#### **GENERAL NOTES**

- ALL WORK SHALL BE IN COMPLIANCE WITH ALL APPLICABLE LOCAL BUILDING CODES AND REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR PERMITS APPLICABLE TO SPECIFIC TRADES OR SUBCONTRACTOR'S
- CONTRACTOR WILL HAVE EXAMINED THE PREMISES AND SITE SO AS TO COMPARE THEM WITH THE DRAWINGS AND WILL BE SATISFIED AS TO THE CONDITION OF EXISTING WORK AND ADJACENT PROPERTY PRIOR TO SUBMISSION OF BID. NO ALLOWANCES WILL SUBSEQUENTLY BE MADE IN BEHALF OF THE CONTRACTOR BY REASON OF ANY OMISSION ON HIS/HER PART TO INCLUDE THE COSTS OF ALL ITEMS OF WORK, EITHER LABOR OR MATERIALS, WHETHER THEY ARE OR ARE NOT ESPECIALLY OR PARTICULARLY SHOWN OR NOTED BUT WHICH ARE
- IMPLIED OR REQUIRED TO ATTAIN THE COMPLETED CONDITIONS PROPOSED IN THE DRAWINGS. ALL SUBCONTRACTORS TO THE GENERAL CONTRACTOR SHALL INSPECT THE SITE AND SHALL CONVEY ANY QUESTIONS REGARDING DESIGN INTENT AND SCOPE OF WORK TO THE ARCHITECT PRIOR TO SUBMITTING BID AND PRIOR TO COMMENCING WORK.
- CONTRACTOR SHALL COORDINATE THE WORK OF THE VARIOUS TRADES AND SUBCONTRACTORS AND SHALL BE RESPONSIBLE FOR ANY ACTS, OMISSIONS, OR ERRORS OF THE SUBCONTRACTORS AND OF PERSONS DIRECTLY OR INDIRECTLY EMPLOYED BY THEM.
- CONTRACTOR TO ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS INCLUDING SAFETY OF PERSONS AND PROPERTY FOR THE DURATION OF THE PROJECT.
- CONTRACTOR TO NOTIFY ARCHITECT PRIOR TO ORDERING OF ALL LONG LEAD ITEMS AND OF APPROXIMATE DELIVERY DATES.
- ALL CONSTRUCTION MATERIALS AND SUPPLIES TO BE STORED, HANDLED, AND INSTALLED, ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.
- IF ERRORS OR OMISSIONS ARE FOUND IN THE DRAWINGS THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. DRAWINGS SCHEMATICALLY INDICATE NEW CONSTRUCTION. THE CONTRACTOR SHOULD ANTICIPATE, BASED
- ON EXPERIENCE, A REASONABLE NUMBER OF ADJUSTMENTS TO BE NECESSARY TO MEET THE DESIGN OBJECTIVES AND SHOULD CONSIDER SUCH ADJUSTMENTS AS INCLUDED IN THE SCOPE OF WORK. WHEN SPECIFIC FEATURES OF CONSTRUCTION ARE NOT FULLY SHOWN ON THE DRAWINGS OR CALLED FOR IN THE
- GENERAL NOTES, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS SIMILAR CONDITIONS. ALL DIMENSIONS TO BE TAKEN FROM NUMERIC DESIGNATIONS ONLY; DIMENSIONS ARE NOT TO BE SCALED OFF DRAWINGS. THESE NOTES TO APPLY TO ALL DRAWINGS AND GOVERN UNLESS MORE SPECIFIC REQUIREMENTS ARE
- INDICATED APPLICABLE TO PARTICULAR DIVISIONS OF THE WORK. SEE SPECIFICATIONS AND GENERAL NOTES IN THE SUBSECTIONS OF THE DRAWINGS. ALL DIMENSIONS ARE TO FACE OF FRAMING, UNLESS OTHERWISE NOTED.
- WEATHERSTRIP ALL DOORS LEADING FROM HEATED TO UNHEATED AREAS.PROVIDE VINYL BEAD TYPE WEATHERSTRIPPING AT THESE DOORS AND WINDOWS. ALL SIDES OF THE DOOR MUST BE WEATHERSTRIPPED, INCLUDING THE THRESHOLD. CAULK AND SEAL OPENINGS IN BUILDING EXTERIOR 1/8" OR GREATER TO PREVENT AIR INFILTRATION.
- WINDOWS TO BE MADE OPERABLE AND CLEANED, U.O.N. ALL WALL FRAMING TO BE 2X4 @ 16" O.C. MINIMUM, U.O.N
- 5/8" GYPSUM WALL BOARD ON WALLS. ALL GYPSUM AND/OR PLASTER SURFACES SHALL BE SMOOTH, CONTINUOUS, FREE OF IMPERFECTIONS, AND
- WITH NO VISIBLE JOINTS, U.O.N. STUCCO OVER WOOD SHEATHING SHALL INCLUDE TWO LAYERS OF GRADE D BUILDING PAPER. STRUCTURAL WOOD MEMBERS ADJACENT TO CONCRETE OR EARTH TO BE PRESSURE TREATED DOUGLAS FIR.
- ALL WALL AND FLOOR INSULATION TO BE R-19. ALL ROOF INSULATION TO BE R-23 MIN. ALL USERS OF THESE DRAWINGS AGREE BY USING THESE DRAWINGS TO HOLD THE ARCHITECT HARMLESS FOR ANY AND ALL WORK THAT DOES NOT CONFORM TO REQUIREMENTS AND MINIMUM STANDARDS OF THE UNIFORM BUILDING CODE, LOCAL ORDINANCES AND ACCEPTABLE STANDARDS.
- THE ARCHITECT HAS NO CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES FOR ANY SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- THE ARCHITECT ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF PRODUCTS OR MATERIALS NOT SPECIFIED IN THESE DRAWINGS.
- ITEMS REQUIRED BY TITLE 24 "ENERGY CONSERVATION STANDARDS" SHALL BE CERTIFIED BY CALIFORNIA ENERGY COMMISSION (CEC). EQUIPMENT WHICH REQUIRES PREVENTATIVE MAINTENANCE FOR EFFICIENT OPERATION SHALL BE FURNISHED WITH THE COMPLETE AND NECESSARY MAITENANCE INFORMATION.

## **ABBREVIATIONS**

				74. 74. 74. 74. 74.
&	AND		FLUOR.	FLUORESCENT
/	ANGLE		FIXT.	FIXTURE
	AT		F.O.C.	FACE OF CONCRETE
@	CENTERLINE		F.O.F.	FACE OF FINISH
Ø			F.O.S.	FACE OF STUDS
Ø	DIAMETER OR		F.R.	FIRE RATED
#	ROUND POUND OR NUMBER		F.S.	FULL SIZE
(D)	DEMOLISH		FT.	FOOT OR FEET
(E)			FTG.	FOOTING
(N)	EXISTING		FURR.	FURRING
(R)	NEW		FURK.	FURRING
A D	REMOVE		G.S.M.	GALVANIZED SHEET METAL
A.B.	ANCHOR BOLT		GA.	GAGE
ADJ.	ADJUSTABLE		G.F.I.	GROUND FAULT
AGGR.	AGGREGATE		GL.	INTERCEPTOR
ALUM.			GND.	GLASS
APPROX. ARCH.	ALUMINUM APPROXIMATE		GR.	GROUND
A.S.	ARCHITECTURAL		GYP.	GRADE
A.S.	AIR SPACE		011.	GYPSUM
BD.	AIR SPACE			GTF30W
	BOARD			HIGH
BLDG.	BOARD BUILDING		Н.	HOSE BIB
BLK.	BLOCK		H.B.	HOLLOW CORE
BLKG.			H.C.	HARDWOOD
BM.	BLOCKING BEAM		HDWD.	HARDWARE
ВОТ.			HDWR.	HEIGHT
CAB.	BOTTOM		HGT.	HORIZONTAL
CAB.	CABINET		HORIZ.	HOUR
CER.	CEMENT		HR.	Hook
CLG.	CERAMIC		1117.	INSIDE DIAMETER (DIM.)
CLG. CLKG.	CEILING		I.D.	INSULATION
CL.	CAULKING		INSUL.	INTERIOR
CLR.	CLOSET		INT.	INTERCOR
CLR. CNTR.	CLEAR		1141.	LAMINATE
COL.	COUNTER		LAM.	LAVATORY
	COLUMN		LAV.	LINE OF
CONC. CONT.	CONCRETE		L.O.	LIGHT
CTR.	CONTINUOUS		LT.	Elolli
CIK.	CENTER			MAXIMUM
DBL.	CLIVILIX		MAX.	MEDICINE CABINET
DET.	DOUBLE		M.C.	MECHANICAL
DIA.	DETAIL		MECH.	MEMBRANE
DIM.	DIAMETER		MEMB.	METAL
DISP.	DIMENSION		MTL.	MOUNTED
DN.	DISPENSER		MTD.	MANUFACTURER
D.O.	DOWN		MFR.	MINIMUM
DR.	DOOR OPENING		MIN.	MIRROR
DS.	DOOR		MIR.	MISCELLANEOUS
DWG.	DOWNSPOUT		MISC	
DWR.	DRAWING			NORTH
	DRAWER		N.	NOT IN CONTRACT
E.			N.I.C.	NUMBER
EA.	EAST		NO.	NOMINAL
EL.	EACH		NOM.	NOT TO SCALE
ELEC.	ELEVATION		N.T.S.	
ELEV.	ELECTRICAL			OVERALL
ENCL.	ELEVATOR		O.A.	OBSCURE
EQ.	ENCLOSURE		OBS.	ON CENTER
EQUIP.	EQUAL		O.C.	OUTSIDE DIAMETER (DIM.)
EXST.	EQUIPMENT		O.D.	OPENING
EXT.	EXISTING		OPNG.	OPPOSITE
F.D.	EXJERIBRAIN		OPP	
FDN.	FOUNDATION		P.G.	PAINT GRADE
FIN.	FINISH		PL.	PLATE
FLR.	FLOOR		P.LAM.	PLASTIC LAMINATE
FLASH.	FLASHING		PLYWD.	PLYWOOD
		1		

## **CODE RELATED NOTES**

1) FIRE-STOPS SHALL BE PROVIDED IN THE FOLLOWING SPACES;

- A) CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AT THE CEILING AND FLOOR LEVELS, AND AT TEN-FOOT INTERVALS BOTH VERTICAL AND HORIZONTAL.
- B) AT ALL INTERSECTIONS BETWEEN VERTICAL AND HORIZONTAL SPACES SUCH AS SOFFITS, DROP AND
- C) IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN, AND BETWEEN STUDS ALONG AND IN LINE WITH THE RUN OF THE STAIRS IF THE WALLS UNDER THE STAIRS ARE
- WHICH AFFORD A PASSAGE FOR FIRE AT THE FLOOR AND CEILING LEVELS WITH COMBUSTIBLE MATERIALS. E)AT OPENINGS BETWEEN ATTIC SPACES AND CHIMNEY CHASES FOR FACTORY-BUILT CHIMNEYS. 2) PRE-MANUFACTURED ITEMS, INCLUDING BUT NOT LIMITED TO, FIREPLACES, WOOD-BURNING STOVES, FIXTURES,

D)IN OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES AND SIMILAR OPENINGS

EQUIPMENT AND APPLIANCES SHALL BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS AND REQUIREMENTS. 3) ATTIC SPACE SHALL BE PROVIDED WITH ACCESS 22 INCHES BY 30 INCHES.MINIMUM HEAD-ROOM

4) ATTIC SPACES SHALL BE PROVIDED WITH CROSS-VENTILATION. MINIMUM VENTILATION EQUAL TO 1/150 OF THE

5) ALL HABITABLE ROOMS SHALL BE PROVIDED WITH NATURAL LIGHT BY MEANS OF EXTERIOR WINDOWS OR SKYLIGHTS WITH AN AREA NOT LESS THAN 1/10 OF THE FLOOR AREA OF SUCH A ROOM WITH A MINIMUM OF TEN SQUARE FEET.

#### 6) ALL HABITABLE ROOMS SHALL BE PROVIDED WITH NATURAL VENTILATION BY MEANS OF EXTERIOR OPENINGS WITH AN AREA OF NOT LESS 1/20 OF THE FLOOR AREA OF SUCH ROOMS WITH A MINIMUM OF FIVE SQUARE FEET

- 7) BARS, GRILLES, GRATES OR SIMILAR DEVICES MAY BE INSTALLED ON AN EMERGENCY ESCAPE OR RESCUE
- A) SUCH DEVICES ARE EQUIPPED WITH APPROVED RELEASE MECHANISMS WHICH CAN BE OPERATED FROM THE INSIDE WITHOUT USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT; AND ) THE BUILDING IS EQUIPPED WITH SMOKE DETECTORS IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE.
- 8) ALL BATHROOMS, WATER CLOSET COMPARTMENTS, LAUNDRY ROOMS AND SIMILAR ROOMS SHALL BE PROVIDED WITH NATURAL VENTILATION BY MEANS OF AN OPERATING EXTERIOR OPENING WITH AN AREA OF NOT LESS THAN 1/20 OF THE FLOOR AREA OF SUCH ROOMS WITH A MINIMUM OPENING OF 1.5 SQUARE FEET. IN LIEU OF NATURAL VENTILATION, A MECHANICAL VENTILATION SYSTEM CONNECTED TO THE OUTSIDE MAY BE PROVIDED. THE MECHANICAL VENTILATION SYSTEM SHALL BE CAPABLE OF FIVE AIR CHANGES PER HOUR & EQUIPPED WITH A BACKDRAFT DAMPER. THE POINT OF DISCHARGE SHALL BE A MINIMUM OF 3' CLEAR FROM ANY OPENING INTO THE
- 9) ALL PLATFORMS AND OPEN SIDES OF STAIRWAYS, LANDINGS, RAMPS BALCONIES OR PORCHES WHICH ARE MORE HAN 30 INCHES ABOVE GRADE OR FLOOR BELOW, SHALL BE PROTECTED BY A GUARDRAIL. GUARDRAILS SHALL BE 36 INCHES IN HEIGHT WITH INTERMEDIATE RAILINGS SPACED TO PREVENT A 4 INCH SPHERE FROM PASSING THROUGH.
- 10) THE MINIMUM WIDTH OF STAIRWAYS SHALL NOT BE LESS THAN 36 INCHES. THE MINIMUM RUN SHALL BE 9 INCHES AND THE MAXIMUM RISER HEIGHT SHALL BE 8 INCHES. THERE SHALL NOT BE A VARIATION OF GREATER THAN 3/8 INCH BETWEEN ANY RISER. THE MINIMUM HEAD-ROOM CLEARANCE SHALL BE 6'-8" INCHES AS MEASURED PLUMB FROM THE STAIR TREAD NOSING.

#### SAWARD PRIVATE RESIDENCE

43 Solitaire Lane, Aliso Viejo, CA. 92656



## **SYMBOLS**

PR. PROP.LN. P.T.	PAIR PROPERTY LINE PRESSURE TREATED	SIM A101	SECTION HEAD FILLED		Ę—-—-	CENTER LINE
R. RAD.	RISER RADIUS	SIM	SECTION - HEAD		00	KEYNOTE
RDWD. REF. REFR.	REDWOOD REFERENCE REFRIGERATOR	A101	OPEN		00	EQUIPMENT TYPE ON SCHEDULE
REINF. REQ. RESIL.	REFRIGERATOR REINFORCED REQUIRED RESILIENT	A101) Silvi	SECTION - HEAD I ARROW	NO	1	DOOR TAG
RM. R.O.	ROOM ROUGH OPENING	SIM A101	CALLOUT - HEAD		<u>(1)</u>	WINDOW TAG
S. S.C. SCHED. S.D. SECT. SH.	SOUTH SOLID CORE SCHEDULE SOAP DISPENSER SECTION SHELF	Name Elevation	LEVEL HEAD -CIRCLE		Ref 1 A101 1 2	EXTERIOR ELEVATION TAG
SHR. SHT. SIM. SL.	SHOWER SHEET SIMILAR SLOPE		NORTH	ARROW	Ref 1Ref	
SPEC. SQ. S.S.D. S.ST. STD.	SPECIFICATION SQUARE SEE STRUCTURAL DRAWINGS STAINLESS STEEL STANDARD	Room name	ROOM TAG		A101 TRef	INTERIOR ELEVATION TAG
STL. STOR. STRUC. SYM.	STANDARD STEEL STORAGE STRUCTURAL SYMMETRICAL	Room name  4  96 SF	ROOM TAG WITH	AREA	0	GRID-HEAD
T. T.B. T.C.	TREAD TOWEL BAR TOP OF CURB TELEPHONE	Room name	ROOM TAG WITH	VOLUME	•	SPOT ELEVATION
TEL. T.&G. THK.	TONGUE AND GROOVE THICK TEMPERED	Volume	DEMISION OF OND	N. TAO	1 A101	VIEW REFERENCE
TMPR. T.O.P. T.O.W. T.P.D.	TOP OF PAVEMENT TOP OF WALL TOILET PAPER DISPENSER TUBULAR STEEL	1	REVISION CLOUD WITH	No. TAG	1i	WALL TAG
T.S. T.V. TYP.	TELEVISION TYPICAL VINYL COMPOSITION TILE	Room name 150 SF	AREA TAG			NEW WALL
V.C.T. VERT. V.I.F.	VERTICAL VERIFY IN FIELD WEST	View Name  SCALE: 1/*8° = 1'-0*	VIEW TITLE	Ξ		DEMO WALL
W. W/	WITH WOOD WITHOUT WEIGHT					

# **ARCHITECT:**

24001 Calle De La Magdalena, unit 3896, Laguna Hills, CA 92653 Tel: (415) 316 7162 info@pixelarchltd.com

# OWNER:

**TEAM** 

SAWARD PRIVATE RESIDENCE

#### LAND SURVEY:

www.pixelarchltd.com

THE GENERAL CONTRACTOR SHALL FULLY COMPLY WITH THE FOLLOWING INTERNATIONAL CODES, 2022 CALIFORNIA BUILDING STANDARDS CODE (CAL. CODE REGS., TITLE 24)

**BUILDING CODE REQUIREMENTS** 

EXPLICIT FOR THEIR USE IN IMPLEMENTATION OF THE CONSTRUCTION, IS THOROUGHLY FAMILIAR COMPLIANCE WITH CITY OF ALISO VIEJO. WITH THE EXISTING CONDITIONS AND ACCEPTS THE REQUIREMENTS FOR FIRST QUALITY MATERIALS. CALGREEN CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART WORKMANSHIP & FINISHES TO SATISFACTION OF THE ARCHITECT. 11 OF TITLE 24 IT IS THE CONTRACTOR'S RESPONSIBILITY THAT ALL WORK CONFORM WITH EACH AND EVERY

CBC CALIFORNIA BUILDING CODE (PART 2 OF TITLE 24) CCR CALIFORNIA CODE OF REGULATIONS CEBC CALIFORNIA EXISTING BUILDING CODE (PART 10 OF TITLE 24) CEC CALIFORNIA ELECTRICAL CODE (PART 3 OF TITLE 24) CEC CALIFORNIA ENERGY COMMISSION CMC CALIFORNIA MECHANICAL CODE (PART 4 OF TITLE 24)

CPC CALIFORNIA PLUMBING CODE (PART 5 OF TITLE 24)

IFC INTERNATIONAL FIRE CODE NFPA NATIONAL FIRE PROTECTION ASSOCIATION

## PROJECT DATA

PROJECT LOCATION:

PARCEL NUMBER: OCCUPANCY TYPE PARCEL SIZE:

#### ZONING:

**GENERAL PLAN:** 

SPRINKLER:

#### NON-SPRINKLED

DISCLOSURE STATEMENT

IT IS THE CONTRACTOR, NOT THE ARCHITECT WHO SHALL BE RESPONSIBLE FOR

SUPERVISION AND COORDINATION OF ALL PHASES OF THE WORK FROM START TO

FINISH. THESE DRAWINGS SHALL NOT BE SCALED FOR ANY REASON. NOTIFY THE

RIGHT, TITLE AND INTEREST IN THE DESIGN, THE DRAWINGS AND ANY SPECIFICATIONS.

ARCHITECT IF ADDITIONAL DIMENSIONS ARE REQUIRED FOR ANY REASON.

**CODE RELATED NOTES** 

PROJECT WITHOUT PRIOR WRITTEN CONSENT OF PIXEL ARCH LTD.

flush volume of 1.6 gallons per flush.

SUB-CONTRACTORS THE GENERAL INTENT OF THE DESIGN.

THIS SET OF DRAWINGS IS TO COMMUNICATE TO THE GENERAL CONTRACTOR AND THE INDIVIDUAL

A CONTRACTOR'S BID THAT IS BASED ON THESE DRAWINGS SHALL BE UNDERSTOOD TO INDICATE

THAT THE CONTRACTOR UNDERSTANDS THE INTENT OF THE DRAWINGS, FINDS THEM SUFFICIENTL

APPLICABLE CODE, ORDINANCE AND REGULATION ISSUED BY ANY ENTITY OR GOVERNMENTAL AGENCY

THE CONTRACTOR SHALL FILE FOR ANY AND ALL PERMITS AND PAY FOR ANY FEES CONNECTED

WHETHER OR NOT THE PROJECT IS COMMENCED, EXECUTED OR COMPLETED. DESIGN, DRAWINGS AND SPECIFICATIONS CONTAINED IN THIS SET SHALL

NOT BE MADE AVAILABLE TO OR USED BY ANY PERSON OR ENTITY EXCEPT IN FURTHERANCE OF THIS

43 Solitaire Lane, Aliso Viejo, CA. 92656

OS (Open Space) Zoning District

623-301-47

Residential

0.16 acres

#### SCOPE:

PixelArch Itd.

US Office:
24001 Calle De La Magdalena, unit 3896
Laguna Hills, CA 92653
Tel: (415) 801 6584
Info@pixelarchitd.com

www.pixelarchltd.com

2nd FLOOR ADU

•FIRST FLOOR ADDITION

•FIRST FLOOR BATHROOM

OPEN ELEVATION OVER LIVING

# **ROOM TO REMAIN**

SAWARD PRIVATE RESIDENCE

43 Solitaire Ln, Unit B, Aliso Viejo, CA. 92656

Revision Notes: Date Description 04/19/25 **REVISION** 

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PERMISSION WITH OWNER, PIXELARCH LTD.

Drawing Title:

# **COVER SHEET**

Date: 04/12/2024

A.000

# PROJECT DESCRIPTION

# SCOPE OF WORK:

- •2nd FLOOR ADU
- •FIRST FLOOR ADDITION
- •FIRST FLOOR BATHROOM

## OPEN ELEVATION OVER LIVING ROOM TO REMAIN

# 11) All stairs with 3 or more risers shall have at least one handrail, the handrail shall be

36 inches above the nosing of the tread and be continuous the full length of the stairs.

12) Water closets shall be provided in a minimum 30 inch wide space and have a minimum inches clear in front of the fixture. water closets to be "ultra-low flush" type and provide a

13) Shower heads, lavatory and sink faucets shall have a maximum flow rate of 2.5 gallons

STRUCTURAL DRAWINGS

14) Under-floor access shall be given by a minimum 18" x 24" clear opening, typ.

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#### **SPECIFICATIONS**

#### DIVISION 00 - CONDITIONS OF CONTRACT

- Referenced Organizations
- a. ACI American Concrete Institute (www.concrete.org) b. AISC American Institute of Steel Construction (www.aisc.org)
- AITC American Institute of Timber Constructio (www.aitc-glulam.org) ANSI American National Standard Institute (www.ansi.org)
- APA American Plywood Association (www.apawood.org) ASHRAE American Society of Heating, Refrigeration, and Air Conditioning Engineering
- (www.ashrae.org) ASTM American Society for Testing and Materials (www.astm.org)
- AWI Architectural Woodwork Institute (www.awinet.org)
- AWS American Welding Society (www.aws.org)
- AAMA Architectural Aluminum Manufacturers' Association (www.aamanet.org) CRI Carpet and Rug institute (www.carpet-rug.org)
- CEC California Energy Commission (www.energy.ca.gov)
- m. CRSI Concrete Reinforcing Steel Institute (www.crsi.org)
- n. FS Federal Specification (http://apps.fss.gsa.gov/pub/fedspecs/)
- o. GA Gypsum Association (www.gypsum.org) GANA Glass association of North America (www.glasswebsite.com)
- q. ICC International Code Council (www.iccsafe.org)
- NIST PS National Institute of Standards and Technology, Product Standards (www.nist.org) s. NEMA National Electrical Manufacturers Association (www.nema.org)
- t. NFPA National Fire Protection Association (www.nfpa.org)
- u. NFRC National Fenestration Rating Council (www.nfrc.org)
- v. NOFMA National Oak Flooring Manufacturers Association (www.nofma.org) w. NPCA National Paint and Coatings Association (www.npca.org)
- x. NRCA National Roofing Contractors Association (www.nrca.net)
- y. WDMA National Wood Window and Door Association (www.wdma.com)
- z. PDCA Painting and Decorating Contractors of America (www.pdca.org) aa. SDI Steel Door Institute (www.steeldoor.org)
- ab. SMACNA Sheet Metal and Air Conditioning Contractors National Association (www.smacna.org)
- ac. TCNA Tile Council of North America (www.tcna.org)
- ad. TPI Truss Plate Institute (www.tpinst.org) ae. TRI Tile Roofing Institute (www.tileroofing.org)
- af. UL Underwriters' Laboratories Inc. (www.ui.com) ag. WCLIB West Coast Lumber Inspection Bureau (www.wclib.org)
- ah. WI Woodwork Institute (www.woodworkinstitute.com)
- ai. WWPA Western Wood Products Association (www.wwpa.org)
- 1. Contract Documents: The Contract Documents shall include the drawings, specifications, structural calculations, soils report, and California Energy Code compliance forms. These documents are intended to supplement and complement each other. In case of conflict, contact the Architect.

Owner: The term "Owner" shall mean the Owner or the Owner's authorized representative(s).

- 3. Contractor: The term "Contractor" shall mean the general contractor or the general contractor's authorized representative(s).
- 4. Architect: The term "Architect" shall mean PixelArch ltd. authorized representative(s)
- 5. Engineer: The term "Engineer" shall mean the structural engineer or the structural engineer's
- 6. Builder: The term "Builder" shall mean a person or entity who is both an Owner and Contractor, and whose responsibilities are for both Owner and Contractor.

#### DIVISION 01 - GENERAL REQUIREMENTS

- 1.01 Scope of Work:
- Contractor shall provide all labor, materials, equipment, permits, and services necessary for construction of the building and site improvements conforming to the contract documents. Drawings and specifications represent finished structure.
- The contractor shall be responsible for means and methods of construction including shoring and temporary bracing and shall take all necessary measures to insure the safety of all persons and structures near or adjacent to the site.
- Care shall be taken to protect from any damage all trees and vegetation on the site and on adjoining properties. Any trimming or other alteration done to trees shall be done so only by approval of the Owner. The Architect will not be providing the Owner with regular on site contract administration and is available
- only at request of the Owner. The Contractor is solely responsible for the quality control and construction These plans are for general construction purposes only. They are not exhaustively detailed nor fully specified. The drawings were prepared to a level of completion satisfactory for building permit purposes and for construction by a knowledgeable and experienced contractor. The Contractor is responsible for
- preparation of any supplemental details, product specifications, coordination and installation of all materials and equipment. Mechanical, electrical, and plumbing systems are shown for intent only. These systems shall be
- design/build by the Contractor. The Contractor shall be responsible for all necessary permits, drawings, calculations, and California Energy Code.
- These drawings and specifications are divided into sections for convenience only. Contractors, subcontractors and materials suppliers shall refer to all relevant sections in bidding and performing their work and shall be responsible for all aspects of the work regardless of where the information occurs in the
- Clean-Up: The Contractor will remove all debris from the building site and in general keep the work as clear of rubbish as possible during the course of the work. Before filing the Notice of Completion, the building will be fully cleaned, including all glass polished, floors scrubbed and cleaned, and the building shall be suitable for immediate occupancy by Owner.

#### 2 Quality Control

- All work shall comply with applicable requirements of all governing codes, regulations and ordinances. These shall include the latest adopted editions of: The California Building Code (CBC), California Residential Code (CRC), California Electric Code (CEC), California Plumbing Codes (CPC), California Mechanical Code (CMC), California Energy Code (CENC), California Green Building Standards Code (CAL Green), OSHA regulations, and all other health and safety codes, ordinances and requirements adopted by governing agencies. In the case of conflicts between these regulations and the contract documents, the most restrictive shall apply.
- The Contractor shall verify, at the site, all conditions affecting work and shall review the contract documents for any areas of question affecting cost, construction and warranty and any drawing dimensional or note conflict, discrepancy, illegibility or omission. All areas of question shall be brought to the attention of the Architect in writing before commencing any work and/or submitting any bid. Commencement of any work shall constitute acceptance by the Contractor of all conditions affecting work.
- Workmanship throughout shall be of the highest quality of each trade involved. The Contractor, before commencing work, shall notify the Owner in writing of any work that cannot be fully
- guaranteed or executed within the intent of the drawings prior to the bid submittal. All construction shall be in strict conformance with manufacturers' latest written specifications. All discrepancies between these specifications and the contract documents prepared by the Architect and his
- consultants shall be brought to the attention of the Architect before commencing work. Reference to product manufacturer or trade names are for minimum performance standards only. Submittal equals may be allowed upon approval by the Architect. Material and detail substitutions made by the Contractor without written approval by the Architect shall void any responsibility or liability of the
- Architect as to performance, repair cost, ancillary damage or the performance of related materials and Cutting and patching includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition.
- Use materials for cutting and patching that are identical to existing materials. Do not cut and patch structural work in a manner that would result in a reduction of load carrying capacity or load-deflection ratio. Submit proposal and obtain Architect's and Engineer's approval before proceeding with cut and patch of structural work.
- Quality control services include inspections and tests performed by independent agencies and governing authorities, as well as by the Contractor. Inspection and testing services are intended to determine compliance of the work and the requirements specified. Approval by a building official does not mean approval or failure to comply with the contract documents. Inspections and testing shall be performed at the request of the Owner, the Architect and/or governing agencies and as set forth in these documents. Quality control services are the Contractor's responsibility, including those specified to be performed by an independent agency and not by the contractor. The Contractor shall employ and pay any independent agency, testing laboratory or other qualified firm to perform quality control services specified. Where results of inspections or tests do not indicate compliance with the contract documents, the Contractor shall be
- responsible for any repair, replacement, correction and re-test that is required. All dimensions shall take precedence over scale shown on the plans, sections, and details. Dimensions are to face of studs, face of foundation, face of concrete block, top of sheathing, top of slab, or center of openings, U.O.N. Do not scale drawings. Contractor shall verify all dimensions and review any conflicts or discrepancies with the Architect prior to commencement of work.

#### **DIVISION 02 - SITEWORK**

- 2.01 Soils Report:
- All work shall be in conformance with the Soils, Compaction and Geological Report.
- The Contractor shall have the Soils Engineer review and approve in writing to the Building Official and Architect that the foundation and site design are in conformance with the Soils Report prior to commencement of work
- The Contractor shall be solely responsible for compliance with all recommendations of the Soils Report. Prior to the contractor requesting a foundation inspection by the building department, the Soils Engineer shall advise the Building Official and Architect in writing that:
- a. Site grading, subgrade preparation, cutting slopes, excavation, placement of engineered fill material
- and compaction is in accordance with the Soils Report. b. The utility trenches have been properly backfilled and compacted.

#### 2.02 General Requirements

report and approved plans.

 The site plan is not a survey. It is based on site information provided by the Owner and is for building and site work layout only. The Contractor shall verify on site all grades, soil conditions, ground water, existing improvements, property lines, easements, setbacks, utilities and substructures. Where discrepancies with

c. The foundation excavations, forming, footing and pier depths, and reinforcement comply with the soils

- the drawings occur, contact Architect. Grade surface of fill under concrete slabs shall be smooth and even, free of voids, compacted as specified
- and to required elevation. At raised foundations, pad grade under building shall have positive slope to a perforated drain set in gravel
- trench. Extend pipe to all portions of underfloor area. The drain shall discharge into the street or approved drainage facility. Unless otherwise detailed or noted, a perforated drain set in a gravel trench shall be installed around the
- entire perimeter of the foundation. The drain shall discharge into the street or approved drainage facility. Use only rigid pipe, flexible pipe will not be allowed. It shall be the responsibility of the Contractor to take proper erosion control measures. The Contractor
- shall be responsible for proper surface and subsurface drainage of the site. Slope all finish grading away from buildings, walks, drives or decks and provide catch basins where required. Finish grades shall be held down in planting areas. The Contractor shall provide and install a 6" minimum thickness of clean select top soils in these areas.
- Rough grading for slabs-on-grade shall be within 2/10th of one foot, plus or minus.
- Site grading shall be within 5/10th of one foot, plus or minus. All roof drainage shall be piped in a closed pipe system to street or approved drainage facility (U.O.N.). Builder shall provide landscape development guidelines to Owner that shall include information on site maintenance and development and state such items as "Irrigation system shall be designed to prevent
- saturation of soil adjacent to building All utilities unless indicated otherwise shall be installed under ground. The Contractor shall be responsible to insure that all trenching within building area shall be backfilled and compacted with structural soils
- material free of any rocks or other sharp objects which may damage underground utilities. Underground piping shall be laid to a minimum 24" depth below finished grade. When utilities are placed in a common trench, all utilities shall maintain separations and coverage both vertically and horizontally, as required by applicable codes.

#### **DIVISION 03 - CONCRETE**

- In addition to complying with all pertinent codes and regulations, comply with all applicable provisions of the
- a. ACI 301 "Specifications for Structural Concrete for Buildings" b. ACI 318 "Building Code Requirements for Reinforced Concrete"
- c. CRSI "Manual of Standard Practice" d. See Structural Engineer's drawings for additional requirements.
- 3.02 General Requirements
- Provide underfloor vents as per CBC 1203.3 or CRC R408.1. Add two 6 x 14 vents to garage. All first floor double framed areas shall be vented.
- Provide expansion and control joints in all exterior concrete slabs. Spacing of joints shall be per industry standard (U.O.N.). Verify joint layout with Architect.
- Refer to architectural, structural, mechanical, plumbing and electrical drawings for all moulds, grooves and ornamental clips, location of sleeves, inserts, etc. to be cast in concrete and for extent of depressions, curbs and ramps.
- Finishes: a. All interior slabs shall receive trowel smooth finish (U.O.N.).
- b. All driveways, sidewalks, and stairs shall receive broom-smooth finish (U.O.N). Garage slabs and other interior slabs that will remain unfinished shall be treate
- Hardner by Sonneborn, or equal.

#### DIVISION 04 - MASONRY

- 4.01 Quality Control Glass Block: Minimum performance specifications shall be as Pittsburgh Corning glass block units. The units shall be the pattern and size indicated on the plans.
- Precast architectural concrete columns and trims: Concrete Designs Inc. (CDI) U.O.N.
- Grout for precast concrete: ASTM A 118.6, Latex Portland Cement, color to match precast concrete. Epoxy Grout: ANSI A 108.6 and A118.3. 4.02
- 4.02 General Requirements Concrete Block
- a. Mortar joints to be "flush" (U.O.N.). b. Bond shall be "running" (U.O.N.).
- a. Mortar joints shall be "raked" (U.O.N.). Raked joints shall be not more than 3/8" deep, and where exposed to weather, shall be tooled. Brick joints shall be concaved where subject to
- b. Bond shall be "running" (U.O.N.).
- a. Field Sample: A sample panel shall be built approximately 4 feet by 6 feet. This sample panel may be a part of the project. Veneer installation shall not proceed until the sample panel is accepted by the Architect and Owner. Full size units which have been selected and approved by the Architect and the Owner to show color range, maximum texture range, bond, mortar, tooling of joints, and quality of workmanship shall be used in the sample panel. The remainder
- Glass Block: a. Mortar for glass block installed on exterior walls and other damp location shall be waterproofed with Laticrete 8510 or equal.

#### **DIVISION 05 - METALS** 5.01 General Requirements

All bolt heads and nuts that bear on wood shall have malleable iron washers if exposed or cut

of the veneer installation shall be consistent with the approved sample panel.

- washers if concealed. Exposed welds shall be ground smooth.
- Shop paint structural steel work, except those members or portions of members to be embedded in concrete or mortar. Paint the initial 2" of embedded areas only. Do not paint surfaces which are to be welded or high strength bolted with friction type connections. After installation is completed, all welded and other abraded areas shall be touched up. On surfaces inaccessible after assembly or
- erection, apply two (2) coats of the specified primer. All exterior steel, exposed, concealed or embedded, or where called for on the Drawings, shall be thoroughly zinc-coat galvanized after fabrication by the hot-dipped method. Touch- up field welds
- with similar galvanizing product Dissimilar Materials in contact with each other shall be protected to prevent galvanic or corrosive
- action. Use vinyl pressure tape, polyisobutylene tape, or similar product. All metals in contact with pressure treated wood shall be hot dipped galvanized, see Simpson Strong-Tie for recommended finishes for their connectors. Also see structural engineering

#### DIVISION 06 - WOOD AND PLASTICS

specifications for further information.

- 6.01 Quality Control:
- Materials shall meet or exceed the following standards:
- A. Structural lumber and their wood fasteners shall conform with CBC Chapter 23 and/or relevant
- chapters of the CRC. B. All wood in contact with concrete or masonry or located within 8" of finish grade shall be
- pressure treated Douglas or Hem Fir with an approved preservative. C. All timbers 6 x 8 and larger exposed to view shall be free of heart center (FOHC), with moisture content of 22% maximum
- D. Max. deflection (DL + LL) shall be: Floor with Tile = L/ 720 All wood shall be nontropical, reused, reclaimed, or FSC Certified

#### 6.02 General Framing Requirements:

- a. Block floor joists at all supports, line up double joists under all walls parallel to floor joists and space
- double joists under plumbing walls. b. Provide solid full width blocking or post below all structural posts - continuous to foundation.
- c. Provide blocking and nailers for all finishes and fixtures as required. d. Provide blocking in walls at ceiling lines. e. Corbles, knee braces, etc., shall be construction select materials. At double framed floors
- "sleepers" shall be perpendicular to framing below.
- 6.03 Attic Ventilation Requirements: • Provide attic and soffit ventilation as per CBC 11203.2 or CRC R806. Vent all double framed areas. See Roof Plan for calculations.
- 6.04 Finish Carpentry: • All millwork and case work shall be in accordance with AWI/AWMAC "Architectural Wood Standards"
- custom or premium grade standards, latest edition. All cabinets and millwork shall be selected by the owner. • Provide 30" clear above kitchen range to unprotected underside of upper cabinetry or 24" clear to metal
- hood as per CMC Section 916.1 & 916.2. Plastic laminates and solid surfacing products shall meet or exceed ANSI/NEMA standards LD. • Install and anchor all cabinetry to preclude movement, overturning, or distortion to other materials or
- finishes. Install level and plumb. Comply with manufacturer's instructions for support of supplied units. Install all trim in as long of lengths as possible. All splices in finish members shall be bevel splices. Where joints within a piece are required they shall be as unapparent as possible.

#### DIVISION 07 - THERMAL AND MOISTURE PROTECTION

- 7.01 Quality Control Materials shall meet or exceed the following standards:
- Insulation: a. Insulation shall be installed per the California Energy Code requirements.
- b. Thermal Batt/Blanket Insulation: Mineral-Fiber Blanket complying with ASTM C 665, Type I (blankets without membrane facing).
- c. Thermal insulation/blown-in blanket insulation glass fiber loose-fill complying with ASTM C 764 Type I (for pneumatic) or Type II (for poured) in attic. d. Sound Insulation: Unfaced mineral fiber blanket/batt insulation complying with ASTM C 665, Type I,
- minimum thickness equal to stud depth to entirely fill the void space, nominal 0.70 to 2.50 -pcf e. All plumbing walls adjacent to interior living spaces shall be sound insulated with fiberglass batts.
- Concrete Tile Roofing: a. All work shall comply with the TRI "Concrete and Clay Tile Installation Manual for Moderate Climate Regions and CBC 1507.3 or CRC 905.3
- b. Concrete Tile Roofing shall be applied according to manufacturers specifications. c. The minimum performance standards for concrete tile roofing shall be Eagle Roofing Products (ICC ESR-1900) or equal as approved by Owner and bear a UL Class A fire proof rating. Installed weight
- shall be a maximum of 900 lbs. per square. d. Trim units shall include manufacturer's standard ridge, hip and rake pieces. Color as selected by Owner (U.O.N.). Minimum one nail per tile, two nailes on all rake tile. Minimum pitch shall be as per manufacturer's specifications. Underlayment for concrete or clay tile roofing shall be one layer of 30 lb. asphalt-saturated organic roofing felt, complying with ASTM D 226, 36" wide applied per
- manufacturer's recommendations. 3-ply built up roof underlayment required for pitch less than 3:12. e. Roofing nails shall be aluminum or hot dip galvanized 11 or 12 GA sharp, pointed conventional roofing nails with barbed shanks, min. 3/8" dia. head and or sufficient length to penetrate min. 3/4" into solid decking or to penetrate through plywood sheathing (U.O.N.).
- f. The roofing contractor shall supply to the Owner a written guarantee to repair without cost to the Owner, any leaks due to faulty materials or workmanship, which develop within 1 year from the date of acceptance by Owner of completed building. During this time period, any repair work required because of Act of God, abuse, alterations, or failure to the substrate and/or supporting structure (other than that caused by defects in the roofing work) shall be completed by the contractor and paid for by the Owner, promptly after compeltion of the required repair work in each instance. The roofing contractor shall furnish the manufacturer's standard limited material warranty for a minimum of 10
- years from the date of completion of the roof. Asphalt Shingle Roofing: a. All work shall comply with the NCRA "Roofing and Waterproofing Manual" and CBC 1507.2 or CRC
- b. Asphalt shingles shall be applied according to manufacturers specifications.
- manufacturer's standard ridge and hip pieces. Color as selected by Owner (U.O.N.). Minimum pitch as per manufacturer's recommendations. d. For asphalt shingle underlayment shall be 15 lb. felt, 2 layers at pitch less than 4:12. e. Roofing nails shall be aluminum or hot dip galvanized 11 or 12 GA sharp, pointed conventional

Two or equal as approved by Owner and bear a UL Class A fire proof rating. Trim units shall include

- roofing nails with barbed shanks, min. 3/8" dia. head and or sufficient length to penetrate min. 3/4" into solid decking or to penetrate through plywood sheathing (U.O.N.). The roofing contractor shall supply to the Owner a written guarantee to repair without cost to the Owner, any leaks due to faulty materials or workmanship, which develop within 1 year from the date of acceptance by Owner of completed building. During this time period, any repair work required because of Act of God, abuse, alterations, or failure to the substrate and/or supporting structure (other than that caused by defects in the roofing work) shall be completed by the contractor and paid for by the Owner, promptly after compeltion of the required repair work in each instance. The roofing contractor shall furnish the manufacturer's standard limited material warranty for a minimum of 10
- years from the date of completion of the roof. Built-up Roofing:
- a. All work shall comply with the NCRA "Roofing and Waterproofing Manual" and CBC 1507.10 or CRC b. Built-up roofing shall be applied according to manufacturers specifications.
- the minimum performance standard for built up roofing for nailable decks shall be Johns Manville 4GNC or equal as approved by Owner and bear a Class A fire proof rating. All products and components shall be by same manufacture. Color as selected by Owner (U.O.N.). d. The roofing contractor shall supply to the Owner a written guarantee to repair without cost to the Owner, any leaks due to faulty materials or workmanship, which develop within 1 year from the date of acceptance by Owner of completed building. During this time period, any repair work required

because of Act of God, abuse, alterations, or failure to the substrate and/or supporting structure

(other than that caused by defects in the roofing work) shall be completed by the contractor and paid

for by the Owner, promptly after compeltion of the required repair work in each instance. The roofing

#### contractor shall furnish the manufacturer's standard limited material warranty for a minimum of 10 years from the date of completion of the roof.

Metal roof panels: Deck requirements. Metal roof panel roof panels shall applied to a solid or closely fitted deck. Except where the roof

#### covering is specially designed to be applied to spaced supports. Deck slope.

shall be three units vertical in 12 units horizontal (25-percent slope).

- Minimum slopes for metal roof panels shall comply with following: 1. The minimum slope for lapped, no soldered seam metal roof panels without applied lap sealant
- 2. The minimum slope for lapped. No-soldered seam metal roof panels with applied lap sealant shall be one-half unit vertical in 12 units horizontal (4-percent slope). Lap sealants shall be applied in accordance with the approved manufacturer's installation instructions.
- 3. The minimum slope for standing-seam metal roof panel systems shall be one-quarter unit vertical in 12 units horizontal (2-percent slope).

#### Material standards.

Metal-sheet roof covering systems that incorporate supporting structural members shall be designed in accordance with chapter 22. Metal-sheet roof coverings installed over structural decking shall comply with Table 1507.4.3(1). The materials used for metal -sheet roof coverings shall be naturally corrosion resistant or provided with corrosion resistance in accordance with the standards and minimum thicknesses shown in Table 1507.4.3(2).

#### TABLE 1507.4.3(1) METAL ROOF COVERINGS

ROOF COVERING TYPE	STANDARD APPLICATION RATE/THICKNESS
Aluminum	ASTM B209. 0.024 inch minimum thickness for roll-formed panels and 0.019 inch minimum thickness for press-formed shingles
Aluminum-zinc Alloy coated steel	ASTM A792 AZ 50
Cold-rolled copper	ASTM B370 minimum 16 oz./sq ft and 12 oz./sq ft high yield copper for metal-sheet roof covering systems. 12 oz./sq ft for preformed metal shingle systems.
Copper	I G oz./sq ft for metal-sheet roof-covering systems, I 2 oz./sq ft for preformed metal shingle system
Galvanized steel	ASTM A653 G-90 zinc-coated
Hard lead	2 lbs./sq ft
Lead-coated copper	ASTM BIOI
Prepainted steel	ASTM A755
Soft lead	3 lbs./sq ft
Stainless steel	ASTM A240. 300 Series Alloys
Steel	ASTM A924
Teme and teme-coated stainless	Teme coating of 40 lbs. per double base box. Field painted where applicable in accordance with manufacturer's installation instructions.
Zinc	.0277 Inch minimum thickness. 99.995% electrolytic high grade zinc with alloy additives of copper (0.08%-0.20%). Titanium (0.07%-0.12%) and aluminum (0.015%).

ABLE 150	7.4.3(2) MINIMU	JM CORROSION RESISTANCE
55 % A alloy-c	Aluminum-Zinc coated steel	ASTM A792 AZ 50
5%Al alloy-c	luminum coated steel	ASTM A875 GF60 50
Alumi	inum-coated steel	ASTM A463 T2 65
Galva	nnized steel	ASTM A653 G-90
Prepa	ainted steel	ASTM 755

Metal roof panels shall be secured to the supports in accordance with the approved manufacturer's fasteners. In the absence of manufacturer recommendations, the following fasteners shall be used:

- 1. Galvanized fasteners shall be used for steel roofs. 2. Copper, brass, bronze, copper alloy or 300 series stainless-steel fasteners shall be used for copper roofs.
- 3. Stainless-steel fasteners are acceptable for all types of metal roofs.

#### 4. Aluminum fasteners are acceptable for aluminum roofs attached to aluminum supports. Underlayment and high wind:

Underlayment applies in areas subject to high winds [V greater than 110mph (49 m/s) as determined in accordance with section 1609.3.1] shall be applied with corrosion-resistant fasteners in accordance with the manufacture's installation instructions. Fasteners are to be applied along the overlap not more than 36" (914 mm) on center.

Underlayment installed where Vasa in accordance with section 1609.3.1, equals or exceeds 120 mph (54 m/s) shall comply with ASTM D226 type II, ASTM D4869 type IV, or ASTM D1970. The underlayment shall be attached in grid pattern of 12 inches (305 mm) between side laps with a 6 inch (152 mm) spacing at the side laps. Underlayment shall be applied in accordance with the manufacturer's installation instructions except all laps shall be a minimum of 4 inches (102 mm). Underlayment shall be attached using metal or plastic cap nails with a head diameter of not less than 1 inch (25 mm) with a thickness of at least 32-gage [0.0134 inch (0.34 mm)] sheet metal. The cap nail shank shall be a minimum of 12 gage [0.105 inch (2.67 mm)] with a length to penetrate through the roof sheathing or minimum of 3/4" (19.1 mm)

#### **Exception**: As an alternative, underlayment complying with ASTM D 1970 shall be permitted.

- f. The roofing contractor shall supply to the Owner a written guarantee to repair without cost to the Owner, any leaks due to faulty materials or workmanship, which develop within 1 year from the date of acceptance by Owner of completed building. During this time period, any repair work required because of Act of God, abuse, alterations, or failure to the substrate and/or supporting structure (other than that caused by defects in the roofing work) shall be completed by the contractor and paid for by the Owner, promptly after compeltion of the required repair work in each instance. The roofing contractor shall furnish the manufacturer's standard limited material warranty for a minimum of 10
- years from the date of completion of the roof. Flashing:
- a. All work shall comply with the SMACNA "Architectural Sheet Metal Manual". b. All metal flashing to conform to ASTM A 653, commercial grade (zinc coated G 90). c. All metal flashing shall be 26 gauge for work less than 8" wide, 20 gauge for work over 8" wide or as indicated on the drawings. Use 20 gauge minimum for clips.

d. Sheet metal flashing shall be installed at all locations where different material intersect such as roof

to wall, roof to roof, deck/balcony/landing to wall, penetrations into walls, chimneys and as detailed. Flash and counterflash as required to make watertight. e. The center of all flashing for all through vents and all electrical service connections, shall not be less than 16" from center of any valley. See manufacturer's printed installation instructions

#### recommendations for roofing tile.

- DIVISION 07 THERMAL AND MOISTURE PROTECTION (CONTINUED) Sheathing Paper: a. Provide sheathing paper under exterior metal lath and plaster, under wood siding, under masonry veneer, under metal flashings and where indicated or detailed.
- b. Use Tyvek House Wrap. c. Lapping: Horizontal Joints: Lap paper as detailed and not less than 3 inches; Wall Corners: Wrap paper to overlap not less than 18 inches each side of corner; Vertical Joints: Lap paper not less than
- d. Lap paper over head flashings and base screeds, roof and waterproof membranes, and under sill flashings. Treat penetrations and other details as necessary for adequate weather protection. e. Wall openings: Individually flash all exterior openings for fixtures such as windows, doors and vents

#### Fortifiber system. b. Moiststop E-Z seal adhesive flashing for dampproofing at all exterior door window heads and jambs. c. Fortiflash 40 mil waterproof flashing for waterproofing at all horizontal plaster surfaces, horizontal

as detailed to make them water tight.

Flexible Flashings:

been installed.

- penetrations, and windowsills. d. Moiststop sealant for sealing around windows. Deck Waterproofing: a. The minimum performance standard for waterproof sheet membrane at waterproof decks with tile or concrete finish shall be WR Grace "Bituthene 3000". All products and components shall be by same
- manufacturer. Install in strict accordance with manufacturer's written instructions to assure waterproof integrity. b. The minimum performance standard for traffic coatings at waterproof decks shall be Excel-Coat pedestrian membrane system or Excel-Coat Fire System for fire-rated decks by Excellent Coatings Inc.. All products and components shall be by same manufacturer. Install in strict accordance with
- manufacturer's written instructions to assure waterproof integrity. c. Quality Assurance. Pre-installation conference: A pre-installation conference shall be held prior to commencement of field operations to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work. Agenda for meeting shall include review of special details and flashing. This meeting shall include the representatives of the General Contractor, Applicator, Manufacturer, and Architect. A trained employee of the manufacturer shall be on site
- periodically during membrane waterproofing work to review installation procedures. d. Water test: Deck membranes shall be water tested and approved immediately before installation of finish materials. Water tests shall be witnessed by the Architect. A water test is conducted by closing any deck drains and erecting temporary dams where required to retain water on the waterproofing material surface, then flooding the surface to a minimum depth of 2". Care must be taken so that the weight of water retained does not exceed the load carrying capacity of the structural deck, and that the height of the water does not exceed the lowest flashing. For well sloped decks, tests should be segmented to avoid deep water near drains. The water tests should be conducted on a warm day (i.e. 65 degrees F. minimum). The water should be allowed to remain on the deck for 24 hours minimum, during and after which the areas beneath the membrane should be inspected for leaks. If leaks are detected, the test should be stopped, repairs made, and the area retested. When the test is successful, the drains should be opened and the temporary dams should be removed. Temporary protections boards should be installed over the tested area, and the area roped off to prevent construction traffic across the surface until drainage composite or permanent protections board has
- Roof Accessories a. The minimum performance standard for prefabricated acrylic skylights shall be Bristolite "AL-CM-2" (ICC ER-2469) or equal as approved by Owner. Color as selected by owner. Install as per manufacturer's instructions.

- a. Furnish UL Design No. from the "Fire Resistance Directory Volume II" for each required penetration type and configuration. Indicate which materials will be used in firestopping the penetration.
- b. Firestopping materials shall conform to CBC Section 713 for fire resistance standards and requirements for penetrations in walls and partitions and floors. c. Through-Penetration Firestopping Materials: Hilt Construction Chemicals, Inc., International Protective Coatings Corp., Specified Technologies, Inc., The ReclorSeal Corporation, Tremco, Inc., 3M Fire

Protection Products. Provide mortar, sealants and caulk, putty, wrap strips, pillows, bags, and other

- types required for UL Design No. for each penetration to receive firestopping. complying with ASTM C 612, Type IA and IB. e. Firestopping at Electrical Boxes and Utility Outlets: Utility penetrations in walls, ceilings, or floors
- requiring protected openings shall be firestopped and sealed with an approved material securely installed, capable of maintaining its integrity when subjected to test temperature was specified in ASTM E814. Steel electrical outlet boxes which exceed 16-square inches in area shall be protected by 3M "Moldable Putty Pads", Specified Technologies, Inc. "SpecSeal Series SSP Putty Pads." f. Provide solid continuous firestopping wherever the penetration or addition of a construction element
- through or adjacent to a fire-rated floor, wall or partition creates a discontinuity of such a rates separation. Application limited in size and configuration to tested systems. g. Penetrations: Penetrations include conduit, cable, wire, pipe, duct and other elements which pass through one or both outer surfaces of a fire-rated floor, roof, wall, or partition. Fill penetrations as
- indicated in applicable UL Design No. Verify that annular space around sprinkler pipes through firerated walls and floors is provided as required by NFPA 13. h. Fire Rated Partitions: Fire-rated or smoke-rated partitions shall be firestopped with a firestop sealant as listed in UL "Fire Resistant Directory." Apply minimum 3/8-inch bead at intersection of finish
- material and adjacent surface, both sides and along entire perimeter. Identify firestop systems after installation. Identify the firestop system that has been installed and include the appropriate UL Design Number. Caulking and Sealants/Locations: a. Sealant Locations: Locations such as ceramic tile, plumbing fixtures, and other where mildew

resistant sealant is required. Location where high degree of movement is anticipated. Joints and

cracks around windows, thresholds, door frames, wall penetrations, connections and other joints

necessary to seal off building from outside air and moisture. Between exterior wall sole plate and slab

- on grade. All joints necessary to make the building watertight and to prevent the passage of dirt, dust, wind, air or water. At interior insulated sound walls. Fire stopping at penetrations of fire rated
- assemblies. b. Minimum product standards for sealants shall be as follows: Exterior Window and Door Frames and Masonry to Cement Plaster: Sonolastic NP 2, by Sonneborn or
- Interior Sound Walls at Sill: Tremco Acoustical Sealant or equal. Wood Sole Plate to Concrete, Window Sills and Door thresholds: Dow Corning 790 Silicone Building Sealant or equal.
- Color: Natural Stone. Painted Exterior Windows Frames to Metal Frames or Flashing: Dow Corning 999A Glazing Sealant Color: Clear.
- Joint Fillers: Closed cell inert polyurethane or polyethylene as recommended by caulking manufacturer. Width or diameter of preformed backing material to be 1-1/4 to 1-1/3 times the width of the joint to be sealed. Fire stopping at penetrations of fire rated assemblies: 3M Fire Protection Products CP 25WB Caulk (U.O.N.), see details.

c. Caulking and sealants shall be installed per manufacturer's written specifications. Consult

Caulking for Joints in Floor Slabs on Grade: PRC Rubber Caulk 230, two-part self-leveling

#### manufacturer when sealant cannot be applied within recommended temperature ranges. All exposed caulking shall be free of wrinkles, sags, air pockets, ridges and embedded impurities. After joints are completely filled, they shall be tooled to a slight, neat concave joint. d. Sealants shall be compatible with all materials they are in contact with.

polyurethane, Shore A hardness 35.

Color to match wall surface.

**DIVISION 08 - DOORS AND WINDOWS** 8.01 Quality Control

Section 9, Custom Grade (U.O.N.)

Final windows and doors style to be selected by owner.

- Material shall meet or exceed the following standards: Wood Doors: a. Doors shall meet or exceed the standards of the AWI/AWMAC "Architectural Wood Standards",
- b. Wood doors shall be 1-3/4" thick solid core at exterior doors and where noted at selected interior doors. 8' interior doors shall be 1-3/4" thick, 6'-8" interior doors shall be  $1\frac{3}{8}$ " thick. Stile & Rail Wood Doors: a. Masonite International Corporation, molded panel series, or equal. See Window & Door schedule.

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#### SPECIFICATIONS

- b. Factory fit doors to suit frame-opening sizes indicated.
- c. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-
- d. Comply with final hardware schedules, door frame Shop Drawings, DHI A 115-W Series standards,
- e. Doors for Opaque Finish: Apply one coat of wood primer specified in Division 09 "Painting" to faces and edges of doors.
- Fiberglass Doors & Frames a. Performance Requirements:
  - A. Door opening assemblies: Maximum flame spread 25 in accordance with ASTM E 84, selfextinguishing in accordance with ASTM D 635.
  - B. Fire rated assemblies: Comply with requirements of UL 10B, NFPA 252, and ASTM E152; UL ratings indicated on drawings with doors and frames bearing rating labels.
- Therma-Tru Corporation, Fiber-Classic Door System, or equal. Door Faces: 1/16 inch minimum thickness, fiberglass-reinforced thermoset composite, wood-grained in natural northern red oak patterns, stainable and paintable.
- d. Door Edges: Machinable kiln-dried pine, primed to match color of faces, lock edge reinforced with
- engineered lumber core, lockset area reinforced with solid blocking for hardware backup. Door Bottom Edge: Moisture-proof and decay-proof composite.
- f. Core: Foamed-in-place polyurethane, CFC-free, density 2.0 pcf minimum, K-factor of 0.14 for minimum thermal transmittance. Standard factory sizes may be edge trimmed or end trimmed in shop
- or field to suit replacement door size requirements. g. Weatherstripping: Jacketed thermoset closed-cell foam, press-fit in kerfs at jamb stops in frames. Extruded thermoplastic elastomer, finned and chambered design, press-fit into bottom edge of doors.
- Corner pads at bottom margin corners from jacketed thermoset closed-cell foam. h. Hinges & Strikes: Steel, zinc-plated, brass or chrome finish. Screws plated and finished to match hardware. Minimum hinge size 4 x 4 x .098 inches. Strikes are proprietary adjustable type, permitting in-out adjustment of door in frame, up to 3/16 inch. Final hardware to be determined by owner.
- Fire Ratings: a. Frame assemblies and fire rated doors shall carry equal rating. Fire rated doors and frames indicated shall carry Underwriters Laboratory Label for exposures indicated. Construct and install assemblies to comply with NFPA Standard No. 80. Hardware shall include smoke gasketing and self closures and

i. Frames: Milled from 5/4 kiln-dried pine, profiled with ½ inch stop.

- be UL listed.
- Doors, General Requirements a. Accessible under-floor areas shall be provided with a minimum 18-inch by 24-inch opening
- unobstructed by pipes, ducts, and similar construction per CBC 1209.1.1 or CRC R408.4. b. Provide attic access opening (22" x 30" min.) readily accessible with a 30" min. clear head room above access in all attic spaces with a minimum vertical height of 30" per CBC 1209.2 or CRC R807.
- See CMC 904.11.1 for FAU's in attics. Doors between conditioned and unconditioned spaces shall be fully weatherstripped.
- d. All hardware shall be located per industry recognized standards and shall comply with applicable fire and building code requirements. e. Door stops shall be furnished wherever an open door or any item of hardware thereon strikes a wall,
- column, or part of the building construction. f. All swinging doors shall be accurately hung to fit snug against all stops and shall hang free from hinge
- Sectional Doors
- a. Insulated Steel Sectional Doors: Overhead Door Corporation, 297 Series, or equal.
- A. Five (5) section doors, 19 1/8" ht B. Panel thickness: 1"
- C. Panel: Galvanized embossed smooth steel skin
- D. Insulation: CFC Free Polyurethane, R = 9/31 E. Finish: Epoxy Primer and 2-coat baked on polyester paint.
- Weather Seal: EPDM Premium bulb-type bottom 2" Hot-dipped Galvanized vertical and horizontal tracks
- Rollers: Self-lubricating nylon Struts: Three (3) minimum per door.
- b. Door opener: Overhead Door Corporations, Signature Screw Drive, Model 250, or equal
- A. Motor: ½ hp B. Controller: Multi-function remote
- Metal and Vinyl Windows and Sliding Glass Doors
- a. Metal and vinyl units shall meet or exceed ANSI/AAMA 101 specifications. b. All units shall have a nail on flange (U.O.N.).
- c. Frame color as selected by Owner.
- d. The minimum performance standard shall be Milgard. Wood and Clad Windows and Doors
- a. Wood and clad units shall meet or exceed the following AAMA/WDMA/CSA 101/I.S.2/A440. Frame color as selected by Owner.
- The minimum performance standard shall be "Anderson."
- Glazing and Windows, General Requirements: a. Provide tempered glass where required by the C.B.C. in all hazardous areas such as sliding glass
- doors, French doors, glass panels adjacent to doors and walking surfaces, glass panels in tub and shower enclosures, etc. b. Provide screens at all operable sash.
- c. All escape or rescue windows shall have a minimum net clear openable area of 5.7 square feet. The
- minimum net clear openable height dimension shall be 24 inches. The minimum net clear openable width dimension shall be 20 inches when windows are provided as a means of escape or rescue they shall have a finished sill height not more than 44 inches above the floor. d. U-valves shall be determined in accordance to NFRC 100.
- e. Air infiltration shall meet the air infiltration requirements of the CEC.
- Water infiltration shall be tested in accordance with ASTM E 331. g. Window system manufacturer shall certify that its system can structurally perform to the following criteria for the local project wind conditions:
- A. Maximum deflection of 1/175 of the span B. Allowable stress with safety factor of 1.65.
- h. Test reports certified by an independent test laboratory must be made available upon request. i. Mirrors shall be float glazing select silvering quality, electrically deposited copper- backed mirror glass. Joint locations to be approved by Architect prior to commencement of work.
- All windows and doors shall be certified and labeled in accordance with California Energy Commission requirements and the National Fenestration Rating Council and comply with the California Energy Code compliance documentation.

#### DIVISION 09 - FINISHES

- 9.01 Quality Control
- Materials shall meet or exceed the following standards: Stucco - 1 coat system
- a. 1" polystrene system shall be La-Habra-Wall (ICC-ES ER- 4226) or approved equal.
- Stucco 3 coat system a. Application shall be in compliance with applicable sections of ANSI A 42.2 "Portland Cement and Portland Cement-Lime Plastering, Exterior (Stucco) and Interior" and ANSI A 42.3 "Lathing and Furring for Portland Cement and Portland Cement-Lime Plastering, Exterior (Stucco) and
- b. In addition, materials shall meet or exceed the following: A. Portland cement: ASTM C 150, Type I, natural color.
- B. Special finishing hydrated lime: ASTM C 206, Type S. Aggregates: ASTM C 144, all sand to pass No. 8 sieve.
- C. Cement Plaster Finish Coat: A packaged blend of Portland cement (ASTM C 150), hydrated lime (ASTM C 206), and properly graded quality 20 mesh aggregate, with integral color and paint finish.
- D. Mixes: Job-mixed cement plaster mix, Bondcrete or Mortaseal Mason's Lime with Portland Cement and Sand in accordance with ANSI A 42.2, Type L.
- 1. Scratch Coat: 1 bag Portland cement, 3/4 to 1 bag lime to 6 cu. ft. sand. Brown Coat: 1 bag Portland cement, 1 bag lime, 6 to 7 cu. ft. sand. 3. Finish Coat: 1 bag Portland cement, 2 bags lime, 7 to 10 cu. ft. sand. See drawings
- for location of cement plaster finish coat. F. Maximum Slump: 2-1/2 in. using Slump test ASTM C 143, modified slump cone 2 in. x 4 in. x 6 in.

- G. Wall Metal Lath: At vertical surface: No. 17 gauge galvanized stucco netting meeting Federal specification QQ-L-101 with two horizontal No. 19 gauge galvanized wires at 6 inches O.C. over two layers s of Grade 'D' paper ( 60 min.).
- H. See Division 07. I. Lath at horizontal soffit: Galvanized mesh, 3.4 lbs/sq. yd. over 1 layer of Grade 'D' paper (60 min.).
- J. Staples: 14 gauge wire staples, divergent points, 3/4 inch crown, lin. legs. K. Nails (if soffit supported by wood framing): 1 3/4 inch 11 gauge, 3/8" head, 3/4" washer. L. Stucco accessories shall meet or exceed the cirteria of ASTM C 1063
- Cement Plaster, General a. Finish texture and color shall be as approved by Owner.
- b. Climate conditions: Air temperature must be 40°F. minimum and rising when applying cement plaster or exterior finish coat. Air temperature must remain above 40°F. for a minimum of 24 hours. Consult National Weather Service before beginning work. Protect cement plaster and exterior finish coat from uneven and excessive evaporation during hot, dry weather. c. Allowable Tolerances: Maximum deviation from true plan 1/8 inch in 10 feet as measured by straight edge placed at any location on surface.
- d. Field Sample: A sample panel shall be prepared approximately 2 feet by 2 feet. This sample panel will be a separate part of the project. Installation shall not proceed until the sample panel is accepted by the Architect and Owner. The sample shall show color, texture, and workmanship of finished work. The sample panel shall remain on the project for comparison purposes with the actual work.
- e. Other materials where applicable:
- A. Polystyrene Board and Architectural Moldings: ASTM C-578 Type 1. Nominal 1 lb/c.f. cured expanded polystyrene 2. Flame spread and smoke development equal to or less than 24 and 450 respectively
- per ASTM F-84/UL listed.
- 3. Insulation board shall carry the seal of the RADCO testing agency. B. Fabric: A balanced, open weave, glass fiber fabric, complying with ASTM D 1682, standard mesh, as recommended for wrapping polystyrene board and moldings. C. Primer/Adhesive Mixture: A field-mixed blend of standard polymer-based primer adhesive
- and Portland cement. For use as a primer and leveler over cement plaster brown coat and for use as an adhesive for fabric and polystyrene board and moldings. D. Acrylic Resin Bonding Agent: Bonsel, Tammsway, or approved equal. For use on
- concrete or masonry before application of cement plaster E. Add Mixtures: No add mixtures or plastic cements will be allowed without approval of the Architect
- F. Synthetic Exterior Finish Coating: A 100% pure acrylic resin based, textured, factorymixed coating having integral color, for exterior use. Minimum standards shall be Dry-Vit Systems Inc., or approved equal
- f. Curing: Wet base as necessary before application with fine fog spray to produce uniform moist A. When required, apply bond coat to concrete base and moist cure for minimum of 24 hours
- before applying first coat of cement plaster. B. Do not apply brown coat sooner than 48 hours after application of scratch coat. C. Do not apply cement plaster finish coat sooner than 14 days after application of brown
- D. Inspect and repair base coats before application of finish coat.
- E. Cure base coats minimum of 48 hours after application.
- F. Maintain moist conditions by fine fog spray. G. Cure finish coat for minimum of 7 days.
- a. Fiber-Cement Siding & Soffit: Siding & soffit made from fiber-cement board that does not contain asbestos fibers; complies with ASTM C 1186, Type A, Grade II; is classified as noncombustible when tested according to ASTM E 136; & has a flame-spread index of 25 or less when tested according to ASTM E 84.
- The minimum performance standard for Fiber-Cement Siding shall be CertainTeed Corp. Simulated Shingle and Lap Siding: Product as specified in the drawings; .Exposure as per Manufacturer's recommendation; Finish Factory Sealed. Soffit: Cedar texture, 16" wide x 12' long; Finish shall be Factory Sealed.
- Siding Accessories: Provide starter strips, edge trim, corner cap, & other items as ecommended by siding manufacturer for bldg. configuration. d. Nails: Length as required to penetrate minimum 1-¼ inch (32 mm) into solid backing; hot-
- dipped galvanized or stainless steel. e. Install in accordance with manufacturer's instructions & drawing details.
- A. Read warranty & comply with all terms necessary to maintain warranty coverage.
- C. Touch up all field cut edges before installing. D. Pre-drill nail holes, if necessary, to prevent breakage. Siding Installation:
- A. Starting: Install a minimum ¼ inch thick lath starter strip @ the bottom course of the wall. horizontally with minimum 1-1/4 inch wide laps @ the top. The bottom edge of the first plank
- overlaps the starter strip. Allow minimum 1-inch vertical clearance between roofing & bottom edge of siding.
- Align vertical joints of the planks over framing members. Maintain clearance between siding & adjacent finished grade. Locate splices at least one stud cavity away from window & door openings. Allow 1/8" space between both ends of siding panels that butt against trim for thermal movement; seal joint between panel & trim with exterior grade sealant.
- Joints: Avoid joints in lap siding except at corners; where joints are inevitable stagger joints between successive courses.
- Place fasteners no closer than ¾ inch & no further than 2 inch from side edge of trim board & no closer than 1 inch from end. Fasten maximum 16 inch on center.
- g. Completion: After installation, seal all joints except lap joints of lap siding. Seal around all penetrations. Paint all exposed cut edges.
- Finish Painting: Specified in Division 09, Section "Painting"

#### SECTION PAINTING

- 1.5. PAINTING A. COATINGS SCHEDULE: The consultant shall prepare a schedule listing all surfaces in generic terms, all coating or finish operations, the types of finish materials and the number of coats of each material. Preferred finishes for certain locations or surfaces are as follows: 1. INTERIOR WOODWORK: Natural finish - stain, 2 coats sanding sealer, 2 coats semigloss varnish. If polyurethane varnish is used, delete sanding sealer. Painted finish primer and 2 coats semi-gloss alkyd enamel.
- 2. METAL DOORS AND FRAMES: Shop coat, touch up and 2 coats semi-gloss enamel. 3. NEW GYPSUM WALLBOARD OR INTERIOR PLASTER: Spackle as required, primer and 2 coats
- semi-gloss alkyd enamel or 2 coats semi-gloss latex. 4. EXISTING PREVIOUSLY PAINTED GYPSUM WALLBOARD OR INTERIOR PLASTER: Primer and 1 coat semi-gloss alkyd enamel or semi-gloss latex. If surface is poor, remove finish to substrate, repair and finish the same as new gypsum wallboard or plaster. Refer to Section 09 00 00, Miscellaneous Requirements, Subparagraph 1.3.A.2,
- Surface Preparation. INTERIOR CONCRETE OR CONCRETE BLOCK (Unpainted): 1 coat self-sealing heavy filler-type primer and 2 coats semi-gloss alkyd enamel or 2 coats semi-gloss latex. For laboratories requiring chemical resistance, replace the alkyd or latex paint with epoxy two-component finish.
- 6. EXTERIOR WOOD PLATFORMS OR BENCHES: Use Behr Plus 10 Solid Color Stain or approved equal in accordance with manufacturer's directions. EXTERIOR PORTLAND CEMENT PLASTER (STUCCO): Use integral color, or paint. 1.6. ITEMS TO BE NOTED IN SPECIFICATIONS

- A. TOP AND BOTTOM EDGES OF WOOD DOORS: Shall be sanded and sealed after fitting and finished with at least 2 coats of varnish or paint.
- B. TOPS AND BOTTOMS OF METAL DOORS: Shall be painted with the same materials and number of coats as used on the door faces. C. DRY FILM THICKNESS: Shall be specified for all coats of paint on metals.
- D. ACCENT COLORS: If it is anticipated 5% or more of the scheduled finishes will be in accent colors, attention should be called to this fact. Estimated percentage of accent colors should be given as an aid to bidders in preparation of bids. A statement should be made to the effect that the information given in no way restricts the consultant in his final selection of
- E. COLOR CODING FOR PIPING: Include finish painting of insulated and uninsulated piping in the General Contract documents and include color banding of finished piping in the appropriate contract documents
- 1.7. INTERIOR PAINTING A. Finish coat to be semi-gloss in all corridors and stairwells. Use washable type of finish material on walls for ease of maintenance and cleaning.
- 1.1. WALL COVERING & GRAPHICS A. No vinyl wall covering on the interior face of exterior walls.
- B. Materials must conform to ASTM E-84. Research code carefully to determine class of fire and smoke resistance required for the specific application. C. Vinyl wall covering must satisfactorily pass class A physical requirements for type II wall
- covering as listed in G.S.A. CCC-W-408A and CFFA Quality Standards for vinyl coated fabric wall covering.

### **DIVISION 11 - EQUIPMENT**

**DIVISION 10 - SPECIALTIES** This Section not used.

- 11.01 Quality Control All appliances will be selected by the Owner. All appliances shall be Energy Star rated.
- Gas fired appliance shall be equipped with intermittent type ignition devices (except tank type water heaters). • All combustion equipment, except range hoods and dryers, shall be closed combustion.
- Provide recessed connections in wall for water and waste at clothes washer space and water shut off for refrigerator icemaker. If washer is located on a second floor or above, provide a G.S.M. pan under washer with drain to outside. Washer standpipe shall extend between 18 and 30 inches above its trap. The trap shall be between 6 and 10 inches above the floor (CPC Section 804). Clothes dryer exhaust duct will be limited to 14' maximum length including 2, 90° elbows and 4" minimum
- diameter CMC 504). Kitchen hood and clothes dryer ducts shall be of metal and have a smooth interior surface. Kitchen hood ducts for downdraft grill-range may be Schedule 40 PVC when installed below concrete slab floors (CMC
- 504.2). Dryer duct may have six feet (maximum) of approved flexible duct (CMC 504.3). Makeup air equal to exhaust rate shall be provided for all kitchen range hoods exceeding 400 CFM. Rooms containing bath tubs, showers, spas and simular bathing fixtures shall be mechanically ventilated in
- accordance with the CMC (CBC 1203.4.2.1) Environmental air ducts (vent fans, range hoods, dryers, etc.) shall not terminate less than 3 feet from
- property line, or 3 feet from opening into the building (CMC 504.5). Dishwasher shall be connected to a drainage system or food waste disposer with the use of an approved
- dishwasher airgap fitting (CPC Section 807.4). Solar PV Systems shall provide a minimum of 10% of the Title 24 Proposed TDV energy.
- Mechanical and plumbing systems shown on archetctural drawings are shown for location intent only.
- These systems shall be engineered by others. The contractor shall be responsible for proper installation, placement, and performance. Fire sprinkler system when required shall be "design-build" and are not a part of the architectural documents. Layout of sprinkler heads shall be submitted to the Architect for revision. Fire sprinkler plans and calculations shall be submitted to the Building Department for review and approval prior to installation.
- Automatic fire sprinkler system shall be designed and installed in accordance with NFPA 13D or CRC R313.3 as a minimum. Anchor or strap water heater and HVAC units to structure to resist earthquake motion (CPC Section 508.2
- and CMC Section 303.4). Water heater and HVAC units shall be accessible for inspection, service, repair, and placement without
- removing permanent construction (CMC Section 304.7) Furnaces and water heaters shall not be installed in or be accessible through rooms designed as bedrooms, bathrooms or wardrobe closets (CMC Section 304.5 and CPC Section 509).
- Water heating and HVAC units installed in garages where they may be subjected to damage shall be located out of the normal path of vehicles. Such equipment when located in a garage shall be installed so that the pilots or burners are at least 18" above the floor level (CMC Section 307 & CPC 508.14).
- Warm-air furnaces installed in attics or furred spaces shall be installed as per CMC Section 904.11 and include the following: a. A minimum 22 inch by 30 inch access but large enough to accommodate the removal of the largest component of FAU (maximum 20 feet from furnace unless passageway height is over 6 feet).
- b. Continuous solid flooring not less than 24 inches wide from access to furnace. c. A level working platform minimum 30 inches in depth along entire firebox side of furnace. d. A permanent 110V electrical outlet and lighting fixture (controlled by switch located at required access) at or near furnace.
- e. FAU shall be listed for installation in attics and on combustible flooring clearances shall be as specified in the listing and as per CMC Section 303. f. Provide G.S.M. pan and drain below FAU with cooling coil at attic installed furnaces.
- 15.02 Heating, Ventilation and Air Condition (HVAC) Requirements for On-demand Water Heater as this
- house will use on-demand type water heaters. All work shall comply to the applicable standards of the ASHRAE handbooks and the SMACNA standards.
- A concrete pad shall be provided for grade mounted condensers. HVAC installer shall be NATE or part of n EPA-recognized HVAC installer training organization All recirculating space conditioning systems shall have filters rated a minimum of MERV 8.
- HVAC supply flow rates shall be tested and shall be within  $\pm$  20% or  $\pm$ CFM of ACCA J calculated rates. Pressure differences between bedrooms and the est of the house shall be less than 3 Pa. HVAC systems shall have at least 2 space-conditioned zones with independent thermostats.

- American Standard Inc. plumbing products shall be the minimum performance product standard for plumbing fixtures. The Owner will select all plumbing fixtures. Water closets shall be 1.28 gallon/flush maximum (U.O.N.). Shower heads 2.5 and faucets shall be 2.2 gallons per minute (GPM) maximum flow
- rate (U.O.N.). Waste and Vent System: All soil, waste and vent piping shall be approved ABS per local code (U.O.N.). All soil pipes penetrating or within rated fire walls shall be cast iron. All sewer pipes under driveway shall be cast iron. Provide minimum of 1/4" per foot slope for horizontal drainage pipe. (CPC Section 718). Cleanouts shall be installed as per CPC Section 719. Cleanout locations shall be located in least visible areas. All plumbing vents shall be combined into a minimum amount of roof penetrations. All roof penetrations shall occur to the rear of the main ridge.
- Domestic Water Piping System: All hot water lines shall be insulated with R- 4 insulation. Water service main piping shall be one inch minimum or larger as per load and pressure requirements. Provide shut-off valve at foundation wall. Hot and cold water supply shall be copper. No water supply will be allowed under concrete building slab. All runs shall be made so that branch connections occur at fixture locations where fittings can be installed. System shall be as free as possible from fittings and sharp turns. Provide hose bibs as per drawings with tee fittings above ground for future sprinklers installation at front and rear of house (U.O.N.). Provide a non-removeable backflow preventor or vacuum breaker at all hose bibbs (CPC
- Water Heating System: Water heater shall be size and type as specified in the California Energy Code. Water heater shall have R-12 insulation blanket (U.O.N.). Insulate the first 5 feet of the hot and cold water pipes with R-4 insulation. If water heater is located on a second floor or above, provide a G.S.M. pan under water heater with drain to outside. Water heaters shall be provided with a pressure relief valve as
- per CPC Section 505.4. Domestic Gas Service: All gas piping shall be new and shall be black steel or galvanized (U.O.N.). No gas piping shall be installed in or on the ground under any building or structure and all exposed gas piping shall be securely supported and located where it will be protected from physical damage (CPC Section 1211)

- Plumbing projecting through or embedded in concrete or masonry shall be protected during the placing of concrete and placed in an oversized sleeve or approved expansion wrap to allow for expansion, contraction and structural movement (CPC Section 313).
- All copper pipe connections to ferrous piping shall be made with dielectric couplings or isolation flanges. Each house shall receive a whole house water meter, Assured Automation WM-PC- 100 Series Water Meter, or equivalent.

#### **DIVISION 16 - ELECTRICAL**

- 16.01 General Requirements Electrical systems shown on architectural drawings are shown for intent only. These systems shall be engineered by others. The contractor shall be responsible for proper installation, placement, and
- Materials and equipment shall be new and listed by Underwriter's Laboratories, Inc. (U.L.) and bear their
- label wherever standards have been established and their label service is regularly furnished. Service Distribution:
- a. Main electrical service shall be 200 AMP minimum (U.O.N.) b. Main service panel electrical load calculations shall conform to CEC Section 220.
- c. Install a main service disconnect as per CEC 230-70.
- d. Provide grounding at service entrance to comply with CEC Section 250. e. Branch circuit load distribution shall conform to CEC Section 210.
- f. Panels and sub-panels shall not be located in closets or similar confined spaces. (CEC 110-26). Aluminum wire smaller than No. 6 A.W.G. shall not be used in electrical wiring.
- h. Protection of wiring shall be as per CEC Sections 320-334. Receptacle Outlets: a. Outlet boxes on opposite sides of rated walls (wall separating garage from dwelling) shall be
- separated by a horizontal distance of 24 inches (CBC Section 713.3.2). b. Provide GFCI (GFI) protection per CEC Section 210-8(a).
- c. Outlet locations shall comply with CEC Sections 210-50 and 210-52. d. Switched outlets shall be one-half hot (U.O.N.).
- Lighting: a. All light fixtures shall be LED (U.O.N.).

b. All light fixtures shall comply to CEC Section 410 for type, ratings, and installation.

- Fixture locations shall comply to CEC Section 210-70 and 410. d. Ceiling mounted junction boxes shall be capable of supporting 60# minimum (U.O.N.) and supported
- as per CEC Section 410-36. e. Fixtures installed in closets shall comply to CEC Section 410-16. f. Install switches at 47" above finished floor to top of switch box (U.O.N.).
- Smoke Detectors: Install 110 volt smoke detectors with battery backup as per CBC Section 907.2.11.2 or CRC R314 and conforming to NFPA 72. Install the detector in strict accordance with the manufacturer's printed installation instructions.
- Provide combustion air to HVAC units as per CMC Section 703; and to water heaters as per CPC Sec. Installation of HVAC and plumbing systems shall insure properly balanced and quiet operation.
- All work shall comply to the California Energy Code. • Vibration isolation of mechanical equipment shall be incorporated into the installation. • Carbon Monoxide Detectors: Locate carbon monoxide alarms as per CBC 420.4 or CRC R315.

All exterior lighting shall be Dark Sky qualified and shall have either a PV cell, motion sensor, or photo

sensor controls.

- FLOOR PLAN SHEET NOTES 1. GENERAL CONTACTOR TO BE RESPONSIBLE FOR ADEQUATELY FRAMING, BRACING, AND STRUCTURING ALL WALLS AND OTHER GYPSUM BOARD CONSTRUCTION IN ACCORDANCE WITH APPLICABLE TYPICAL DETAILS CONTAINED IN THESE DRAWINGS. WHETHER OR NOT SPECIFICALLY REFERENCED IN THE PLANS, ALL PARTITIONS SHALL BE BRACED IN
- ACCORDANCE WITH SEISMIC CODE REQUIREMENTS. COORDINATE AND INSTALL BACKING AS REQUIRED FOR ALL NEW MILLWORK
- MARKERBOARDS, EQUIPMENT, FURNITURE, PROJECTION SCREENS, ETC. 3. ALL PARTITIONS ARE DIMENSIONED FROM FACE OF FINISH TO FACE OF FINISH, U.O.N. 4. PARTITIONS SHOWN TO ALIGN WITH FACE OF EXISTING CONSTRUCTION OR NEW PARTITIONS SHOULD ALIGN FINISHED FACE TO FINISHED FACE.
- 5. DIMENSIONS INDICATED TO BE "CLEAR" OR TO HOLD SHALL BE MAINTAINED AND DISCREPANCIES OR VARIATIONS ON THESE DIMENSIONS SHALL BE REVIEWED WITH ARCHITECT BEFORE BEGINNING CONSTRUCTION.
- 6. PATCH AND REPAIR (E) WALLS & CEILINGS AS REQUIRED AND PREPARE TO RECEIVE (N) FINISHES AS SCHEDULED, VERIFY EXTEND OF WORK IN THE FIELD.
- 7. (E) LIFE SAFETY DEVICES TO BE RELOCATED WHERE REQUIRED BY NEW CONSTRUCTION. CONTRACTOR TO VERIFY CONDITIONS IN FIELD. SEE G 2.00 FOR TYPICAL MOUNTING HEIGHTS. 8. PREPARE ALL GYP. BD. WALL SURFACES TO RECEIVE PARTITIONS, AND WALL FINISHES.
- 9. PROVIDE SIGNAGE AS REQUIRED BY APPLICABLE CODES. SEE G 2.01 FOR TYPES, LOCATIONS, AND TYPICAL MOUNTING HEIGHTS OF SIGNAGE. 10. SEE G0.00 FOR ABBREVIATIONS AND SYMBOLS USED ON THESE SHEETS. 11. FLOOR TOLERANCE: FINISHED FLOOR TO BE LEVELED TO A TOLERANCE OF 1/4" SLOPE IN 10
- FEET. GENERAL CONTRACTOR TO IMMEDIATELY VERIFY SLOPE AND REPORT ANY DEVIATIONS FROM ABOVE STATED TOLERANCE TO PIXELARCH LTD. 12. PRIOR TO COMMENCING WORK ALIGNMENT OF DOOR HEADS AND OTHER CRITICAL
- HORIZONTAL ELEMENTS SHALL BE MAINTAINED AT A CONSTANT LEVEL AND SHALL NOT FOLLOW VARIATIONS IN THE FLOOR PLATES. 13. NEW WALLS TO ALIGN WITH CENTER OF (E) WINDOW MULLIONS U.O.N. 14. AT LEAST ONE FIRE EXTINGUISHER WITH A MINIMUM RATING OF 2-A-10B:C SHALL BE
- PROVIDED WITHIN 75 FEET MAXIMUM TRAVEL DISTANCE FOR EACH 3,0000 SQUARE FEET OR PORTION THEREOF ON EACH FLOOR. LOCATIONS INDICATED ON THE DRAWINGS SHALL BE VERIFIED WITH THE FIRE MARSHALL AS BEING ACCEPTABLE.
- 15. REFER TO SHEET G 2.01 FOR TYPICAL MOUNTING HEIGHTS OF LIGHT STROBES, LIGHT SWITCHES, THERMOSTATS, OUTLETS, FIRE EXTINGISHER CABINETS, ETC. 16. THERMOSTATS TO BE LOCATED ABOVE LIGHT SWITCHES, TYP. SEE G 2.00. 17. MULTIPLE LIGHT SWITCHES TO BE GANGED WITHIN A SINGLE COVER-PLATE TO MAXIMUM

EXTENT POSSIBLE. WHERE MULTIPLE SWITCHES CANNOT BE GANGED WITHIN A SINGLE

- COVER-PLATE, SWITCHES ARE TO BE ADJACENT TO EACH OTHER OR AS CLOSE AS POSSIBLE. 18. GC TO PROVIDE ALL APPLIANCES AND FIXTURES, U.O.N. 19. THE CONTRACTOR SHALL "STRIKE OUT" LOCATION OF ALL WALLS, DOORS, MULLIONS, SOFFITS, RAISED FLOOR GRIDS, HOUSEKEEPING AND UTILITY EQUIPMENT PADS, AND OTHER MAJOR ELEMENTS, OR AS DIRECTED BY ARCHITECT AT THE BEGINNING OF THE PROJECT
- BEFORE PROCEEDING WITH CONSTRUCTION. IF DISCREPANCIES EXIST BETWEEN FIELD CONDITIONS AND THE DRAWINGS NOTIFY ARCHITECT. 20. ALL FURRED WALLS SHALL EXTEND VERTICALLY THRU THE CEILING WHERE INDICATED ON

THE DRAWINGS OR TO THE STRUCTURE ABOVE WHERE NO CEILING OCCURS. U.O.N.

- 21. HINGE SIDE OF DOORS TO BE LOCATED PER DETAILS FROM THE FACE OF ADJACENT PERPENDICULAR PARTITIONS, U.O.N. 22. REFER TO ENLARGED PLANS FOR DIMENSIONS AND INFORMATION WHEN DESIGNATED. 23. THE GENERAL CONTRACTOR SHALL COORDINATE AND PROVIDE APPROPRIATE STRUCTURAL BACKING AND REINFORCING IN PARTITIONS BEHIND ALL WALL-MOUNTED, WALL ANCHORED
- OR SUPPORTED ITEMS. ALL CONCEALED WOOD USED FOR SUCH SUPPORT SHALL BE FIRE RETARDANT TREATED. 24. IN THE EVENT OF CONFLICT BETWEEN DATA SHOWN ON DRAWINGS AND DATA SHOWN ON THE SPECIFICATIONS, THE DRAWINGS SHALL TAKE PRECEDENCE. DETAIL DRAWINGS TAKE PRECEDENCE OVER DRAWING OF SMALLER SCALE. SHOULD THE CONTRACTOR AT ANY TIME DISCOVER AN ERROR IN A DRAWING OR SPECIFICATION OR A DISCREPANCY OR VARIATION BETWEEN DIMENSIONS ON DRAWINGS AND MEASUREMENTS AT THE SITE OR LACK OF
- WITH THE WORK AFFECTED UNTIL CLARIFICATION HAS BEEN MADE. 25. REFER TO DOOR SCHEDULE ON SHEET A 9.00 FOR MORE INFORMATION ON SCOPE OF WORK

DIMENSIONS OR OTHER INFORMATION, THE GENERAL CONTRACTOR SHALL NOT PROCEED

RELATED TO DOORS.

- 26. PROVIDE BACKING AS REQUIRED PER FURNITURE REQUIREMENTS. 27. THE CONSTRUCTION PLANS INDICATE THE TYPE AND LOCATION OF NEW INTERIOR PARTITIONS, DOORS, WINDOWS, CABINETWORK, ETC. THE BUILDING SHELL AN EXISTING
- 28. THE FOLLOWING SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AS DESIGN-BUILD SYSTEMS ( IF SUCH SYSTEMS ARE REQUIRED BY THE CITY ):
- A. AUTOMATIC FIRE SPRINKLER SYSTEM CONTRACTOR SHALL FULLY COORDINATE THE DESIGN/ENGINEERING PROCESS OF THE ABOVE REFERENCED SYSTEMS AND THE COMPLETE AND PROPERLY FUNCTIONING INSTALLATION THEREOF.
- 29. THE FOLLOWING MAYBE PROVIDED BY THE OWNER'S VENDORS BUT THE INSTALLATION OF THOSE SYSTEMS SHALL BE COORDINATED BY THE GENERAL CONTRACTOR WITH EACH OF HIS SUBCONTRACTORS FOR THE SYSTEMS NOTED BELOW:
- A. TELECOMMUNICATIONS
- B SECURITY THE GENERAL CONTRACTOR SHALL PROVIDE ELECTRICAL RACEWAY AND POWER TO ALL POINTS DESIGNATED BY THE VENDOR'S FOR EACH OF THE OWNER'S FURNISHED
- 30. ALL PARTITIONS, DOORS, GLAZED OPENINGS, SOFFITS, ETAL., SHALL BE STRUCTURALLY
- BRACED IN ACCORDANCE WITH SEISMIC CODE REQUIREMENTS. 31. COORDINATE LOCATION AND PROVIDE BLOCKING, BACKINGS AND/OR REINFORCEMENT IN PARTITIONS FOR ALL CABINETS, COUNTERTOPS AND ANY WALL-MOUNTED ITEMS. REFER TO THE PLANS, ELEVATIONS AND DETAILS FOR LOCATION OF ITEMS WHICH MAY REQUIRE
- SUPPORT. REFER TO DETAIL 1, SHEET A11.01. 32. THE CONTRACTOR IS RESPONSIBLE FOR VERIFING THE DIMENSIONS AND ELEVATIONS AT THE SITE. THE CONTRACTOR AND SUB-CONTRACTORS SHALL COORDINATE THE LAYOUT AND EXACT LOCATIONS OF ALL PARTITIONS, DOORS, ELECTRICAL/TELEPHONE OUTLETS. LIGHTSWITCHES AND THERMOSTATS WITH THE ARCHITECT IN THE FIELD PRIOR TO
- PROCFEDING 33. WHEREVER DIAGONAL BRACING IS INDICATED OR OTHERWISE REQUIRED, INSTALL BRACING UNEXPOSED TO VIEW, PARTICULARLY AT SUSPENDED OR DRYWALL CEILING AREAS. IF EXPOSED TO VIEW CONDITIONS EXIST IN THE DESIGN. DO NOT BRACE INTO THE AREA WHERE NO CEILING IS TO BE INSTALLED, OR INTO THE "MORE OPEN"AND VISIBLE SIDE OF
- BULKHEAD/SOFFIT WHERE BOTH SIDES SHALL BE WITHOUT A CEILING. 34. FOR TYPICAL PARTITIONS, AND PARTITION DETAILS REFER TO SHEET A 9.10. 35. WHERE NEW PARTITIONS MEET EXISTING MULLIONS OR COLUMNS INSTALL THE NEW PARTITION PERPENDICULAR TO THE EXISTING MULLION OR COLUMN AND ALIGN THE
- CENTERLINE OF THE NEW PARTITION WITH THE MULLION OR COLUMN U.O.N. 36. WHERE A GYPSUM BOARD PARTITION MEETS FLUSH WITH THE FACE OF AN EXISTING PARTITION, REMOVE THE EXISTING METAL CORNER BEAD BEFORE INSTALLING THE NEW
- 37. ALIGN NEW PARTITION SURFACES WITH THE EXISTING ADJACENT OR ADJOINING SURFACES WHERE INDICATED. TAPE AND SAND THE JOINTS TO SMOOTH WITHOUT ANY VISIBLE JOINTS. PATCH AND REPAIR SURFACES TO MATCH ADJACENT OR ADJOINING SURFACES.
- ADJACENT SURFACES. 39. CUT AND FIT COMPONENTS AS REQUIRED TO ALTER EXISTING WORK FOR INSTALLATION OF NEW WORK. PATCH DAMAGED AREAS TO MATCH ADJACENT SURFACES.

38. PATCH EXISTING DAMAGED PARTITIONS THROUGHOUT ENTIRE PROJECT AREA TO MATCH

40. AT OPENINGS IN GYPSUM BOARD WALLS FOR DUCT WORK, RETURN AIR, WRAP HEAD, JAMBS AND SILL OF OPENING WITH GYPSUM BOARD. U.O.N. 41. VERTICAL DIMENSIONS ARE FROM TOP OF FLOOR SLAB, EXCEPT WHERE OTHERWISE NOTED TO BE ABOVE FINISH FLOOR.

42. DIMENSION ARE NOT ADJUSTABLE WITHOUT APPROVAL OF THE ARCHITECT UNLESS NOTED

43. THE GENERAL CONTRACTOR SHALL VERIFY THAT NO CONFLICT EXIST IN THE LOCATION OF ANY MECHANICAL, HVAC, TELEPHONE, ELECTRICAL, PLUMBING AND SPRINKLER EQUIPMENT (TO INCLUDE ALL PIPING, DUCTWORK, CONDUIT, CABLES, ETC.) AND THAT ALL REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE OF ABOVE EQUIPMENT ARE PROVIDED. ELEMENTS TO BE EXPOSED TO VIEW SHALL BE REVIEWED WITH THE ARCHITECT AND COORDINATED BY AND BETWEEN THE GENERAL CONTRACTOR AND PERTINENT SUB-CONTRACTORS PRIOR TO CONSTRUCTION OR FABRICATION PROCEEDING.



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SAWARD PRIVATE RESIDENCE

Viejo, CA. 92656

43 Solitaire Ln, Unit B, Aliso

Revision Notes: Description

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installed in close proximity to the proposed location of an EV charger at the time of original construction in

location shall be permanently and visibly marked as "EV CAPABLE".

4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent

protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination

accordance with the California Electrical Code.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is

installed in close proximity to the location or the proposed location of the EV space, at the time of original

2.Multiple EV spaces required. Construction documents shall indicate the raceway termination point and the

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

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

construction in accordance with the California Electrical Code.

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

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023) installed in close proximity to the location or the proposed location of the EV space at the time of original construction in accordance with the California Electrical Code.

CHAPTER 3 Laguna Hills, CA 92653 Tel: (415) 801 6584 4.106.4.2 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 requirements of Sections 4.106.4.2.1 and 4.106.4.2.2. Calculations for spaces shall be rounded up to the nearest **SECTION 301 GENERAL** 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 SCOPF 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 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 facilities or the addition of new parking facilities serving existing multifamily buildings. See Section 4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all 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. Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or 1.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING 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 4.201 GENERAL of EV capable spaces. et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and management ordinance. 4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy other important enactment dates. Commission will continue to adopt mandatory standards. 2. When EV chargers (Level 2 EVSE) are installed in a number less than the required number of EV capable Exceptions: 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
4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and 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 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 and 4.303.4.4. 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 4.408.2 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). Specification for Tank-type Toilets. Building Code, shall not be considered mixed occupancies. Live/Work units shall comply with 3. Identify diversion facilities where the construction and demolition waste material collected will be 4.106.4.2.2 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 Γhe 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 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 4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the SAWARD PRIVATE EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical Division of the State Architect, Structural Safety 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 Office of Statewide Health Planning and Development RESIDENCE 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) reserved Additions and Alterations 43 Solitaire Ln, Unit B, Aliso 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. Viejo, CA. 92656 4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one 4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined Exception: When EV chargers (Level 2 EVSE) are installed in a number greater than five (5) percent of showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 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. per square foot of the building area, shall meet the minimum 65% construction waste reduction 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 1.408.5 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 compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4.. not be less than 0.8 gallons per minute at 20 psi. pervious material used to collect or channel drainage or runoff water. 2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per 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 used for perimeter and inlet controls. Exception: Areas of parking facilities served by parking lifts. (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. more than 0.2 gallons per cycle. 2. Mixed construction and demolition debris (C & D) processors can be located at the California 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. Description per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not 4.410 BUILDING MAINTENANCE AND OPERATION 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 4.106.2 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 have a capacity of not less than 30 amperes. ALMS shall not be used to reduce the minimum required electrical property, prevent erosion and retain soil runoff on the site. life cycle of the structure. capacity to the required EV capable spaces. 4.303.1.4.5 Pre-rinse spray valves. 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 COPYRIGHT d. Landscape irrigation systems. Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or 1605.3 (h)(4)(A). e. Water reuse systems. are part of a larger common plan of development which in total disturbs one acre or more of soil. 3. Information from local utility, water and waste recovery providers on methods to further reduce 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 I.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 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 Drawing Title: 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 Chapter 2, to the building. 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, MAXIMUM FLOW RATE (gpm) Exception: Electric vehicle charging stations designed and constructed in compliance with the California French drains 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 Information about state solar energy and incentive programs available. 5. Other water measures which keep surface water away from buildings and aid in groundwater 4.106.4.2.2.1.2, Item 3. 10. A copy of all special inspections verifications required by the enforcing agency or this code. Product Class 1 (≤ 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 ≤ ∘ 1.20 12. Information and/or drawings identifying the location of grab bar reinforcements. Product Class 3 (> 8.0 ozf) 1. The minimum length of each EV space shall be 18 feet (5486 mm). 1.28 4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 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 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, 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 parking facilities. comply with the accessibility provisions for EV chargers in the California Building Code, Chapter 11B. EV ready spaces and EVCS in multifamily developments shall comply with California Building Code, Chapter 11A, Section SECTION 4.501 GENERAL Page No. THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER. 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 4.106.4.2.3 EV space requirements. TABLE - MAXIMUM FIXTURE WATER USE irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors. 1. Single EV space required. Install a listed raceway capable of accommodating a 208/240-volt dedicated branch shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall 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 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

LAVATORY FAUCETS IN COMMON & PUBLIC

USE AREAS

KITCHEN FAUCETS

METERING FAUCETS

WATER CLOSET

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0.5 GPM @ 60 PSI

1.8 GPM @ 60 PSI

0.2 GAL/CYCLE

1.28 GAL/FLUSH

0.125 GAL/FLUSH



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CAL. GREEN

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and

wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for

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

medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood,

structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated



# 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE RESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2023)

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

	INCOIDENTIA	L MANDATORT MLASURES, STIL		<b>2</b> (January 2023)		N/A = NOT APPLICABLE RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)
YN/ARESPON. PARTY	<u>,                                     </u>	YN/A RESPON. PARTY	YN/A RESPON. PARTY		YN/A RESPON. PARTY	
	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 and 94701.  MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.	TABLE 4.504.2 - SEALANT VOC LIMIT  (Less Water and Less Exempt Compounds in Grams per Liter)  SEALANTS  VOC LIMIT  ARCHITECTURAL  250  MARINE DECK  760		TABLE 4.504.5 - FORMALDEHYDE LIMITS1  MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION  PRODUCT CURRENT LIMIT  HARDWOOD PLYWOOD VENEER CORE 0.05  HARDWOOD PLYWOOD COMPOSITE CORE 0.05		CHAPTER 7 INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS 702 QUALIFICATIONS 702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems.
	PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).  Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).  REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.  VOC. A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).  4.503 FIREPLACES	ARCHITECTURAL  NON-POROUS  250		PARTICLE BOARD  MEDIUM DENSITY FIBERBOARD  0.11  THIN MEDIUM DENSITY FIBERBOARD2  1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.		1. State certified apprenticeship programs. 2. Public utility training programs. 3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. 4. Programs sponsored by manufacturing organizations. 5. Other programs acceptable to the enforcing agency.  702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be
	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.			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.		considered by the enforcing agency when evaluating the qualifications of a special inspector:  1. Certification by a national or regional green building program or standard publisher. 2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors. 3. Successful completion of a third party apprentice training program in the appropriate trade. 4. Other programs acceptable to the enforcing agency.  Notes:  1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
	4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.	TABLE 4.504.3 - VOC CONTENT LIMITS FOR		https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.		2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).
	<ul> <li>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:</li> <li>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</li> </ul>	ARCHITECTURAL COATINGS2,3  GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS		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.		[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.
	<ul> <li>tricloroethylene), except for aerosol products, as specified in Subsection 2 below.</li> <li>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.</li> <li>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</li> </ul>	BASEMENT SPECIALTY COATINGS 400  BITUMINOUS ROOF COATINGS 50	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.  hhttps://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.		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.
	apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.  4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of California Code of	BITUMINOUS ROOF PRIMERS 350		<ul> <li>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</li> <li>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:</li> </ul>		
	Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.  4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:  1. Manufacturer's product specification.	FIRE RESISTIVE COATINGS 350 FLOOR COATINGS 100 FORM-RELEASE COMPOUNDS 250		<ol> <li>Product certifications and specifications.</li> <li>Chain of custody certifications.</li> <li>Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).</li> <li>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.</li> </ol>		
	TABLE 4.504.1 - ADHESIVE VOC LIMIT1,2  (Less Water and Less Exempt Compounds in Grams per Liter)  ARCHITECTURAL APPLICATIONS  VOC LIMIT	GRAPHIC ARTS COATINGS (SIGN PAINTS)  HIGH TEMPERATURE COATINGS  INDUSTRIAL MAINTENANCE COATINGS  LOW SOLIDS COATINGS1  MAGNESITE CEMENT COATINGS  450		<ul> <li>4.505 INTERIOR MOISTURE CONTROL</li> <li>4.505.1 General. Buildings shall meet or exceed the provisions of the California Building Standards Code.</li> <li>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.</li> </ul>		
	INDOOR CARPET ADHESIVES 50  CARPET PAD ADHESIVES 50  OUTDOOR CARPET ADHESIVES 150  WOOD FLOORING ADHESIVES 100  RUBBER FLOOR ADHESIVES 60  SUBFLOOR ADHESIVES 50  CERAMIC TILE ADHESIVES 65	MASTIC TEXTURE COATINGS  METALLIC PIGMENTED COATINGS  MULTICOLOR COATINGS  PRETREATMENT WASH PRIMERS  PRIMERS, SEALERS, & UNDERCOATERS  REACTIVE PENETRATING SEALERS  RECYCLED COATINGS  100  100  100  100  100  100  100  1		<ol> <li>4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:         <ol> <li>A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.</li> <li>Other equivalent methods approved by the enforcing agency.</li> <li>A slab design specified by a licensed design professional.</li> </ol> </li> </ol>		
	VCT & ASPHALT TILE ADHESIVES  DRYWALL & PANEL ADHESIVES  COVE BASE ADHESIVES  MULTIPURPOSE CONSTRUCTION ADHESIVE  TO  STRUCTURAL GLAZING ADHESIVES  SINGLE-PLY ROOF MEMBRANE ADHESIVES  250	ROOF COATINGS 50 RUST PREVENTATIVE COATINGS 250 SHELLACS CLEAR 730 OPAQUE 550 SPECIALTY PRIMERS, SEALERS & 100		<ul> <li>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:</li> <li>1. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.</li> <li>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.</li> <li>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.</li> </ul>		
	OTHER ADHESIVES NOT LISTED 50  SPECIALTY APPLICATIONS  PVC WELDING 510  CPVC WELDING 490  ABS WELDING 325	STAINS  STONE CONSOLIDANTS  SWIMMING POOL COATINGS  TRAFFIC MARKING COATINGS  TUB & TILE REFINISH COATINGS  420		Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.  4.506 INDOOR AIR QUALITY AND EXHAUST 4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:		
	PLASTIC CEMENT WELDING  ADHESIVE PRIMER FOR PLASTIC  CONTACT ADHESIVE  SPECIAL PURPOSE CONTACT ADHESIVE  STRUCTURAL WOOD MEMBER ADHESIVE  140	WATERPROOFING MEMBRANES  WOOD COATINGS  275  WOOD PRESERVATIVES  350  ZINC-RICH PRIMERS  340  1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS		<ol> <li>Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.</li> <li>Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.</li> <li>a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment.</li> <li>b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)</li> </ol>		
	TOP & TRIM ADHESIVE 250  SUBSTRATE SPECIFIC APPLICATIONS  METAL TO METAL 30  PLASTIC FOAMS 50  POROUS MATERIAL (EXCEPT WOOD) 50  WOOD 30  FIBERGLASS 80	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.		Notes:  1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination. 2. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.  4.507 ENVIRONMENTAL COMFORT 4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:  1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential)		
	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.			<ol> <li>Load Calculation), ASHRAE handbooks or other equivalent design software or methods.</li> <li>Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.</li> <li>Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods.</li> <li>Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.</li> </ol>		

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CAL. GREEN BUILDING STANDARD

Drawing Title:

Date: 04/12/2024

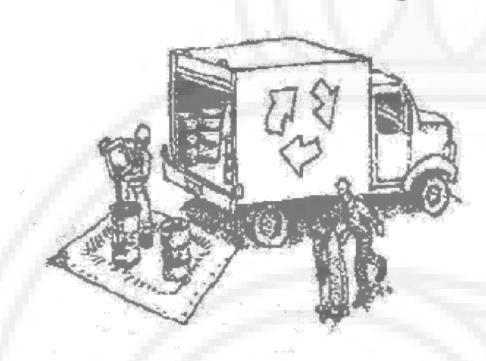
# Water Pollution Prevention Program

Clean Water. Healthy Community.

# Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

# **Materials & Waste Management**



#### Non-Hazardous Materials

- ☐ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- ☐ Use (but don't overuse) reclaimed water for dust control.

#### **Hazardous Materials**

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

#### Waste Management

- ☐ Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- ☐ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- ☐ Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- ☐ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- ☐ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

#### **Construction Entrances and Perimeter**

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

# **Equipment Management & Spill Control**



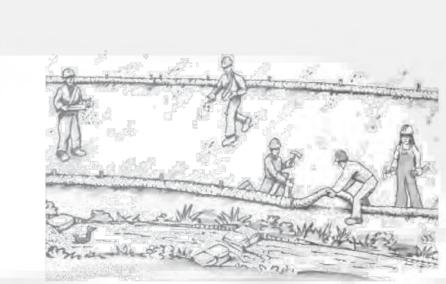
## Maintenance and Parking

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

#### **Spill Prevention and Control**

- ☐ Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- ☐ Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- ☐ Clean up spills or leaks immediately and dispose of cleanup materials properly.
- Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- ☐ Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- ☐ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ☐ Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

# **Earthmoving**



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

#### **Contaminated Soils**

- ☐ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
- Unusual soil conditions, discoloration, or odor.
- Abandoned underground tanks.
- Abandoned wells
- Buried barrels, debris, or trash.

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

# Paving/Asphalt Work



- ☐ Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- ☐ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- ☐ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- ☐ Do not use water to wash down fresh asphalt concrete pavement.

#### Sawcutting & Asphalt/Concrete Removal

- ☐ Protect nearby storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- ☐ Shovel, abosorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ☐ If sawcut slurry enters a catch basin, clean it up immediately.

# Concrete, Grout & Mortar



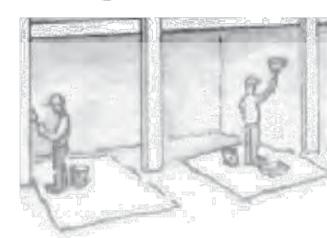
- ☐ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- ☐ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- ☐ When washing exposed aggregate, prevent washwater from entering storm drains. Block any inlets and vacuum gutters, hose washwater onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.

# Landscaping



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

# **Painting & Paint Removal**



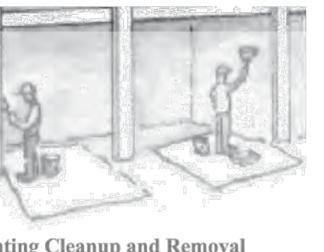
#### **Painting Cleanup and Removal**

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

### **Dewatering**



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



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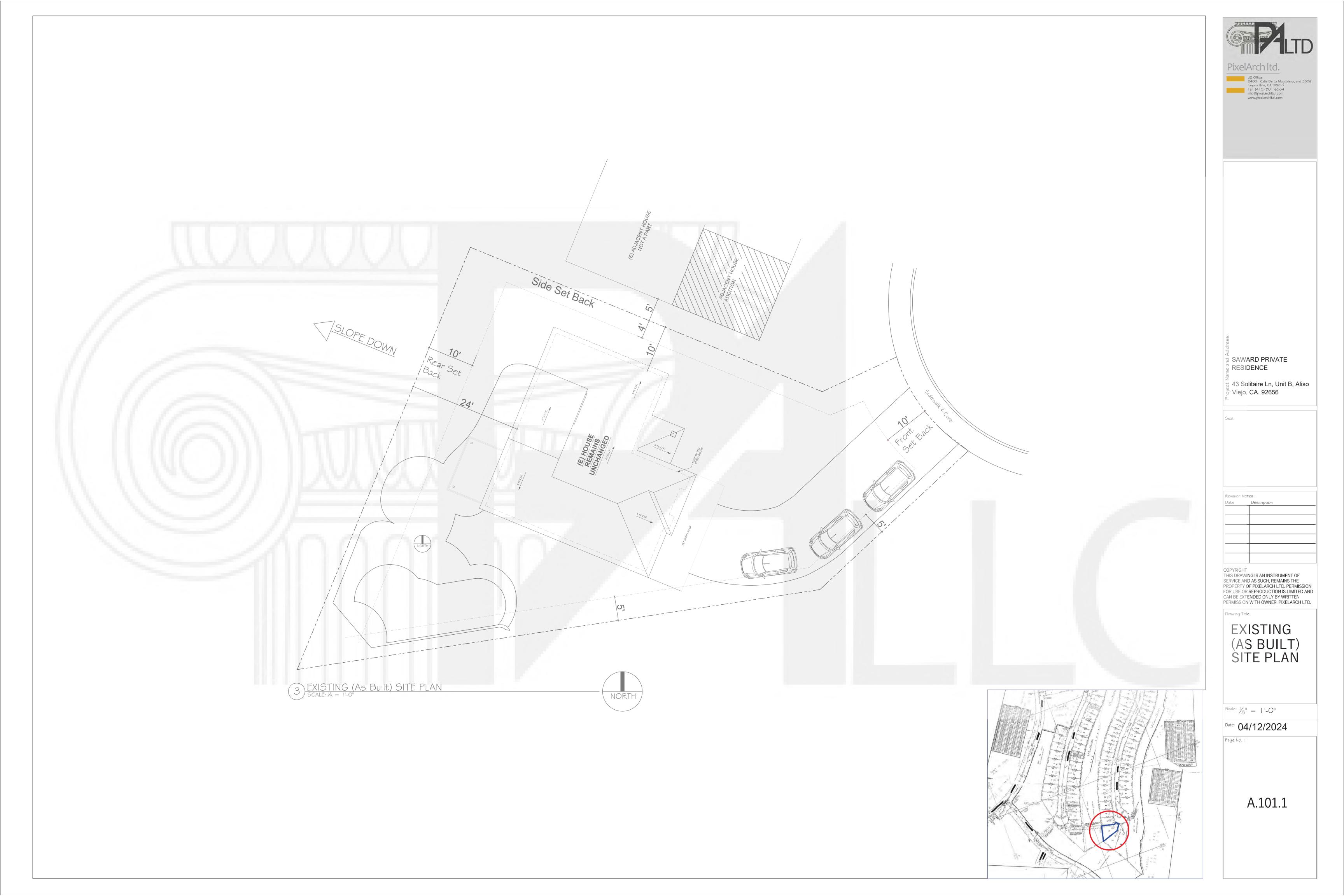
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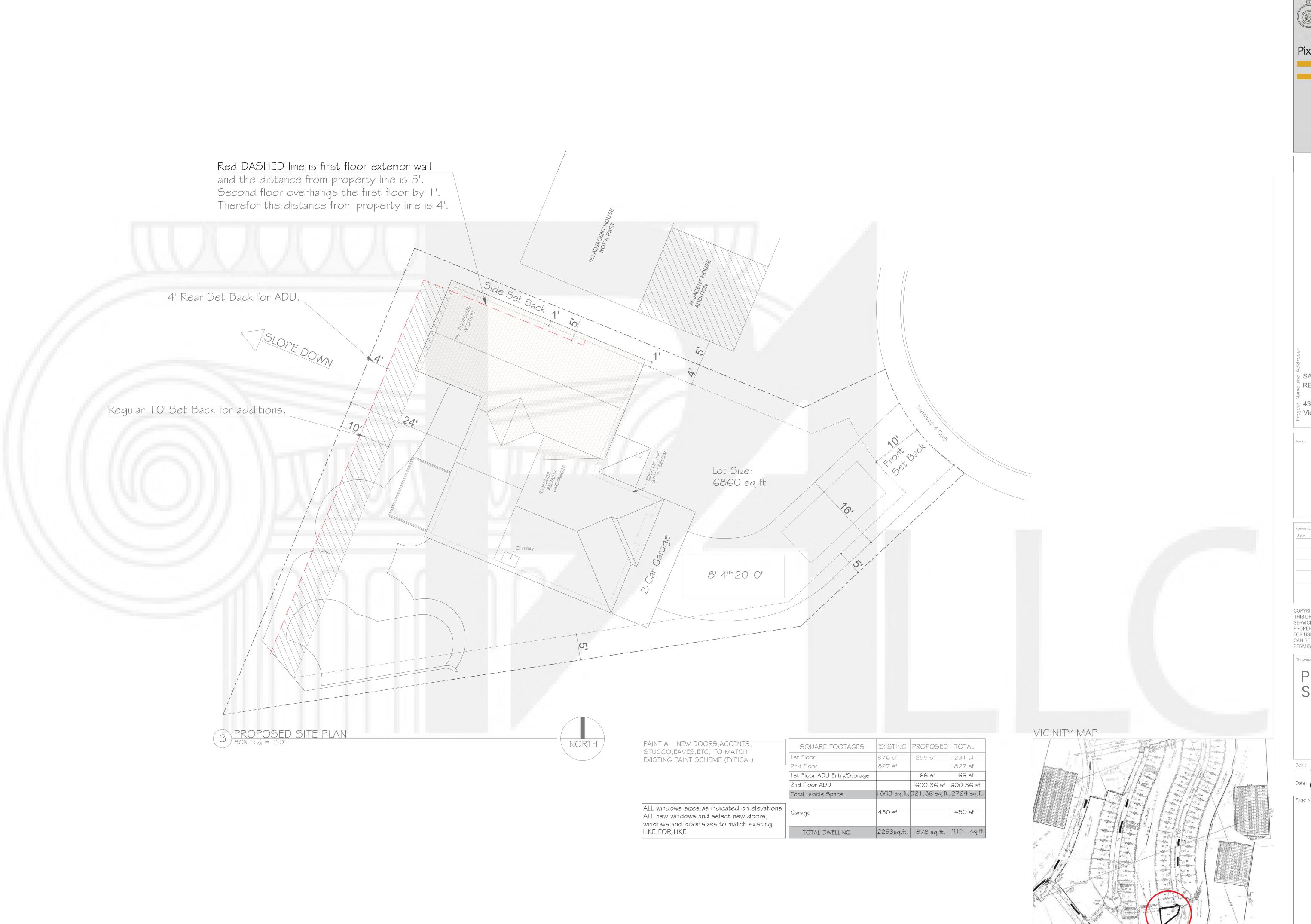
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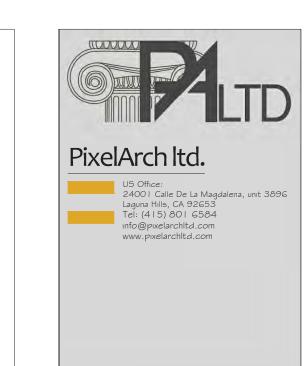
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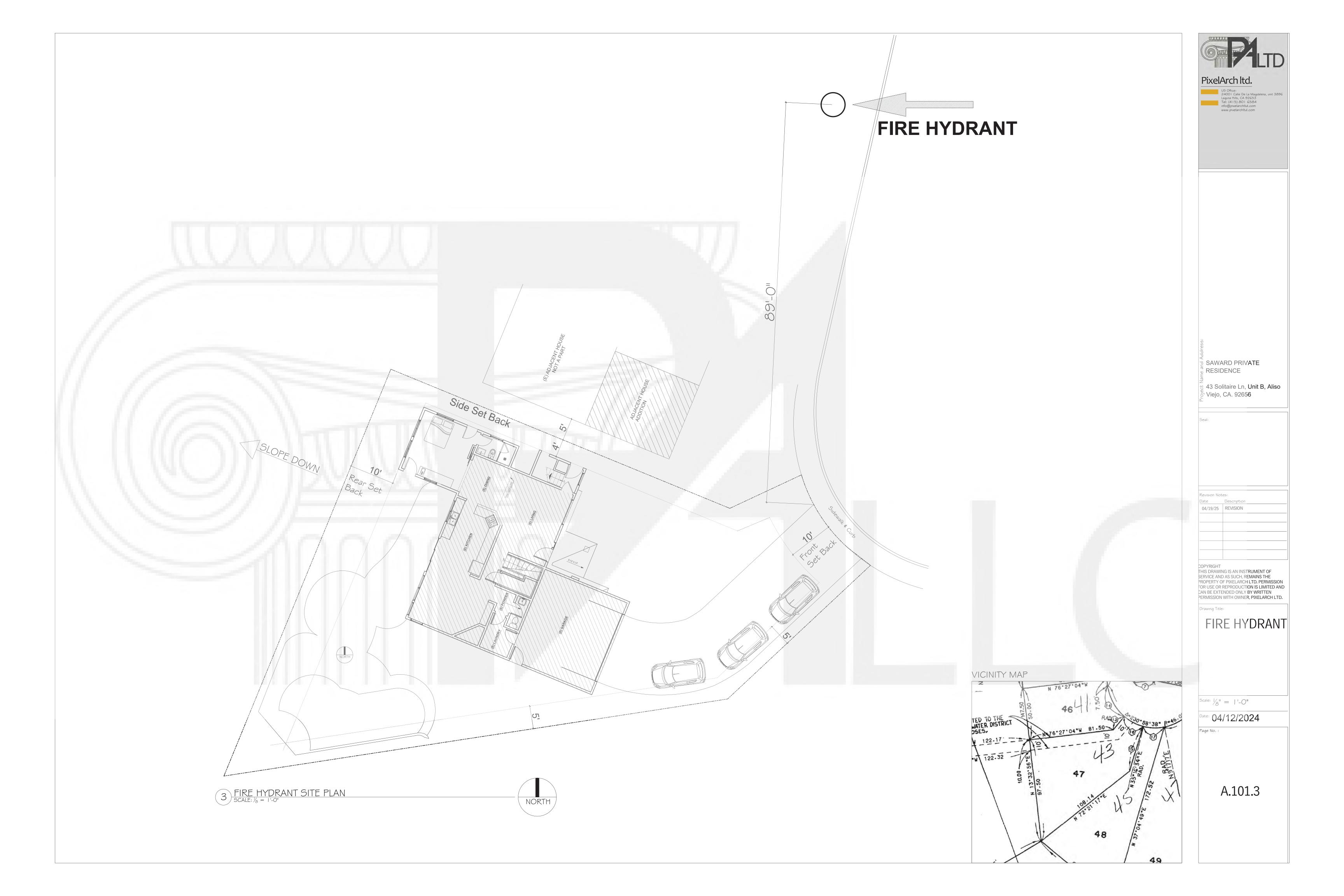
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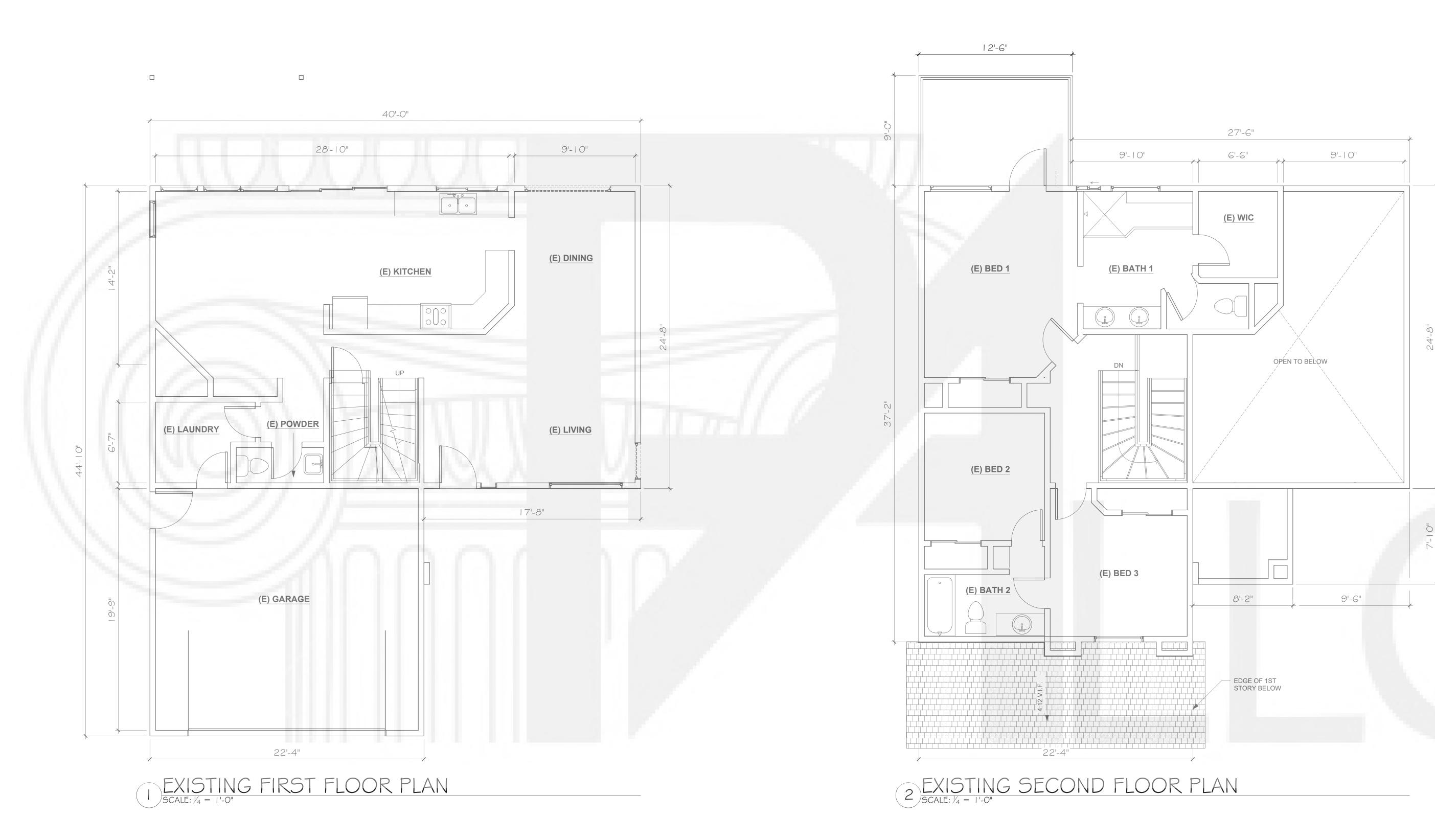
PROPOSED SITE PLANS

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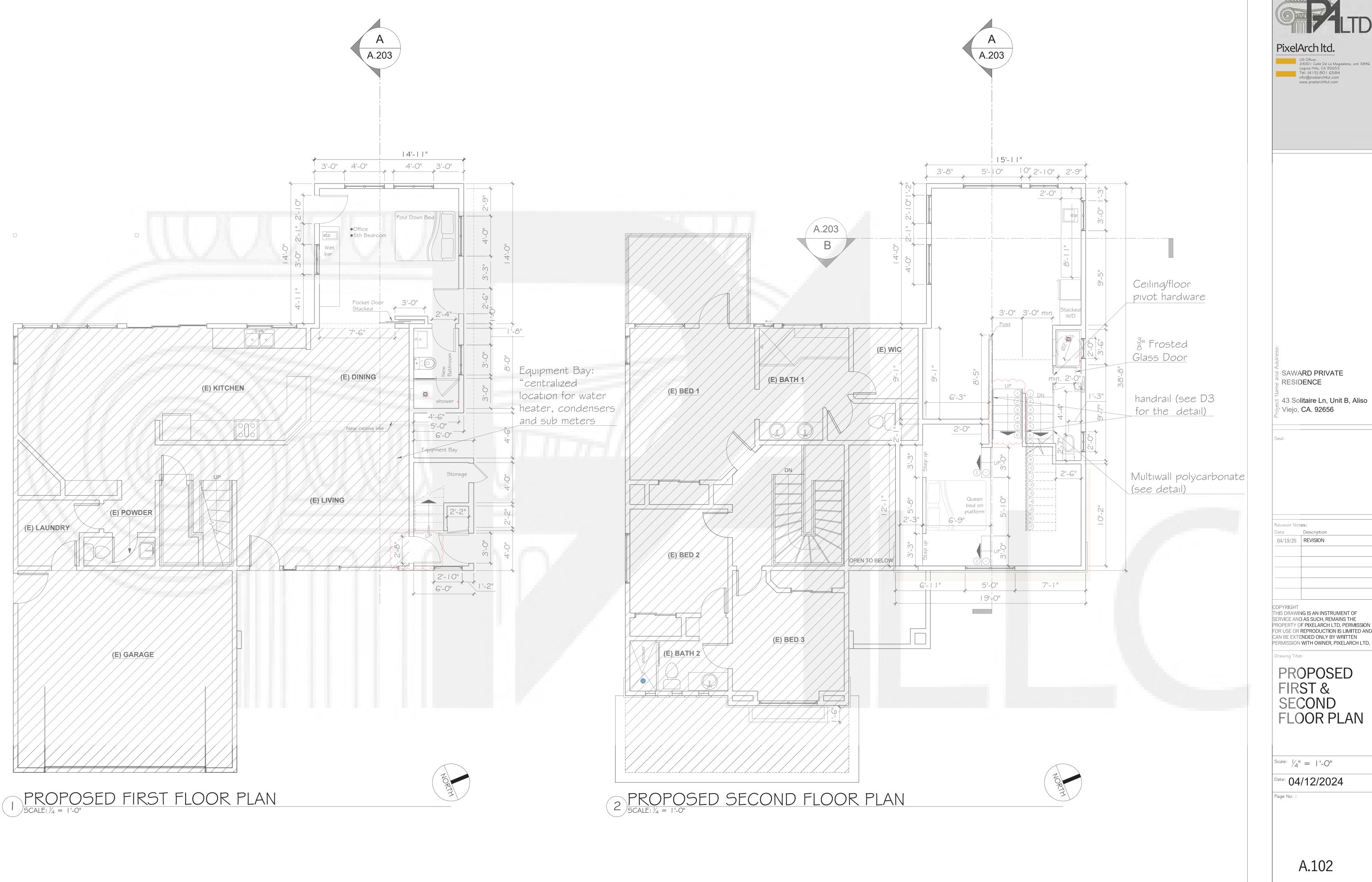
EXISTING FIRST & SECOND FLOOR PLAN

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

Date: 04/12/2024

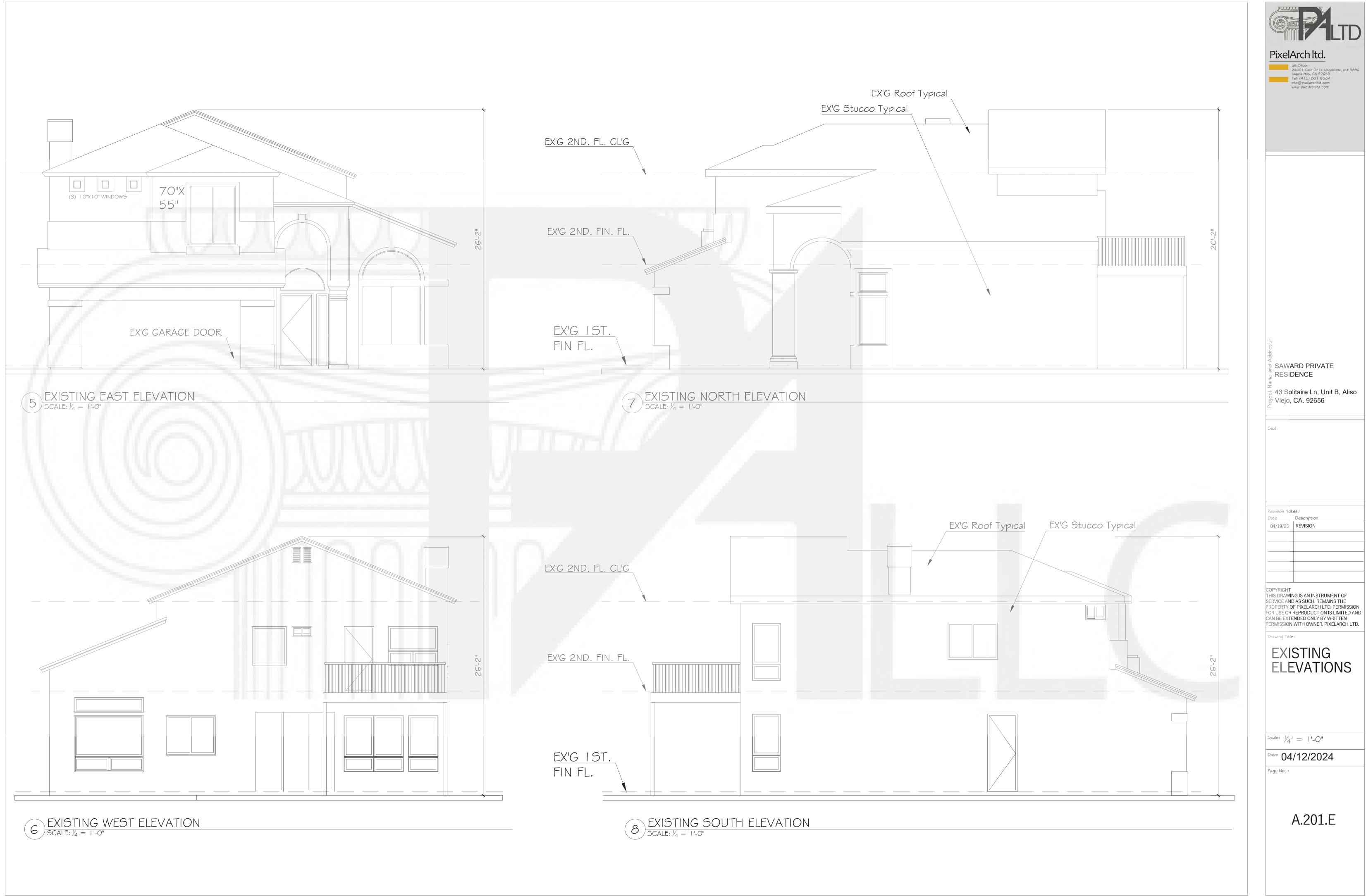
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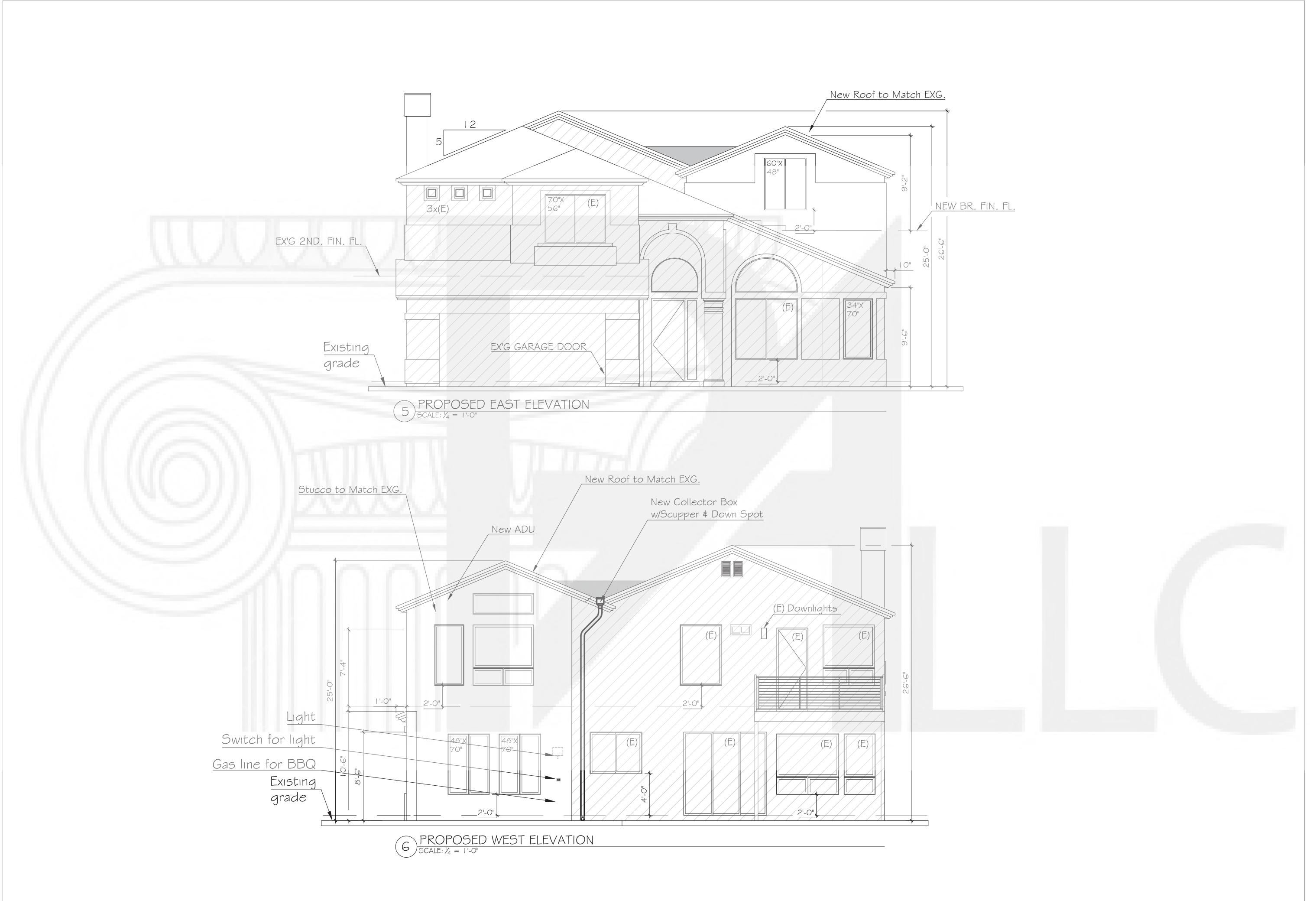


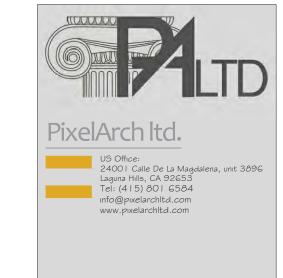
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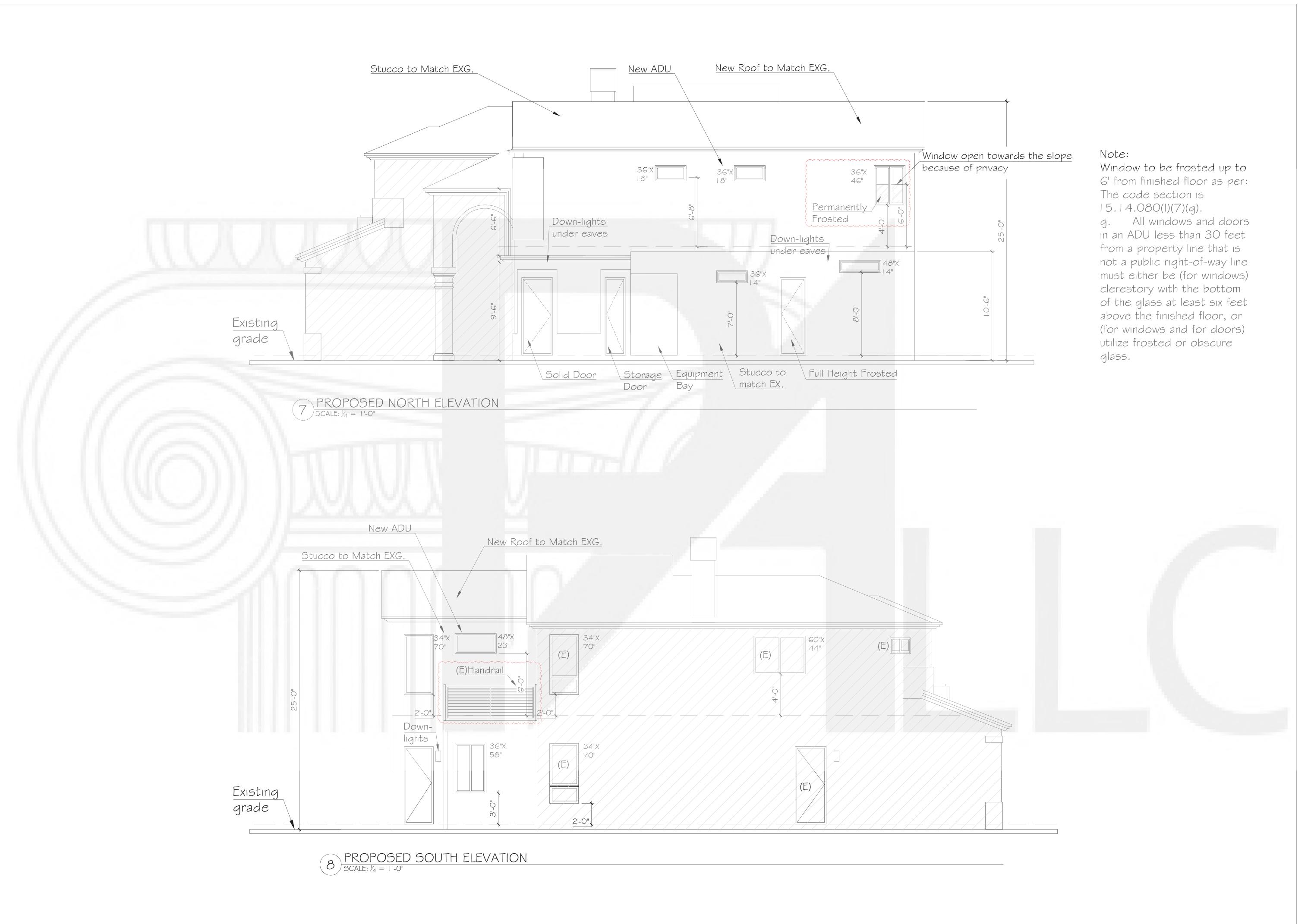
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# PROPOSED EAST & WEST ELEVATIONS

Scale:  $\frac{1}{4}$  = 1 -0"

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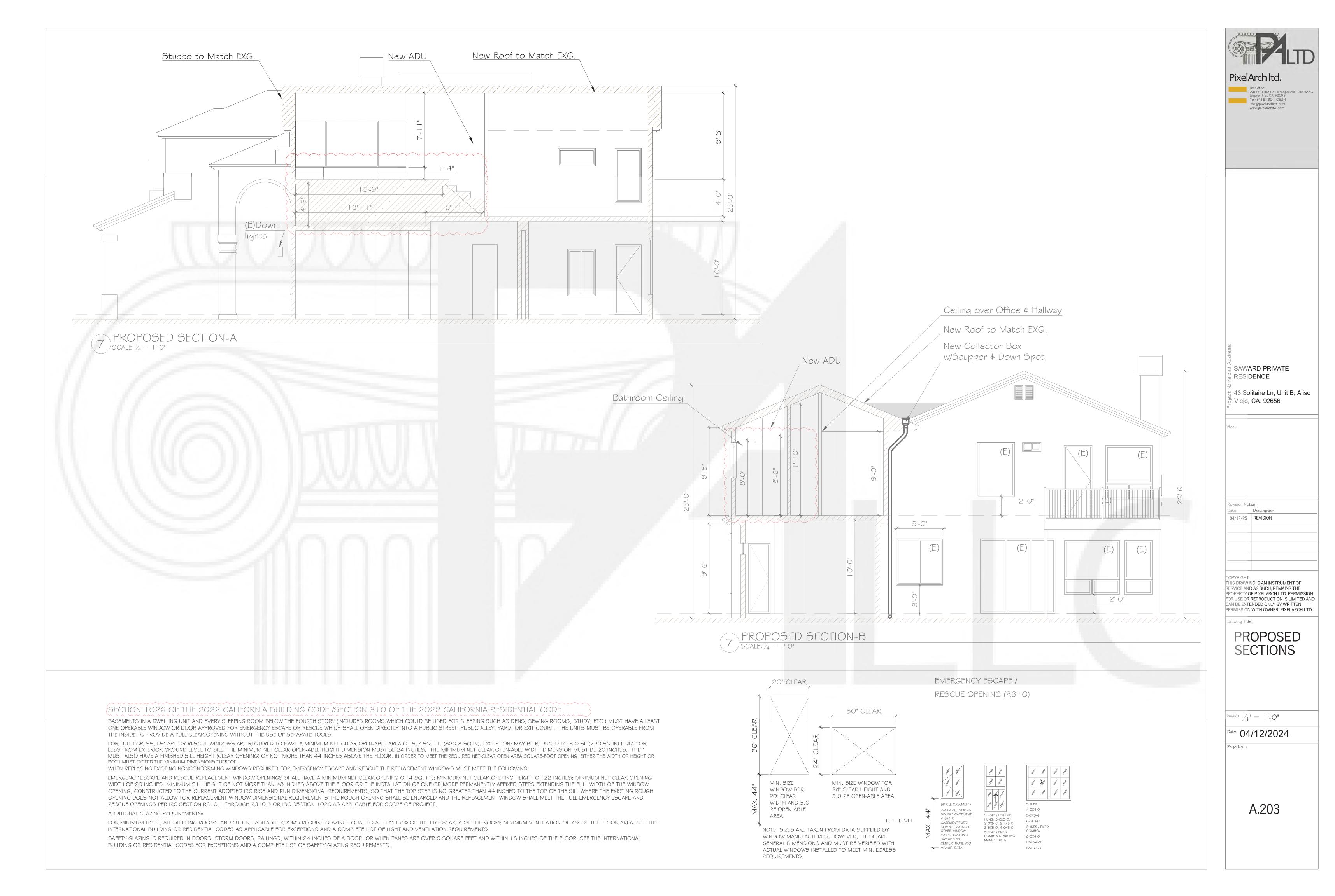
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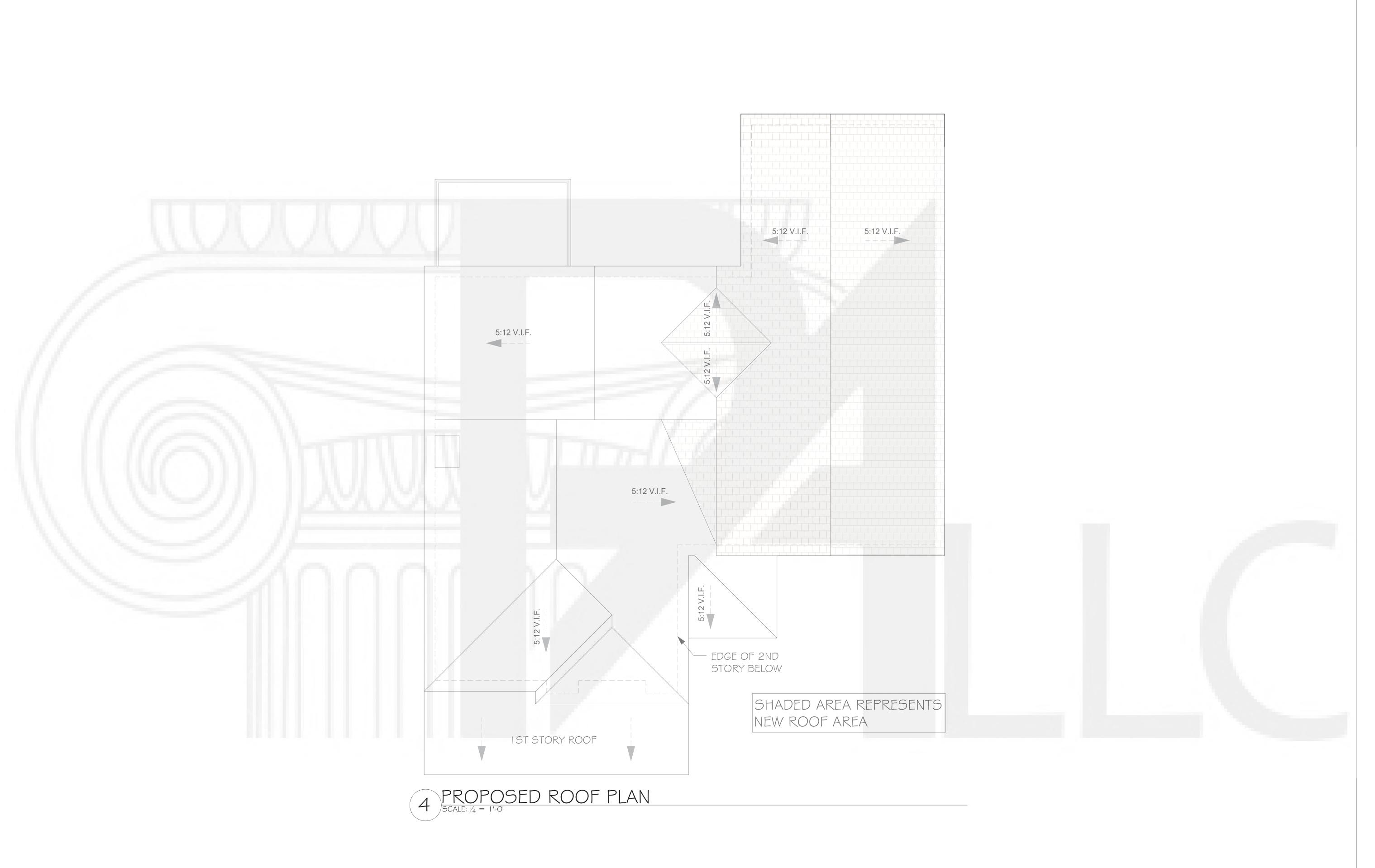
PROPOSED NORTH & SOUTH ELEVATIONS

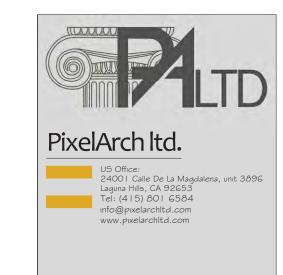
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PROPOSED ROOF PLAN

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

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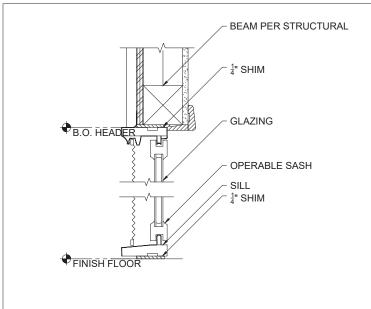
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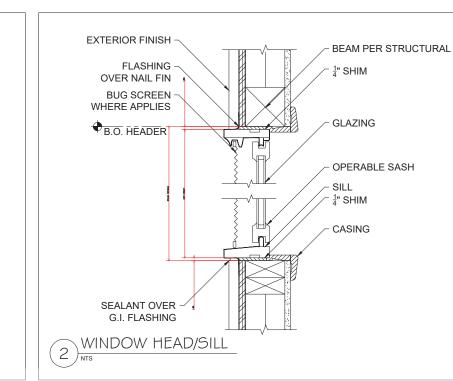


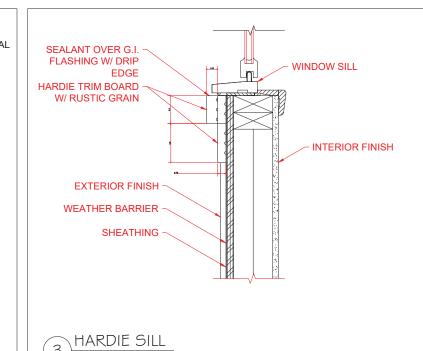
				Window Schedule					
Window Mark	New or Replacement	Window / Door Type	Unit Size	Manufacturer / Model #	Grid (Y/N)	Mat'l	Glazing Temp'd	Low E	Remarks
W1	New	Double Casement	60" x 42"	Milgard V300 /	N	Vinyl		Х	
W2	Replacement	Fixed	71 x 36" r	Milgard V300 /	N	Vinyl		Χ	
W3	Replacement	Single Slider	71 x 71	Milgard V300 /	N	Vinyl		X	
W4	New	Casement	34" x 70"	Milgard V300 /	N	Vinyl		X	
W5	New	Awning	36" x 18"	Milgard V300 /	N	Vinyl	Х	Χ	
W5	New	Awning	24" x 18"	Milgard V300 /	N	Vinyl	Х	Х	
W6	New	Awning	36" x 14"	Milgard V300 /	~~~~N~~~	Vinyl	X	~~~ <b>X</b> ~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
W7	New	Double Casement	36" x 46"	Milgard V300 /	N	Vinyl		Х	both to open in same direction
W8	New	Awning	48" x 14"	Milgard V3007	N	Vinyl		X	
W9	New	Double Casement	48" x 70"	Milgard V300 /	N	Vinyl		X	both to open in same direction
W9	New	Double Casement	48" x 70"	Milgard V300 /	N	Vinyl		X	both to open in same direction
W9	New	Double Casement	48" x 70"	Milgard V300 /	N	Vinyl		X	both to open in same direction
W10	New	Casement	34" x 70"	Milgard V300 /	N	Vinyl		X	both to open in same direction
W11	New	Awning	48" x 23"	Milgard V300 /	N	Vinyl		X	
W12	New	Glider	48" x 60"	Milgard V300 /	N	Vinyl		X	retractable screen

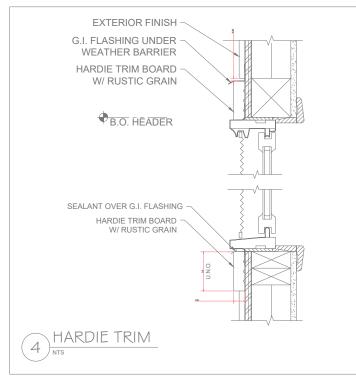
				Door Schedule					
D1	New	Front Door	36" x 90"	5 horizontal lite		Fiberglass			ADU Front door
D2	New	Double door/smooth	48" x 90"	MS_DRS0080_2	N	Fiberglass		n/a	
D3	New	Full lite with shade	30" x 90"	TBD	N	fiberglass		X	
D4	New	Full Lite	34" x 90"	Nova Full Lite	N	Fiberglass		X	left hand in-swing
D5	New	Hollow Core/6 panel	28" x 80"	raised panel to match (E)	n/a		n/a	n/a	1st fl bathroom
D6	New	Solid Core	34" x 96"	flat panel for pocket application	n/a	MDF	n/a	n/a	ADU-LRoom access
D7	New	Solid Core	36" x 96"	flush indented solid core door	n/a	MDF	n/a	n/a	ADU-LRoom access

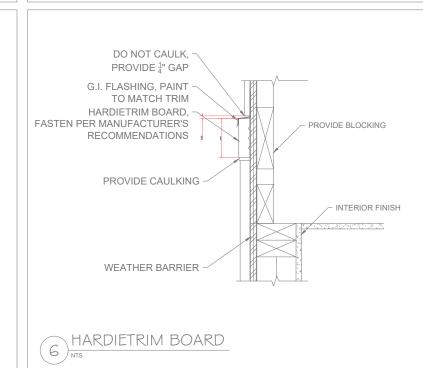


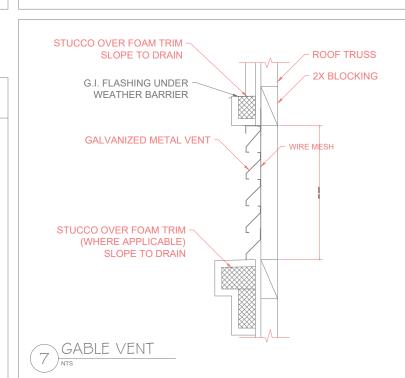
SLIDING GLASS DOOR HEAD/SILL











#### **ENERGY NOTES**

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

  2. FIXED WINDOWS SHALL BE SEALED TO LIMIT AIR INFILTRATION.
- ALL EXTERIOR DOORS AND WINDOWS ARE TO BE WEATHERSTRIPPED.
   SITE BUILT DOORS MOUNTED ON THE INSIDE OR THE OUTSIDE OF EXTERIOR WALLS SHALL HAVE
- A MIN. 1" LAP AT JAMPS.
  OPEN EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES BETWEEN WALLS, FOUNDATIONS, ROOFS, PANELS, AND AT PENETRATION OF UTILITIES THRU THE ENVALOPE, SHALL BE SEALED, CAULKED, OR WEATHERSTRIPPED TO LIMIT AIR LEAKAGE.
- 6. PROVIDE A "CERTIFICATE OF COMPLIANCE" SIGNED BY THE OWNER, G.C., ARCHITECT, OR ENGINEER TO THE BLDG. DEPARTMENT STATING THAT THE WORK HAS BEEN PERFORMED AND MATERIALS INSTALLED ACCORDING TO THE PLANS AND SPECIFICATIONS AFFECTING NON-
- RESIDENTIAL ENERGY.

  7. INSULATION SHALL BE INSTALLED TO MEET FLAME SPREAD AND SMOKE DENSITY REQUIREMENTS OF 5311 AND TITLE 24.

  7.

## ROOF AREA VENTILATION NOTE:

CONTRACTOR TO PROVIDE NEW ROOF AREA VENTILATION .NOTE:

- 1. 50% OF VENTILATION MUST BE IN UPPER 1/3 OF ATTIC SPACE USE ROOF MOUNTED GSM DORMER VENTS.
- 2. CONTRACTOR SHALL SUPPLY ALL VENTILATION AMOUNTS ABOVE AS A MINIMUM -EAVE VENTING SHALL BE (3) 2" DIA HOLES PER ROOF BAY (9 SQ IN PER BAY).
- 3. UPPER ATTIC VENTING SHALL BE ROOF MOUNTED GSM DORMER VENTS (150 SQ IN PER VENT).
- 4. ALL VENTS SHALL BE COVERED WITH CORROSION RESISTANT WIRE MESH WITH MAXIMUM OPENING OF 1/4" IN DIMENSION.
- 5. VAULTED CEILINGS SHALL HAVE A MINIMUM 1" AIR SPACE BETWEEN INSULATION AND ROOF SHEATHING.

## NOTES:

- 1. ATTICS; ACCESS PER CRC R807, DRAFTSTOPS PER CRC R302.10 & R502.12 AND VENTILATION PER R806 & R408.1.
- 2. WHERE EMERGENCY ESCAPE AND RESCUE OPENINGS ARE PROVIDED, THEY SHALL HAVE THE BOTTOM OF THE CLEAR OPENING NOT GREATER THAN 44" MEASURED FROM THE FLOOR.
- 3. PER CRC 310.1.
- 4. GLAZING IN ENCLOSURES FOR OR WALLS FACING HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS AND SHOWERS WHERE THE BOTTOM EXPOSED EDGE IS LESS THAN 60" MEASURED VERTICALLY ABOVE A STANDING OR WALKING SURFACE. PER CRC R308, R303.1 7 R301.2.1.2.
- 5. FACTORY-BUILT FIREPLACES AND CHIMNEYS PER CRC R1004, R1005, R1006, A.Q.M.D. RULE 445, AND CAL-GREEN SECTION 4.503.1.
- 6. COMBUSTION AIR TO FORCED AIR UNIT PER CMC CHAPTER 7.
- 7. COMBUSTION AIR TO WATER HEATER PER CPC SECTION 507.0.
- 8. ENVIRONMENTAL AIR DUCTS PER CMC SECTION 504.
- 9. MECHANICAL EQUIPMENT LOCATION AND PROTECTION AGAINST DAMAGE PER CMC 307.
- 10. PER THE BUILD IT GREEN PROGRAM'S "GREENPOINT RATING CHECKLIST" SECTION P(D)2, MOISTURE MATERIALS SHALL BE USED IN WET AREAS (i.e. KITCHEN, BATHROOM, UTILITY ROOMS, ETC.) EXTERIOR DOOR LANDING SHALL BE A
- MAX. OF 7-3/4" BELOW DOOR THRESHOLD PER CRC R311.3.2.

  11. GRADE NEEDS TO FALL 6" WITHIN THE FIRST 10'
- 12. CONCRETE SLAB THICKNESS FOR PORCH AND PATIO SLAB SHALL BE 3  $\frac{1}{2}$ " MIN. REQUIRED PER R506.1

SAFETY GLASS TO BE USED WITHIN 3' OF DOOR
ENTRY LOCKS, AT ENTRANCE DOORS AND SIDE LIGHTS

NEAR BATHTUBS AND JACUZZIS

ALL SOFFITS LESS THAN 3.94 ft FROM PROPERTY LINES

TO BE NON-VENTED SOLID MATERIAL CONSTRUCTION

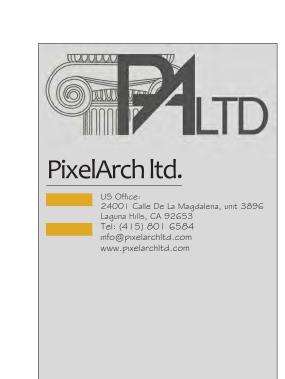
#### **EXTERIOR ELEVATION NOTES:**

- 1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY.
- 2. SLOPE FINISH GRADE 2% MINIMUM AWAY FROM BUILDING FOR 5'-0" MINIMUM, DIRECT DRAINAGE AWAY FROM BUILDING WALLS TO ELIMINATE PONDING.
- 3. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR GRILLES, REGISTERS, HORNS, SPEAKERS, PANELS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN
- 4. FLASH AND SEAL ALL PENETRATIONS THROUGH EXTERIOR ROOFS AND WALLS, AND FLOORS WEATHER TIGHT AND WATERPROOF. PACK ALL PENETRATIONS THROUGH THE BUILDING INSULATION ENVELOPE WITH INSULATION.
- 5. FLASH ALL WINDOWS, DOORS, LOUVERS, ACCESS PANELS AND SIMILAR WALL OPENINGS PER DETAILS ON SHEET A500.
- 6. FIREBLOCKING, CBC 717.2.: PROVIDE MATERIALS COMPLYING WITH CBC 717.2.1 AT CONCEALED SPACES, FURRED SPACES, CEILING/FLOOR LEVELS AND 10'-0" INTERVALS ALONG LENGTH OF WALL, SOFFITS, DROP CEILINGS, AND COVE CEILINGS, CONCEALED PLACES BETWEEN STAIR STRINGERS & BETWEEN STUDS IN LINE WITH STAIR RUN, AND ALL LOCATIONS LISTED IN CBC 717.2.2 THROUGH 717.2.7.
- 7. ORS FOR SIDING, TRIM, WINDOWS, ROOFING, ETC. ARE TO MATCH EXISTING FINISHES AND COLORS.

- 7. FLOOR/CEILING DRAFTSTOPPING, CBC 717.3: PROVIDE MATERIALS COMPLYING WITH CBC 717.3.1. AT FLOOR/CEILING ASSEMBLIES AS REQUIRED BY CBC 717.3.2 THROUGH 717.3.3. -GROUP R-1, R-2, R-3, R-4
- EXCEPTION: DRAFTSTOPPING NOT REQUIRED IN BUILDINGS SPRINKLERED PER CBC 903.3.1.1.

  EXCEPTION: DRAFTSTOPPING NOT REQUIRED IN BUILDINGS SPRINKLERED PER CBC 903.3.2.1 WHEN SPRINKLERS ARE INSTALLED IN THE COMBUSTIBLE CONCEALED SPACES
- 8. ATTIC DRAFTSTOPPING, CBC 717.4: PROVIDE MATERIALS COMPLYING WITH CBC 717.3.1. IN ATTICS AND CONCEALED ROOF SPACES AS REQUIRED BY CBC 717.4.2 THROUGH 717.4.3. PROVIDE SELF-CLOSING DOORS WITH AUTOMATIC LATCHES CONSTRUCTED AS REQUIRED FOR DRAFTSTOPPING PARTITIONS.
- 9. REFER TO REFLECTED CEILING PLAN FOR LOCATION OF CLERESTORY WINDOWS, TYPICAL.
- 10. ELEVATIONS SHOWN ARE MEASURED FROM FINISHED FLOOR DATUM FOR THIS BUILDING.
- 11. NEW WORK PROVIDE BLOCKING, BACKING, FRAMING, SHEATHING, UTILITIES OR OTHER CONCEALED WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED. REFER TO STRUCTURAL DRAWINGS FOR CONCEALED WORK NOT SHOWN ON ARCHITECTURAL DRAWINGS.
- 12. REMODEL/ADDITION WORK NEATLY CUT AND REMOVE SURFACES AND FINISHES AS REQUIRED OR TO A NATURAL POINT OF DIVISION TO ENABLE INSTALLATION OF BLOCKING, BACKING, FRAMING, SHEATHING, UTILITIES OR OTHER CONCEALED WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED FOR SUPPORT OR RENOVATION. REFER TO STRUCTURAL DRAWINGS FOR CONCEALED WORK NOT SHOWN ON ARCHITECTURAL DRAWINGS.

13. REPAIR AND REPLACE ALL EXISTING SURFACES AND FINISHES TO MATCH EXISTING UNDISTURBED WORK.14. ALL NEW ADDITION WORK FINISHES AND COL



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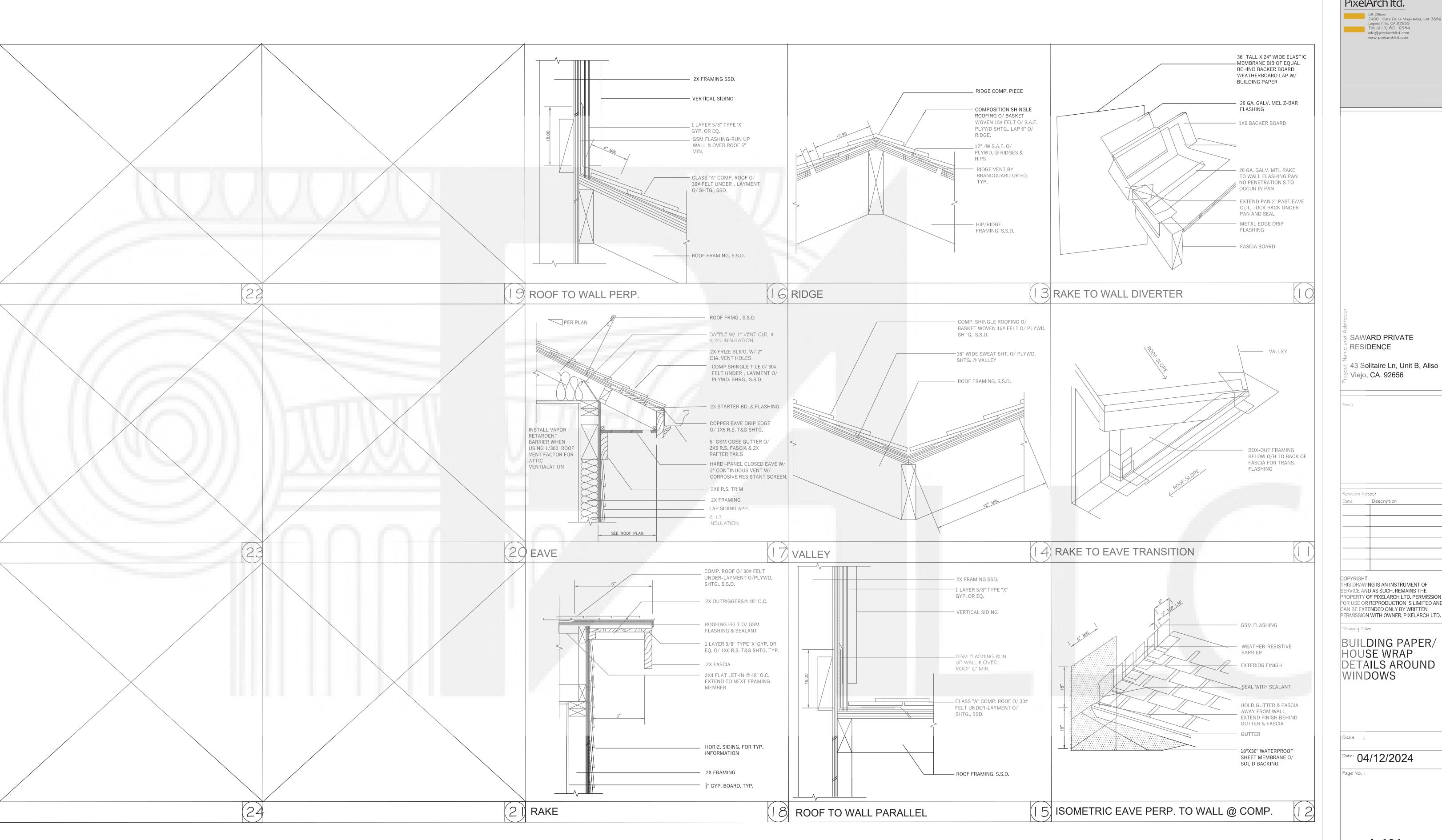
ERIVIISSION WITH

DOORS & WINDOW SCHEDULE

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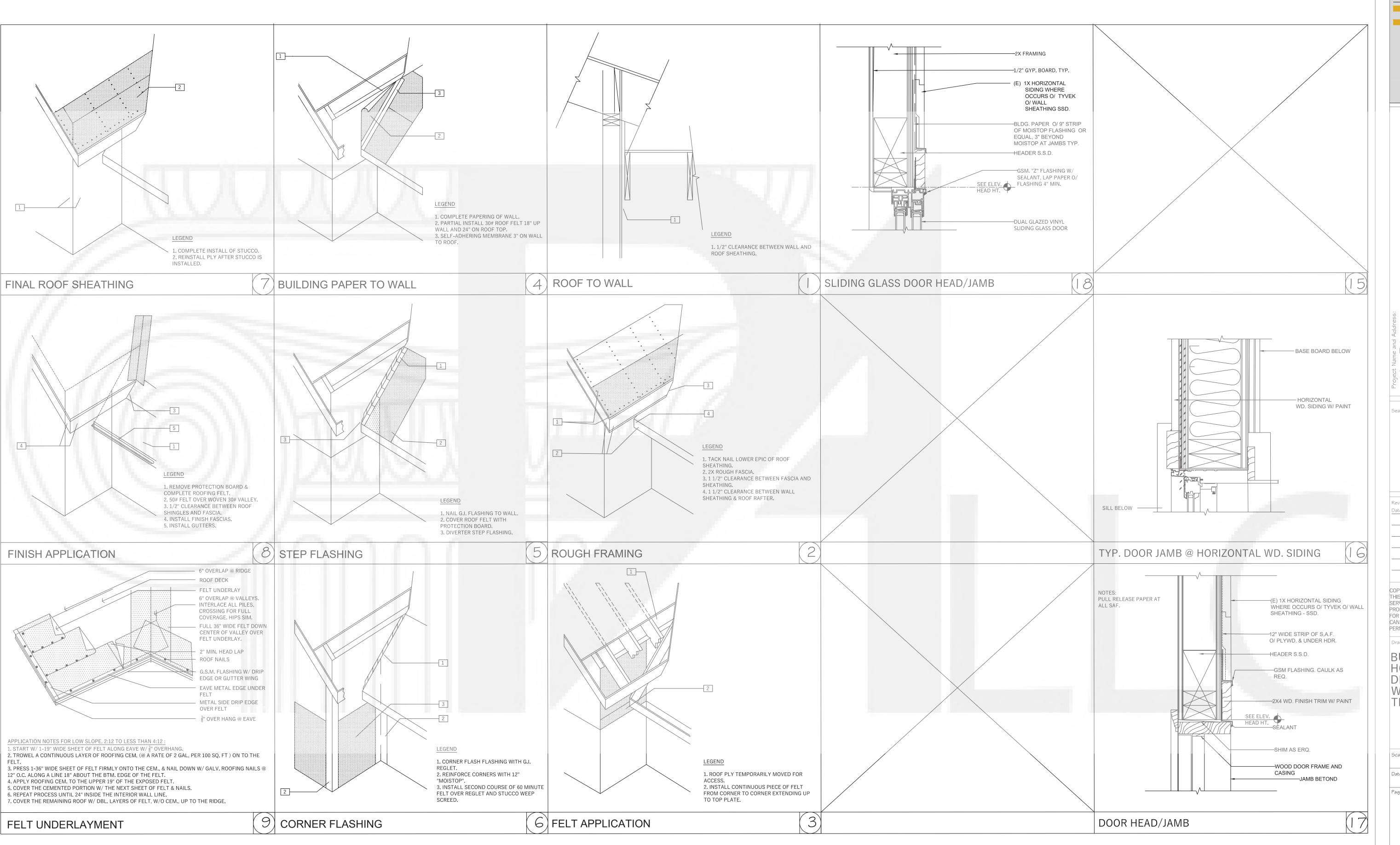
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Drawing Title:

BUILDING PAPER/ HOUSE WRAP DETAILS AROUND WINDOWS

Date: 04/12/2024





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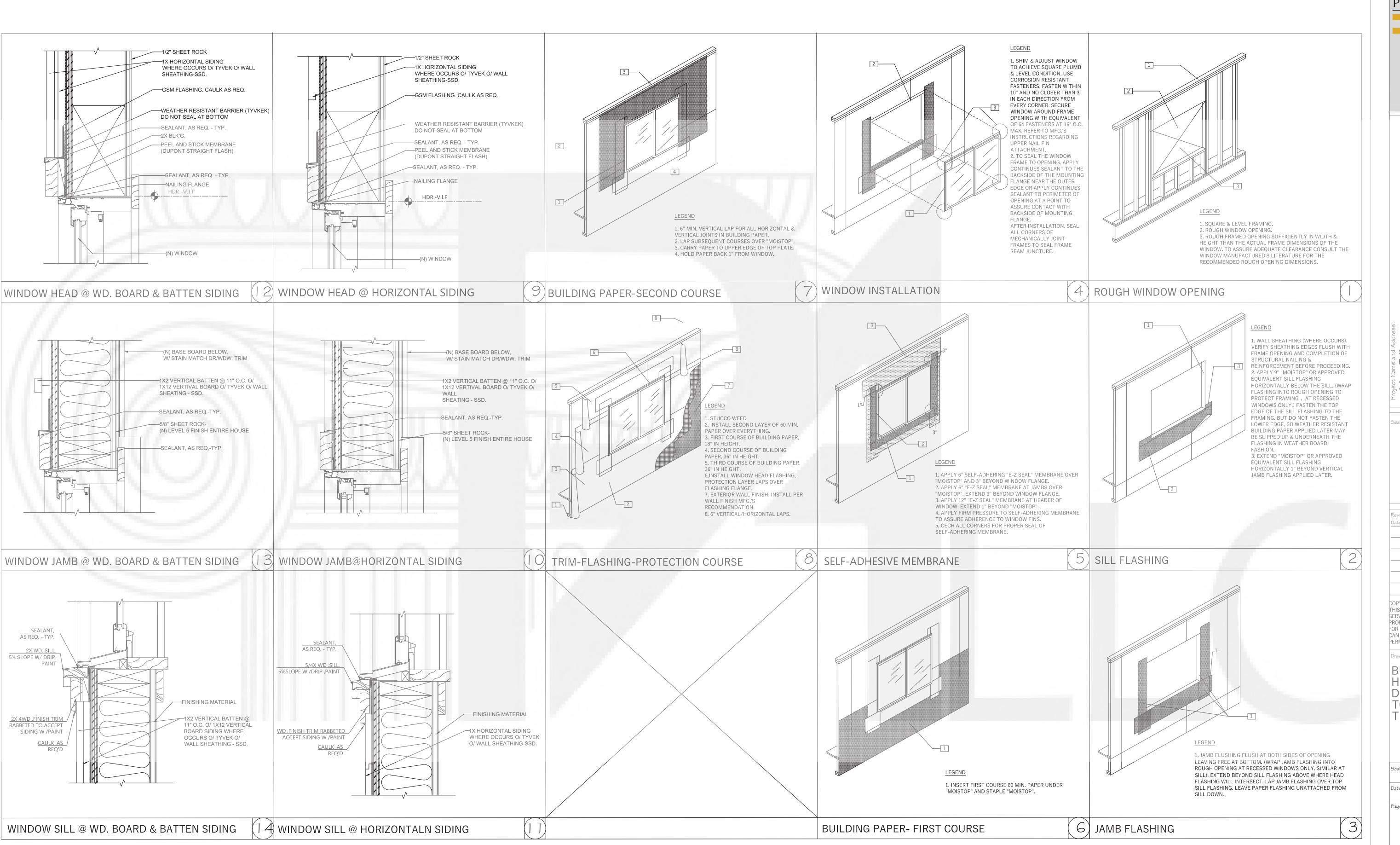
Drawing Title:

BUILDING PAPER/ HOUSE WRAP DETAILS AROUND WALL TO ROOF TRANSITION

ocale: \_

Date: 04/12/2024

Page No. :





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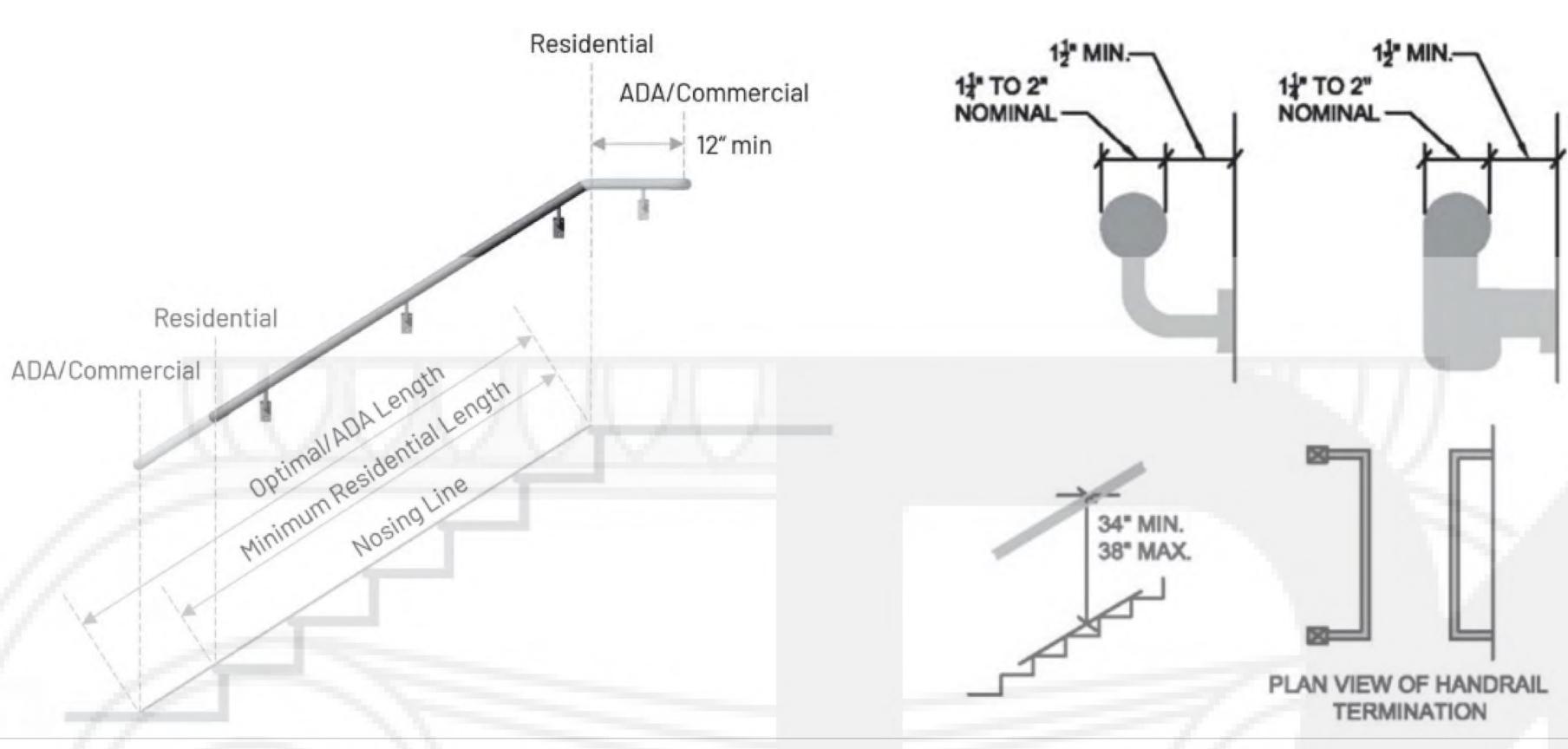
Drawing Title:

BUILDING PAPER/ HOUSE WRAP DETAILS AT WALL TO ROOF TRANSITION

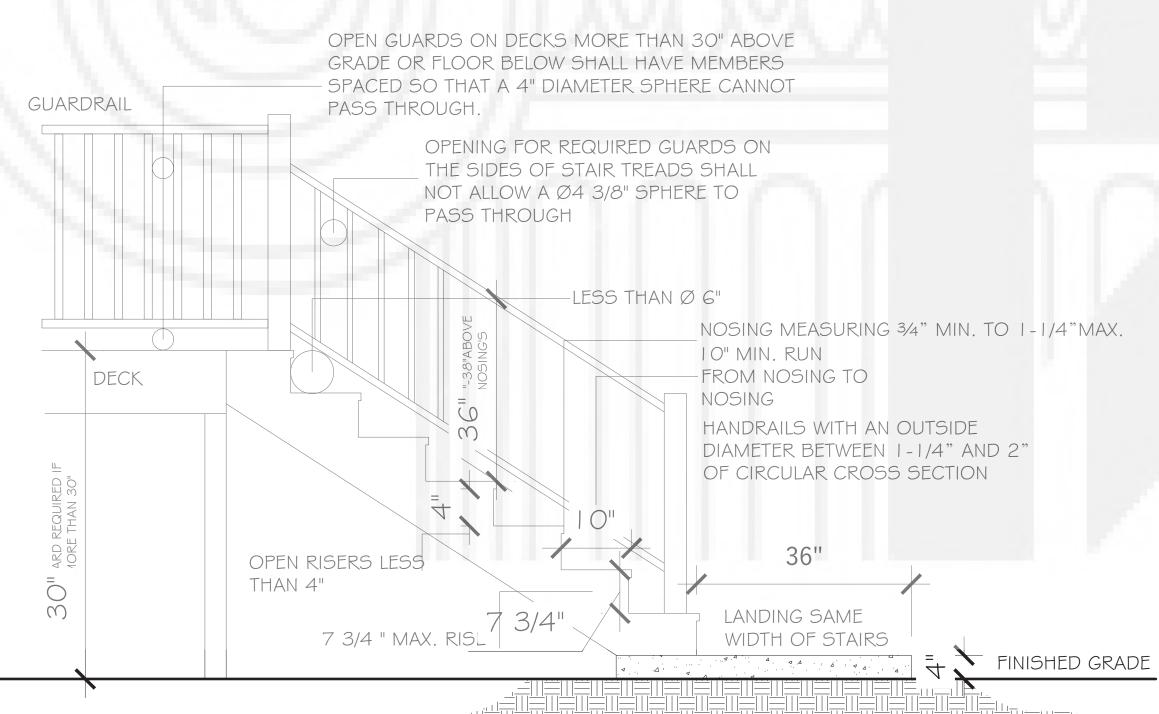
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# CODE REQUIREMENTS BASED ON THE 2022 CALIFORNIA RESIDENTIAL CODE



STAIRWAY NOTES:

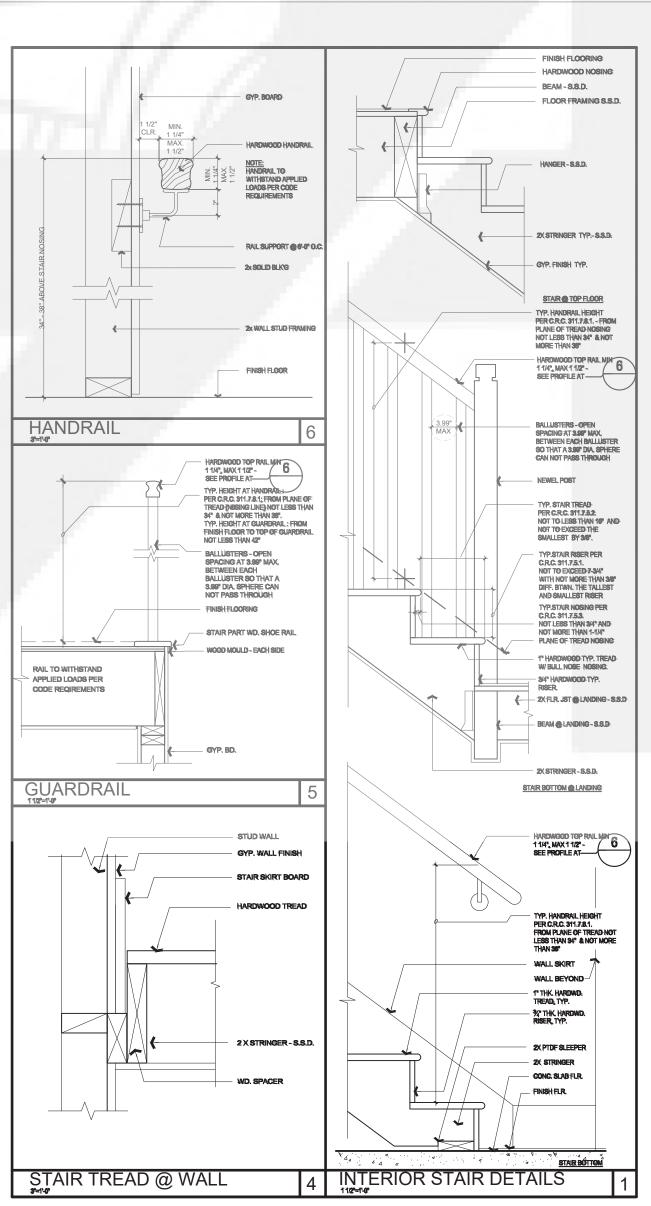
STAIRWAYS SHALL BE NOT LESS THAN 36" IN WIDTH. STAIRWAY RISERS SHALL BE NO GREATER THAN 7 3/4 ".

STAIRWAY TREADS SHALL HAVE A MINIMUM RUN OF 10". THE LENGTH OF RUN AND THE HEIGHT OF RISER SHALL NOT VARY MORE THAN 3/8" IN THE RUN OF THE STAIR. STAIRS ARE REQUIRED TO BE ILLUMINATED.

OPEN RISERS ARE PERMITTED IF THE OPENING IS LESS THAN 4". TREAD NOSING SHALL NOT LESS THAN 3/4" BUT NOT MORE THAN 1 1/4" ON STAIRWAYS WITH SOLID RISERS. EXCEPT WHEN TREADS ARE 1 1" OR MORE.

COMPOSITE MATERIALS MAY REQUIRE ADDITIONAL STRINGERS.







PixelArch ltd.

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SCOPE:

•2nd FLOOR ADU

**ROOM TO REMAIN** 

•FIRST FLOOR ADDITION

•FIRST FLOOR BATHROOM

•OPEN ELEVATION OVER LIVING

SAWARD PRIVATE

RESIDENCE

43 Solitaire Ln, Unit B, Aliso Viejo, CA. 92656

| Seal:

Revision Notes:

04/10/25 REVISION

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Drawing Tit

Railing details

Scale

Date: 04/12/2024

Page No. :

D1.0

			SH	HEAR MAL	L SCHI	EDUL	.E			
				NAILING			SILL PL	CHEAR		
SYMBOL	MATERIALS	NO. OF SIDES	FIELD	BOUNDARY (B.N.)	A35/LTP4 FRAMING	SILL PLATE	FRAMEI	FLOOR	CONCRETE	SHEAR CAPACITY
			(F.N.)	& EDGE (E.N.)	CLIPS		SIMPSON 1/4" SDS	16d NAILS	(F1554 BOLTS)	(LBS/FT)
1	15" STRUCTURAL -I PLYWOOD (PL <sup>32</sup> ") 5-PLY	1	8d @12" O.C.	8d @ 6" O.C.	32" O.C.	2x	16" O.C.	4" O.C.	5∥ A.B. @ 48″ O.C.	280
2	15:" STRUCTURAL -I PLYWOOD (PL <sup>32</sup> :") 5-PLY	1	10d @12' 0.C.	10d @ 6" O.C.	16" O.C.	2x	12" O.C.	3" O.C.	5∥ A.B. @ 32″ O.C.	340
3	15" STRUCTURAL-I PLYWOOD (PL <sup>32</sup> ") 5-PLY	1	10d @12' 0.C.	10d @ 4" O.C.	12" O.C.	3x	6" O.C.	2" O.C.	5" A.B. @ 24" O.C.	510
4	15:" STRUCTURAL -I PLYWOOD (PL <sup>32</sup> :") 5-PLY	1	10d @12' 0.C.	10d @ 3" O.C.	8" O.C.	3x	6" O.C.	-	5∥ A.B. @ 12″ O.C.	665
5	15" STRUCTURAL-I PLYWOOD (PL <sup>32</sup> ") 5-PLY	2	10d @12' 0.C.	10d @ 4" O.C.	6" O.C.	3x	3" O.C.	-	5/8 A.B. @ 10" O.C.	1020
6	15   STRUCTURAL -  PLYWOOD (PL <sup>32</sup>   ) 5-PLY	2	10d @12'' 0.C.	10d @ 2" O.C.	4" O.C.	3х	3" O.C.	-	5" A.B. @ 8" O.C.	1740

#### NOTES:

- 1. ALL PANEL EDGES SHALL BE BLOCKED.
- 2. NAILING SHALL BE STAGGERED AT ALL PANEL EDGES, EXCEPT AT SHEAR WALL TYPES 1 & 2.
- 3. CONNECTION OF DOUBLE 2X STUDS AND BLOCKING IF USED IN LIEU OF 3x STUDS AND BLOCKING AT ADJOINING PANEL EDGES.
- 4. AT DOUBLE-SIDED SHEAR WALLS, PANEL JOINTS ON EACH SIDE OF WALL SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS.
- 5. PROVIDE BOUNDARY NAILING AROUND ALL OPENINGS.
- 6. ALL ANCHOR BOLTS SHALL HAVE A 3" x 3" x 0.229" PLATE WASHER BETWEEN THE NUT AND SILL PLATE.
- 7. UPSET THREADS ON SILL BOLTS ARE NOT PERMITTED. ALL SILL BOLTS SHALL HAVE CUT THREADS.
- 8. REF. WALL ELEVATIONS NOTATION ON PLAN FOR STUD SIZE AND SPACING.
- 9. SHEAR WALL SHEATHING IS NOT TO BE INTERRUPTED BY INTERSECTING WALLS.

HOLDOWN SCHEDULE									
HOLDOWN	ANCHOR THREAD		EMBED. (MIN.)	POST (MIN.)					
HDU2-SDS-2.5	5/8 DIA.	PAB5	6"	4x4					
HDU4-SDS-2.5	<u>5</u> ∥ DIA.	PAB5	6"	4x4					
HDU5-SDS-2.5	<u>5</u> ″ DIA.	PAB5	6"	4x4					
HDU8-SDS-2.5	₹" DIA.	PAB7	9.5"	4x4					
HDU11-SDS-2.5	1" DIA.	PAB8	11"	4x6					
HDU14-SDS-2.5	1" DIA.	PAB8	11"	6x6					

#### NOTES:

- 1. PROVIDE SHEARWALL EDGE NAILING TO POST FULL HEIGHT.
- 2. HOLDOWNS SHALL BE INSTALLED PER MANUF. INSTRUCTIONS & ICC-ES REPORT.
- 3. REF. DETAIL SPECIFIED ON PLAN FOR HOLDOWN TO BEAM CONN. DETAIL.
- 4. 4x POST TO BE USED WHERE HOLDOWN IS REQUIRED IN 2x4 STUDWALL.

#### NAILING NOTES:

- 1. NAILS SHALL BE DRIVEN PERPENDICULAR WHERE POSSIBLE INSTEAD OF TOENAILS.
- 2. PRE-DRILL FOR ALL NAILS 20d OR LARGER.
- 3. ALL NAILS SHALL BE COMMON WIRE NAILS UNLESS NOTED OTHERWISE.
- 4. ALL NAILING APPLICATION SHALL CONFORM TO 2022 CALIFORNIA BUILDING CODE.

#### DESIGN DATA:

1. DESIGN LOADS:

ESIGN LOADS:

ROOF

DL = 15 psf

LL = 20 psf

CEILING

DL = 5 psf

LL= 10 psf

FLOOR

DL = 15 psf

LL = 40 psf

2. DESIGN CODE: AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE 7-16)

AMERICAN CONCRETE INSTITUTE (ACI 318-19)
CALIFORNIA BUILDING CODE (2022 CBC)
CALIFORNIA RESIDENTIAL CODE (2022 CRC)
ANSI/AWC NATIONAL DESIGN SPECIFICATION (NDS 2018)
ANSI/AWC SDPWS - 2021

3. SOILS ENGINEERING PARAMETERS:  $q_a = 1,500 \text{ psf}$  (2022 CBC TABLE 1806.2)

4. SEISMIC PARAMETERS: RISK CAT. = II

RISK CAT. = II  $S_S = 1.222$  SITE CLASS = D (DEFAULT)  $S_1 = 0.439$  SEISMIC DESIGN CAT. = D  $S_{DS} = 0.978$   $I_e = 1.0$   $S_{D1} = 0.544$  R = 6.5 (WOOD SHEAR WALLS)  $\rho = 1.0$  METHOD = ELF  $V_{FO} = 12.69 \text{ KIPS}$ 

5. WIND PARAMETERS:

 $K_d = 0.85$ 

DESIGN SPEED (V) = 95 MPH  $V_{asd} = 74$  MPH RISK CAT. = II EXPOSURE = B  $GC_{Pi} = +0.18$ , -0.18 ENCLOSURE = F  $K_z = 0.85$   $I_w = 1.00$  DESIGN WIND F

ENCLOSURE = PARTIALLY OPEN  $I_w = 1.00$ DESIGN WIND PRESSURE = 16 PSF (C&C)

NO.	DRAWING INDEX
S-00	GENERAL NOTES
S-01	TYPICAL CONSTRUCTION DETAILS
S-02	FOUNDATION PLAN
S-03	SECOND FLOOR FRAMING PLAN
S-04	FIRST FLOOR SHEAR WALL PLAN SHOWING BEAMS ABOVE
S-05	CEILING FRAMING PLAN
S-06	SECOND FLOOR SHEAR WALL PLAN SHOWING BEAMS ABOVE
S-07	ROOF FRAMING PLAN
S-08	FOUNDATION DETAILS
S-09	FRAMING DETAILS
S-10	FASTENING SCHEDULE

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#### GENERAL NOTES:

- 1. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF 2022 CRC, 2022 CBC, & ALL LOCAL AMENDMENTS 2. DETAILS OF CONSTRUCTION SHALL BE VERIFIED AT SITE BY THE CONTRACTOR AND DISCREPANCIES BETWEEN THE
- PLAN AND EXISTING CONDITIONS SHALL BE PROMTLY REPORTED TO ENGINEER PRIOR TO PROCEED WITH WORK.

  3. DIMENSIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE CONTRACTOR.

  CONTRACTOR SHALL BE RESPONSIBLE TO CAREFULLY MEASURE ALL EXISTING CONDITIONS TO ASSURE ACCURATE
- POSITIONING OF THE NEW CONSTRUCTION.

  4. DETAILS SHOWN ARE TYPICAL, SIMILAR DETAILS APPLY TO SIMILAR SITUATIONS.
- 5. DO NOT SCALE THESE DRAWINGS.
- 6. STRUCTURAL ENGINEER ASSUMES NO RESPONSIBILITY FOR THE SUPERVISION OF CONSTRUCTION OR PROPER EXECUTION OF THE WORK SHOWN ON THESE DRAWINGS. SAFETY METHODS AND TECHNIQUES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 7. THE PLANS AND DETAILS PREPARED BY THE ENGINEER ARE FOR THE COMPLETED WORK ONLY. IN PREPARING THEM THE ENGINEER ASSUMES NO RESPONSIBILITY FOR CONSTRUCTION PROCEDURES NECESSARY TO ACHIEVE THE COMPLETE WORK.
- 8. DAMAGE TO EXISTING CONDITIONS NOT CAUSED BY THE NEW WORK SHALL BE REPAIRED AND RESTORED TO THE ORIGINAL CONDITIONS AT CONTRACTOR'S EXPENSE.
- 9. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILTY TO DESIGN AND PROVIDE ADEQUATE SHORING, BRACING, AND UNDERPINNINGS, ETC. AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY PRIOR TO AND DURING CONSTRUCTION. SUCH DESIGN SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO SUCH WORK.
- 10. ALL DISTURBED SOIL SHALL BE COMPACTED TO 90% RELATIVE DENSITY.

#### CONCRETE AND REBAR:

- 1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 318-19.
- 2. ALL CONCRETE SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 28 DAYS.
- 3. REINFORCING STEEL SHALL BE NEW, FREE OF SCALE, AND RUST PER ASTM-615, GRADE 60.
- 4. CONCRETE COVERAGE OF REINFORCING BARS SHALL BE AS FOLLOWS:
  - CONCRETE IF POURED DIRECTLY AGAINST EARTH.

    CONCRETE IF EXPOSED TO EARTH BUT POURED IN FORMS.
  - CONCRETE IF EXPOSED TO EARTH BUT POURED IN FORM
  - 1 1/2" FOR BEAM, COLUMN, AND EXTERIOR SURFACES.
  - 3/4" FOR INTERIOR SLAB, JOIST AND WALL.
- 5. EPOXY USED SHALL BE SIMP. SET-3G (ICC-ES ESR-4057), W/ SPECIAL INSPECTION, UNLESS NOTED OTHERWISE.

#### LUMBER:

- 1. ALL WOOD BEAMS SHALL BE DOUGLAS FIR LARCH NO.1 (UNLESS NOTED OTHERWISE).
- 2. ALL WOOD JOISTS & RAFTERS SHALL BE DOUGLAS FIR LARCH NO.2 (UNLESS NOTED OTHERWISE).
- 3. ALL LUMBER TO BE GRADE STAMPED S-DRY & THE MOISTURE CONTENT (MC) BE LESS THAN OR EQUAL TO 19 PERCENT.
- 4. ALL PLYWOOD SHEATHING SHALL BE APPROVED STRUCTURAL 1, CDX EXTERIOR GRADE, APA OR APPROVED EQUAL.
- 5. BOLTS BEARING ON WOOD SHALL HAVE 3" SQ. x 0.229" PLATE WASHERS.
- 6. ALL NAILING SHALL BE COMMON NAIL.
- 7. ALL STUD WALLS SHALL BE 2x @ 16"O.C. (U.N.O)
- 8. PROVIDE DOUBLE JOIST BELOW WALLS.
- 9. PROVIDE 2X6 STUDS @ 16" O.C. FOR ALL PLUMBING WALLS.
- 10. ALL PLYWOOD CONNECTED TO THE FLOOR JOIST SHALL BE GLUED AND NAILED.
- 11. ALL LUMBER EXPOSED TO WEATHER SHALL BE DOUGLAS FIR PRESSURE TREATED OR ALL HEART REDWOOD.

  12. PARALLAM PSL, LVL, AND TJI BEAMS BY TRUSS JOIST MACMILLAN, INSTALLED PER ICC-ES ESR-1387.
- 13. CONECTORS USED ABOVE GRADE SHALL BE TYPE 304 OR 306 STAINLESS STEEL, SILICON BRONZE, COPPER,
- HOT-DIPPED ZINC OR HOT TUMBLED COATED GALVANIZED STEEL NAILS. CRC R3173.

  14. CONNECTIONS FOR MATERIALS IN CONTACT WITH PRESSURE TREATED OR FIRE-RETARDANT TREATED WOOD ARE
- HOT-DIPPED ZINC COATED GAVALNIZED STEEL, STAINLESS STEEL, SILICON BRONZE, OR COPPER COATING TYPES SHALL BE PER MANUFACTURE RECOMMENDATIONS OR AS A MINIMUM CAN BE MECHANICALLY DEPOSITED ZINC-COATED GALVANIZED STEEL. CRC R3173.
- 15. ALL EXT. WALLS SHALL HAVE 15/32" PLYWOOD W/ 10d @ 6" : 12" TYP. UNO.
- 16. ALL ANCHOR BOLTS ARE PROVIDED WITH 3" X 3" X 0.229" STEEL PLATE WASHERS. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO BE EXCEED 1 3/4". PROVIDE A STANDARD OUT WASHER IS PLACED BETWEEN THE PLATER WASHER AND THE NUT, CRC 602.1 1.1

#### PLYWOOD NOTES:

- 1. ALL STRUCTURAL PLYWOOD SHALL BE MANUFACTURED WITH EXTERIOR GLUE AND CONFORM TO PS-1-19. EACH SHEET SHALL BE IDENTIFIED WITH AN A.P.A. GRADE TRADE MARK. SEE DRAWINGS FOR GRADE AND THICKNESS.
- 2. EACH SHEET OF PLYWOOD SHALL CONTAIN A MINIMUM OF 8 SQUARE FEET AND SHALL EXTEND TO 3 BEARINGS MINIMUM WITH FACE GRAIN PERPENDICULAR TO JOISTS.
- 3. ALL UNSUPPORTED PLYWOOD EDGES SHALL BE BLOCKED OR CLEARED.
- 4. THE BUILDING DEPARTMENT SHALL BE NOTIFIED FOR ROOF & FLOOR DIAPHRAGM NAILING INSPECTION.
- 5. PROVIDE DOUBLE JOISTS OR DOUBLE BLOCK AROUND ALL OPENINGS IN ROOF, NO OPENINGS WILL BE PERMITTED IN ROOF OR FLOOR OTHER THAN THOSE SHOWN WITHOUT THE ENGINEER'S APPROVAL.
- 6. ROOF DIAPHRAGM SHALL BE 15/32" SHEATHING, 24/16 SPAN RATING, WITH 10d COMMON NAILS AT 6" O.C. BOUNDARIES AND EDGES, 12" O.C. FIELD, UNO.
  7. FLOOR DIAPHRAGM SHALL BE 3/4" T&G SHEATHING, 24/16 SPAN RATING, WITH 10d COMMON NAILS AT 6"O.C.
- BOUNDARIES AND EDGES, 12" O.C. FIELD. GLUE PLYWOOD TO ALL FLOOR JOIST.
- 8. ALL HORIZONTAL DIAPHRAGMS SHALL BE APA RATED SHEATHING, STRUCTURAL-I.
- 9. UNLESS OTHERWISE NOTED ON PLANS, AT ALL SHEAR WALL LINES, DOUBLE TOP PLATE SHALL HAVE MINIMUM SPLICE OF 48" AND NAILED WITH 2 ROWS OF (4) 16d AT 3" O.C AT EACH SIDE OF SPLICE.

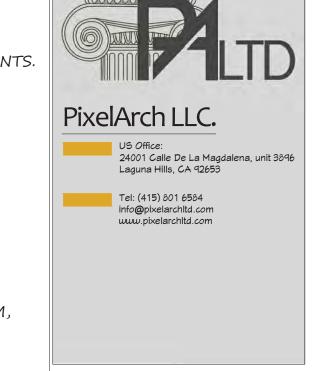
#### SOIL NOTES:

- 1. THE RESPONSIBLE LICENSED GEOTECHNICAL ENGINEER OR ENGINEERING GEOLOGIST SHALL INSPECT AND APPROVE ALL AND EXCAVATIONS PRIOR TO PLACEMENT OF FORMS, REINFORCING STEEL OR CONCRETE. IN CASES INVOLVING CERTIFIED ENGINEERING FILL A GEOTECHNICAL ENGINEER SHALL PROVIDE THE INSPECTION AND APPROVAL.
- 2. IF THE BUILDING INSPECTOR SUSPECTS FILL, EXPANSIVE SOILS OR ANY GEOLOGIC INSTABILITY BASED UPON OBSERVATION OF THE FOUNDATION EXCAVATION, A GEOTECHNICAL REPORT, AND RESUBMITTAL OF PLANS TO CHECK TO VERIFY THAT THE REPORT RECOMMENDATIONS HAVE BEEN INCORPORATED, IS REQUIRED.

#### SPECIAL INSPECTION NOTES:

- 1. INSPECTION SHALL BE IN ACCORDANCE WITH 2022 CALIFORNIA BUILDING CODE. REQUIREMENTS FOR MASONRY, FOUNDATION, FIELD WELDING AND FRAMING WORK.
- 2. MATERIAL TESTING RESULTS AND/OR CERTIFICATIONS SHALL BE PROVIDED TO ARCHITECT FOR CONCRETE, STRUCTURAL STEEL AND FABRICATED FRAMING MEMBERS.
- 3. SPECIAL INSPECTION PER CBC STANDARD IS REQUIRED FOR THE FOLLOWING ITEMS:
  POST-INSTALLED BOLTS IN CONCRETE
  - EPOXY ADHESIVES IN CONCRETE

    WOOD SHEAR WALLS WITH NAILING <= 4" O.C.
- 4. THE SPECIAL INSPECTOR SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO START OF WORK.



PROPOSED HOUSE ADDITION

43 Solitaire Lane, Aliso Viejo CA 92656

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Date	Description	

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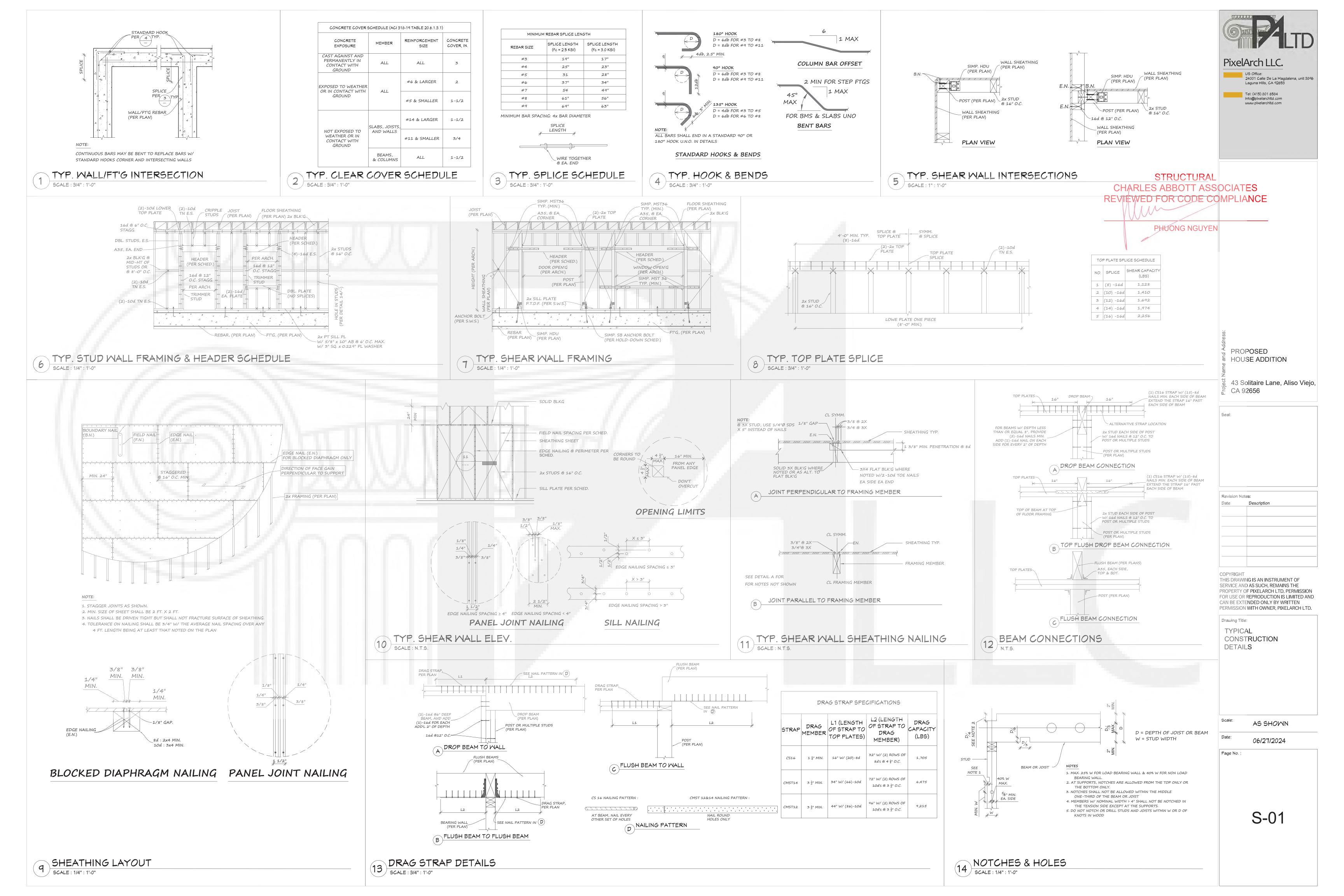
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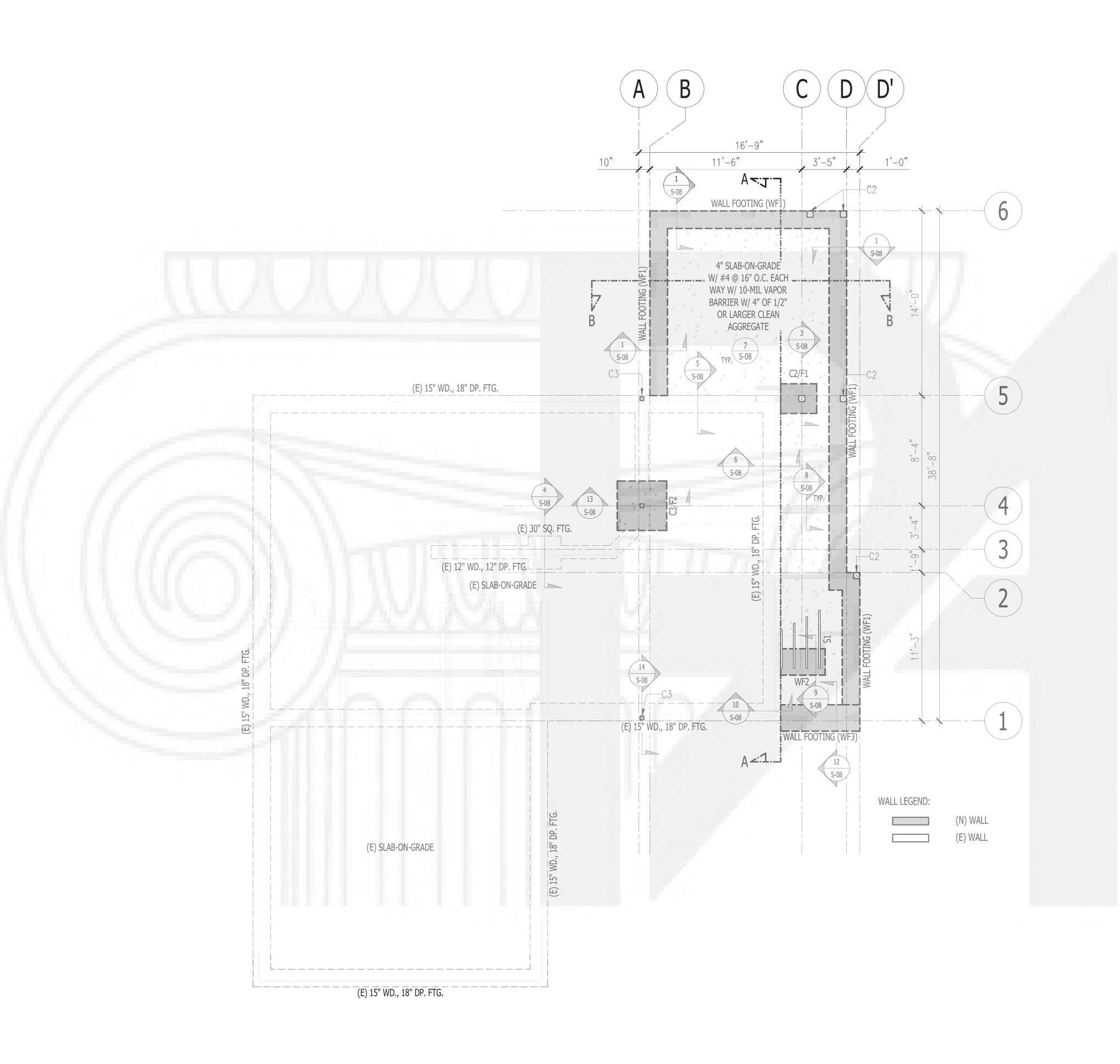
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Date: 06/27/2024

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FOOTING SCHEDULE SIZE & REINF. MARK 16" WD., 24" DP. W/ (2)-#4 T&B WF1 PixelArch LLC. 24" WD., 12" DP. W/ (2)-#4 T&B WF2 Tel: (415) 801 6584 info@pixelarchltd.com www.pixelarchltd.com 2'-0" WIDE, 12" DEEP UNDERPINNING W/ WF3 #4 @ 9" O.C. BOTT., E.W. 2'-3" WD., 2'-9" LONG, 18" DP. W/ (5)-#4 BOTT. E.W. F1 3'-9" WD., 3'-9" LONG, 18" DP. F2 W/ (8)-#4 BOTT. E.W. POST SCHEDULE SIZE MARK 4×4 DF #1 C1 6x6 DF #1 C2 4x4 DF #1 C3 STRINGER SCHEDULE SIZE MARK 2x12 DF #2 @ 12" O.C. S1

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HOUSE ADDITION

43 Solitaire Lane, Aliso Viejo, CA 92656

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Drawing Title: PROPOSED FOUNDATION PLAN

AS SHOWN

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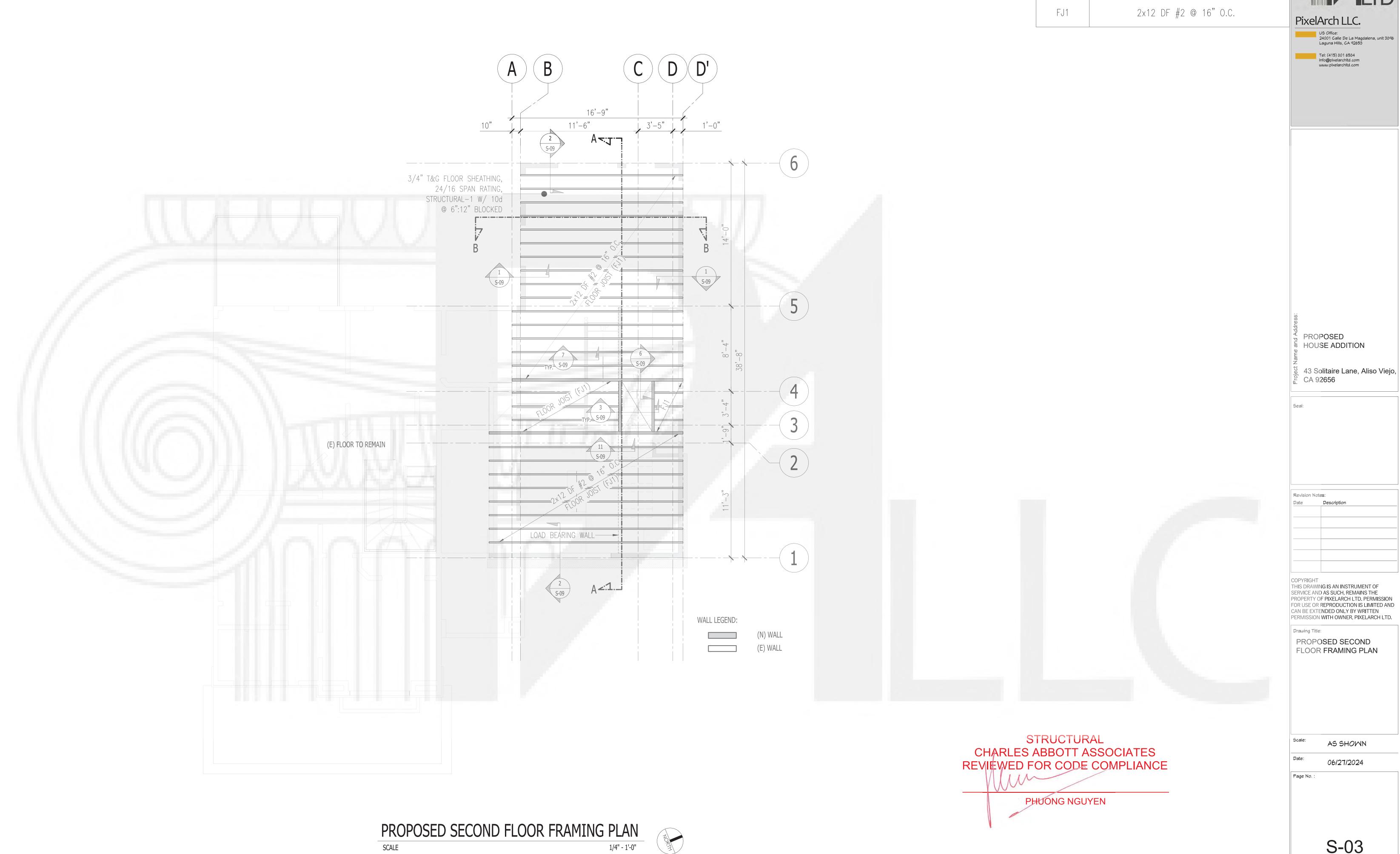
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PROPOSED FOUNDATION PLAN

1/4" - 1'-0"



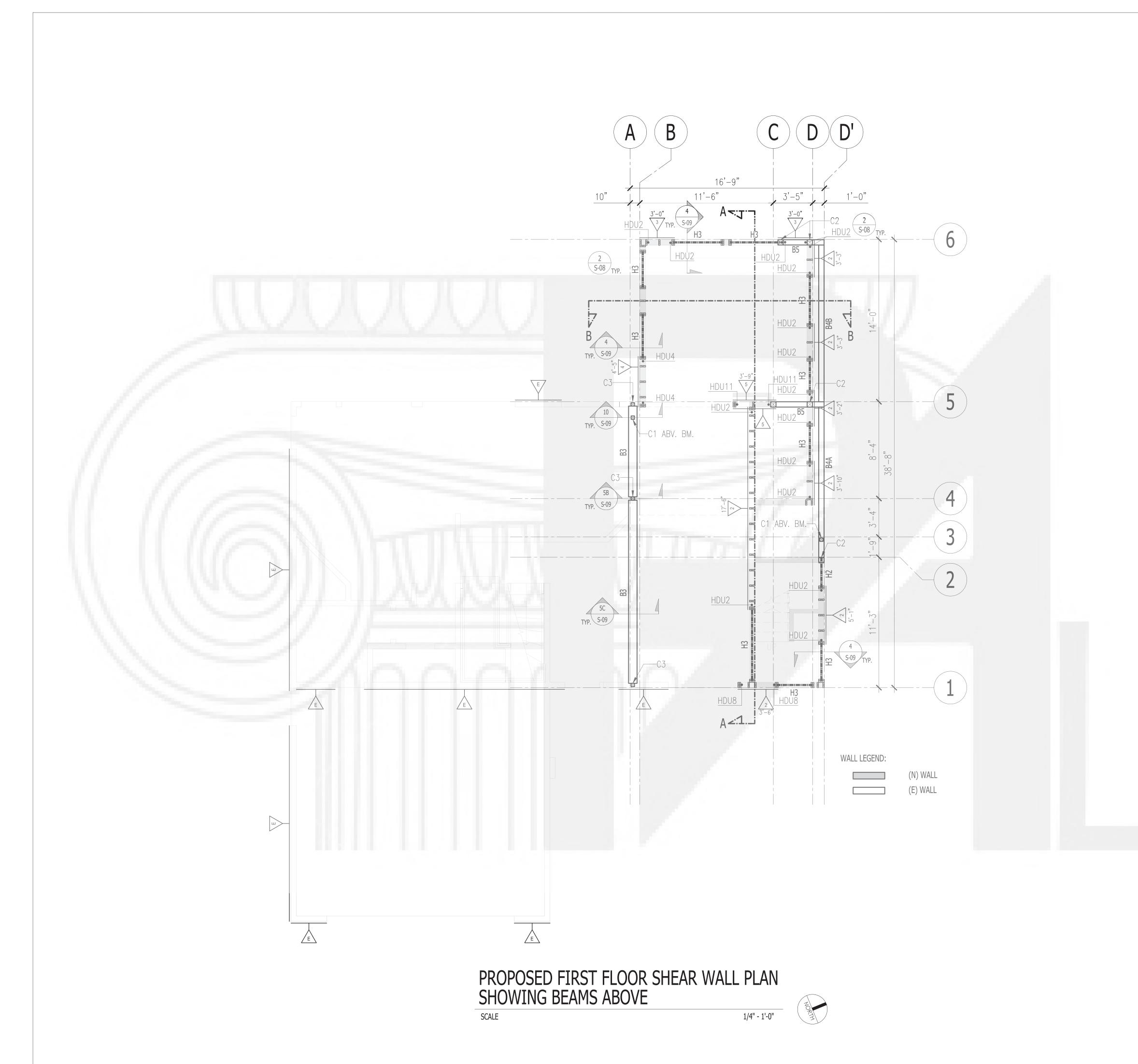


FLOOR JOIST SCHEDULE

MARK

SIZE

S-03



	POST SCHEDULE	11000000
MARK	SIZE	
C1	4x4 DF #1	PixelArch LLC.
C2	6x6 DF #1	US Office: 24001 Calle De La Magdaler Laguna Hills, CA 92653
C3	4x4 DF #1	Tel: (415) 801 6584 info@pixelarchltd.com uww.pixelarchltd.com
	HEADER SCHEDULE	
MARK	SIZE	
H1A	4x10 DF #2	
H1B	4x6 DF #2	
H2	4x4 DF #2	
НЗ	4x6 DF #2	
	BEAM SCHEDULE	
MARK	SIZE	
B1	3.5x11.875" PSL 2.2E	
B2	5.25x11.25" PSL 2.2E	:: 88
B3	8-3/4"x12" 24F-V4 DF GLULAM	PROPOSED HOUSE ADDITION
B4A/B	6x10 DF #1	PROPOSED HOUSE ADDITION  43 Solitaire Lane, Alis CA 92656
B5	6x10 DF #1	© CA 92656
	KING POST SCHEDULE	
MARK	SIZE	
KP1	4x4 DF # 1	

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Date Description

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PROPOSED FIRST
FLOOR SHEAR WALL
PLAN SHOWING BEAMS
ABOVE

AS SHOWN

Date: 06/27/2024

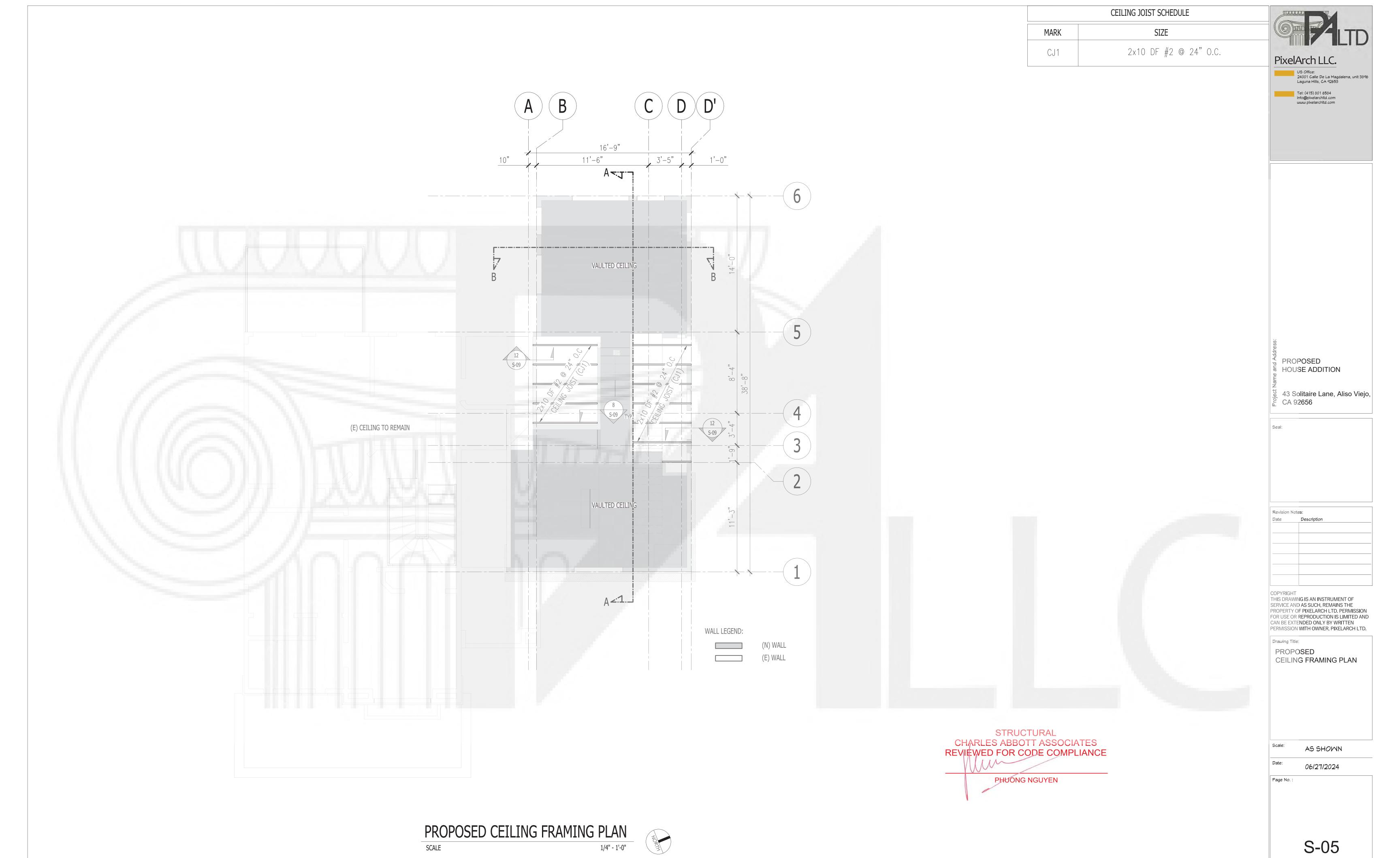
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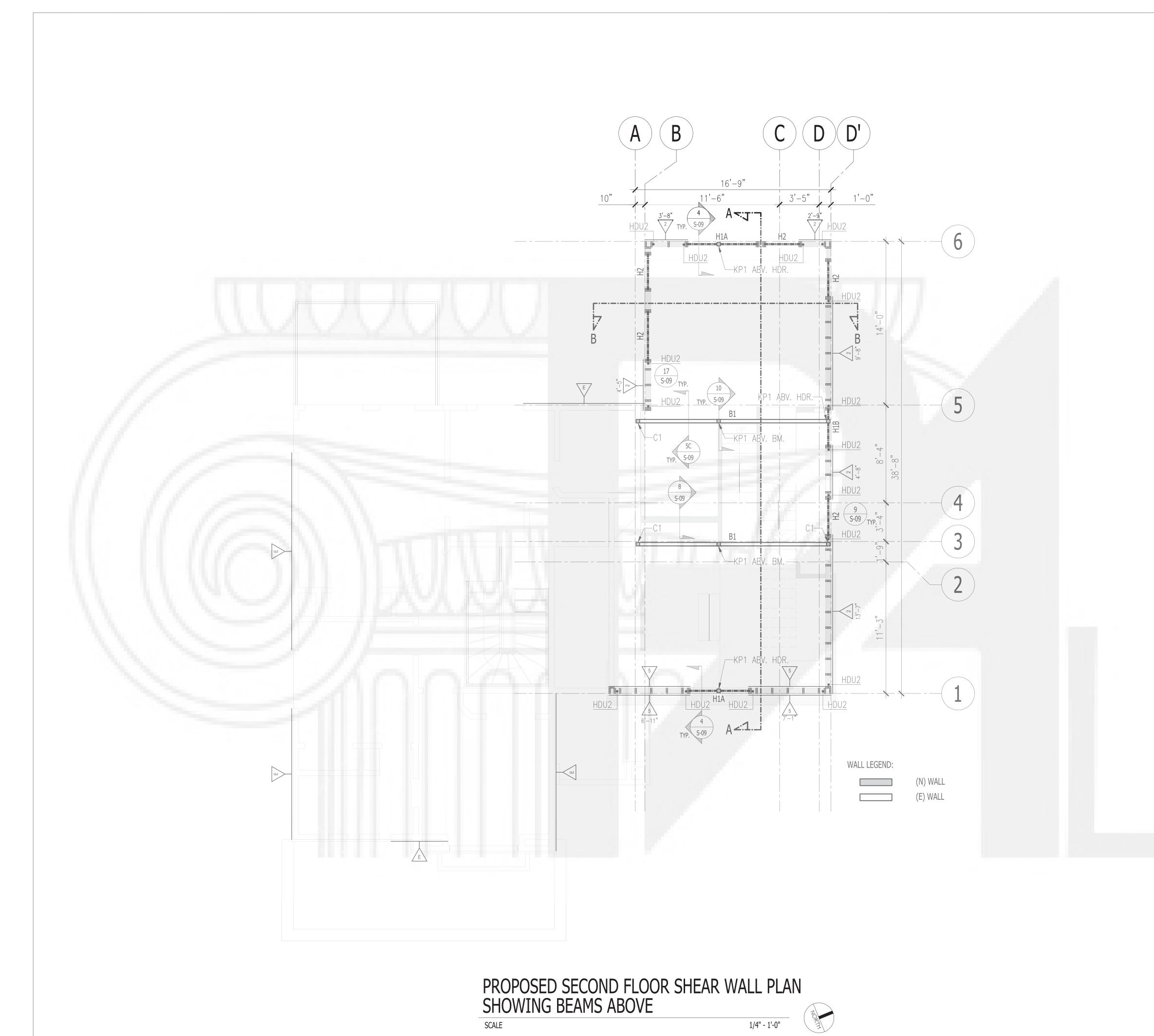
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S-04





	POST SCHEDULE	
CALTE	SIZE	MARK
PixelArch LLC.	4x4 DF #1	C1
US Office: 24001 Calle De La Magdalena, unit 38 Laguna Hills, CA 92653	6x6 DF #1	C2
Tel: (415) 801 6584 info@pixelarchltd.com uuw.pixelarchltd.com	4x4 DF #1	C3
	SIZE	MARK
	4x10 DF #2	Н1А
	4x6 DF #2	H1B
	4×4 DF #2	H2
	4x6 DF #2	Н3
	BEAM SCHEDULE	
	SIZE	MARK
	3.5x11.875" PSL 2.2E	B1
	5.25x11.25" PSL 2.2E	B2
dress:	8-3/4"x12" 24F-V4 DF GLULAM	B3
PROPOSED HOUSE ADDITION  43 Solitaire Lane, Aliso Viej CA 92656	6x10 DF #1	B4A/B
ਪੈਂਡ 43 Solitaire Lane, Aliso Viej CA 92656	6x10 DF #1	B5
Seal:	KING POST SCHEDULE	
	SIZE	MARK
	4x4 DF # 1	KP1

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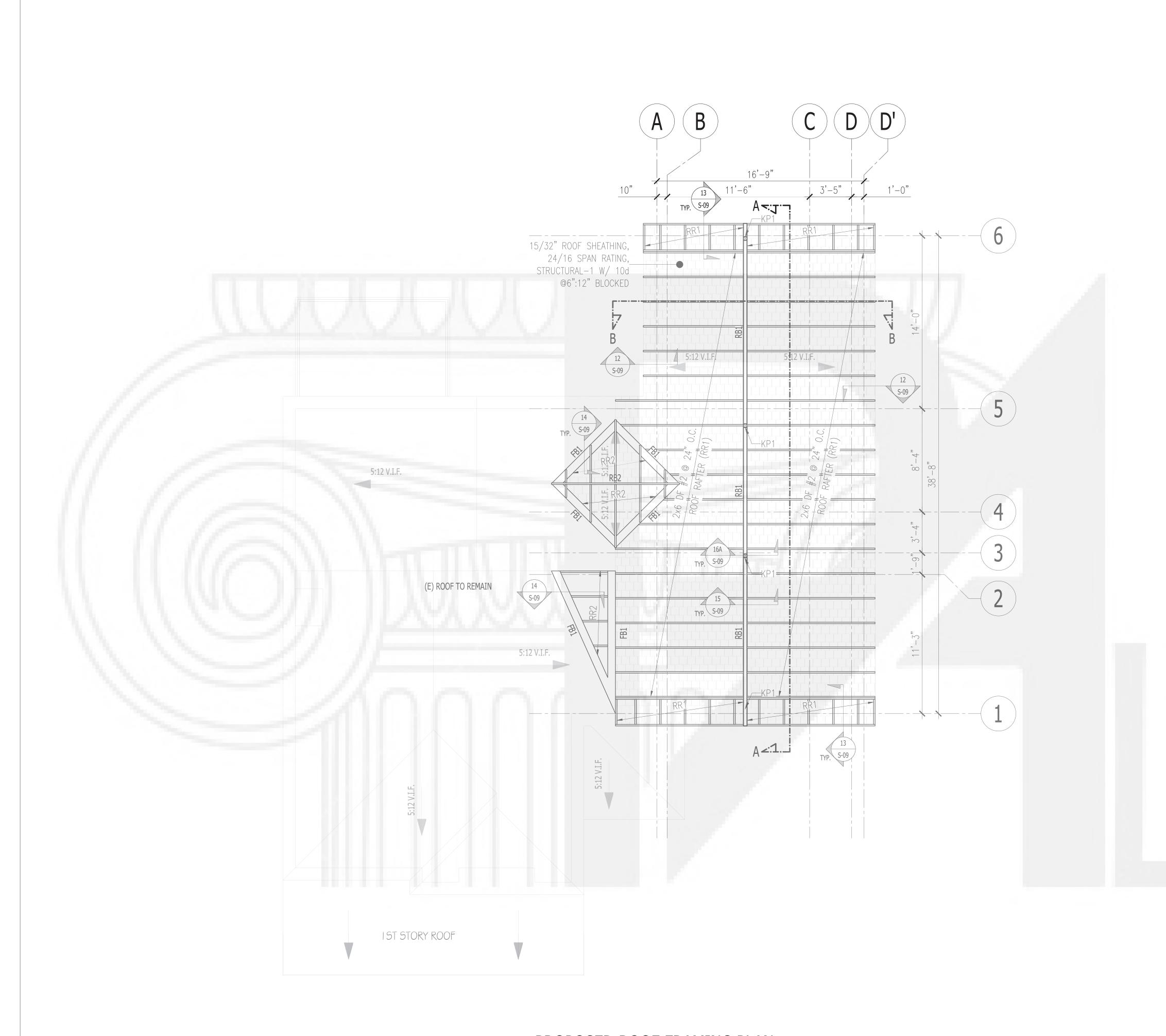
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PROPOSED SECOND FLOOR SHEAR WALL PLAN SHOWING BEAMS ABOVE



KING POST SCHEDULE MARK SIZE 4x4 DF # 1 KP1 PixelArch LLC. US Office: 24001 Calle De La Magdalena, unit 3896 Laguna Hills, CA 92653 FLAT BOARD SCHEDULE Tel: (415) 801 6584 info@pixelarchltd.com www.pixelarchltd.com SIZE MARK 2x8 DF # 2 FB1 RIDGE BEAM SCHEDULE SIZE MARK 4x12 DF #2 RB1 RB2 2x10 DF #2 ROOF RAFTER SCHEDULE SIZE MARK 2x6 DF #2 @ 24" O.C. RR1 2x4 DF #2 @ 24" O.C. RR2

> PROPOSED HOUSE ADDITION

43 Solitaire Lane, Aliso Viejo, CA 92656

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Drawing Title: PROPOSED ROOF FRAMING PLAN

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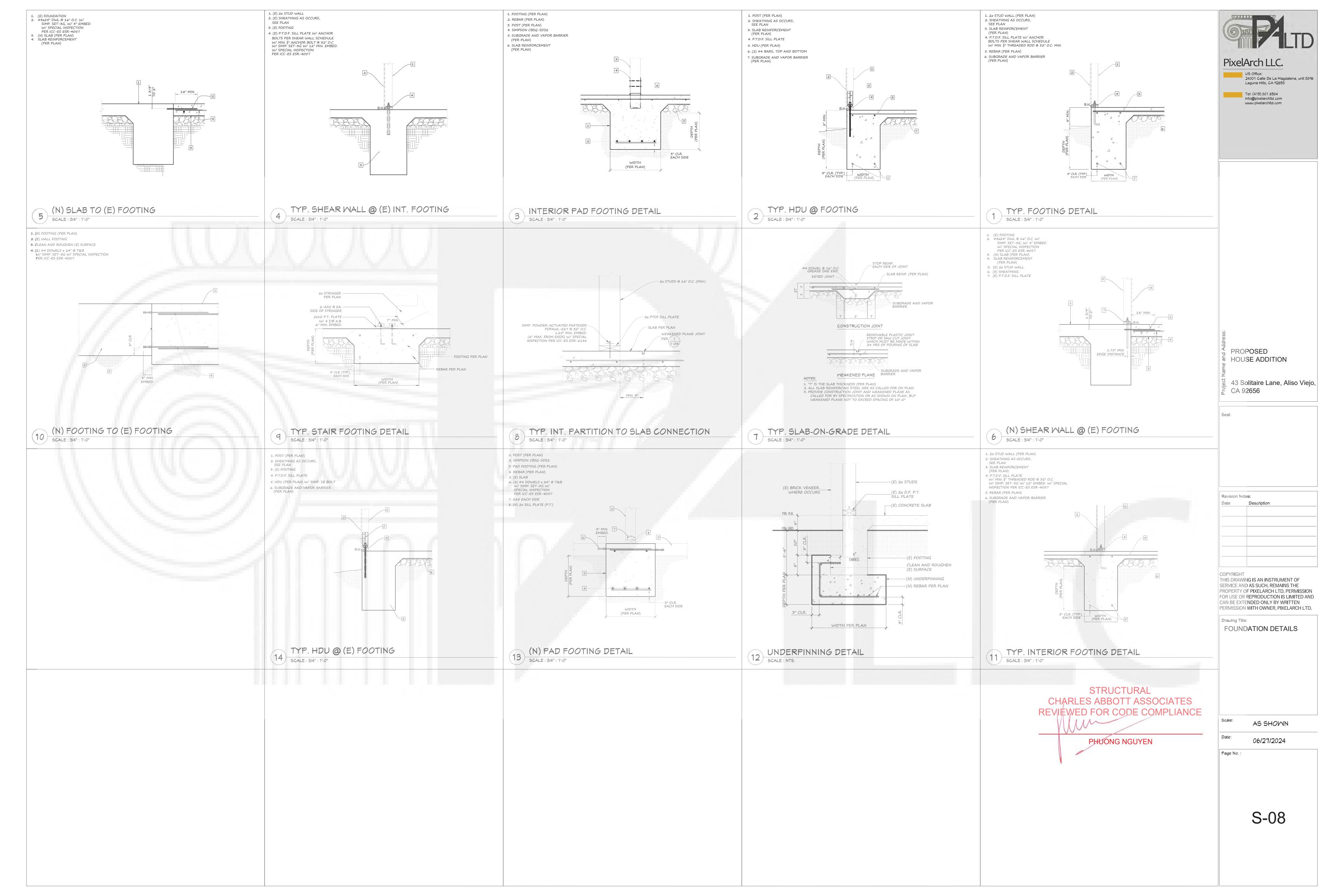
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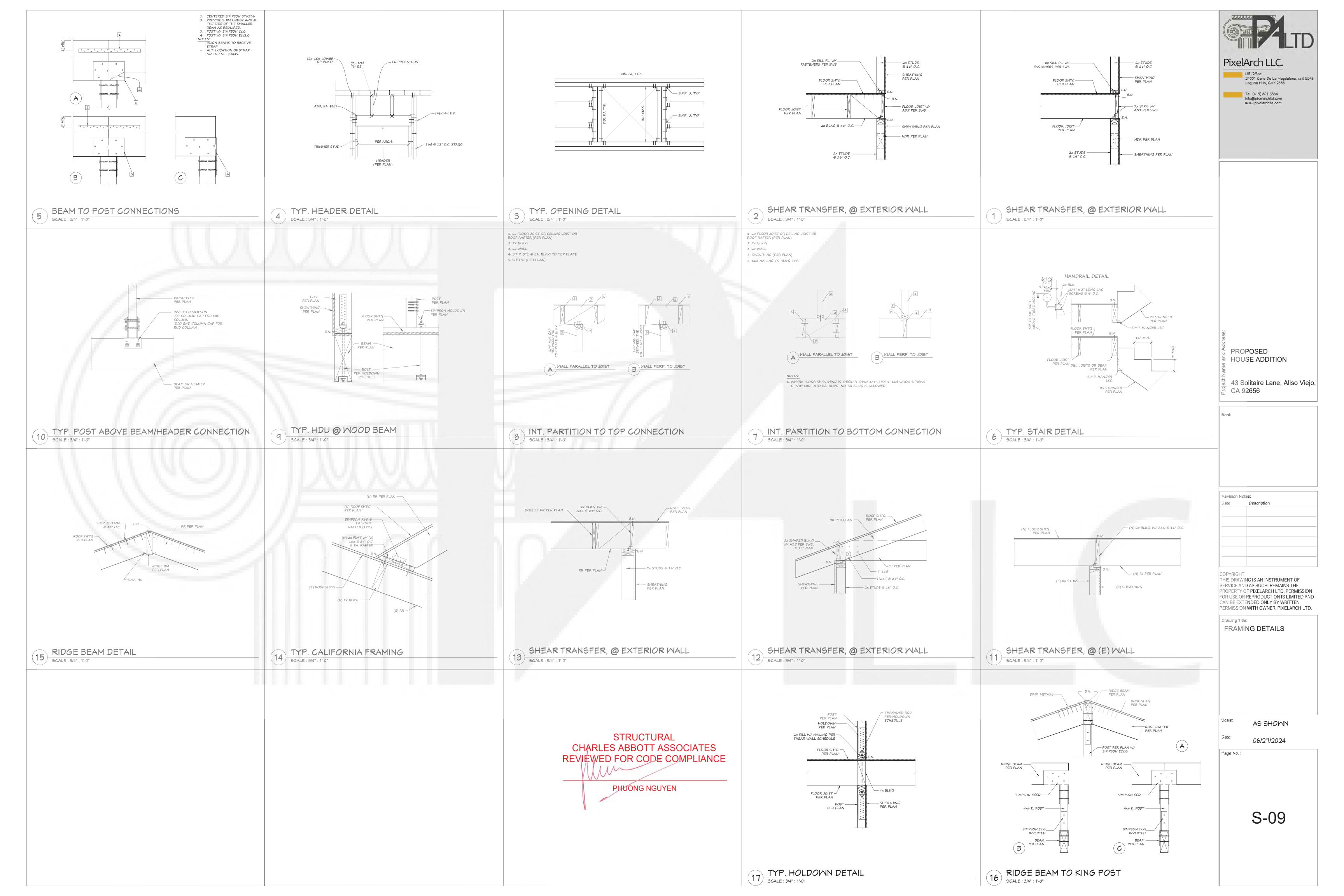
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PROPOSED ROOF FRAMING PLAN

1/4" - 1'-0"







# TABLE R602.3(1) FASTENER SCHEDULE FOR STRUCTURAL MEMBERS (Table reflects 2022 options see code for more options)

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER <sup>a, b, c</sup>	sptions see code for more options)  SPACING OF FASTENERS
	Roof		
1	Blocking between joists or rafters to top plate, toe nail	3-8d $(2\frac{1}{2}" \times 0.113")$	-
2	Ceiling joists to plate, toe nail	3-8d $(2\frac{1}{2}" \times 0.113")$	-
3	Ceiling joists not attached to parallel rafter, laps over partitions, face nail	3-10d	-
4	Collar tie rafter, face nail or $1\frac{1}{4}$ " × 20 gage ridge strap	3-10d (3" × 0.128")	-
5	Rafter to plate, toe nail	$3-16d (3\frac{1}{2}" \times 0.135")$	-
6	Roof rafters to ridge, valley or hip rafters: toe nail face nail	4-16d $(3\frac{1}{2}" \times 0.135")$ 3-16d $(3\frac{1}{2}" \times 0.135")$	-
	Wal		
7	Built-up studs-face nail	10d (3" × 0.128")	24" o.c.
8	Abutting studs at intersecting wall corners, face nail	16d $(3\frac{1}{2}" \times 0.135")$	12" o.c.
9	Built-up header, two pieces with $\frac{1}{2}$ " spacer	16d (3 ½" × 0.135")	16" o.c. along each edge
10	Continued header, two pieces	16d $(3\frac{1}{2}" \times 0.135")$	16" o.c. along each edge
11	Continuous header to stud, toe nail	4-8d (2 ½" × 0.113")	-
12	Double studs, face nail	10d (3" × 0.128")	24" o.c.
13	Double top plates, face nail	10d (3" × 0.128")	24" o.c.
14	Double top plates, minimum 24-inch offset of end joints, face nail in lapped area	8-16d (3 $\frac{1}{2}$ " × 0.135")	-
15	Sole plate to joist or blocking, face nail	16d $(3\frac{1}{2}" \times 0.135")$	16" o.c.
16	Sole plate to joist or blocking at braced wall panels	$3-16d (3\frac{1}{2}" \times 0.135")$	16" o.c.
17	Stud to sole plate, toe nail	3-8d $(2\frac{1}{2}" \times 0.113")$ or 2-16d $(3\frac{1}{2}" \times 0.135")$	
18	Top or sole plate to stud, end nail	2-16d $(3\frac{1}{2}" \times 0.135")$	
19	Top plates, laps at corners and intersections, face nail	2-10d (3" × 0.128") -	
20	1" brace to each stud and plate, face nail	2-8d $(2\frac{1}{2}" \times 0.113")$ 2 staples $1\frac{3}{4}"$	-
21	1" × 6" sheathing to each bearing, face nail	2-8d $(2\frac{1}{2}" \times 0.113")$ 2 staples $1\frac{3}{4}"$	
22	1" × 8" sheathing to each bearing, face nail	2-8d $(2\frac{1}{2}" \times 0.113")$ 3 staples $1\frac{3}{4}"$	
23	Wider than 1" × 8" sheathing to each bearing, face nail	3-8d $(2\frac{1}{2}" \times 0.113")$ 4 staples $1\frac{3}{4}"$	
	Floo		
24	Joist to sill or girder, toe nail	$3-8d \left(2\frac{1}{2}" \times 0.113"\right)$	-
25	Rim Joist to top plate, toe nail (roof applications also)	8d $(2\frac{1}{2}" \times 0.113")$	6" o.c.
26	Rim joist or blocking to sill plate, toe nail	8d $(2\frac{1}{2}" \times 0.113")$	6" o.c.
27	1" × 6" subfloor or less to each joist, face nail	2-8d $(2\frac{1}{2}" \times 0.113")$ 2 staples $1\frac{3}{4}"$	-
28	2" subfloor to joist or girder, blind and face nail	2-16d (3 ½" × 0.135")	-
29	2" planks (plank & beam - floor & roof)	2-16d (3 ½" × 0.135")	at each bearing
30	Built-up girders and beams, 2-inch lumber layers	10d (3" × 0.128")	Nail each layer as follows: 32" o.c. at top and bottom and staggered. Two nails at ends and at each splice.
		3-16d (3 ½"× 0.135")	<del>-</del>

### TABLE R602.3(1) – continued – FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

			SPACING OF	<b>FASTENERS</b>	
ITEM	DESCRIPTION OF BUILDING MATERIALS DESCRIPTION OF FASTENER <sup>b, c, e</sup>		Edges (inches) <sup>i</sup>	Intermediate supports <sup>c, e</sup> (inches)	
Wood	d structural panels, su	ubfloor, roof and interior wall sheathing to framing and par framing	ticleboard wall s	sheathing to	
32	3" - 1"	6d common (2" × 0.113") nail (subfloor wall) <sup>j</sup> 8d common (2 $\frac{1}{2}$ " × 0.131") nail (roof)	6	12 <sup>9</sup>	
33	<del>19</del> " - 1"	8d common nail $(2\frac{1}{2}" \times 0.131")$	6	12 <sup>g</sup>	
34	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10d common (3" × 0.148") nail or 8d (2 $\frac{1}{2}$ " × 0.131") deformed nail	6 12		
		Other wall sheathing <sup>h</sup>			
35	½" structural cellulosic fiberboard sheathing	½" galvanized roofing nail, ½" crown or 1" crown staple 16 ga., 1½" long	3	6	
36	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		6		
37	½" gypsum sheathing <sup>d</sup>	$1\frac{1}{2}$ " galvanized roofing nail; staple galvanized, $1\frac{1}{2}$ " long; $1\frac{1}{4}$ screws, Type W or S	7	7	
38	5/8" gypsum sheathing <sup>d</sup>	$1\frac{3}{4}$ " galvanized roofing nail; staple galvanized, $1\frac{5}{8}$ " long; $1\frac{5}{8}$ " screws, Type W or S	7	7	
	W	lood structural panels, combination subfloor underlaymen	t to framing		
39	<sup>3</sup> / <sub>4</sub> " and less	6d deformed (2" × 0.120") nail or 8d common (21/2" × 0.131") nail	6	12	
40	<del>7</del> 8"- 1"	8d common (21/2" × 0.131") nail or 8d deformed (21/2" × 0.120") nail	6	12	
41	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10d common (3" × 0.148") nail or 8d deformed (2 ½" × 0.120") nail	6	12	

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1ksi = 6.895 MPa.

- a. All nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.
- b. Staples are 16 gage wire and have a minimum 7/16-inch on diameter crown width.
- c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.
- d. Four-foot-by-8-foot or 4-foot-by-9-foot panels shall be applied vertically.
- e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).
- f. For regions having basic wind speed of 110 mph or greater, 8d deformed (21/2"  $\times$  0.120) nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25 feet, up to 35 feet maximum.
- g. For regions having basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from ridges, eaves and gable end walls; and 4 inches on center to gable end wall framing.
- h. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C 208.
- i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.
- j. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.



Name and Addres	PROPOSED HOUSE ADDITION	
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43 Solitaire Lane, Aliso Viejo, CA 92656

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FASTENING SCHEDULE

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	ELECTRICAL LEGEND
SYMBOL	DESCRIPTION
\$	SINGLE POLE SWITCH AND BOX, WALL MOUNTED +44" AFF. LOWER CASE LETTER INDICATES CIRCUIT CONTROLLED BY SWITCH.  WALL MOUNTED DIMMER SWITCH, 0-10V DIMMING WITH ON-OFF
\$LV	SWITCH.  WALL MOUNTED 2 WAY ON, CENTER OFF LOW VOLTAGE SWITCH FOR LCP CONTROLLER LIGHTS.
ф	RECEPTACLE, DUPLEX 20A, 120V GRD, NEMA 5-20R +18"AFF U.O.N.(WP=WEATHERPROOF, GFCI=GROUND FAULT CIRCUIT
П	INTERRUPTER) DEDICATE RECEPTACLE, DUPLEX 20A, 120V GRD, NEMA 5-20R +18"AFF U.O.N. (WP=WEATHERPROOF, GFI=GROUND FAULT CIRCUIT INTERRUPTER)
USB	USB RECEPTACLE, DUPLEX 20A, 120V GRD, NEMA 5—20R +42"AFF U.O.N.
Φ	RECEPTACLE, SINGLE, 20A, 120V GRD, NEMA 5—20R +18"AFF UON.
$\bigoplus$	RECEPTACLE, DOUBLE DUPLEX (2) 20A, 120V, GRD — NEMA (2) 5—20R +18"AFF U.O.N.
	RECEPTACLE DUPLEX 20A, 120V GRD NEMA 5—20R CEILING MOUNTED.FOR GARAGE DOOR OPENER
	RECEPTACLE DOUBLE DUPLEX (2) 20A, 120V GRD, NEMA 5—20R UON. FLOOR MOUNTED.
V	2 PORT VOICE/ DATA OUTLET, WALL MOUNT +18" AFF PROVIDE RING & STRING TO PULL CABLES THRU HOLLOW WALL. VOICE/DATA WIRING BY TELECOM SYSTEM INSTALLER.
TV	TV OUTLET, WALL MOUNT +60" AFF PROVIDE RING & STRING TO PULL CABLES THRU HOLLOW WALL.
	COMBINATION 4—PLEX RECEPTACLE, NEMA 5—20R DOUBLE DUPLEX (1 DUPLEX AUTO CONTROLLED BY OCCUPANCY SENSOR PER T24, (1) DUPLEX UNCONTROLLED), & TYPE 6 VOICE/DATA OUTLET, FLOOR MOUNTED. PROVIDE MIN. 3/4" TEL/DATA CONDUIT WITH PULL WIRES.
9	4-PLEX RECEPTACLE, NEMA 5-20R DOUBLE DUPLEX (1 DUPLEX AUTO CONTROLLED BY OCCUPANCY SENSOR PER T24, (1) DUPLEX UNCONTROLLED), +18"AFF, U.O.N. SEE NOTE 2.
P	DUPLEX RECEPTACLE, NEMA 5-20R OCCUPANCY SENSOR CONTROLLED, +18"AFF. SEE NOTE 2.
GFCI	GFCI DUPLEX RECEPTACLE ABOVE COUNTER LEVEL, NEMA 5-20R.
GFCI	GFCI DUPLEX RECEPTACLE ABOVE COUNTER LEVEL, VACANCY SENSOR CONTROLLED, NEMA 5-20R.
	SPECIAL PURPOSE CONNECTION FOR ELECTRICAL EQUIPMENT. VERIFY CONNECTION TYPE AND WIRING REQUIREMENTS PRIOR TO ROUGH—IN.
₽ <sup>EP</sup>	CLASS 1, DIVISION 1 RATED EXPLOSION—PROOF OUTLET. SEE ADDITIONAL NOTES ON SHEET E3.1.
$\bigoplus$	RECEPTACLE, 120V/240V, 3PH, 4W, GRD, RATING AS INDICATED IN PLANS.
<b></b>	RECEPTACLE 20A, 480V, 3PH, 4W, GRD, NEMA L22-20R, +18"AFF UON.
<b>Q</b>	DUPLEX RECEPTACLE 20A, 120V, GND (5-20R U.O.N), SUSPENDED BY TYPE S.O. CORD WITH GRIPS AT EACH END.
	DOUBLE DUPLEX RECEPTACLE 20A, 120V, GND (5-20R U.O.N), SUSPENDED BY TYPE S.O. CORD WITH GRIPS AT EACH END.
	TWIST-LOCK RECEPTACLE 20, 250V, SINGLE PHASE (L6-20R U.O.N), SUSPENDED BY TYPE S.O. CORD WITH GRIPS AT EACH END.
<u>(S)</u>	OCCUPANCY SENSOR LOW VOLTAGE CEILING MOUNTED FOR ROOM CONTROLLER.
<u> </u>	OCCUPANCY SENSOR LOW VOLTAGE WALL MOUNTED FOR ROOM CONTROLLER.
(DS)	CEILING MOUNTED DAYLIGHT SENSOR.  JUNCTION BOX CEILING MOUNTED, SIZE TO CODE, TAPE AND TAG
<u></u>	WIRES.  JUNCTION BOX WALL MOUNTED, SIZE TO CODE, TAPE AND TAG WIRES.
	ELECTRICAL PANELBOARD, SURFACE OR FLUSH MOUNTED (277/480V).
	ELECTRICAL PANELBOARD, SURFACE OR FLUSH MOUNTED (120/208V).
	SPECIAL PURPOSE ELECTRICAL PANELBOARD, SURFACE OR FLUSH MOUNTED.
	TRANSFORMER - DRY TYPE.
	FUSED DISCONNECT SWITCH WITH DUAL ELEMENT FUSES. SWITCH AND FUSES RATING PER NAMEPLATE OF SERVED UNIT.
	NON-FUSED DISCONNECT SWITCH, RATING PER NAMEPLATE OF SERVED UNIT.  MAGNETIC MOTOR STARTER, NEMA RATING AS REQUIRED PER SERVED UNIT.
M	MOTOR OUTLET AND FLEX CONNECTION TO MOTOR.
P	WALL MOUNTED JUNCTION BOX FOR PRE-WIRED FURNITURE POWER SYSTEM CONNECTION. PROVIDE POWER WHIP WITH TERMINATION PLUG TO MATCH FURNITURE SYSTEM CONNECTOR. LOCATE BOX AS LOW AS POSSIBLE. FIELD COORDINATE FINAL LOCATION.
C	COMBINATION TELEPHONE AND DATA OUTLET, WALL MOUNTED AS LOW AS POSSIBLE FOR FLEXIBLE CONNECTION TO FURNITURE SYSTEM.
C P	FLOOR MOUNTED FURNITURE FEEDS W/POWER & TELE/DATA PORT CAPACITY FOR ELECTRIFIED DESKS PER CLIENT'S REQUIREMENTS.
T T CP	POWER POLES W/POWER & TELE/DATA PORT CAPACITY FOR ELECTRIFIED DESKS PER CLIENT'S REQUIREMENTS.

IN THIS PROJECT.

. MOUNTING HEIGHT INDICATED ARE AFF TO CENTER OF PLATE.

INCASE OF CONFLICT, GENERAL NOTES 41 & 42 SHALL PREVAIL

NOT ALL SYMBOLS AND ABBREVIATIONS ARE NECESSARILY USE

#### **GENERAL NOTES**

- I. WORKMANSHIP SHALL BE OF THE HIGHEST ORDER, PER NEC ARTICLE 110-12. ANY DEFECTIVE OR DAMAGED EQUIPMENT SHALL BE REPLACED OR REPAIRED IN A MANNER MEETING WITH THE APPROVAL OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER. ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH NECA STANDARDS OF INSTALLATION. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS
- SCALE THE ELECTRICAL PLANS FOR LOCATIONS OF ANY ELECTRICAL. FEATURES.
- . THE ELECTRICAL PLANS SHOW CONCEPTUAL UNDERGROUND CONDUIT ROUTING FOR CLARITY ONLY. THE CONTRACTOR HAS THE OPTION TO INSTALL UNDERGROUND CONDUIT IN A MANNER ALLOWING THE SHORTEST POSSIBLE CONDUIT LENGTH.
- 4. ALL EXISTING ELECTRICAL INFORMATION. POWER AND SIGNALS. SHOWN HEREIN HAS BEEN COMPILED FROM PREVIOUS 'AS-BUILT' CONSTRUCTION DOCUMENTS AND/OR INFORMATION PROVIDED BY THE OWNER'S FACILITIES PERSONNEL. IT HAS NOT NECESSARILY BEEN PHYSICALLY FIELD VERIFIED BY THIS ENGINEER. USE AND APPLICATION OF THIS INFORMATION SHALL BE CONFINED TO THE PROJECT FOR
- 6. WORKING CLEARANCES ABOUT ELECTRICAL EQUIPMENT SHALL COMPLY WITH THE REQUIREMENTS OF NEC ARTICLE 110 AND ARTICLE 408.18. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF WORKING CLEARANCES FOR EQUIPMENT INSTALLED AS PART OF THIS CONTRACT.
- . THE ELECTRICAL CONTRACTOR SHALL PERFORM ANY AND ALL TRENCHING, EXCAVATION AND BACKFILLING AND FURNISH ALL NECESSARY SCAFFOLDING, STAGING, RIGGING AND HOISTING REQUIRED FOR THE INSTALLATION OF HIS WORK. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S
- 8. ALL EQUIPMENT/MATERIALS REMOVED SHALL BECOME PROPERTY OF THE OWNER.
- 9. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED LIGHTING FIXTURES. THE ELECTRICAL CONTRACTOR SHALL WITH THE CEILING SYSTEM AND SPACE WHICH THEY ARE INTENDED TO BE INSTALLED TO. LIGHTING FIXTURE MOUNTING SUPPORT AND LOCATIONS SHALL BE PER NEC ARTICLE 410 REQUIREMENTS.
- 0. COORDINATE ELECTRICAL PANEL AND TERMINAL CABINET LOCATIONS AND ROUTING OF UNDERGROUND CONDUITS WITH FRAMING CONTRACTOR PRIOR TO BEGINNING ANY ROUGH-IN WORK FOR THIS EQUIPMENT.
- 2. PER CBC 714.3.2 EXCEPTIONS: ALL OUTLET BOXES IN FIRE RESISTIVE ASSEMBLIES SHALL BE CONSTRUCTED OF STEEL, MAXIMUM OF 16 SQUARE INCHES IN VOLUME AND BE SEPARATED BY A MINIMUM OF 24" HORIZONTALLY WHEN INSTALLED IN COMMON SPACE. ALL PENETRATIONS OF FIRE RATED ASSEMBLIES SHALL BE PROVIDED WITH FIRE STOP MATERIALS OF AN APPROVED, LISTED FIRE STOP
- RACEWAY TO ALLOW FUTURE ADDITION OF CONDUCTORS.
- . PROVIDE ONE STANDARD (INDOOR) OR ONE WEATHERPROOF (OUTDOOR), 125-VOLT, GROUND FAULT CIRCUIT INTERRUPTING, SINGLE-PHASE, 20-AMPERE-RATED RECEPTACLE OUTLET AT AN ACCESSIBLE LOCATION, ON THE SAME LEVEL WITHIN 25' OF ALL EXTERIOR MOUNTED HVAC FOUIPMENT. THI RECEPTACLE OUTLET SHALL NOT BE CONNECTED TO THE LOAD SIDE OF THE EQUIPMENT DISCONNECTING MEANS, PER NEC 210.63.
- FIXTURES DEVICES AND EQUIPMENT SO MOUNTED SHALL BE UL APPROVED FOR MEET THE REQUIREMENTS OF NEC ARTICLE 406.8.
- SO THAT THE ENTIRE SYSTEM IS INSTALLED IN ACCORDANCE WITH THE TELEPHONE COMPANY'S STANDARDS AND POLICIES. 7. ALL TELECOMMUNICATIONS RACEWAY AND CABLING TO BE INSTALLED PER NEC
- 18. ALL LIGHT SWITCHES MUST BE EFFECTIVELY GROUNDED PER NEC 380.9(b).
- 19. ALL BRANCH CIRCUITS SHALL BE IN METAL RACEWAYS, FLEXIBLE METAL RACEWAYS AND/OR TYPE MC CABLE CONTAINING AN INSULATED EQUIPMENT GROUNDING CONDUCTOR. ALL INSTALLED ELECTRICAL WIRING SHALL CONFORM TO THE

- ARCHITECTURAL, STRUCTURAL, CIVIL, OR MECHANICAL EQUIPMENT, ITEMS OR
- WHICH IT IS INTENDED.
- 5. ALL EQUIPMENT SHALL HAVE AN INDEPENDENT TESTING LABORATORY LABEL (U.L., C.S.A., ETC.) AS REQUIRED BY NEC ARTICLE 110-2 AND 110-3, PROVIDE EVIDENCE OF COMPLIANCE WITH THIS REQUIREMENT WITH EQUIPMENT SUBMITTALS. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO ISSUING PURCHASE ORDERS IF EQUIPMENT PROPOSED IS NOT COMPLIANT WITH THIS REQUIREMENT. WHERE FIELD CERTIFIED PRODUCTS MAY BE REQUIRED FOR FIELD ASSEMBLED COMPONENTS, PROVIDE CERTIFIED REPORT BY AN APPROVED TESTING AGENCY ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. ALL TESTING FEES SHALL BE INCLUDED IN ELECTRICAL CONTRACTOR'S BID.

- . MOTOR DISCONNECT SWITCHES SHALL COMPLY WITH NEC ARTICLES 430 AND 440. ALL CONNECTIONS FROM DISCONNECT SWITCHES TO HVAC UNITS SHALL BE MADE WITH COPPER CONDUCTORS. ALL DISCONNECT SWITCH DEVICES CONTROLLING MECHANICAL EQUIPMENT SHALL BE OF THE SIZE AND TYPE REQUIRED. FUSE ALL HVAC EQUIPMENT PER UNIT NAMEPLATE SPECIFICATIONS. FIELD VERIFY ALL.
- 3. PROVIDE 3/8" NYLON PULL ROPE OR PULL TAPE IN ALL NEW SPARE CONDUIT AND
- 15. ALL FIXTURES. OUTLETS AND EQUIPMENT MOUNTED IN/ON THE BUILDING EXTERIOR SHALL BE UL APPROVED FOR WET LOCATION INSTALLATION. PARTIALLY PROTECTED DAMP LOCATION INSTALLATION. RECEPTACLES IN DAMP OR WET LOCATIONS SHALL 34. ALL WIRING FOR EQUIPMENT SHALL BE ONE OF THE FOLLOWING TYPES THW, THHW,
- REQUIRED. THE CONTRACTOR SHALL COORDINATE WITH THE TELEPHONE COMPANY
- ARTICLE 800.

- 2. ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY. ALL CONDUIT SHALL BE ROUTED CONCEALED UNLESS NOTED ON PLAN OR APPROVED BY THE ARCHITECT AND/OR ENGINEER. ROUTING OF RACEWAYS SHALL BE AT THE OPTION OF THE ELECTRICAL CONTRACTOR. UON, AND SHALL BE COORDINATED WITH OTHER TRADES. DO NOT

- REQUIREMENTS OF ALL APPLICABLE SAFETY CODES.

- 20. PROVIDE DEDICATED NEUTRAL (GROUNDED) CONDUCTOR FOR ALL BRANCH CIRCUITS. NO MULTI-WIRE BRANCH CIRCUITS ARE ALLOWED.
- PROVIDED WITH BLANK WALL PLATES. 22. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE AN INSULATED GREEN

21. ALL WALL OUTLETS NOT PROVIDED WITH A DEVICE BY THIS CONTRACTOR SHALL BE

- COVERED GROUND WIRE SIZED PER NEC TABLE 250.122 OR AS SHOWN, CONNECT TO EACH DEVICE AND OUTLET BOX ON THE CIRCUIT AND TO THE PANELBOARD
- 23. CONNECTION TO EQUIPMENT SHALL BE FLEXIBLE METAL CONDUIT EXCEPT IN WET OR DAMP LOCATIONS USE LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
- 24 PROVIDE GROUNDING FOR SERVICE ALL CONDUITS MOTOR FRAMES METAL CASINGS. RECEPTACLES, SYSTEM NEUTRAL, ETC. AND AS REQUIRED BY NEC AS MINIMUM. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS. CONTRACTOR SHALL SUBMIT GROUNDING TEST REPORT.
- 25. ALL CONDUITS CROSSING EXPANSION JOINTS SHALL HAVE EXPANSION TYPE
- 26. ALL EXTERIOR WIRING SHALL BE RUN IN RIGID GALVANIZED CONDUIT OR EMT. FLEXIBLE CONDUIT MAY ONLY BE USED FOR FINAL CONNECTIONS FROM OUTLET BOXES TO LIGHT FIXTURES, MOTORS, APPLIANCES, ETC, FLEXIBLE CONDUIT MAY ONLY BE USED FOR THESE FINAL CONNECTIONS IF ALLOWED BY LOCAL AHJ AND IF THE OVERALL LENGTH IS 6 FEET OR LESS.
- 27. ALL UNDER FLOOR CONDUIT INSTALLATIONS SHALL BE RUN BELOW, NOT IN, THE SLAB. THE MINIMUM INDOOR CONDUIT SIZE SHALL BE 3/4". THE MINIMUM OUTDOOR UNDERGROUND CONDUIT SIZE SHALL BE 1". FEEDER CONDUITS EXTERIOR TO THE BUILDING FOUNDATION WALL BELOW GRADE SHALL BE SIZED AS SHOWN ON THE DRAWING. OUTDOOR EXPOSED CONDUIT SHALL BE GALV RIGID CONDUIT. UNDERGROUND AND/OR UNDER FLOOR CONDUIT SHALL BE SCHED 40 NONMETALLIC RIGID CONDUIT. CONNECTION TO EQUIPMENT SHALL BE LIQUID-TIGHT FLEXIBLE METAL CONDUIT. WHERE RIGID NON-METALLIC CONDUIT IS USED BELOW THE SLAB PROVIDE RIGID METALLIC CONDUIT TO TURN UP INTO THE BUILDING SPACE OR AT ALL EXTERIOR WALLS AND/OR EQUIPMENT. USE RACEWAY FITTINGS COMPATIBLE WITH RACEWAY AND SUITABLE FOR USE AND LOCATION. RUN CONCEALED RACEWAYS WITH A MINIMUM NUMBER OF BENDS AND THE SHORTEST PRACTICAL DISTANCE CONSIDERING THE TYPE OF BUILDING CONSTRUCTION AND OBSTRUCTIONS. RACEWAYS SHALL RUN PARALLEL TO OR AT RIGHT ANGLES TO NEARBY SURFACES OR STRUCTURAL MEMBERS, AND FOLLOW THE SURFACE CONTOURS AS MUCH AS PRACTICAL.
- 28. ALL UNDERGROUND RACEWAYS SHALL BE IDENTIFIED BY "UNDERGROUND LINE MARKING TAPE" LOCATED 12" DIRECTLY ABOVE THE RACEWAY. TAPE SHALL BE PERMANENT, BRIGHT-COLORED, CONTINUOUS, MAGNETIC STRIP, PRINTED, PLASTIC TAPE COMPOUNDED FOR DIRECT BURIAL NOT LESS THAN 6" WIDE AND 4 MILS THICK. PRINTED LEGEND SHALL BE INDICATIVE OF THE SERVICE IT IS MARKING.
- VERIFY THAT ALL LIGHTING FIXTURES, CEILING TRIMS AND FRAMES ARE COMPATIBLE 29. PROVIDE GROUNDING CONNECTIONS FOR RACEWAY, BOXES, AND COMPONENTS AS INDICATED AND INSTRUCTED BY MANUFACTURER. TIGHTEN CONNECTIONS AND TERMINALS, INCLUDING SCREWS AND BOLTS, ACCORDING TO EQUIPMENT MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES FOR EQUIPMENT CONNECTORS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTORS AND TERMINALS ACCORDING TO TIGHTENING TORQUES SPECIFIED IN UL STANDARD 486A
  - 30. ALL NEW PANELBOARDS/LOADCENTERS SHALL BE FURNISHED BASED ON THE TYPE, RATING, ENCLOSURES AND FEATURES INDICATED ON THE PLANS. CABINET SHALL BE CODE GAUGE, GALVANIZED STEEL. FRONTS SHALL BE SHEET STEEL WITH GRAY LACQUER FINISH WITH HINGED LOCKING DOOR. GROUND AND NEUTRAL BUS SHALL BE AS INDICATED ON THE PLANS. BUS SHALL BE COPPER OR ALUMINUM. MAIN AND NEUTRAL LUGS SHALL BE BOLT-ON TYPE. EQUIPMENT GROUND BUS SHALL BE ADEQUATE FOR FEEDER AND BRANCH-CIRCUIT EQUIPMENT GROUND CONDUCTORS AND BONDED TO BOX. TANDEM CIRCUIT BREAKERS SHALL NOT BE USED. MULTI-POLE BREAKERS SHALL HAVE A COMMON TRIP. THE MINIMUM INTERRUPTING RATING FOR CIRCUIT BREAKERS SHALL BE AS INDICATED ON THE PLANS. FOR FLUSH MOUNTED PANELS PROVIDE A MINIMUM OF (4) - 1" CONDUITS STUBBED AN ACCESSIBLE LOCATION IN ATTIC FOR FUTURE USE, UON.
  - 31. PROVIDE PERMANENT PLASTIC ENGRAVED. MECHANICALLY FASTENED NAME PLATE ON EACH PANEL AND DISCONNECTING DEVICE. PROVIDE TYPE WRITTEN PANEL SCHEDULE FOR EACH PANEL INSTALLED OR MODIFIED.
  - 32. ADDITIONALLY, PROVIDE PERMANENT PLASTIC ENGRAVED, MECHANICALLY FASTENED NAME PLATE ON EACH SUB-PANEL OR TRANSFORMER WITH THE WORDING "FED FROM PANEL ", NOTING THE PANEL NAME OF THE UPSTREAM PANEL.
  - 33. ENCLOSED NON-FUSIBLE DISCONNECT SWITCHES AND ENCLOSED FUSIBLE DISCONNECT SWITCHES (WITH CLIPS TO ACCOMMODATE SPECIFIED FUSES) SHALL HAVE ENCLOSURE CONSISTENT WITH ENVIRONMENT WHERE LOCATED. HANDLE LOCKABLE WITH 2 PADLOCKS. AND INTERLOCKED WITH COVER IN CLOSED POSITION. ALL SWITCHES SHALL BE "HEAVY DUTY" RATED FOR THE VOLTAGE REQUIRED.
  - THWN/THHN WITH A RATING OF AT LEAST 75 DEG. CELSIUS.
- 6. THE TELEPHONE SERVICE AND/OR TELEPHONE BACKBOARD SHALL BE INSTALLED AS 35. TEMPORARY POWER USED TO SUPPLY EQUIPMENT USED BY PERSONNEL DURING CONSTRUCTION MUST HAVE G.F.C.I. PROTECTION PER NEC 305.6(a)(b).
  - 36. FINAL EQUIPMENT CONNECTIONS THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR & MATERIALS REQUIRED TO MAKE FINAL CONNECTIONS TO ALL EQUIPMENT DESIGNATED TO BE CONNECTED BY THIS CONTRACTOR VERIEY ALL REQUIREMENTS, CONDUCTOR SIZES, OVER-CURRENT PROTECTION, PHASES, VOLTAGES, MOTOR ROTATION, ETC., WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. PROVIDE FUSED DISCONNECT IF REQUIRED BY MANUFACTURER.

#### RESIDENTIAL NOTES

- PRIOR TO BEGINNING THE PROJECT, THE CONTRACTOR SHALL WALK THE SITE AND COMPARE (E) CONDITIONS WITH THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS. ANY OBVIOUS OR LIKELY DISCREPANCY BETWEEN THE SITE CONDITION AND THESE DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THIS ENGINEER. THE 7, PROVIDE AN AFCI COMBINATION-TYPE CIRCUIT BREAKER AT ELECTRICAL PANEL, PER CONTRACTOR SHALL WAIT FOR DIRECTION FROM THIS ENGINEER, BEFORE PROCEEDING WITH ITEMS THAT CONCERN THE DISPUTED MATTER. NO EQUIPMENT SHALL BE ORDERED THAT CONCERNS THE DISPUTED MATTER.
- THE CONTRACTOR SHALL NOT ORDER ANY EQUIPMENT WITHOUT SUBMITTING THE PRODUCT DATA SHEETS TO THIS ENGINEER FOR APPROVAL.
- 3. VERIFY UTILITY COMPANY REQUIREMENTS AND PROVIDE ALL TELEPHONE EQUIPMENT REQUIRED INCLUDING: RACEWAY, CONDUCTORS, TERMINAL BLOCKS, CABINETS, BACKBOARDS, OUTLET BOXES, TELEPHONE JACKS AND COVER PLATES.
- 4. SERVICE ENTRANCE EQUIPMENT SHALL BE PER CEC 230 REQUIREMENTS, SERVICE EQUIPMENT INTERRUPT CURRENT RATINGS SHALL MEET OR EXCEED THE FAULT CURRENT LEVELS AVAILABLE FROM THE UTILITY COMPANY, CONTRACTOR SHALL VERIFY. UTILITY METERING SHALL BE ACCESSIBLE TO THE UTILITY COMPANY AT ALL IN ACCORDANCE WITH CEC 406.12, FOR ALL NON-LOCKING, 125-VOLT, 15- AND
- LIGHT FIXTURE MTG SUPPORT AND LOCATIONS SHALL BE PER CEC 410 REQUIREMENTS LIGHTING OUTLET BOXES LOCATED IN LIVING ROOM AND BEDROOMS SHALL BE INSTALLED WITH CEILING FAN SUPPORT PER CEC 314.27(2)(C
- 6. AS PERMITTED BY THE AHJ (AUTHORITY HAVING JURISDICTION), THE USE OF NONMETALLIC-SHEATHED CABLING (OR "ROMEX") MAY BE USED FOR BRANCH

- CIRCUIT WIRING, PER CEC 334, IN LIEU OF THE CONDUIT AND WIRING CALLED FOR IN THESE PLANS
- NEC 210.12, FOR ALL 120V, 15A AND 20A, BRANCH CIRCUITS SUPPLYING OUTLETS (INCLUDING LTG, RECEPTACLE AND SMOKE ALARMS) THROUGHOUT DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS. BEDROOMS SUNROOMS RECREATION ROOMS, CLOSETS, HALLWAYS, AND SIMILAR AREAS (EXCLUDING KITCHEN, LAUNDRY ROOM, BATHROOMS, AND GARAGES). PROVIDE A DEDICATED NEUTRAL FOR EACH AFCI PROTECTED CIRCUIT. CONNECT CIRCUIT HOT AND NEUTRAL TO AFCI CIRCUIT BREAKER. CONNECT CIRCUIT BREAKER PIGTAIL TO NEUTRAL BAR. VERIFY CONNECTION WITH MFR DOCS.
- 8. FOR ADA, HEARING IMPAIRED UNITS: PROVIDE AUDIO/VISUAL DEVICES FOR DOORBELL, SMOKE ALARM & CARBON MONOXIDE SENSOR AND SMOKE ALARM VISUAL DEVICE IN THE BATHROOM, INSTALL & CONNECT PER MFR DOCS.
- 9. PROVIDE LISTED TAMPER-RESISTANT RECEPTACLES THROUGHOUT DWELLING UNITS 20-AMPERE RECEPTACLES, UNLESS EXCEPTION APPLIES.
- 10. PROVIDE DEDICATED NEUTRAL (GROUNDED) CONDUCTOR FOR ALL BRANCH CIRCUITS. NO MULTI-WIRE BRANCH CIRCUITS ARE ALLOWED. 11. PROVIDE RECEPTACLE AT GAS WATER HEATER, PER CEC (ENERGY) 150.0(N)(1)(A).
- 12. PROVIDE GFCI PROTECTED RECEPTACLES AT ALL BATHROOM AND KITCHEN COUNTERS, PER CEC 210.8(A), FOR DWELLING UNITS, TYPICAL.

### CERTIFIED ELECTRICIAN NOTE

THE CALIFORNIA STATE LICENSE BOARD (CSLB) "ZERO TOLERANCE POLICY" IS IN EFFECT FOR NON-COMPLIANT ELECTRICIANS. IN CALIFORNIA, ELECTRICAL WORK SHALL ONLY BE DONE BY "STATE CERTIFIED ELECTRICIANS", PER LABOR CODE SECTIONS 3099 AND 3099.2, SECTIONS 209.0 AND THE AB 931. AS OF JANUARY 2006, ENFORCEMENT OF LEGAL ACTION WILL BE ISSUED TO ANY C-10 CONTRACTOR WHO WILLFULLY EMPLOYS AN "UNCERTIFIED ELECTRICIAN" TO PERFORM ELECTRICAL WORK IN THE STATE OF CALIFORNIA.

### FIRE WALL PENETRATIONS

PENETRATIONS IN A FIRE RATED WALL SHALL BE PROTECTED BY AN APPROVED FIRE STOP MATERIAL IN ACCORDANCE WITH CBC SECTION 714.3.2 EXP. 2: "MEMBRANE PENETRATIONS OF MAXIMUM 2 HR. FIRE RESISTANCE RATED WALL AND PARTITIONS BY STEEL ELECTRICAL OUTLET BOXES NOT EXCEEDING 16 SQUARE INCHES ARE PERMITTED PROVIDED OPENINGS DO NOT EXCEED 100 SQUARE INCHES FOR ANY 100 SQUARE FEET OF WALL AREA. OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY A HORIZONTAL DISTANCE OF 24 INCHES.

#### RESIDENTIAL **CALGREEN CODE NOTES**

CALGREEN, DIV 4.5, SEC 4.506.1; BATHROOM EXHAUST FANS -REQUIRED IN EACH BATHROOM, SHALL BE ENERGY STAR COMPLIANT & DUCTED OUTSIDE. IF SEPARATE FROM WHOLE HOUSE VENTILATION, MUST HAVE HUMIDITY CONTROLS:

. CAPABLE OF AUTOMATIC OR MANUAL ADJUSTMENT OF < 50% TO MAX OF 80%. . MAY BE A SEPARATE COMPONENT, NOT REQUIRED TO BE INTEGRAL TO FAN.

# APPLICABLE CODES & STANDARDS

APPLICABLE CODES AS OF JANUARY 1, 2020

LISTING CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CCR TITLE 24 CAC 2022 CCR TITLE 24 BASED ON THE 2018 INTERNATIONAL BUILDING CODE CALIFORNIA BUILDING CODE CBC 2022 PART 2, VOL 1&2 W/ CA AMENDMENTS CCR TITLE 24 BASED ON THE 2017 NATIONAL ELECTRICAL CODE CALIFORNIA ELECTRICAL CODE PART 3 W/ CA AMENDMENTS CCR TITLE 24 BASED ON THE 2018 CALIFORNIA ENERGY COMMISION CALIFORNIA ENERGY CODE CEC 2022 BUILDING ENERGY EFFICIENCY STNDS CCR TITLE 8, DIV 1 2008 CALIFORNIA ELEVATOR SAFETY ORDERS CH. 4, SUB CH. 6 CCR TITLE 24 BASED ON THE 2018 INTERNATIONAL FIRE CODE CFC 2022 CALIFORNIA FIRE CODE PART 9 W/ CA AMENDMENTS CCR TITLE 24 CALIFORNIA GREEN BUILDING STANDARDS CODE PART 11

CCR TITLE 24

PART 12

ADDITIONAL CODES AND STANDARDS

CRSC 2022

AMERICANS WITH DISABILITIES ACT - PUBLIC ACCOMMODATIONS 2022 LIFE SAFETY CODE W/ CA AMENDMENTS NATIONAL ELECTRICAL SAFETY CODE

CALIFORNIA REFERENCED STANDARDS CODE

ILLUMINATING ENGINEERS SOCIETY OF NORTH AMERICA

#### ELECTRICAL ARREVIATIONS

ELEC	IKI	CAL ABBREVIATIONS			
NOTE	: SOM	E ABBREVIATIONS MAY NOT APPLY TO THIS PROJECT			
1Ø		SINGLE PHASE		Tuno	Cum
3Ø	_	THREE PHASE		Туре	Sym
3W	_	THREE WIRE			
4W	-	FOUR WIRE			
Α	-	AMPERE			
AC	-	ALTERNATING CURRENT			
AFG	-	ABOVE FINISHED GROUND			
AFF	-	ABOVE FINISHED FLOOR			
AIC	-	AMPS INTURRUPTING CAPACITY			
AWG	-	AMERICAN WIRE GAUGE			
BKR	-	BREAKER			
BLDG	-	BUILDING			
С	-	CONDUIT (<600V)			(
СВ	-	CIRCUIT BREAKER			
CKT	-	CIRCUIT			
CU	-	COPPER			
DISC	-	DISCONNECT			
(E)	-	EXISTING			
EF	-	EXHAUST FAN			
FLA	-	FULL LOAD AMPS			
GFI	-	GROUND FAULT CIRCUIT INTERRUPTER			
GND	-	GROUND			
HP	-	HORSEPOWER			
J-BOX	-	JUNCTION BOX			
KCMIL	-	THOUSAND CIRCULAR MILS			
KVA	-	KILOVOLT AMPERE			
LTG	-	LIGHTING			
MCA	-	MIN CIRCUIT AMPS			
MFR	-	MANUFACTURER			
MFR DOCS	-	MANUFACTURER'S DOCUMENTATION			
MLO	-	MAIN LUGS ONLY			
MOCP	-	MAX OVERCURRENT PROTECTION			

MOCP - MAX OVERCURRENT PROTECTION - NEW NATIONAL ELECTRICAL CODE NEC NECA NATIONAL ELEC CONTRACTORS ASSOCIATION NEMA NATIONAL ELEC MFR'S ASSOC. NTS NOT TO SCALE PB PULL BOX POLYVINYL CHLORIDE CONDUIT PVC REC RECEPTACLE RM ROOM SPEC SPECIFICATION SWBD SWITCHBOARD TELE TELEPHONE TFMR TRANSFORMER

> TYPICAL WHERE OCCURS UNLESS OTHERWISE NOTED

 VARIABLE FREQUENCY DRIVE VFD - WATT WEATHERPROOF (NEMA 3R) WP

SMOKE DETECTOR HARD WIRED W/

BATTERY BACK-UP, INTERCONNECTED

CARBON MONOXIDE DETECTOR HARD WIRED

W/ BATTERY BACK-UP, INTERCONNECTED

VOLT

TYP

UON

LIGHTING FIXTURE SCHEDULE Lamps | Watts | Voltage | Notes Location Catalog # Description dimmable FQX10T128C | LED |12W/M | 120V | Light fixture dimmable LED | 12W | 120V | Recessed led 65BEMW LED 27K 90CRI fixture | ½ HDT LIGHT | ExhaustFan QTXE110C 31.4W w/Light

Outdoor Lighting shall be equipped with manual control switch, photocell and motion sensor with no override to on, and by either photocontrol and automatic time switch, astronomical time clock with no override to on, or energy

management control system per CENC 150.0(k)3.

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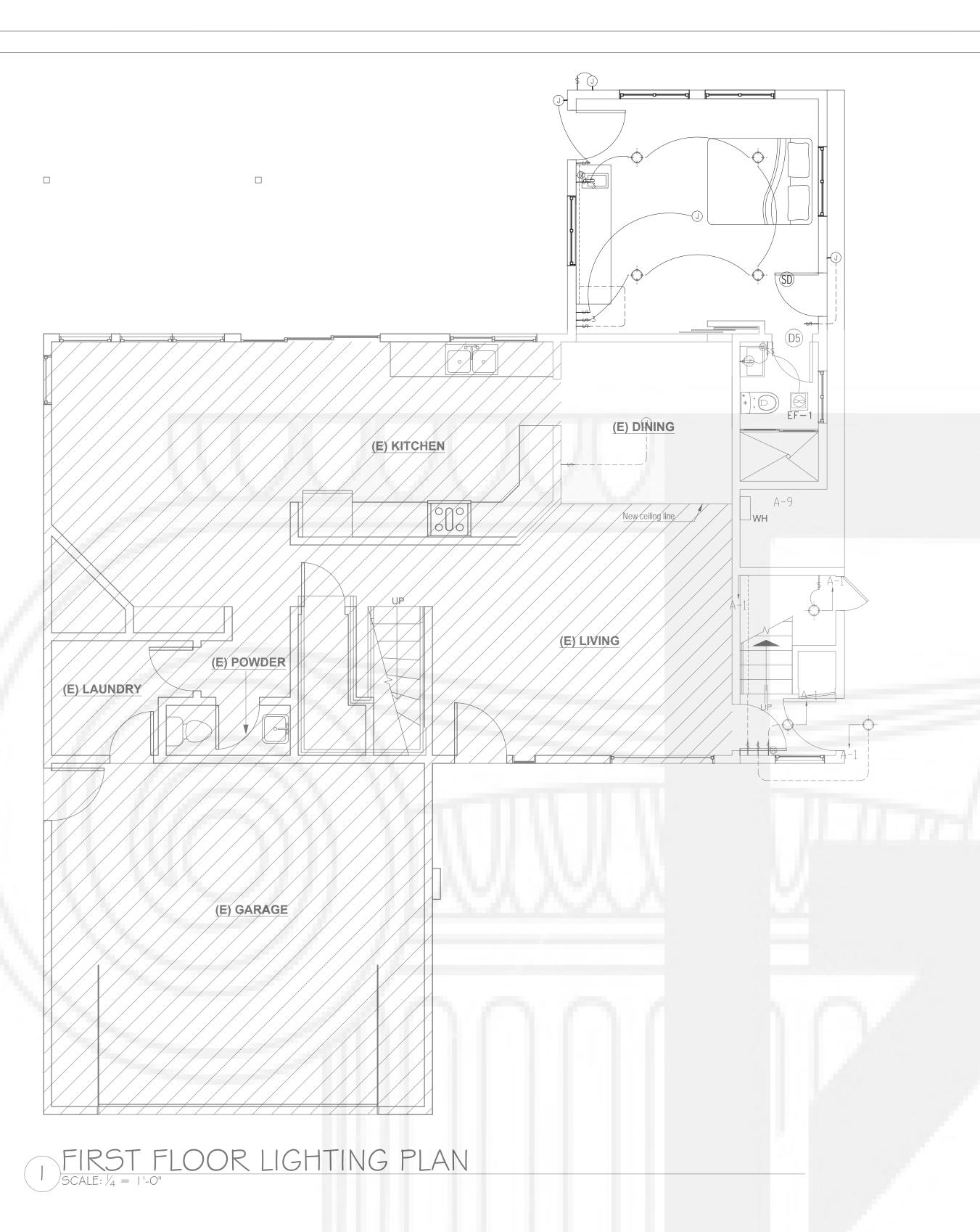
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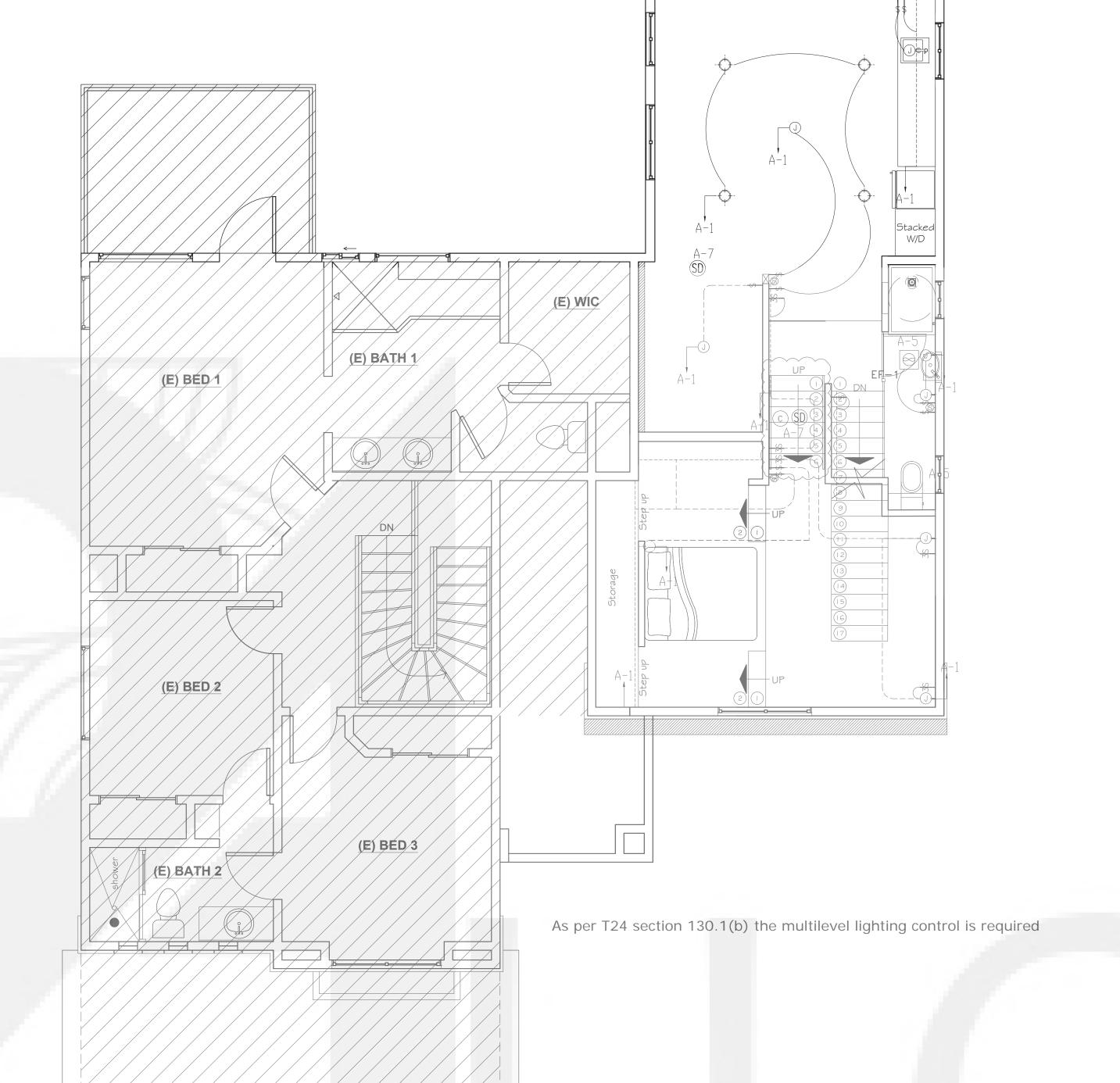
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SECOND FLOOR LIGHTING PLAN

SCALE: 1/4 = 1'-0"



PLAN DESIGN NOTES

All installed luminaires shall be high-efficacy in accordance with ES TABLE 150.0-A.

In bathrooms, garages, laundry rooms, and utility rooms at least one

luminaire shall be controlled by a vacancy sensor. Dimmers or vacancy sensors shall control all LED style luminaires. Two exceptions: Fixtures installed in hallways or (closets under 70 square feet). Recessed Can Light High Efficiency fixtures shall be IC listed, air-tight labeled, and not be equipped with a standard medium base screw shell lamp holder. ES 150.0(k)

Light sources that are not marked "JA8-2022-E" shall not be installed in

enclosed luminaires. ES 150.0(k)

Outdoor lighting fixtures that are attached to a building are required to be high efficacy, be manually on/off switch controlled and have both motion sensor and photocell control. See ES 150.0(k) 3 for additional control

Electric Vehicle Charging: Note on the plans that electrical vehicle supply equipment (EVSE) rough-in only is required in one- and two-family dwellings and townhomes with attached garages. The EVSE rough-in consists of a minimum 1" conduit extending from the main panel to a junction box where the EVSE receptacle box will be provided. The main service panel must be sized to accommodate a future 208/240 Volt 40 ampere dedicated branch circuit. California Green Code 4.106.4. Currently there is no PNL schedule and or load calculation provide to confirm compliance.

MANDATORY (CBEES 150.0(k):

- Provide on utility plans a complete lighting fixture schedule.

- All luminaires shall be high-efficacy in accordance with CBEES Table 150.0-A - All LED luminaires and lamps shall be marked JA8-2022 and listed in the California Energy Commission database at

https://cacertappliances.energy.ca.gov/Pages/ApplianceSearch.aspx - All recessed downlight and enclosed luminaires shall be marked JA8-2016-E

and listed in the California Energy Commission database at https://cacertappliances.energy.ca.gov/Pages/AppliancesSearch.aspx - Recessed downlight luminaires in ceilings shall not be screw-based.

- Bathrooms, garages, laundry rooms, and utility rooms: At least one luminaire in each space shall be controlled by a vacancy sensor. - All luminaires requiring JA8-2022 or JA8-2022-E marking shall be controlled by

a dimmer or vacancy sensor. **Exception:** Closets less than 70 s.f. Exception: Hallways

- Outdoor lighting permanently mounted to building shall be controlled by one of the following:

- Photocontrol **and** motion sensor - Photocontrol **and** automatic time-switch control - Astronomical time clock

FIRE ALARM PLAN NOTES

1. CO alarms shall be "hard wired" and shall be equipped with battery backup. (CRC R315.6)

2. CO alarms shall be listed in accordance with UL 2034 (CRC R315.1.1).

CO detector shall be listed in accordance with UL 2705 (CRC R315.7.1).

3. CO alarms shall be interconnected such that the activation of one alarm will activate all alarms in the individual dwelling unit. (CRC R315.5)

4. 4.In existing dwelling unit a CO alarm is permitted to be battery operated where repair or alteration do not result in the removal of wall or ceiling finishes. (CRC R315.5 exceptions 1)

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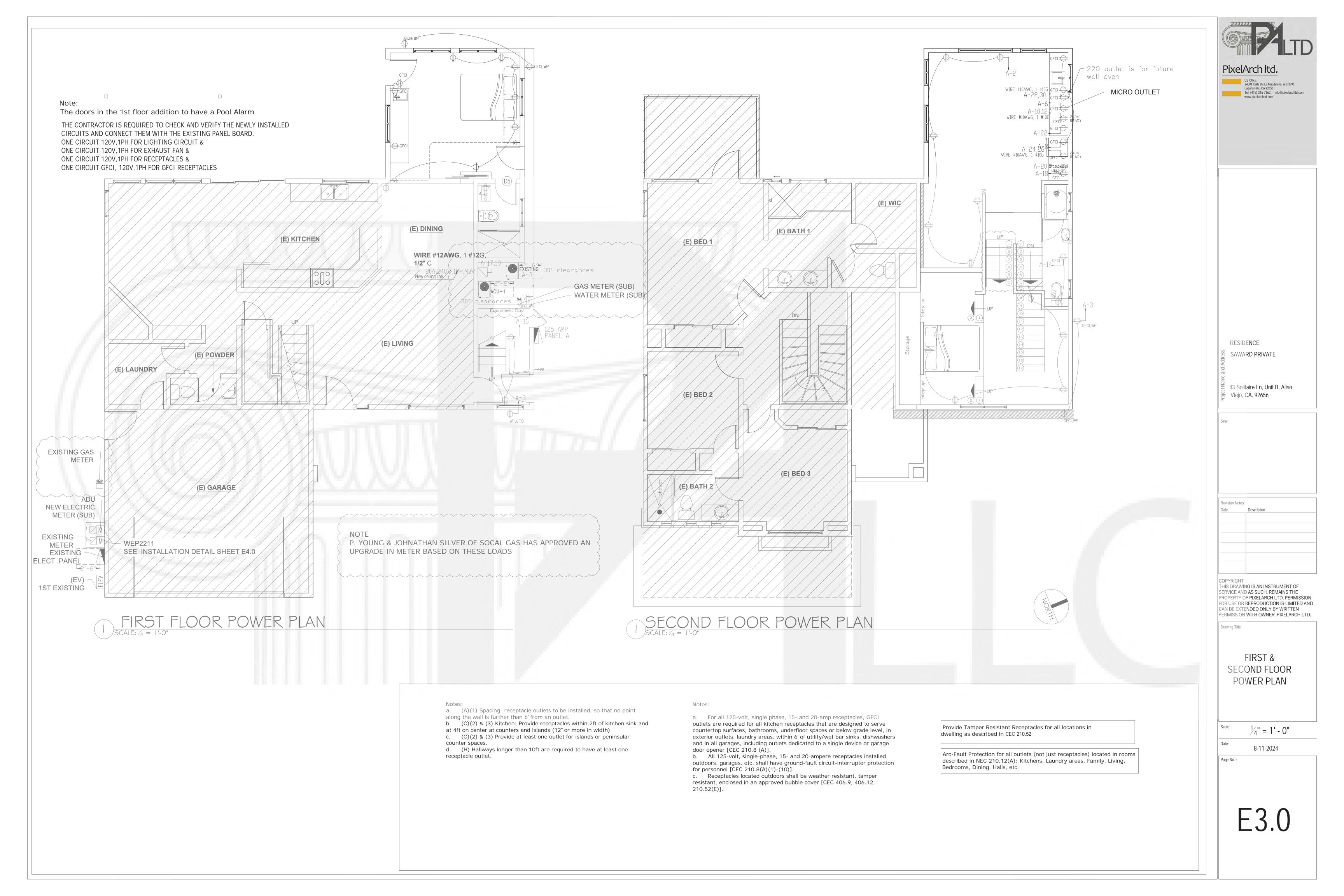
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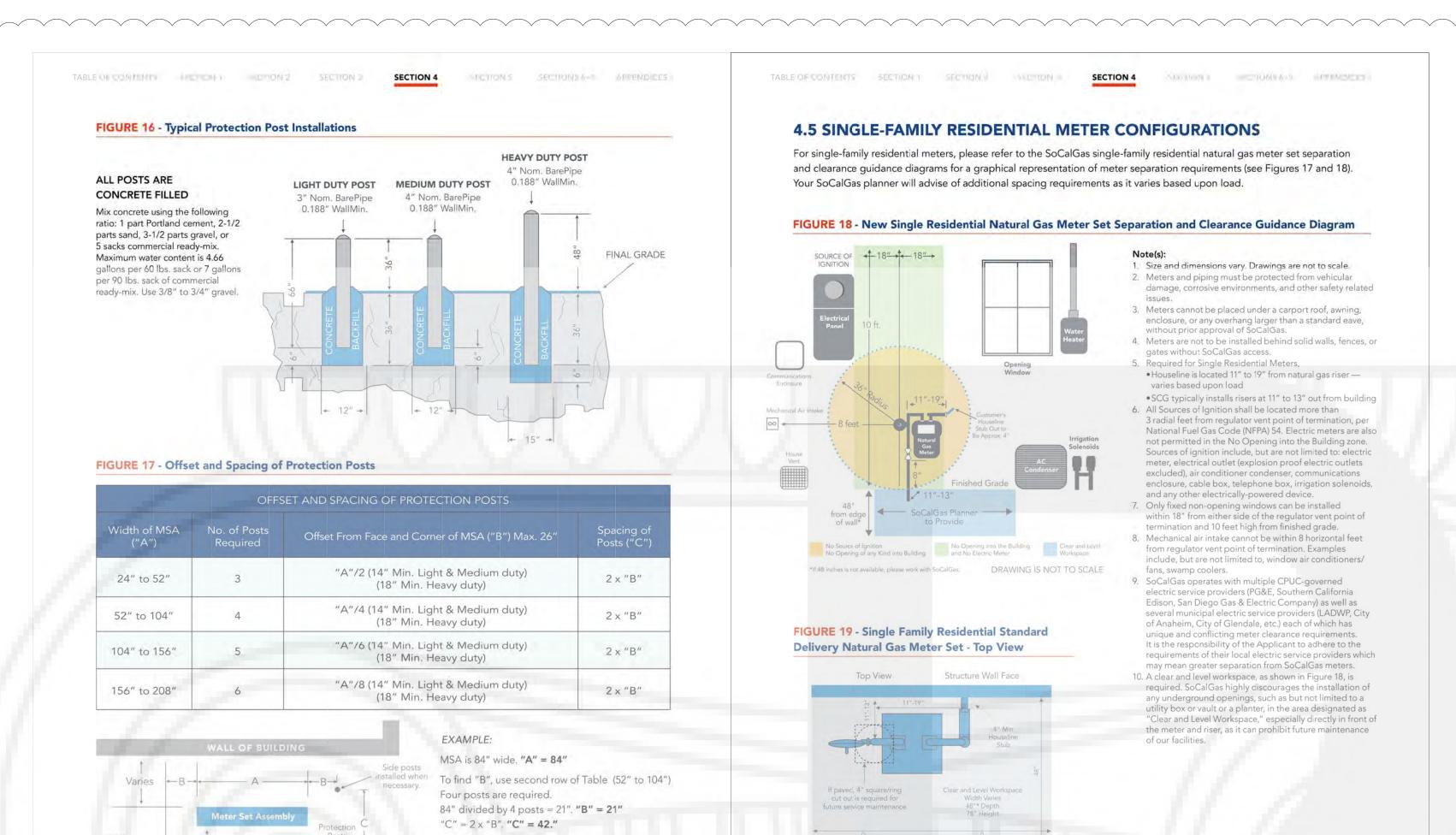
SECOND FLOOR LIGHTING PLAN

 $\frac{1}{4}$ " = 1' - 0"

8-11-2024

E2.0





Result: Set four posts, 21" offset, on 42" centers.

. . . . . .

24 SOCALGAS NATURAL GAS SERVICE GUIDEBOOK

26 SOCALGAS NATURAL GAS SERVICE GUIDEBOOK

"If 48" is not available, please work with SpCalGas.



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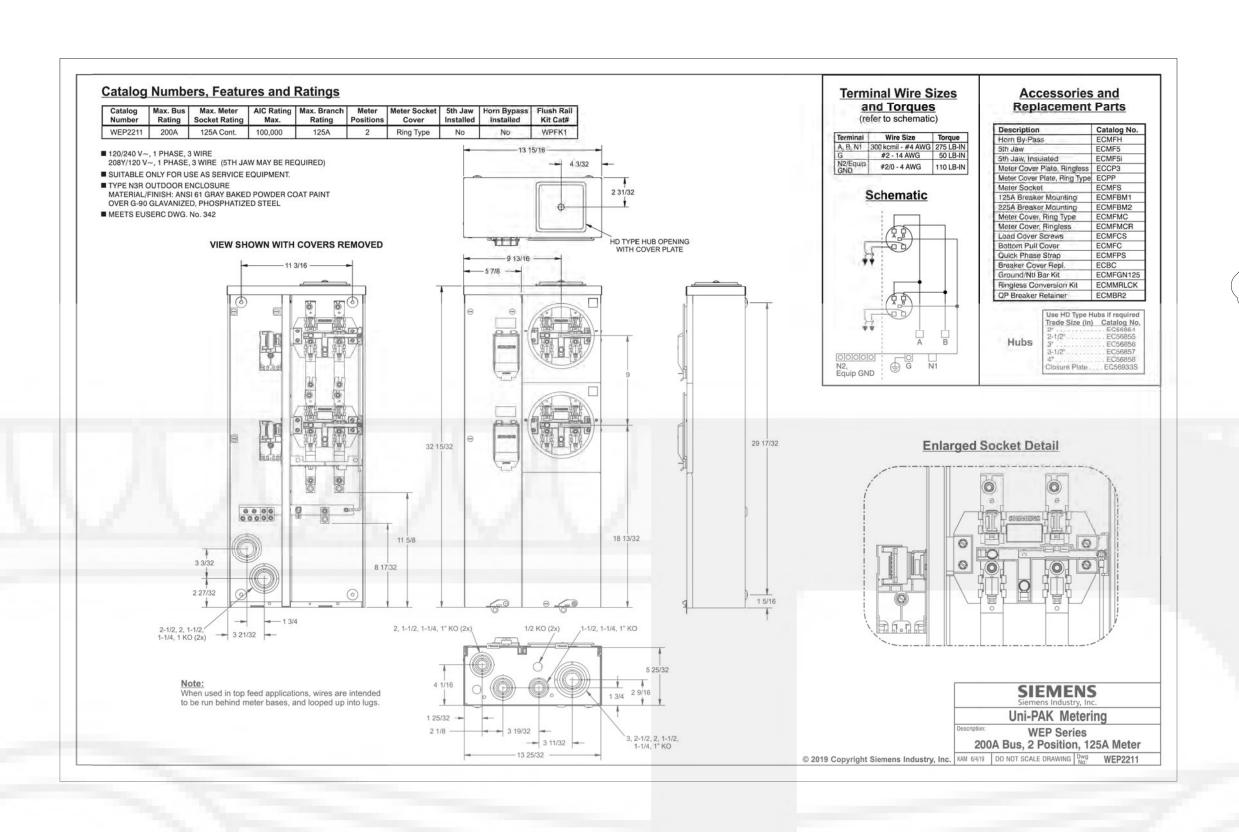
DETAILS

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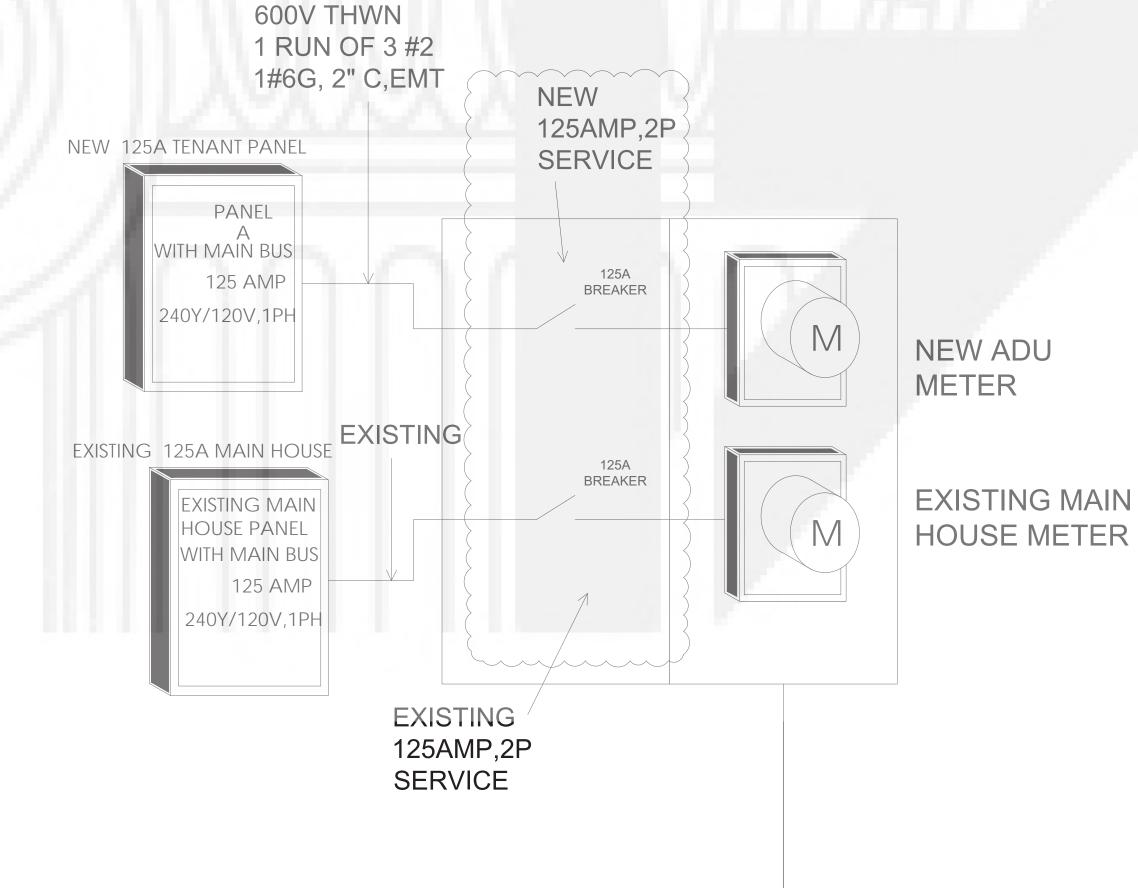




*	LOAD SUMMARY	CL	D	F A	1	В	TOTAL						
L	Lighting	0.20	1.2	25 0.20			0.25	E 9.	SYSTEMV	OLTAGE	240/120V, 1Ф, 3V	٧	
R	Convenience Recept	6.48		2.64	3.	84	6.48		BUS SIZE		125A-1P C/B BUS PL	UG	
H	Heating (Space)	0.60	1.2	0.60			0.75	ď.	SYSTEMT	YPE	NORMAL		
С	Cooling	1.40	1.0	0.80	0.	60	1.40		FEEDER PR	OT	125		
Α	HVAC		1.0	00				L)	CONDUCTO	ORSIZE	1 AWG - #6G	CL	J
Р	Process		1.0	00					CONDUCTO	DR/PHASE	1		
0	Other Continuous	2	1.2	25	7				MAINS		125A MCB		
K	Kitchen	1.80	0.6	1.80			1.17		SCCR		FULLY RATED		
N	Noncontinuous	0.10	1.0	00	0.	10	0.10		MCB RATIN	/G	80%		
			1.0	00	1				GROUND F	AULT.	NO		
1	Total	10.58		6.04	4.	54	10.15		FEEDER LE	NGTH (FT)	50		
									FEEDER V.	DROP (%)	0.803		
١	Total Demand Load (KVA)	10.15							FAULT CUF	RRENT			
	Total Demand Current (A)	42.29	7						KAIC RATIN	VG	18		
	Min. Feeder Ampacity (A)	52.86							ENCLOSUF	Œ	TYPE 3R		
	DESCRIPTIO	N	*	СВ	KVA	A	В	KVA	СВ	DE	SCRIPTION	*	1
1			L	20A-1P	0.20	1.28		1.08	20A-1P	- 11.75	ERAL OUTLETS	R	2
3	GFCI OUTLET AT OUT	DOOR	R	20A-1P	0.72		1.62	0.90	20A-1P	OUTL	ET AT BEDROOM	R	1
5			C	15A-1P	0.20	1.40		1.20	20A-1P		IICROWAVE	K	+
n a			H	Terror et		1.40		1927	P440-902	Total col		+	-
7	SMOKE DETECTO	OR .	N	20A-1P	0.10		0.64	0.54	20A-1P	GENER	RAL GFCI OUTLET	R	8
9	WATER HEATER	3	Н	20A-1P	0.60	0.60			30A-2P		40V READY"		1
11	GFCI OUTLET AT OUT	TDOOR	R	20A-1P	0.72		0.72			FUT	URE COOKTOP		1
13	SPARE			20A-1P		0.36		0.36	20A-1P	GFCI OUT	LET AT BATHROOM	R	1
15	SPARE			20A-1P			0,36	0.36	20A-1P	OUTLET A	T STORAGE & ENTRY	R	1
17			С		0.60	1.80		1.20	20A-1P	WAS	SHING MACHINE	R	1
19	ACU-1		С	20A-2P	0.60		1.20	0.60	20A-1P	-	DRYER	R	2
21	SPARE			20A-1P		0.60		0.60	20A-1P	G	GAS RANGE	К	2
23	SPARE	4		20A-1P					201 15	"2	40V READY"		2
25	5								30A-2P		TURE DRY ER		2
27									20A-1P	1	SPARE		2
29				-					20A-1P		SPARE		3
			(K)	VA)								1	
		To		onnecte	d L nad	604	4.54						

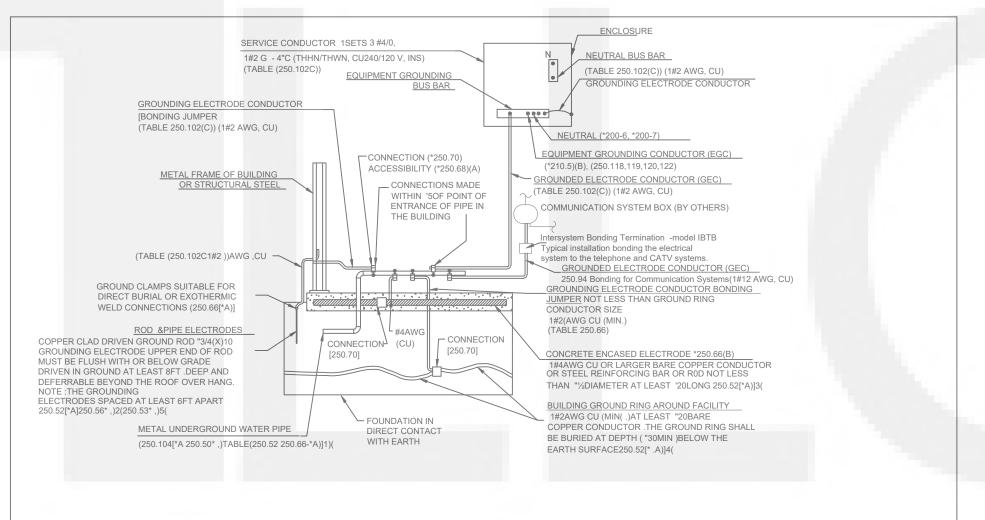
CONNECTED LOAD

PANEL A



**EXISTING SERVICE** 

UFER GROUND NOTE:
ALL STEEL REBARS MEASURING 1/2 " OR MORE IN DIAMETER AND 20 ' OR LONGER IN LENGTH THAT IS ENCASED IN NOT LESS THAN 2 INCHES OF CONCRETE SHALL BE BONDED TO THE BUILDING'S GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH NEC 250 (ELECTRICAL SUB CODE) SECTION 250.52(A)(3). THE "UFER" GROUND CAN BE 20 L.F. OF #2 OR #4 COPPER WIRING LAID INSIDE THE FOOTING AND THE SAME WIRE IS LONG ENOUGH TO REACH TO THE LOCATION OF THE MAIN ELECTRICAL PANEL OF THE HOUSE. UFER GROUND CAN BE (1) L-SHAPED PIECE OF #4 STEEL REBAR CONNECTED TO THE OTHER STEEL REBAR IN THE FOOTING AND STICKING OUT IN SUFFICIENT LENGTH FOR CONNECTION AT THE LOCATION OF THE MAIN ELECTRICAL PANEL OF THE HOUSE



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

& GROUNDING ELECTRODES (\*250.52) AS SERVICE

SCALE:NTS

THE PART OF THE PA
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01	01	02	Project Name	343 Solitaire	additi <b>04</b>	0	5	06		07		08		09	10
02	Name	Zone	Rug Title Consti	Title 24 An	alysis Azimuth	Orient	tation	Gross Are	ea (ft²)	Window and  Area (ft2)		Tilt (deg		Wall Exceptions	Status
04 <sup>Ad</sup>	d Wall F	Additio	T. S. O'C. S. S. Diller C. P.	new Aliso Vieio	-15	Fro	ont -	75 Z30	, —	27.15	Standa	ards Version	2022	none	New
06 <sup>Ad</sup>	d Wall L	Additio	Zip code	192656	T 105	Le	ft -	30		_ 0-	1			-Res 2022.3.0	New
	d Wall B	Additio	on climate Zone	ngw	195	Ba	ck —	140	) -	Fro rient	on (de	g/ Cardinal)	15	none	New
10 <sup>Ad</sup>	d Wall K	Additio	Building Type	new Single fam	Z85	Rig	ht	150	)	46.4 Ni n	of Dw	velling Units	1	none	New
12 Wa	iterior IToOther	Additio	on <b>Project Subable</b>	NRWly Cor	ıcı.n/a ddit.	. n/	/a	190	)	0	ıber o	of Bedro/ems	4		New
	r Ceiling to other	Addition Co	ond. Floor Area (ft <sup>2</sup> ) Interior c ond. Floor Area (ft <sup>2</sup> )	255 eilings R0 1860	- n <del>/a -</del>	m/	/a	-255	5 -	- <del>- n</del> /a- Fen′ 3		er of Storles n/a age U-factor			New
18 ENES				2772			-			-					
	RATION /		ond. Floor Area (ft²							_ :	-	rcentage (%)	100	<del>16</del>	
20 22	RATION /		DU Bedroom Coun		- 05	06			09 —	- 10 cc	tioned	rcentage (%)  d Floor Area  1  welling Unit:	n/a	13	14
22	01 lame	02 Type	DU Bedroom Coun	n/a 04	- 05 - Azimuth	06 Width (ft)	—07 —		F 12.44		tioned	d Floor Area  Nelling Unit:	n/a	ī	
22 ADDIT	01 lame	02 Type	DU Bedroom Coun 03 Fuel Type Surface	n/a 04 Natural ga		Width	Height	- 08	09 —	<del>-10</del> -	No Dv	d Floor Area  Nelling Unit: ctor rce	n/a <b>12</b> No	13	
22 ADDIT	Vame ION ALON	Type E - Project Ana	PU Bedroom Coun 03 Fuel Type Surface ysis Parameters Add Wall F	n/a 04 Natural ga Orientation	-Azimuth	Width (ft)	Height (ft)	08 Mult	09 — Area (ft²) 4.8	U-factor-	No Dy U-fac Sou	d Floor Area  Nelling Unit: ctor rce	n/a 12 No HGC	13 SHGC Source	Exterior Shadin
20 22 ADDIT W8 Exist	olame ION ALON -Wind-n ling Area (e-Wind-n	Type E - Project Ana 01 Window	PU Bedroom Coun 03 Fuel Type Surface ysis Parameters Add Wall F	Orientation  02Front	Azimuth   15	Width (ft)	Height (ft)	08 Mult	09 — Area (ft²) 4.8	U-factor.	No Dy U-fac Sou	d Floor Area  Welling Unit: ctor s  rce 05  RAddition Be	n/a 12 No HGC	13 SHGC Source	Exterior Shadin
20 22 ADDIT W8 Exist W6 D3-0	olame ION ALON -Wind-n ling Area (e-Wind-n	Type E - Project Ana D1 Window excl. new addit (it2)Window 186(Window	Surface ysis Parameters  Acd Wall F  Acd Wall F  Acd Wall F	04 Natural ga Orientation 0≱ront ea (ex orientation)	Azimuth   15	Width (ft)	Height (ft) 1.2	Mult.	09 — Area (ft²) 4.8	U-factor- 0.45	No DV U-fac Sou	d Floor Area  1  Welling Unit: ctor s  RC 05  RAddition Be  RC 10	n/a 12 No HGC	SHGC Source  NFRC  NFRC Tota	Exterior Shadin  06Bug Screen  Bedgeggeen
20 22 ADDIT W8- Exist W6- D3-0 W12 COMP	lame ION ALONI -Wind-n ing Area (c-Wind-n	Type E - Project Ana D1 Window excl. new addit (it2)Window 1 366Window Window S JITS	Surface ysis Parameters  Add Wall F  Add Wall F  Add Wall F  Add Wall F	Orientation  OFront  ea (exr (ft2font  25@front  Back	Azimuth   15   15   15   195   -	Width (ft) 4 03	Height (ft) 1.2 (f 1.2 7.5	Mult.	09 — Area (ft²) 4.8  * 3.gine	U-factor- 0.45 Beu. 0.45	U-fac Soul	d Floor Area  1  Welling Unit: ctor s  RC 05  RAddition B  RC 10	n/a 2 No HGC	SHGC Source  NFRC  NFRC Tota	Exterior Shadin  06Bug Screen  Bedgestreen  4Bug Screen
W12	lame ION ALON Wind-n GIDoor-n GIDoor-n GIDANCE RES	Type E - Project Ana D1 Window e kcl. new addit ('t2)Window 1366Window Window S JITS Building & Window	Surface ysis Parameters  Add Wall F  Add Wall F  Add Wall F  Add Wall F	Ozeront ea (ex / (ft2font 25gront Back	Azimuth   15   15   15   195   - 20   195	Width (ft) 4 03	Height (ft) 1.2 (f î.2 7.5 5 —	Mult   1	Area (ft²)  4.8  5 3.dne 18.75	U-factor- 0.45 Beu. 0.45 3 0.45	VIONEE TO THE NEED	d Floor Area  1  Welling Unit: ctor s  RC 09  RAddition B  RC 10  RC (	n/a 2 No HGC ).23 edipom	NFRC NFRC NFRC	Exterior Shadin  06Bug Screen  Bedrag Screen  4Bug Screen  Bug Screen

Registration Number: 424-P010253136A-000-000-000000-0000

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Project Name: 43	Solitaire add	dition					Calcula	tion Dat	e/Time: 2024	-10-15T	15:36:51-	05:00		(Page 4 of 9
Calculation Descr	ription: Title	24 Analysis					Input F	le Nam	e: 43_Solitaire	_additi	on_v30.rib	d22		
OPAQUE SURFACES	S												_	
01	02		03	04	0	5	06		07		08		09	10
Name	Zone	C	onstruction	Azimuth	Orient	tation	Gross Ar	ea (ft <sup>2</sup> )	Window and Area (ft2		Tilt (deg	)	Wall Exceptions	Status
Add Wall F	Addition	1	Wall new	15	Fro	ont	23	0	27.15		90		none	New
Add Wall L	Addition	n	Wall new	105	Le	ft	50		0		90		none	New
Add Wall B	Additio	1	Wall new	195	Ва	ck	14	0	41		90		none	New
Add Wall R	Addition	n	Wall new	285	Rig	ht	15	D	46.4		90		none	New
Interior WallToOther	Addition	1	Wall Int RO	n/a	n,	/a	19	0	0		n/a			New
Interior Ceiling to other	Addition	n Inte	rior ceilings R0	n/a	n	/a	25	5	n/a		n/a			New
FENESTRATION / G	LAZING					7			T PA			Н		
01	02	03	04	05	06	07	08	09	10	11		12	13	14
Name	Туре	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft <sup>2</sup> )	U-factor	U-fac Sour	5	HGC	SHGC Source	Exterior Shadir
W8-Wind-n	Window	Add Wall F	Front	15	4	1.2	1	4.8	0.45	NFR	С	0.23	NFRC	Bug Screen
W6-Wind-n	Window	Add Wall F	Front	15	3	1.2	1	3.6	0.45	NFR	С	0.23	NFRC	Bug Screen
D3-GlDoor-n	Window	Add Wall F	Front	15	2.5	7.5	1	18.75	0.45	NFR	С	0.23	NFRC	Bug Screen
W12-Wind-n	Window	Add Wall B	Back	195	4	5	1	20	0.45	NFR	С	0.23	NFRC	Bug Screen
D4-GlDoor-n	Window	Add Wall B	Back	195	2.8	7.5	1	21	0.45	NFR	C	0.23	NFRC	Bug Screen
W9-Wind-n	Window	Add Wall F	Right	285	4	5.8	1	23.2	0.45	NFR	c	0.23	NFRC	Bug Screen
W9-Wind-n-2	Window	Add Wall F	Right	285	4	5.8	1	23.2	0.45	NFR		0.23	NFRC	Bug Screen

Registration Number: 424-P010253136A-000-000-000000-0000 Registration Cate/Time: 10/18/2024 12:04 HERS Provider: CHEERS

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		ENTIAL PERFORMAI	NCE COMP	PLIANCE IV	TETHOD	5.1					CF1R-PRF-01
Project Name: 43									-10-15T15:36:51-05:		(Page 7 of
Calculation Descri	iption: Title 24 Analy	sis				Input File	Name: 4	3_Solitaire	e_addition_v30.ribd2	2	
HVAC - HEATING UN	NIT TYPES										
0:	1	02			0	3			04		05
Nar	ne	System Type	9		Number	of Units		He	eating Efficiency	Heatin	ng Unit Brand
Ex Fur	nace	Central gas furn	nace			1			AFUE - 75		n/a
	10			-	7 /						
HVAC - COOLING U	NIT TYPES										
01	02	03	C	04	0	5	0	16	07	08	09
Name	System Type	Number of Units	Efficienc	cy Metric	Effici EER/EEF	iency R2/CEER		iency SEER2	Zonally Controlled	Mulit-speed Compressor	HERS Verification
Ex Cooling	Central split AC	1	EER/	SEER	7.	06	10	8	Not Zonal	Single Speed	Ex Cooling-hers-coo
HVAC - DISTRIBUTION	ON SYSTEMS			+++							
01	02	03	04	05	06	07	08	09	10	11	12
15. PM	1200	5.10.200	Duct Ins	. R-value	Duct Lo	ocation	Surfac	e Area	Paramatana 1	112	
Name	Туре	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification
Ducts ex	Conditioned space-entirely	Non-Verified	R-4.2	R-4.2	Conditi oned Zone	Corditi oned Zone	n/a	n/a	No Bypass Duct	Existing (not specified)	Ducts ex-hers-dis
HVAC - FAN SYSTEN	ns										
	01	110		02					03		04
	Name			Тур	e			Fan Pov	ver (Watts/CFM)		Name
	Fan ex			HVAC	Fan				0.58	Fa	n ex-hers-fan

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Report Version: 2022.0.000

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E Project Name: 43 Solitaire addition Calculation Date/Time: 2024-10-15T15:36:51-05:00 (Page 2 of 9) Calculation Description: Title 24 Analysis Input File Name: 43\_Solitaire\_addition\_v30.ribd22

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2
Space Heating	0	28.33	0	17.21	0	11.12
Space Cooling	0	93,49	0	132.45	0	-38.96
IAQ Ventilation	0	57.6	0	27.15	0	30.45
Water Heating	0	186.31	0	186.31	0	0
Self Utilization/Flexibility Credit		NA				
Efficiency Compliance Total	0	365.73	0	363.12	0	2.61
Photovoltaics		0		0		
Battery		1 // Et N	Marine Tourist	0		
Flexibility				W.		
Indoor Lighting	0	6.53	0	6.53		
Appl. & Cooking	0	121.37	0	121.82		
Plug Loads	0	144.2	0	144.2		
Outdoor Lighting	0	13.5	0	13.5		
TOTAL COMPLIANCE	0	651.33	0	649.17		

Registration Number: 424-P010253136A-000-000-000000-0000
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SLAB FLOORS		7	7				
01	02	03	04	05	06	07	08
Name	Zone	Area (ft <sup>2</sup> )	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Slab On Grade n	Addition	255	57	none	0	0%	No

01	02		03	04	05	06	07	08
Construction Name	Surface 1	Туре	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
Wall new	Exterior	Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-13	None / None	0.093	Inside Finish: Gypsum Board Cavity / Frame: R-13 / 2x4 Sheathing / Insulation: Wood Siding/sheathing/decking Exterior Finish: 3 Coat Stucco
Wall Int RO	Interior	Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Interior ceilings RO	Interior C	eiling	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-0	None / None	0.196	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x12 Ceiling Below Finish: Gypsum Board
BUILDING ENVELOPE - HER	S VERIFICATION	ON						
01			02	03		04		05
Quality Insulation Installa	ation (QII)	High R-va	lue Spray Foam Insulation	Building Envelope Ai	r Leakage	CFM50		CFM50
Not Required			Not Required	N/A		n/a		n/a

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roject Name: 43 Sc	olitaire addition			Calculati	on Date/Time: 202	4-10-15T15:36:51-05	:00	(Page 8
alculation Descrip	tion: Title 24 Analys	is		Input File	e Name: 43_Solitair	e_addition_v30.ribd2	22	
IVAC FAN SYSTEMS -	HERS VERIFICATION							
	01			02			03	
	Name		\	erified Fan Watt Dra	w	Require	ed Fan Efficacy (Watts/0	CFM)
	Fan ex-hers-fan			Not Required			0	
NDOOR AIR QUALITY	(IAQ) FANS			7/15				
01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE/ASRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt 1-1	90	0.3	Balanced	Yes	70 / 75	No	No	



Registration Number: 424-P010253136A-000-000-0000000-00000 Registration Date/Time: 10/18/2024 12:04 HERS Provider: CHEERS NOTICE: This document has been generated by California Home Energy Efficiency Rating Services (CHEERS) using information uploaded by third parties not affiliated with or related to CHEERS. Therefore, CHEERS is not responsible for, and cannot guarantee, the accuracy or completeness of the information contained in this document. Report Version: 2022.0.000 Report Generated: 2024-10-15 13:37:04 CA Building Energy Efficiency Standards - 2022 Residential Compliance Schema Version: rev 20220901

CERTIFICATE OF COMPLIANCE	- RESIDENTIAL PERFORMANCE COMPLI	ANCE METHOD		CF1R-PRF-01
Project Name: 43 Solitaire add	dition	Calculation Date	e/Time: 2024-10-15T15:36:51-05:00	(Page 3 of
Calculation Description: Title	24 Analysis	Input File Name	: 43_Solitaire_addition_v30.ribd22	
ENERGY USE INTENSITY				
	Standard Design (kBtu/ft <sup>2</sup> - yr )	Proposed Design (kBtu/ft <sup>2</sup> - yr )	Compliance Margin (kBtu/ft <sup>2</sup> - yr )	Margin Percentage
Gross EUI <sup>1</sup>	115.78	111.81	3.97	3.43
			A	

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

2. Net EUI is Energy Use Total (including PV) / Total Building Area.

#### REQUIRED SPECIAL FEATURES The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis. Indoor air quality, balanced fan IAQ Ventilation System: as low as 0.3 W/CFM IAQ Ventilation System Heat Recovery: minimum 70 SRE and 75 ASRE

Exposed slab floor in conditioned zone New ductwork added is less than 25 ft. in length Non-standard duct location (any location other than attic)

IAQ Ventilation System: supply outside air inlet, filter, and H/ERV cores accessible per RACM Reference Manual

HERS FEATURE SUMMARY

Name

DHW ex - 1/1

Pipe Insulation

Not Required

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

NE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft <sup>2</sup> )	Avg. Ceiling Height	Water Heating System 1	Status
Addition	Conditioned	HVAC ex	255	10	DHW ex	New

Registration Number: 424-P010253136A-000-000-000000-0000

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Project Name Calculation D	: 43 Solitaire escription: T		is				lation Date/Ti File Name: 43					(P
WATER HEATIN	IG SYSTEMS			v								
01		02	03		04	05	00	5	07	08		
Name	Sys	stem Type	Distribution Ty	ype Water H	eater Name	Number of Uni	ts Solar H Syst		Compact Distribution	HERS Verif	ication	Water Nar
DHW ex		mestic Hot ter (DHW)	Standard	Gas	Storage	1	n/	a	None	n/a		Gas Sto
WATER HEATER	RS											
01	02	03	04	05	06	07	08	09	10	11	12	
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Heating Efficiency Type	Efficiency	Rated Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rati or Flow Ra	-
Gas Storage	Gas	Small Storage	1	50	EF	0.56	Btu/Hr	75000	0	70	n/a	

01			04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
HVAC ex	Heating and cooling system other	Ex Furnace	1	Ex Cooling	1	Fan ex	Ducts ex	n/a

Compact Distribution

Not Required

Parallel Piping

Not Required

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD	CF1R-PRF-01-
Project Name: 43 Solitaire addition	Calculation Date/Time: 2024-10-15T15:36:51-05:00 (Page 9 of 9
Calculation Description: Title 24 Analysis	Input File Name: 43_Solitaire_addition_v30.ribd22
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Igor Pichko	Documentation Author Signature:  Igor Pichko
Company: Energy Consult LLC	Signature Date: 10/18/2024
Address: 1252 W 22nd St Unit #2	CEA/ HERS Certification Identification (If applicable): R19-14-30005  California Association of Building Energy Consultant CERTIFIED ENERGY ANALYST
City/State/Zip: San Pedro, CA 90731	Phone: 4242477658
RESPONSIBLE PERSON'S DECLARATION STATEMENT	
	Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. ce are consistent with the information provided on other applicable compliance documents, worksheets,
Responsible Designer Name: Darren Asad	Responsible Designer Signature: Darren Asad
Company: PixelArch Ltd	Date Signed: 10/18/2024
Address: 24001 Calle de la Magdalena unit 3896	License:
City/State/Zip:	Phone: 415.801.6584

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SCOPE:

2nd FLOOR ADU

**ROOM TO REMAIN** 

•FIRST FLOOR ADDITION

•FIRST FLOOR BATHROOM

• OPEN ELEVATION OVER LIVING

SAWARD PRIVATE

RESIDENCE

₹ 43 Solitaire Ln, Unit B, Aliso Viejo, CA. 92656

Revision Notes:

hower Drain Water Heat

Recovery

Not Required

Recirculation Control

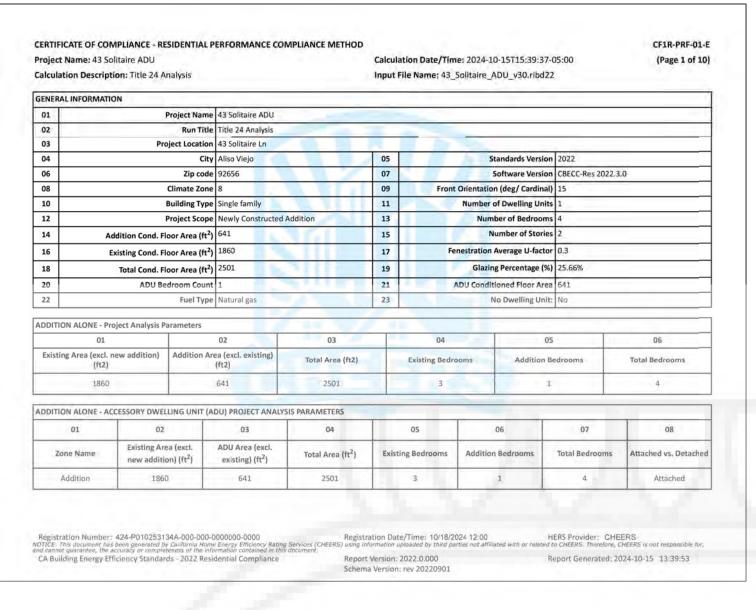
Not Required

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Drawing Title: TITLE 24

Scale: \_

Date: 04/12/2024





ENERGY USE SUMMARY	2.1.2.2		11 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1			
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> -yr)	Compliance Margin (EDR1)	Comp
Space Heating	0	3.45	0	6.88	0	-3.
Space Cooling	0	39.01	0	39.18	0	-0.
IAQ Ventilation	0	4.36	0	4.36	0	0
Water Heating	0	42.67	0	38.95	0	3.7
Self Utilization/Flexibility Credit						
Efficiency Compliance Total	0	89.49	0	89.37	0	0.1
Photovoltaics		0.		0		
Battery		- H // - == Ng	/// es \	0		
Flexibility						
Indoor Lighting	0	6.31	0	6.31		
Appl. & Cooking	Q	47.4	0	47.17		
Plug Loads	0	57.36	0	57.36		
Outdoor Lighting	0	6.28	0	6.28		
TOTAL COMPLIANCE	Ö	206.84	0	206.49		

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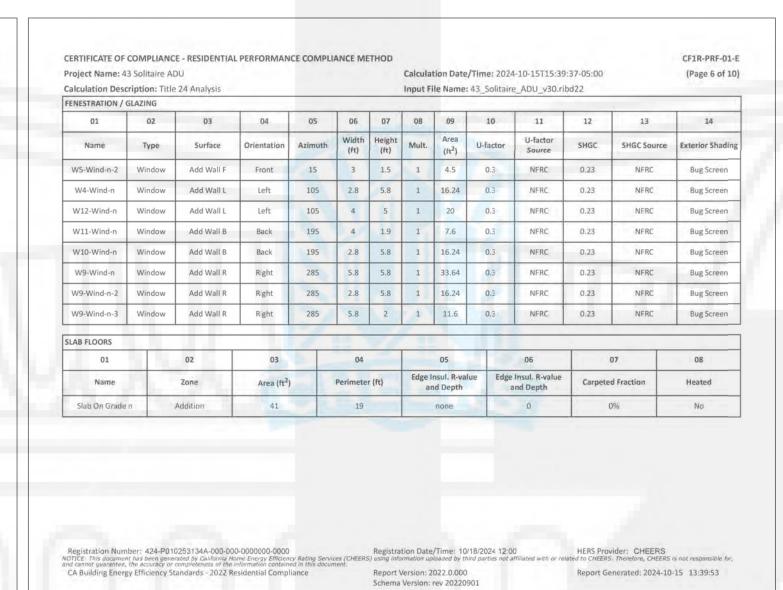
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		1				ENERGY USE INTENSITY			1
n Percentage		Compliance Margin (	Proposed Design (kBtu/ft <sup>2</sup> - yr )	esign (kBtu/ft <sup>2</sup> - yr )	Standard De		Compliance Margin (EDR2)	Compliance Margin (EDR1)	V Energy <sup>2</sup> -yr)
2.99	1	0.99	32.13	33.12		Gross EUI <sup>1</sup>	-3.43	0	
2.99		0.99	32.13	33.12		Net EUI <sup>2</sup>	-0.17	0	
				Total Building Area.	I (not including PV) /	Notes 1. Gross EUI is Energy Use T	0	0	
		9-11				2. Net EUI is Energy Use Tot	3.72	0	
				-1.37		REQUIRED SPECIAL FEATURES			
		computer analysis.	deled energy performance for this	ndition for meeting the mo	ust be installed as cor	The following are features that			
		(A3)	CHP Staff report, Appendix B, and F	(verification details from V		<ul> <li>Exposed slab floor in co</li> <li>Variable capacity heat p</li> </ul>	0.12	0	
				I SO AT		HERS FEATURE SUMMARY			
analysis. Addition	rgy performance for this computer		ed HERS Rater as a condition for me						-
			I E E	o 150 ft2 (SC3.4.5) oned space (SC3.1.4.1.8)	(SC3.1.4.1.7) eating capacity in zones greater than	Indoor air quality ventile Kitchen range hood Verified Refrigerant Cha Airflow in habitable roo Verified heat pump rate Wall-mounted thermost Ductless indoor units loo			
						ZONE INFORMATION			
	06	05	04	03	02	01			
07	00	Avg. Ceiling Height	Zone Floor Area (ft <sup>2</sup> )	HVAC System Name	Zone Type	Zone Name			
07 Status	Water Heating System 1		244	HVAC new	Conditioned	Addition			
		11	641	1101011					
Status	Water Heating System 1	11	641	TO THE TIEST					

Project Name: 43 Calculation Descr										2024-10-1 litaire_ADI		39:37-05:00 ribd22		(Page 5 of 1
OPAQUE SURFACES	5													
01	02	0.	3	04	0	5	06	r		07		08	09	10
Name	Zone	Constr	uction	Azimuth	Orient	tation	Gross Ar	ea (ft²)		and Door a (ft2)	т	It (deg)	Wall Exceptions	Status
Add Wall F	Addition	n Wall	new	15	Fro	ont	43	2		2.9		90	none	New
Add Wall L	Addition	n Wall	new	105	Le	ft	26	9	3	5.24		90	Extension	New
Add Wall B	Addition	n Wall	new	195	Ва	ck	26	8	2	3.84		90	none	New
Add Wall R	Addition	n Wall	new	285	Rig	ht	24	4	6	1.48		90	none	New
Interior WallToOther	Addition	wall I	nt R0	n/a	n/	'a	19	0		0		n/a		New
Exterior Floor n	Addition	Floor Rai	sed new	n/a	n/	'a	11			n/a		n/a		New
Interior Floor to other	Addition	n Floor	nt R0	n/a	n/	'a	52	3		n/a	П	n/a		New
OPAQUE SURFACES	6 - CATHEDRAL	. CEILINGS	04		05		06	0	17	08		09	10	11
Name	Zone	Construction	Azimuti	h Orie	ntation	Area	(ft <sup>2</sup> )		nt Area t <sup>2</sup> )	Roof Rise 12)	(x īn	Roof Reflectance	Roof Emittance	Cool Roof
Cathedral-n-F	Addition	Ceiling cath new	15	F	ront	3	66		0	5		0.1	0.85	No
Cathedral-n-B	Addition	Ceiling cath new	195	В	ack	2	82.		0	5		0.1	0.85	No
FENESTRATION / G	LAZING													
01	02	03	04	05	06	07	08	09	10		11	12	13	14
Name	Туре	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-fac	tor	factor	SHGC	SHGC Source	Exterior Shadin
D1-GlDoor-n	Window	Add Wall F	Front	15	3	7.5	1	22.5	0.3	S N	FRC	0,23	NFRC	Bug Screen
W7-Wind-n	Window	Add Wall F	Front	15	3	3.8	1	11.4	0.3	N	IFRC	0.23	NFRC	Bug Screen
W5-Wind-n	Window	Add Wall F	Front	15	3	1.5	1	4.5	0.3	N	FRC	0.23	NFRC	Bug Screen

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Report Generated: 2024-10-15 13:39:53



OPAQUE SURFACE CONST	RUCTIONS							
01	0;	2	03	04	05	06	07	08
Construction Name	Surface	е Туре	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
Wall new	Exterio	r Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	None / None	0.087	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Sheathing / Insulation: Wood Siding/sheathing/decking Exterior Finish: 3 Coat Stucco
Ceiling cath new	Cathedra	l Ceilings	Wood Framed Ceiling	2x10 @ 16 in. O. C.	R-30	None / None	0.037	Roofing: Light Roof (Asphalt Shingle Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10 Inside Finish: Gypsum Board
Wall Int R0	Interior Walls		Wood Framed Wall	2x4 @ 16 in. O. C.	R-O	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no Insul. / 2x4 Other Side Finish: Gypsum Board
Floor Raised new	sed new Exterior Floors		Wood Framed Floor	2x12 @ 16 in. O. C.	R-19	None / None	0.046	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x12
Floor Int RO	Interior	Floors	Wood Framed Floor	2x12 @ 16 in. O. C.	R-0	None / None	0.196	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x12 Ceiling Below Finish: Gypsum Board
BUILDING ENVELOPE - HE	RS VERIFICAT	ION						
01			02	03		04		05
Quality Insulation Instal	lation (QII)	High R-va	lue Spray Foam Insulation	Building Envelope Ai	r Leakage	CFM50		CFM50
Not Required		1	Not Required	N/A	1>	n/a		n/a

WATER HEATI	NG SYSTEMS																
01		02	03			04	05		06	6	07	08			09		
Name	Sy	stem Type	Distribution	Туре	Water He	eater Name	Number of Uni	ts	Solar H Syst		Compact Distribution	HERS Verif	ication		ter Hea lame (#)		
DHW n	0,000	mestic Hot ater (DHW)	Standard		Tan	k-less	1		n/	/a	None	n/a		Tar	nk-less (		
WATER HEATE	RS			_													
01	02	03	04		05	06	07		08	09	10	11	12		13		
Name	Heating Element Type	Tank Type	# of Units	Та	ank Vol. (gal)	Heating Efficienc Type			ed Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. R or Flow		Tan		
Tank-less	Gas	Consumer Instantaneo us	1		0	UEF	0.92	В	tu/Hr	200000	0	n/a	n/a	1			
WATER HEATII	NG - HERS VER	RIFICATION						0									
01		02			03		04			05		06		0	)7		
Nan	ne	Pipe Insul	ation	Pa	rallel Pipir	ng	Compact Distribu	mpact Distribution		pact Distribution Type	Recirc	Recirculation Control		Recirculation Contro		Shower Drain Wa Recovery	
DHW n	-1/1	Not Requ	uired	N	Not Required		Not Required		None		N	ot Required		Not Re	quired		
SPACE CONDIT	TIONING SYST	EMS															
01		02	03			04	05		06	6	07	08			09		
Name	Sy	stem Type	Heating Unit I	Name		Equipment ount	Cooling Unit Na	me C	Cooling Ec	quipment	Fan Name	Distribution	n Name		lequired mostat T		
HVAC nev		eat pump ting cooling	Heat Pump Sy	stem		1	Heat Pump Syste	em	1		n/a	n/a	9 -		Setback		

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CERTIFICATE OF CO Project Name: 43 5 Calculation Descrip	olitaire ADU			FORMAN	CE C	OMPLIAN	CE MET	Calc					-10-15T15 _ADU_v30		:00			CF1R-PRF-0 (Page 9 of
HVAC - HEAT PUMPS												_						
01	02		03	04		05	06	07		08	09		10	11	12	1.2	13	
		- 1.	Number of		-50	Heati	ng				Cooling	_		Zavalli.	Compressor			
Name	System Ty	/pe	Units	Heatin Efficien Type	ncy	HSPF/HS PF2/COP	Cap 47	7 Cap 17		ooling iciency Type	SEER/SE ER2	The second secon		Zonally ontrolled			HERS Verification	
Heat Pump System 1	VCHP-duct	less	1	HSPF	2	7.5	12000	9000	EEF	R2SEER2	14.3		11.7	lot Zonal		ngle leed		Pump System ers-h <b>tp</b> ump
HVAC HEAT PUMPS -	HERS VERIFIC	ATION																
01	02		03			04		05			06		07	7		08		09
Name	Verified Ai	rflow	Airflow	arget	Ver	ified EER/EI	R2	Verified SEER/SEER2		7.0000000	Refrigera harge	ant	Veril HSPF/I			fied Heatin Cap 47	g	/erified Heatin
Heat Pump System 1-hers-htpump	Not Requ	ired	0		N	Not Require	d	Not Require	i		Yes		N	0		Yes		Yes
VARIABLE CAPACITY	HEAT PUMP C	OMPLIAN	ICE OPTION	- HERS V	ERIFI	ICATION				1								
01		02	2	03		04		05		06			07	08	_	09	),	10
Name		Certi Low-S VCHP S	itatic	Airflow t Habitabl Rooms	le	Ductless in Condit Space	ioned	Wall Mount Thermostat		Air Filter & Pr Drop Ra	essure	Con	Leakage lucts in Iditioned Space	Minim Airflow RA3.3 SC3.3.3	per and	Certi non-cont Fa	inuous	Indoor Fan n Running Continuous
Heat Pump Sys	stem 1	Not rec	quired	Require	d	Requir	ed	Required		Not req	uired	Not	required	Not req	uired	Not rec	uired	Not require
INDOOR AIR QUALIT	Y (IAQ) FANS						300											
01	02	- 11	03			04		05			06		0:	,		08		09
Dwelling Unit	Airflow (C	:FM)	Fan Effi (W/CF		ı	AQ Fan Type		Includes Heat/Energ Recovery?	,	Effec	Recovery tiveness - E/ASRE		Include Indicator		HERS	Verification	on	Status
SFam ADU IAQVentRpt	34		0,35	5		Exhaust		No		n/	a/n/a		N		7	Yes		

Report Version: 2022.0.000

Schema Version: rev 20220901

CA Building Energy Efficiency Standards - 2022 Residential Compliance



Drawing Title:	
TITL	E 24

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SCOPE:

2nd FLOOR ADU

**ROOM TO REMAIN** 

SAWARD PRIVATE

Viejo, CA. 92656

43 Solitaire Ln, Unit B, Aliso

RESIDENCE

Revision Notes:

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FIRST FLOOR ADDITION

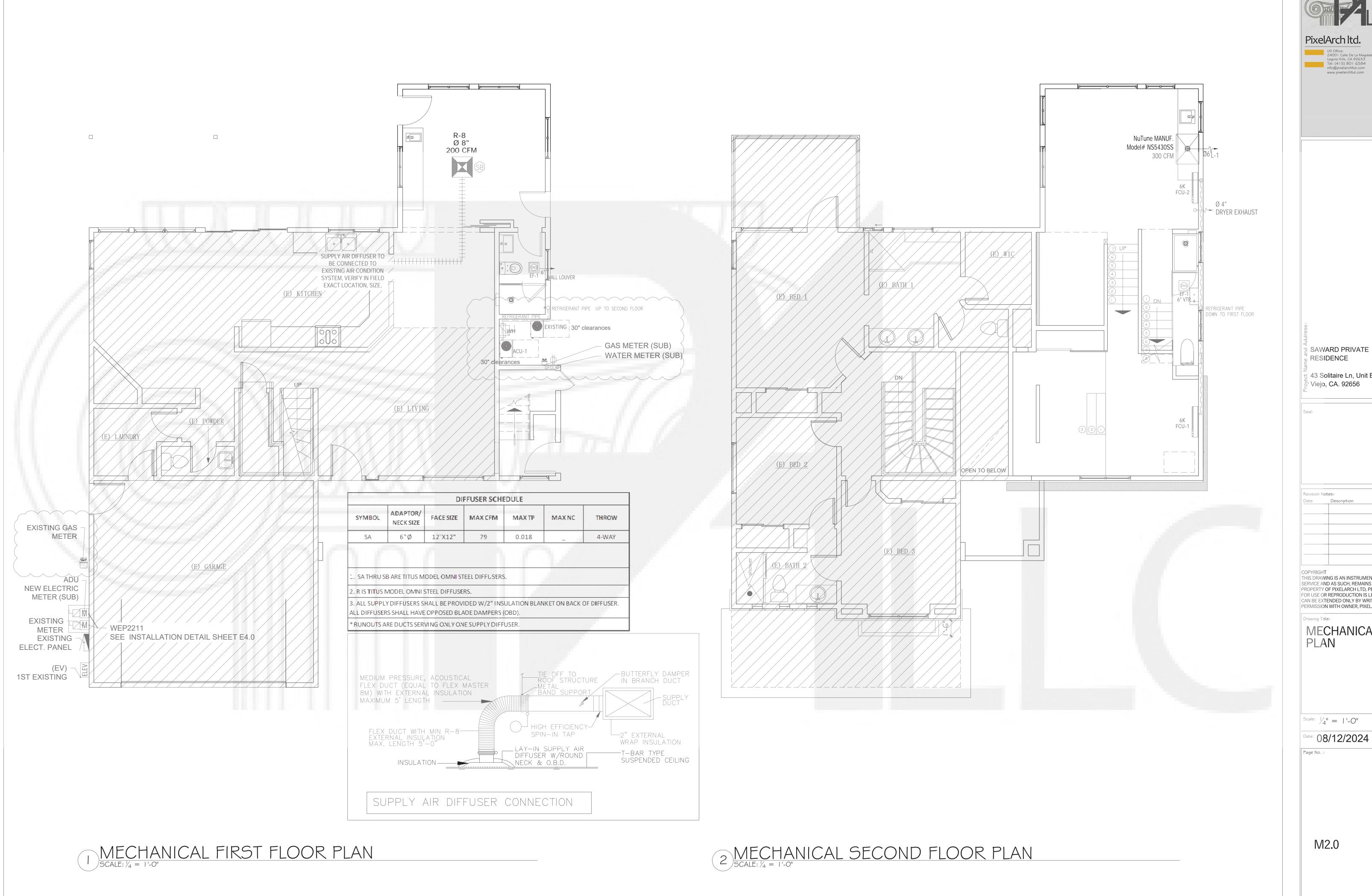
•FIRST FLOOR BATHROOM

OPEN ELEVATION OVER LIVING

Laguna Hills, CA 92653
Tel: (415) 801 6584
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Date: 04/12/2024

T2.0



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MECHANICAL

#### PLUMBING SPECIFICATIONS

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

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

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

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

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

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

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

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

SEWER AND WASTE PIPING: PROVIDE ALL DRAINS AND SEWERS WITHIN THE SPACE WITH CONNECTION TO THE EXISTING DRAINAGE SYSTEMS ON—SITE. SANITARY DRAINAGE PIPING ABOVE FLOOR SHALL BE CO—EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS. SANITARY DRAINAGE PIPING BELOW GRADE SHALL BE CO—EXTRUDED PVC DWV (SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS MAY BE USED (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES). ALL DRAINAGE PIPING SHALL BE UNIFORMLY PITCHED, 1/4" PER FOOT UNLESS OTHERWISE REQUIRED BY EXISTING CONDITIONS, OR INDICATED ON THE DRAWINGS.

VENTS: PROVIDE A COMPLETE SYSTEM OF STANDARD WEIGHT CAST IRON NO-HUB VENT RISERS WHERE THE CEILING SPACE IS USED AS A RETURN AIR PLENUM OR USE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES) WHERE THERE IS A DUCTED RETURN AIR SYSTEM. DO NOT USE PVC PIPE IN RETURN AIR PLENUM SPACES. THE VENT SYSTEM SHALL BE CARRIED THROUGH THE ROOF WITH APPROPRIATE FLASHING.

CONDENSATE AND INDIRECT DRAIN PIPING: PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS. PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV(SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS.

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

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

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

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

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

PIPING SYSTEM- PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPE WITH SOLVENT FITTINGS SHALL BE USED WHERE PEMITTED BY CODE/LOCAL AUTHORITIES.

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

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

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

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

#### GENERAL NOTES

- 1. THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE PLUMBING INSTALLATION AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.
- 2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2006 UNIFORM PLUMBING CODE, 2006 INTERNATIONAL BUILDING CODE, 2006 INTERNATIONAL ENERGY CONSERVATION CODE AND ALL OTHER APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.
- 3. COORDINATE ENTIRE INSTALLATION OF THE PLUMBING SYSTEM WITH THE WORK OF OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS. REPORT ANY DISCREPANCIES, IN WRITING, TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.
- 4. CONTRACTOR SHALL PROVIDE AS—BUILT DRAWINGS WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT IN ACCORDANCE WITH THE SPECIFICATIONS.
- 5 PROVIDE ONE YEAR WARRANTY ON ALL PARTS AND LABOR.
- 6. THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE.
  CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO
  PROVIDE THE BEST ARRANGEMENT OF ALL DUCT, PIPE, CONDUIT, ETC.
- 7. ALL CUTTING AND PATCHING OF THE EXISTING STRUCTURE SHALL BE PROVIDED UNDER OTHER SECTIONS OF THE WORK. PROVIDE NECESSARY REQUIREMENTS TO THE PROJECT SUPERINTENDENT.
- 8. ALL HOT WATER PIPING AND RECIRCULATION PIPING (EXCEPT RUNOUTS 12 FT. OR SHORTER TO INDIVIDUAL FIXTURES) SHALL BE INSULATED TO MEET THE REQUIREMENTS OF THE 2006 INTERNATIONAL ENERGY CONSERVATION CODE
- 9. CONDENSATE DRAINS SHALL BE PROVIDED FOR EACH AIR CONDITIONING UNIT. HORIZONTAL CONDENSATE DRAINS ABOVE ANY CEILING SHALL BE INSULATED WITH MIN. 3/8" THICK CLOSED CELL INSULATION.
- 10. PIPING:

  A WASTE VENT AND ST

STRUCTURE.

- A. WASTE, VENT, AND STORM DRAIN PIPING SHALL BE CO-EXTRUDED PVC SCHEDULE 40) PIPE
- B. WATER PIPE SHALL BE CPVC PIPE
- C. CONDENSATE PIPING SHALL BE CO-EXTRUDED PVC (SCHEDULE 40) PIPE

  D. INSIDE GAS PIPING SHALL BE BLACK IRON SCHEDULE 40 WITH MALLEABLE IRON FITTINGS. OUTSIDE SHALL BE GALVANIZED IRON SCHEDULE 40 WITH GALVANIZED FITTINGS. GAS LINE TO BE PAINTED GRAY IN COLOR. A 24 HOUR METERED GAS TEST SHALL BE REQUIRED.
- E. ALL PIPING NOT ENCLOSED IN CONDITION SPACE OR AT EXTERIOR WALLS SHALL BE INSULATED.
- F. PIPING: PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPING WITH SOLVENT WELD FITTINGS SHALL BE USED WHERE PERMITTED BY CODE/LOCAL AUTHORITIES
- 11. ALL VENTS OR EXHAUSTS SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. ABOVE ANY WINDOW, DOOR, OPENING, OR AIR INTAKE.
- 2. CLEANOUTS SHALL BE INSTALLED PER THE UNIFORM PLUMBING CODE.
- 13. PROVIDE WATER TIGHT FLASHINGS WHEREVER PIPES PASS THROUGH
- EXTERIOR WALLS, ROOFS, OR FLOORS.

  14. PROVIDE ISOLATION FOR ALL PIPES THAT COME IN CONTACT WITH THE
- 15. LOCATION OF EXISTING UTILITIES AND POINTS OF CONNECTION ARE APPROXIMATE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICES PRIOR TO STARTING WORK OF THIS SECTION. IF INDICATED POINTS OF CONNECTION CANNOT BE MADE TO EXISTING UTILITIES AS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO INSTALLING ANY WORK WHICH MAY BE AFFECTED.
- 16. VALVES SHALL BE NIBCO, JENKINS, HAMMOND, RED & WHITE OR APPROVED EQUAL. SERVICE PRESSURE SHALL BE SUITABLE FOR SERVICE INTENDED. THE MAIN WATER SHUT OF VALVE SHALL BE A FULL PORT BALL TYPE AND APPROVED FOR SERVICE INTENDED.
- 17. CONTRACTOR SHALL PROVIDE ALL SHUT OFF VALVES AS NECESSARY TO ISOLATE ANY EQUIPMENT, PLUMBING ITEMS, OR FIXTURES, THAT MAY NEED SERVICING OR ARE SUBJECT TO FAILURE WHETHER OR NOT SUCH VALVES ARE SHOWN ON THE DRAWINGS.
- 18. PROVIDE HANGERS AND SUPPORTS AS REQUIRED. PLUMBERS TAPE AND WIRE ARE NOT ACCEPTABLE.
- 19. CONTRACTOR IS RESPONSIBLE FOR HIS OWN TRENCHING, BACKFILL, AND COMPACTION OF TRENCHES NECESSARY TO COMPLETE HIS SCOPE OF WORK. BACKFILLED TRENCHES SHALL BE RETURNED TO THEIR ORIGINAL GRADE UNLESS NOTED OTHERWISE.
- 20. CONTRACTOR SHALL AFFIX A MAINTENANCE LABEL TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE AND SHALL PROVIDE MAINTENANCE AND OPERATIONAL MANUALS IN ACCORDANCE WITH THE SPECIFICATIONS.
- 21. ALL EQUIPMENT THAT REQUIRES KEYS OR SPECIAL TOOLS TO OPERATE SHALL SUPPLY THE OWNER WITH TWO OF ANY SUCH KEYS OR TOOLS FOR EACH PIECE OF EQUIPMENT THAT REQUIRE THE SAME.
- 25. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE APPROVAL, IN WRITING, OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.
- 26. ALL PLUMBING, ELECTRICAL, AND GAS LINES SHALL BE CONCEALED WITHIN THE THE BUILDING STRUCTURE TO AS GREAT EXTENT AS POSSIBLE. ALL LINES NOT CONCEALED SHALL BE SECURED 6" OFF THE FLOOR AND 3/4" FROM THE WALLS USING STANDOFF BRACKETS
- 27. AN APPROVED BACKFLOW PREVENTOR SHALL BE PROPERLY INSTALLED UPSTREAM OF ANY POTENTIAL HAZARD BETWEEN THE POTABLE WATER SUPPLY AND SOURCE OF COMTAMINATION.
- 28. WATER SUPPLY CARBONATORS SHALL BE PROTECTED BY AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR. THE RELIEF VALVE SHALL DRAIN IN—DIRECTLY TO A FLOOR SINK WITH A 1" MIN. AIR GAP.

#### PLUMBING FIXTURE FLOW RATE

FIXTURE TYPE	MAXIMUM FLOW RATE	
Waterdosets	1.28 gallons flush	
Showerheads	2 gpm@ 80psi	
Lavatory faucets	1.2gpm@ 60psi <sup>1</sup>	
Kitchenfaucets	1 8 anm@ 60nsi	

SYMBOL	[ABBREV]	DESCRIPTION
3 IMBUL		NEW SEWER OR WASTE
	V	NEW VENT
	— CW	NEW COLD WATER
	- HW	NEW HOT WATER
	— G	NEW GAS
	— CD	NEW CONDENSATE DRAIN
CA	— CA	COMPRESSED AIR
Ф——	FCO	FLOOR CLEANOUT
Ψ—————————————————————————————————————	WCO	WALL CLEANOUT
	FD	FLOOR DRAIN
	FS	FLOOR SINK
<u> </u>	TP	TRAP PRIMER & TRAP PRIMER PIPING
	SOV	SHUT-OFF VALVE
	CV	CHECK VALVE
	— PRV	BACKFLOW PREVENTER W SOV'S
	T & P	BACKIEGW I KEVERTEK W 30 V 3
	DN	PIPE DOWN
	UP	PIPE UP
•	POC	POINT OF CONNECTION
77	-	PLUMBING NOTE CALL—OUT
/	ABV	ABOVE
	AFF	ABOVE FINISH FLOOR
	AP	ACCESS PANEL
	BEL	BELOW
	BLDG	BUILDING
	CLG	CEILING
	CONT	CONTINUATION
	EL	ELEVATION
	FIN	FINISH
	FL	FLOOR
	GR	GRADE
	NTS	NOT TO SCALE
	OC	ON CENTER
	S= %_	SLOPE AT A PERCENTAGE
	SHT	SHEET
	TYP	TYPICAL
	VTR	VENT THRU ROOF

#### PLUMBING / GENERAL NOTES

BATHTUBS AND WHIRLPOOL BATHTUBS. THE MAX. HOT WATER TEMPERATURE DISCHARGING SHALL BE LIMITED TO 120 DEGREES. CPC 414/2022

BATHTUBS WASTE OPENING IN FLOOR OVER CRAWL SPACES SHALL BE PROTECTED BY A METAL SCREEN NOT EXCEEDING 12" OR SOLID COVER. CPC 313.12.4 2022

SHOWERS AND TUB—SHOWERS COMBINATIONS IN ALL BUILDINGS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION OF BOTH THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION. VALVES SHALL BE ADJUSTED TO DELIVER A MAXIMUM MIXED WATER
SETTING OF 120 DEGREES FAHRENHEIT. THE WATER HEATER

THERMOSTAT SHALL NOT BE CONSIDERED A SUITABLE CONTROL FOR MEETING THIS PROVISION. 418.0 CPC/2022

VERIFY AND WHERE WATER PRESSURE EXCEEDS 80 PSI AN APPROVED PRESSURE REGULATOR PRECEDED BY AN ADEQUATE STRAINER SHALL

BE INSTALLED 608.2 C[C / 2022

1—INSTALL TEMPERATURE AND PRESSURE RELIEF VALVE WITH MINIMUM

34" DRAIN PIPE AND TERMINATE TO THE EXTERIOR OF THE BUILDING OVER WINDOW, DOOR OR VISIBLE LOCATION. DISCHARGE FROM A RELIEF VALVE INTO A WATER HEATER PAN SHALL BE PROHIBITED CPC 608.5,

510.8.

2—PROVIDE (ON THE PLANS) A GAS PIPING DIAGRAM OF THE GAS PIPING

SYSTEM THAT INCLUDES ALL PIPE SIZES, PIPE LENGTHS AND BTU

3-SUBMIT GAS LOAD CALCULATIONS IN ACCORDANCE WITH CPC TABLE
12-8 TO VERIFY THE PIPE SIZES ARE ADEQUATE FOR THE MAXIMUM
DELIVERY CAPACITY OF CUBIC FEET OF GAS PER HOUR.
4- A WHOLE HOUSE HAS TEST IS REQUIRED UPON COMPLETION OF THE INSTALLATION,
ALTERATION, OR REPAIR OF ANY GAS PIPING.

THE CITY SHALL BE NOTIFIED WHEN GAS PIPING IS READY FOR INSPECTION.
5-2 GPM SHOWER FIXTURE, MAX.1.5 GPM BATHROOM FAUCET, MAX. 2 GPM KITCHEN FAUCET, AND MAX 1.28 WATER CLOSET TO CONFORM TO CITY GREEN REQUIREMENTS.

BATHROOMS: PROVIDE AN EXHAUST FAN (AT LEAST 50 CFM) DUCTED TO THE OUTSIDE (MINIMUM 4" DIAMETER FLEX DUCT WITH A MAXIMUM LENGTH OF 70")WITH A MINIMUM VENTILATION RATE OF 100 CFM, IDENTIFY THE REQUIREMENT FOR A BACKDRAFT DAMPER ON THE DUCT, AN ENERGY STAR COMPLIANT EXHAUST FAN THAT IS CONTROLLED BY A HUMIDITY SENSOR THAT IS CAPABLE OF BEING ADJUSTED BETWEEN ≤ 50-PERCENT TO 80-PERCENT HUMIDITY; AND A SEPARATE SWITCH FROM THE LIGHT UNLESS THE FAN IS ALLOWED TO OPERATE WITH THE LIGHT SWITCHED OFF

6-NOTE THAT ALL PLUMBING VENTS SHALL TERMINATE NOT LESS THAN 6"
ABOVE ROOF NOR LESS THAN 1' FROM ANY VERTICAL SURFACE. VENTS
SHALL TERMINATE NOT LESS THAN 10" FROM OR 3' ABOVE ANY WINDOW,
DOOR OPENING AIR INTAKE, OR VENT SHAFT NOR 3' FROM LOT LINE.

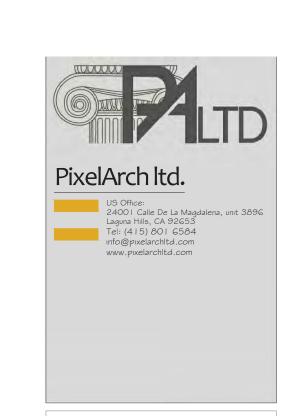
(2022 CPC 906) IF WATER PRESSURE EXCEEDS 80 PSI, AND EXPANSION TANK AND AN APPROVED
PRESSURE REGULATOR SHALL BE INSTALLED. (2022 CPC608.2)
NON-REMOVABLE BACK FLOW PRE-VENTER OR BIBB-TYPE VACUUM
BREAKER WILL BE INSTALLED ON ALL EXTERIOR HOSE BIBS. (2022 CPC603.4.7)
HOT WATER RE-CIRCULATING SYSTEM IS INSTALLED, THE ENTIRE LENGTH
OF HOT WATER PIPES SHALL BE INSULATED. (2008 CALIFORNIA ENERGY REGULATIONS 150 (J))
HOT WATER PIPE FROM THE WATER HEATER TO THE KITCHEN WILL BE INSULATED. (2008
CALIFORNIA ENERGY REGULATIONS 151(F)8 D)

#### SPECIAL NOTICE TO CONTRACTORS

- 1. ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
- 2. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BLO
- DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.

  3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER

PRIOR TO PROCEEDING WITH CONSTRUCTION.



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Date	Description	

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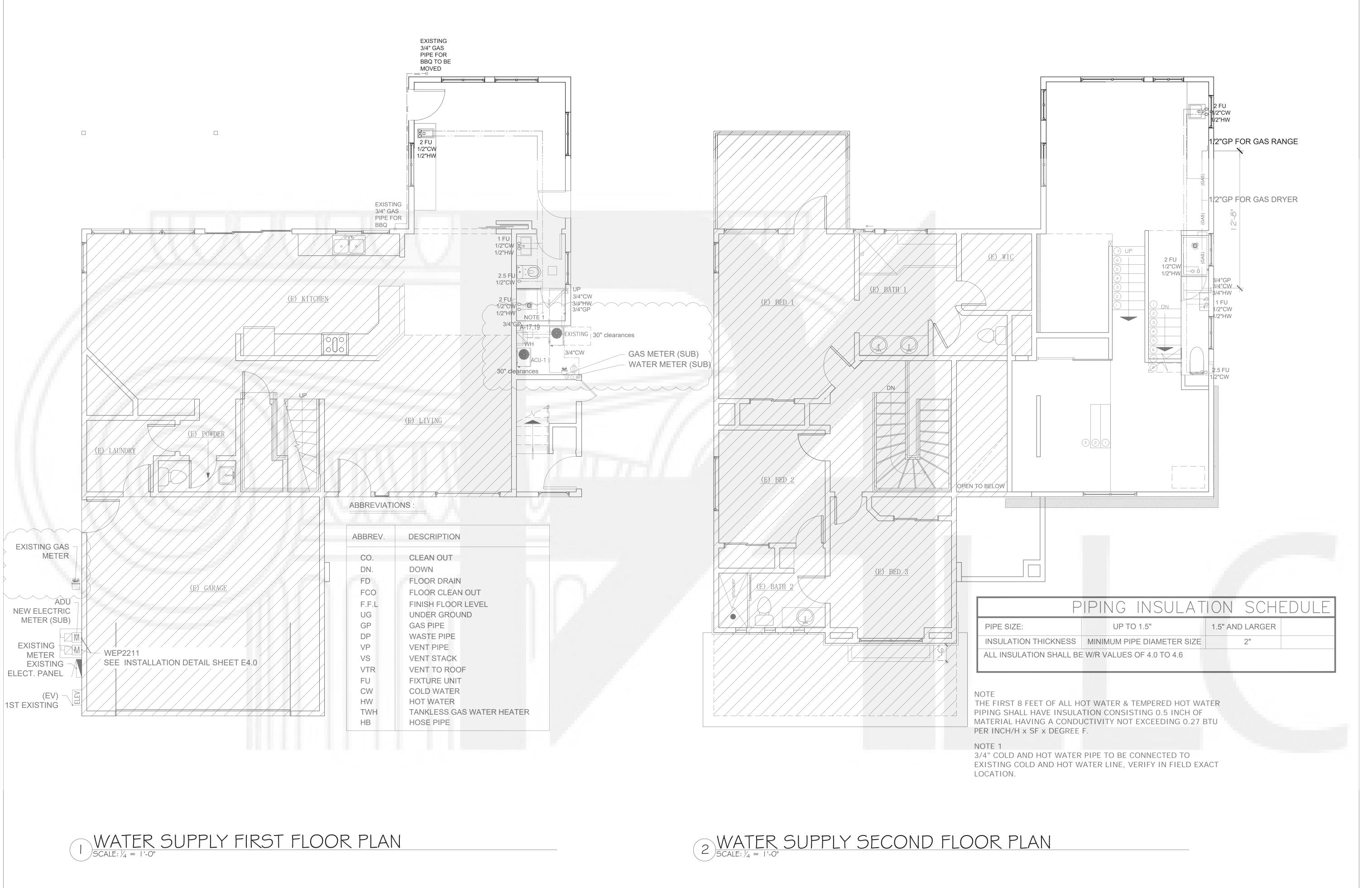
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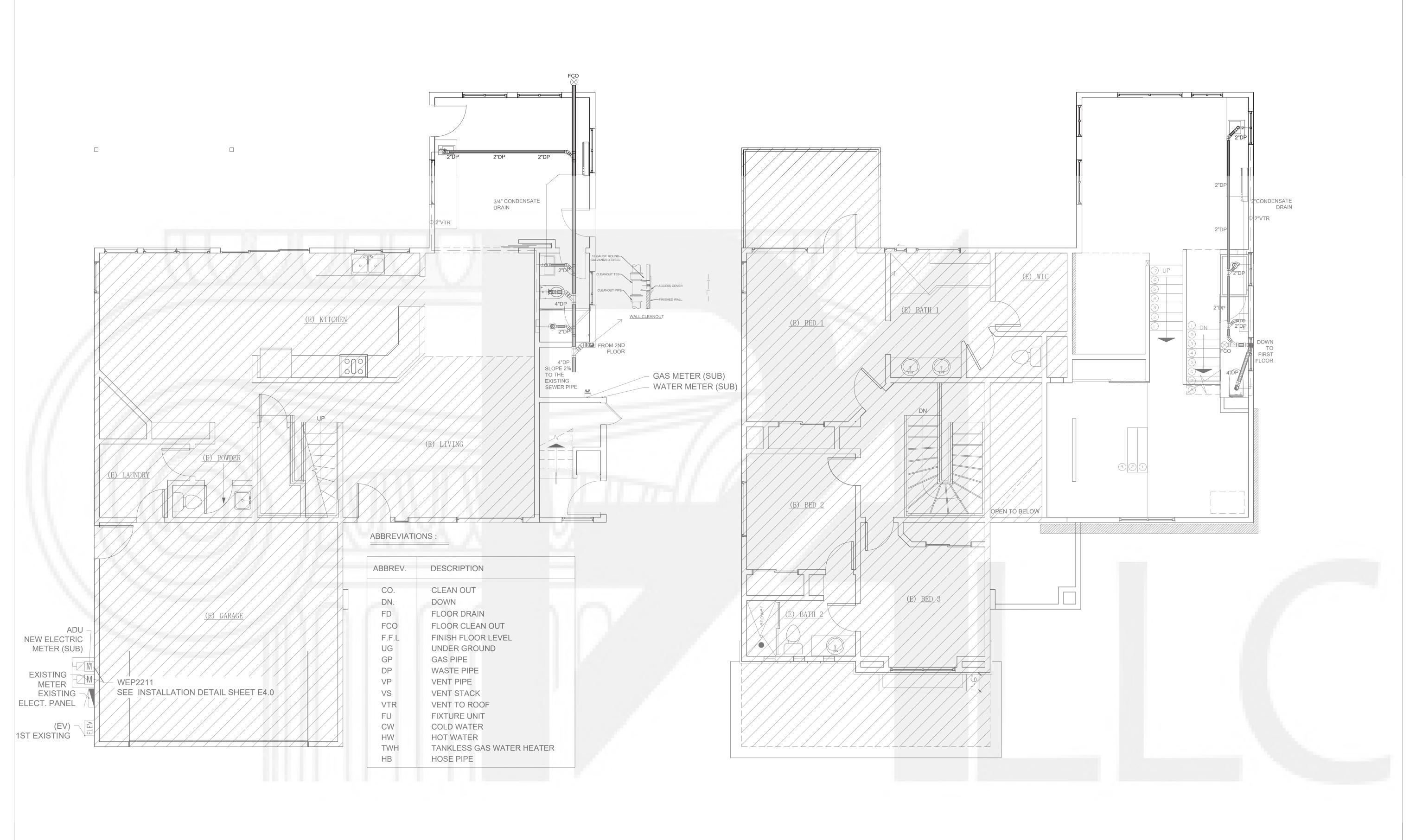
WATER SUPPLY PLAN

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

Date: 08/12/2024

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DRAINAGE FIRST FLOOR PLAN

SCALE: 1/4 = 1'-0"

2 DRAINAGE SECOND FLOOR PLAN
2 SCALE: 1/4 = 1'-0"