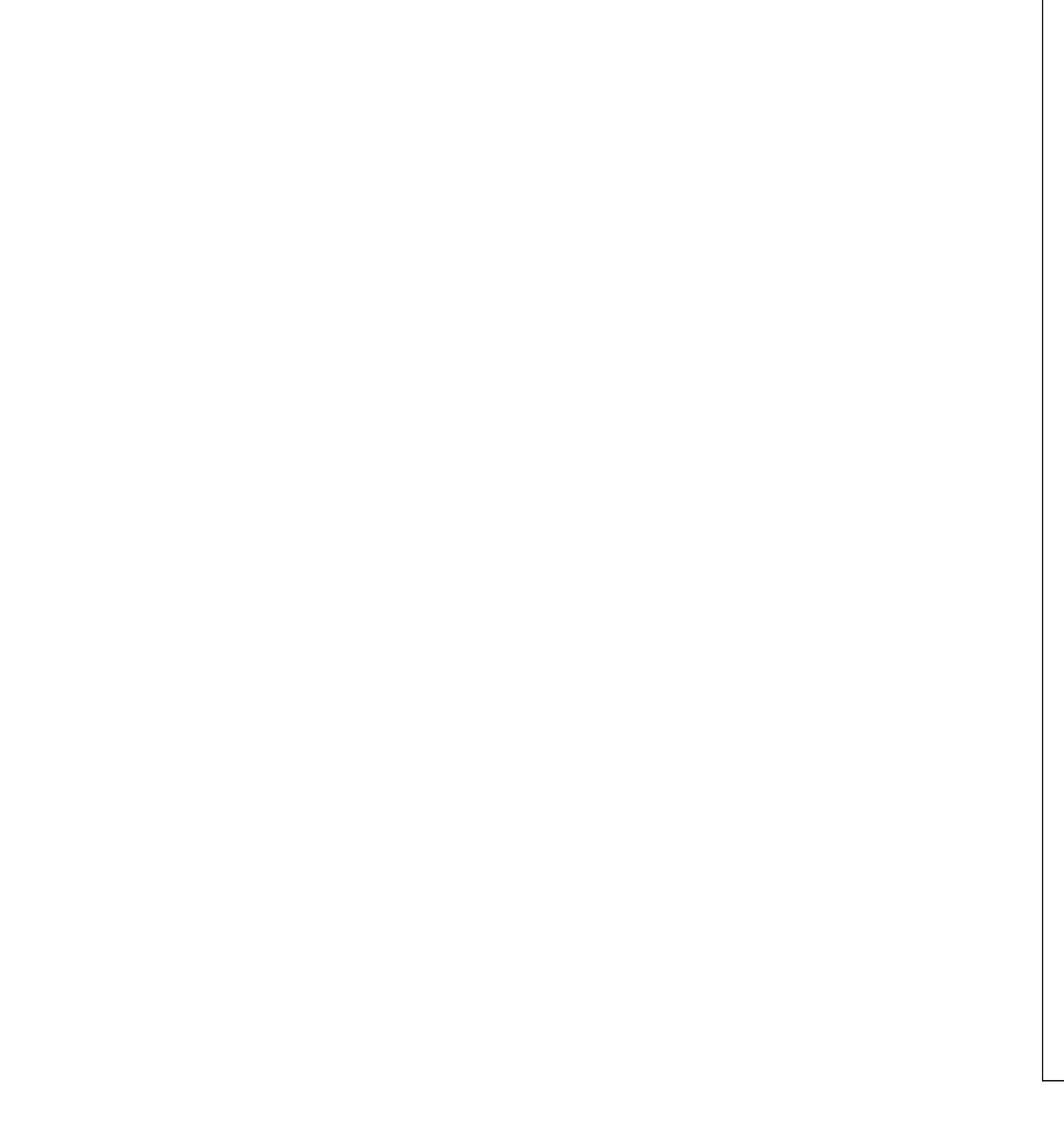
■ N/A ☐ EXCEPTION: <120W IN EITHER ZONE □ N/A ■ EXCEPTION: <10,000 SF @ >0.5W/SF

☐ N/A ■ EXCEPTION: <120W IN EITHER ZONE

□ N/A ■ EXCEPTION: <10,000 SF @ >0.5W/SF

□ N/A

□ N/A



ELECTRICAL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. All labor, tools, and materials necessary to install, test, and place in operation complete and functional electrical systems, as shown on the plans and described herein.
- B. Secure all permits and pay all fees necessary for the execution and completion of this work.

1.02 DRAWINGS

The electrical layouts are generally diagrammatic. The location of outlets and equipment are approximate unless dimensioned. The exact locations and routing of conduits shall be governed by structural conditions and physical interferences and by the location of electrical terminations of equipment.

1.03 QUALITY ASSURANCE

- A. All work shall be in full accordance with the latest edition of the National Electrical Code, all local, state, and federal codes, and with the requirements of the serving utility companies.
- B. All electrical materials used on this project shall be best possible grade of their kinds, new, free from defects and, unless otherwise specifically noted, shall conform to applicable standards of National Electrical Manufacturers Association, the American National Standards Institute and Underwriters Laboratories, Inc. Each article of a kind shall be the standard product of a single manufacturer.
- C. Specific brand names and catalog numbers are used to describe materials in order to establish standards of performance and quality. The decision of the Architect shall govern as to what materials may be substituted, but the burden of proof as to the equivalency of any proposed substitution shall be upon the Contractor.

1.04 SUBMITTALS

Submit to the Architect a complete list of materials and equipment stating manufacturer's names, catalog numbers, etc. No materials shall be installed until final approval is given.

Guarantee all work for one year from date of acceptance against all defects in material, equipment and workmanship.

PART 2 PRODUCTS

2.01 RACEWAYS

- A. Rigid Steel Conduit: Galvanized, complying with specifications UL—6, ANSI C80.1, Federal WW—C—58IE or latest revisions.
- B. Intermediate Metallic Conduit (IMC): Galvanized, complying with specifications UL 1242, Federal WW-C-58IE of latest revisions.
- C. Electrical Metallic Tubing (EMT): Galvanized, complying with specifications UL 797, ANSI C.80.3, Federal WW—C—563 or latest revisions.
- D. Polyvinylchloride Conduit (PVC): Minimum Schedule 40.
- E. Steel Flexible Conduit: Galvanized interlocking spirally wound steel.
- F. Steel Liquidtight Flexible Conduit: Liquidtight, non metallic, sunlight resistant jacket over flexible metal core.
- G. Electrical Non-Metallic Tubing (ENT): A non-metallic pliable corrugated raceway, resistant to moisture and chemicals.

2.02 RACEWAY FITTINGS

- A. Rigid Steel Conduit and IMC:
- 1. Galvanized, waterproof, and threaded type.
- B. Electrical Metallic Tubing:
- Galvanized steel
 Die cast
- 3. Compression ring type4. Set screw type
- C. Polyvinylchloride and ENT:
- 1. PVC Schedule 40, cemented type.
- D. Metallic Flexible Conduit:1. Galvanized, clamp, type, and approved for grounding.
- E. Liquidtight Flexible Metal Conduit:
- 1. Galvanized, screw in type, approved for grounding.

2.03 WIRE AND CABLE

- A. Plainly marked with UL label, gauge, voltage and insulation type.
- B. General Wiring: 600V type "TW" of "THHN" Copper, minimum size #12 AWG.
- C. Feeders: 600V type "THW" Aluminum, or as shown on plans.

2.04 DEVICES

- A. Wall switches: "AC" rated, heavy duty, quiet type, rated 20 amperes at 120 volts AC. Special switches as noted.
- B. Convenience outlets: Rated 15 amperes at 120 volts AC, 3—wire groundable type, Leviton #5262 duplex or #5261 single. Special outlets shall be as noted on plans.
- C. Plates: Supply for all outlet or junction boxes, flush or surface. Two or more gangs in box shall have gang plates. Color of box covers to be selected by Architect.

PART 3 EXECUTION & APPLICATION

3.01 RACEWAY APPLICATION

- A. Rigid Steel Conduit and IMC:
- May be exposed, concealed, installed underground, or in concrete.
- 2. Shall be installed per the designation on the
- B. Electrical Metallic Tubing:
- 1. Shall be concealed in protected attic spaces, or hollow stud spaces.
- May be exposed in mechanical and electrical rooms where designated on the plans.

C. Polyvinylchloride Conduit:

- 1. Shall be a minimum of 3/4".
- 2. Shall only be installed beneath grade or in concrete.
- 3. A Maximum of 4 feet of exposed or concealed PVC may extend from grade or the concrete slab to the bottom or a switchboard, panelboard, device box, or similar equipment in electrical rooms only.
- 4. A maximum of 18 inches of PVC may extend from the concrete slab to the first device box when concealed in a stud space.
- PVC shall not be installed in fire rated areas or where subject to mechanical damage.

D. Flexible Steel Conduit:

- 1. May be used in interior, dry, and non—hazardous locations only.
- Shall be used in lengths no longer than 3 feet for motors and other equipment requiring flexible connections.
- 3. Shall be used in lengths no longer than 6 feet for connection of light fixtures.
- E. Liquidtight Metallic Flexible Conduit:
- Shall be used as indicated in item "D" above for damp or wet locations.
- F. Electrical Non-Metallic Tubing:
- May be installed in buildings not exceeding three stories.
- 2. Shall be concealed in walls, ceilings, and floors having a minimum finish rating of 15 minutes.
- 3. Shall not be installed in fire rated and assembly areas.

3.02 RACEWAY INSTALLATION

- A. Rigid or intermediate metal conduit shall have threads filled with conductive sealant before screwing into fittings.
- B. Entire electrical raceway system shall form a continuous metallic electrical conductor from service point to every outlet, and shall be grounded by connection to main service ground conductor.
- C. Install conduit runs exposed to view parallel or at right angles to structural members, walls or building lines.
- D. Close open ends of conduit with factory made conduit seals during construction. Examine inside of each piece of conduit just before installation and remove any dirt or foreign objects.
- E. Support conduit with one—hole malleable factory made pipe straps, fastened with screws; nails shall not be used.

3.03 WIRE INSTALLATION

- A. Make joints, splices, taps and connections of conductors with solderless connectors.
- B. Provide grounding and bonding in accordance with applicable codes and regulations.
- C. Connect all air conditioning motors to conduit systems with sections of flexible conduit to facilitate removal of motor. Use approved fittings only.

3.04 LIGHTING FIXTURE INSTALLATION

- A. Install fixtures complete with all necessary connectors and brackets. Remove all labels except UL label from exposed parts of fixtures. Clean fixtures upon project completion.
- B. Where structural members or mechanical equipment prevent installation of fixtures as shown, resulting layout shall be symmetrical within ceiling space and approved by the Architect.
- C. Install lamps of proper type.

3.05 TESTS

Test all systems upon completion of work to demonstrate that the equipment furnished and installed as connected functions electrically in the manner required.

END OF SPECIFICATION



ELECTRICAL ENGINEERING, INC
3130 Twitchell Island Rd., West Sacramento, CA 95691
T/F - 916.371.3202
442 Livingston Avenue, Placentia, CA 92870
T - 916.826.1825

ATION 86 RENOVATION

CAP

SUBMITTED: DATE

SCALE AS NOTED

DRAWN BY: JL/JP

ELECTRICAL SPECIFICATIONS

23025

CHECKED BY:

E4.0

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STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION	STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSI	STATE OF CALIFORNIA N Mechanical Systems CALIFORNIA ENERGY COMMISSION	STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION	ON ON
CERTIFICATE OF COMPLIANCE This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, or 141.0(b)2 for alterations. Project Name: Station 86 Mechanical Compliance Report Page: (Page 1 of 11)	CERTIFICATE OF COMPLIANCE Project Name: Station 86 Mechanical Compliance Report Page: (Page 4 of Date Prepared: 9/11/2	Project Name: Station 86 Mechanical Compliance Report Page: (Page 7 of 11)	CERTIFICATE OF COMPLIANCE Project Name: Station 86 Mechanical Compliance Report Page: (Page 10 of 11) Date Prepared: 9/11/2023	1)
Project Address: 12337 Banner Lava Cap Rd. Date Prepared: 9/11/2023 A. GENERAL INFORMATION	H. FAN SYSTEMS & AIR ECONOMIZERS This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(m), 170.2(c)3, and 170.2(c)4A for fan systems. Fan systems serving only	J. VENTILATION AND INDOOR AIR QUALITY NA: Not required per	N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION	MELAS
01 Project Location (city) Nevada City 04 Total Conditioned Floor Area 1441 02 Climate Zone 11 05 Total Unconditioned Floor Area 0 03 Occupancy Types Within Project: 06 # of Stories (Habitable Above Grade) 1	process loads are exempt from these requirements and do not need to be included in Table H. System Name HVAC Quantit y 1 Fan System Status Status Status Status Status Status Status Status Alteration System Systems System Systems System Systems Status St	d Occ Sensor space type	Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/ Form/Title	ENGINEERING
◆ Classroom ◆ Hotel/Motel ◆ Office ◆ Support Areas ◆ All Other Occupancies	O1 O2 O3 O4 O5 O6 O7 O8 O9 O1 O1 O1 O2 O3 O4 O5 O6 O7 O8 O9 O8 O9 O9 O9 O9 O9		NRCI-MCH-01-E - Must be submitted for all buildings	ENERGY & MECHANICAL CONSULTAN
B. PROJECT SCOPE This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, 170.2(b) or 141.0(b)2 and 180.2(b)2 for alterations.	Name or Item Tag Fan Type Qty Component Airflow through Component (%) Co	Office Office space 156 2 23.4 140 0 NA: Not required per \$120.1(d)3 NA: Not required Per \$120.1(d)3	O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at	541 UREN STREET NEVADA CITY, CA 95959 PHONE (530) 265-2492
O1 O2 O3 Air System(s) Wet System Components Dry System Components Heating Air System	Base Allowance for system serving spaces <=6 floors away MERV 13-16 Filter upstream of the little in the little i	Bedrooms Bedroom/living room (hotel/motel/dorm) 279 2 41.8 140 0 DCV NA: Not required per \$120.1(d)3	https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/ Form/Title NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A HP-1;	────────────────────────────────────
Mechanical Controls □ System Piping □ Fan Systems Mechanical Controls (existing to remain, altered or new) □ Cooling Towers □ Ductwork (existing to remain, altered or new)	SF Supply 1 thermal conditioning equipment 1,485 206 Manufacturer provided 0.66 Hydronic/DX cooling coil or heat pump coil 206 Supply Fan System 1,485 206	Halls Corridor 217 2 32.6 140 0 NA: Not required per \$120.1(d)3	Supply Fan VFD Acceptance (if applicable) since testing activities overlap. NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".	PROFESSION EL C. MAI
☐ Chillers ☑ Ventilation ☐ Boilers ☐ Zonal Systems/ Terminal Boxes	Supply Fan Base Allowance (kW) Exhuast/Return/Relief/Transfer Fan Base Allowance (kW) Allowance (kW) Allowance (kW) 1 Footnotes: Fan System (Allowance (kW)) 1 Output (kW) 0.66	17 Total System Required Min OA CFM 311 18 Ventilation for this System Complies? Yes **FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system**	P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION	26789 K Exp. 9/30/24
	² Low-turndown single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads. ³ Fan system allowance includes fan system base allowance.	² Air filtration requirements apply to the following three system types per 120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space. ³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.	There are no NRCV forms required for this project. Q. MANDATORY MEASURES DOCUMENTATION LOCATION This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.	OF CALIFORNIA
	 Filter pressure loss can only be counted once per fan system. Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both. Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E 	⁴ See Standards Tables 120.1-A and 120.1-B. ⁵ For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.	O1 O2 Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block Mandatory Measures Note Block O2 Plan sheet or construction document location M-Sheets	
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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: EnergyPro-3103-0923-0160 Schema Version: rev 20220101 Report Generated: 2023-09-11 14:17:29	Schema Version: rev 20220101 Report Generated: 2023-09-11 14:17:	Schema Version: rev 20220101 Report Generated: 2023-09-11 14:17:29	CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-3103-0923-0160 Report Generated: 2023-09-11 14:17:29	
STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE Project Name: Station 86 Mechanical Compliance Report Page: (Page 2 of 11)		LE CERTIFICATE OF COMPLIANCE NRCC-MCH-E	STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE Project Name: Station 86 Mechanical Compliance Report Page: (Page 11 of 11)	· 트
Date Prepared: 9/11/2023	Date Prepared: 9/11/2	Date Prepared: 9/11/2023	Project Address: 12337 Banner Lava Cap Rd. Date Prepared: 9/11/2023	
C. COMPLIANCE RESULTS Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.	H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)40 01 02 03 04 05 06 07 08 09 10 11 Exemptions to E	J. VENTILATION AND INDOOR AIR QUALITY 6 120.2(e)3 requires systems serving rooms that are required by 130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft ² or smaller, multipurpose rooms less than 1,000 ft ² , classrooms, conference rooms, restrooms, aisless and appearance in warshouses, library book stack risks, considers extringely, parting agrees, and loading and valending space, where the property of the 100 ft ² .	DOCUMENTATION AUTHOR'S DECLARATION STATEMENT I certify that this Certificate of Compliance documentation is accurate and complete. Documentation Author Name: Chris Miller Documentation Author Signature:	
01 02 03 04 05 06 07 08 09 System Summary Fans/ System Terminal Box Distribution	Fan System Name Qty Qty Qty Qty Qty Qty Qty Airflow Rate Qty Airflow Rate Design Supply Airflow Air	and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c). K. TERMINAL BOX CONTROLS	Company: MELAS ENERGY ENGINEERING Address: CEA/ HERS Certification (if applicable):	
110.1, 110.2, 120.3, 140.4(k), 170.2(c) 17	01 02 03	This section does not apply to this project. L. DISTRIBUTION (DUCTWORK and PIPING) This table is used to show compliance with mandatory pipe insulation requirements found in 120.3 and mandatory requirements found in 120.4(q) for duct sealing.	547 Uren St. CEA R19-15-30070 City/State/Zip: Phone: Nevada City CA 95959 530 265-2492 RESPONSIBLE PERSON'S DECLARATION STATEMENT	
(See Table F) (See Table G) (See Table H) (See Table I) (See Table J) (See Table K) (See Table L) (See Table M)	Name or Item Tag FEI Exception FEI I. SYSTEM CONTROLS This table is used to demonstrate compliance with mandatory controls in 110.2 and 120.2 and prescriptive controls in 140.4(f) and (n), 170.2(c)4D 170.2(c)4L or requirements in	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder. All penetrations and joints of which shall be sealed.	I certify the following under penalty of perjury, under the laws of the State of California: 1. The information provided on this Certificate of Compliance is true and correct. 2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer) 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.	ts
D. EXCEPTIONAL CONDITIONS This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.	141.0(b)2E 180.2(b)2 for altered space conditioning systems. 01 02 03 04 05 06 07 08 09 Conditioned Thermostats Shut-Off	Duct Leakage Testing The answers to the questions below apply to the following duct systems: HVAC NR/ Common Use: Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems? No	 The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. 	
E. ADDITIONAL REMARKS This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.	System Name System Zoning System Zoning System Zoning System Reing Served (ft²) System Name System Zoning System Zoning System Size (ft²) System Name System System Reing Served (ft²) System Name System System Response Controls 120.2(e) & 120		Responsible Designer Name: Michael Melas Company: Melas Energy Engineering Responsible Designer Signature: Date Signed: 2023-09-11	<u> </u>
F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS) Space Conditioning System Information	HVAC Single zone <= 25,000 ft ² Setback 4 Hour Timer NA: Single Zone DR Tstat per 110.12 Included NA: Auto-closing door 1FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required have setback thermostats.		Address: License: 547 Uren St. M26789 City/State/Zip: Phone: Nevada City CA 95959 530 265-2492	
01 02 03 04 05 06 System Name Quantity System Serving System Status Space Type Utilizing Recovered Heat HVAC 1 Single zone Alteration □				
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G. PUMPS This section does not apply to this project.				
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				Plot Date:
			ENERGY FEATURES SUMMARY SCOPE: MECHANICAL EQUIPMENT AND DUCTWORK ALTERATION PV SYSTEM: NOT REQUIRED	Job# 23-235
			SPECIAL FEATURES: NONE SPACE HEATING: DUCTED HEAT PUMP (HSPF2=9) SPACE COOLING: DUCTED AIR CONDITIONERS (SEERS=17 EER=10.6) DUCT INSULATION: R-8	Scale N/A
			WATER HEATING: NEW GAS ON-DEMAND WATER HEATER (EF=0.95) RADIANT BARRIER: NOT REQUIRED HERS TESTS: DUCT TESTING	Issued By 9/11/2023
			ACCEPTANCE TESTS: NRCA-MCH-02-A - OUTDOOR AIR, NRCA-MCH-03-A - CONSTANT VOLUME SINGLE ZONE, NRCA-MCH-11-A - AUTOMATIC DEMAND SHED EXTERIOR WALLS: EXISTING CEILING: EXISTING	Sheet T24-1
			FLOOR: EXISTING WINDOWS: FXISTING	