REMODELING AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

DRAWING INDEX:

ARCHITECTURAL

PixelArch ltd.

US Office:
1442N. Dale Ave. Anaheim, CA 92801

Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8

+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

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Sheet : 1 OF 19

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

SPECIFICATIONS

DIVISION 00 - CONDITIONS OF CONTRACT

0.01 Terminology

- Referenced Organizations
  a. ACI American Concrete Institute (www.concrete.org)
  b. AISC American Institute of Steel Construction (www.aisc.org)
  c. AITC American Institute of Timber Constructio (www.aitc-glulam.org)
  d. ANSI American National Standard Institute (www.ansi.org)
  e. APA American Plywood Association (www.apawood.org)
  f. ASHRAE American Society of Heating, Refrigeration, and Air Conditioning Engineering (www.ashrae.org)
  g. ASTM American Society for Testing and Materials (www.astm.org)
  h. AWI Architectural Woodwork Institute (www.awinet.org)
  i. AWS American Welding Society (www.aws.org)
  j. AAMA Architectural Aluminum Manufacturers' Association (www.aamanet.org)
  k. CRI Carpet and Rug institute (www.carpet-rug.org)
  l. 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)
  p. GANA Glass association of North America (www.glasswebsite.com)
  q. ICC International Code Council (www.iccsafe.org)
  r. 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.ul.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)
- Definitions
  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.
  2. 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 authorized representative(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 standards for this project.
- 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 drawings.
- 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.

1.02 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 details.
- 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.
  c. The foundation excavations, forming, footing and pier depths, and reinforcement comply with the soils report and approved plans.

2.02 General Requirements

- 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 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

3.01 Quality Control

- In addition to complying with all pertinent codes and regulations, comply with all applicable provisions of the latest editions of:
  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).
  c. Garage slabs and other interior slabs that will remain unfinished shall be treated with Lipidolith 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.).
- Brick:
  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 freezing.
  b. Bond shall be "running" (U.O.N.).
- Stone:
  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 of the veneer installation shall be consistent with the approved sample panel.
- 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 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 specifications for further information.

DIVISION 06 - WOOD AND PLASTICS

6.01 Quality Control:

- Materials shall meet or exceed the following standards:
  a. Lumber:
     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:

- Blocking:
  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 density.
  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 R905.2.
  b. Asphalt shingles shall be applied according to manufacturers specifications.
  c. The minimum performance standard for asphalt shingles shall be Elk Premium Roofing - Prestique Two or equal as approved by Owner and bear a UL Class A fire proof rating. Trim units shall include 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 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 competion 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 R905.11.
  b. Built-up roofing shall be applied according to manufacturers specifications.
  c. 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 competion 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.

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 shall be three units vertical in 12 units horizontal (25-percent slope).
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	16 oz./sq ft for metal-sheet roof-covering systems, 12 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 B101
Prepainted steel	ASTM A755
Soft lead	3 lbs./sq ft
Stainless steel	ASTM A240. 300 Series Alloys
Steel	ASTM A924
Terne and terne-coated stainless	Terne 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%).

TABLE 1507.4.3(2) MINIMUM CORROSION RESISTANCE

55% Aluminum-zinc alloy coated steel	ASTM A792 AZ 50
5%Aluminum alloy-coated steel	ASTM A875 GF60 50
Aluminum-coated steel	ASTM A463 T2 65
Galvanized steel	ASTM A653 G-90
Prepainted 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 *Vasd* 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) into the roof sheathing.

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 competion 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 6 inches.
  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 as detailed to make them water tight.
- Flexible Flashings :
  a. 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 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 been installed.
- 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.
- Firestopping
  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.
  d. Mineral Fiber Firestopping Materials: Semirigid mineral fiber insulation, nominal 4-pcf density; 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 fire-rated 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.
  i. 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 equal.
     Color to match wall surface.
     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 or equal.
     Color: Clear.
     Caulking for Joints in Floor Slabs on Grade: PRC Rubber Caulk 230, two-part self-leveling polyurethane, Shore A hardness 35.
     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 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.

DIVISION 08 - DOORS AND WINDOWS

8.01 Quality Control

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", Section 9, Custom Grade (U.O.N.).
  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 3/8" thick.
- Stile & Rail Wood Doors:
  a. Masonite International Corporation, molded panel series, or equal. See Window & Door schedule. Final windows and doors style to be selected by owner.

PixelArch ltd.
US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: July 26, 2019
Scale:

DRAWING TITLE: GENERAL NOTES (1)

Sheet : 2 OF 19
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1	ISSUED FOR PLANNING APPROVAL	

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-WDHS-3.
d. Comply with final hardware schedules, door frame Shop Drawings, DHI A 115-W Series standards, and hardware templates.
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, self-extinguishing in accordance with ASTM D 635.
    B. Fire rated assemblies: Comply with requirements of UL 10B, NFPA 252, and ASTM E 152; UL ratings indicated on drawings with doors and frames bearing rating labels.
  b. Therma-Tru Corporation, Fiber-Classic Door System, or equal.
  c. 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.
  e. 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.
  i. Frames: Milled from 5/4 kiln-dried pine, profiled with ½ inch stop.
- 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 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.
  c. 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 bind.
- 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.
    F. Weather Seal: EPDM Premium bulb-type bottom 2" Hot-dipped Galvanized vertical and horizontal tracks
    G. Rollers: Self-lubricating nylon
    H. 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.
  b. Frame color as selected by Owner.
  c. 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.
  f. 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.
  j. 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 Interior.
  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.
    E. Proportions:
      1. Scratch Coat: 1 bag Portland cement, 3/4 to 1 bag lime to 6 cu. ft. sand.
      2. 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 layesr 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:
      1. 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 E-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, factory-mixed 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 condition.
    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 coat.
    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.
- Siding
  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.
  b. 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.
  c. Siding Accessories: Provide starter strips, edge trim, corner cap, & other items as recommended 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.
    B. Use trim details indicated on drawings.
    C. Touch up all field cut edges before installing.
    D. Pre-drill nail holes, if necessary, to prevent breakage.
  f. Siding Installation:
    A. Starting: Install a minimum ¼ inch thick lath starter strip @ the bottom course of the wall. Apply planks
  horizontally with minimum 1-¼ 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.
5. 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.
7. 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 2coats 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 colors.
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-W408-A and CFFA Quality Standards for vinyl coated fabric wall covering.

DIVISION 10 - SPECIALTIES This Section not used.

DIVISION 11 - EQUIPMENT

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.

15.01 General Requirements

- 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 suitably guarded against such damage by being installed behind protective barriers or by being elevated or 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 ± 20% or ±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.

15.03 Plumbing

- 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 Section 603).
- 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 performance.
- 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).
  g. 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.
  c. 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. 507.
- 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.
2. 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 DIMENSIONS OR OTHER INFORMATION, THE GENERAL CONTRACTOR SHALL NOT PROCEED 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 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 CONDITION.
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 SYSTEMS.
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 PROCEEDING.
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 PARTITION.
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.
38. PATCH EXISTING DAMAGED PARTITIONS THROUGHOUT ENTIRE PROJECT AREA TO MATCH 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.
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 +/- OR VIF.
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.

PixelArch ltd.
US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR
1651 PARKSIDE AVE. SAN JOSE, CA 95125

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Scale:

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GENERAL NOTES (2)

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3 OF 19

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2016 CALIFORNIA GREEN BUILDING STANDARDS CODE - RESIDENTIAL MANDATORY MEASURES

Division 4.1 - *PLANNING AND DESIGN*

SECTION 4.106 SITE DEVELOPMENT

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

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

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

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

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

Exception: Additions and alterations not altering the drainage path.

Division 4.2 - *ENERGY EFFICIENCY*

SECTION 4.201 GENERAL

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

Division 4.3-*WATER EFFICIENCY AND CONSERVATION*

4.301.1 Scope. The provisions of this chapter shall establish the means of conserving water used indoors, outdoors and in wastewater conveyance.

SECTION 4.303 INDOOR WATER USE

4.303.1 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

4.303.1.1 Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.
Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

4.303.1.2 Urinals. The effective flush volume of urinals shall not exceed 0.5 gallons per flush.

4.303.1.3 Showerheads.

4.303.1.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.
Note: A hand-held shower shall be considered a showerhead.

4.303.1.4 Faucets.

4.303.1.4.1 Residential lavatory faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.5 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.

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

4.303.1.4.3 Metering faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.25 gallons per cycle.

4.303.1.4.4 Kitchen faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.
Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

4.303.2 Standards for plumbing fixtures and fittings.
Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1401.1 of the *California Plumbing Code*.

TABLE – WATER USE MAXIMUM

Showerheads - Residential	2.0 gpm @ 80 psi
Lavatory Faucets – Residential	0.8 gpm @ 20 psi (min.)
	1.5 gpm @ 60 psi (max.)
Lavatory Faucets in Common & Public Areas	0.5 gpm @ 60 psi
Kitchen Faucets	1.8 gpm @ 60 psi
Metering Faucets	0.25 gal/cycle
Water Closet	1.28 gal/flush
Urinals	0.5 gal/flush

*Note: This table is a review of Section 4.303.1, provided for reference only.

SECTION 4.304 OUTDOOR WATER USE

4.304.1 Irrigation controllers. Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following:

1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.
2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.
Note: More information regarding irrigation controller function and specifications is available from the Irrigation Association.

Division 4.4 - *MATERIAL CONSERVATION AND RESOURCE EFFICIENCY*

SECTION 4.401 GENERAL

4.401.1 Scope. The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture; construction waste diversion; employment of techniques to reduce pollution through recycling of materials; and building commissioning or testing, adjusting and balancing.

SECTION 4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

4.406.1 Rodent proofing. Annular spaces around pipes, electric cables, conduits or other openings in sole bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.

SECTION 4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

4.408.1 Construction waste management. Recycle and/or salvage for reuse a minimum of 50 percent of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.
Exceptions:

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

4.408.2 Construction waste management plan. Submit a construction waste management plan in conformance with
Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.

1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specify if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
3. Identify diversion facilities where the construction and demolition waste material will be taken.
4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
5. Specify that the amount of construction and demolition waste materials diverted shall

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

4.408.4 Waste stream reduction alternative. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed four (4) lbs./sq. ft. of the building area shall meet the minimum 50 percent construction waste reduction requirement in Section 4.408.1.

4.408.4.1 Waste stream reduction alternative. [HR] Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed two (2) pounds per square foot of the building area, shall meet the minimum 50-percent construction waste reduction requirement in Section 4.408.1.

4.408.5 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1 through 5, Section 4.408.3 or Section 4.408.4.
Notes:

1. Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section.
2. Mixed construction and demolition debris (C&D) processors can be located at the California Department of
Resources Recycling and Recovery (CalRecycle).

SECTION 4.410 BUILDING MAINTENANCE AND OPERATION

4.410.1 Operation and maintenance manual. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

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

Division 4.5 - *ENVIRONMENTAL QUALITY*

SECTION 4.501 GENERAL

4.501.1 Scope. The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating and/or harmful to the comfort and wellbeing of a building's installers, occupants and neighbors

SECTION 4.503 FIREPLACES

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 Phase II emission limits where applicable. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.

SECTION 4.504 POLLUTANT CONTROL

4.504.1 Covering of duct openings and 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 and debris, which may enter the system.

4.504.2 Finish material pollutant control. Finish materials shall comply with this section.

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

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

4.504.2.2 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings shown listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, 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)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 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.
2. Field verification of on-site product containers.

TABLE 4.504.1 ADHESIVE VOC LIMITS [1,2]
Less Water And Less Exempt Compounds In Grams Per Liter

ARCHITECTURAL APPLICATIONS	Current VOC Limit
Indoor Carpet Adhesives	50
Carpet Pad Adhesives	50
Outdoor Carpet Adhesives	150
Wood Flooring Adhesive	100
Rubber Floor Adhesives	60
Subfloor Adhesives	50
Ceramic Tile Adhesives	65
VCT And Asphalt Tile Adhesives	50
Drywall And Panel Adhesives	50
Cove Base Adhesives	50
Multipurpose Construction Adhesives	70
Structural Glazing Adhesives	100
Single-Ply Roof Membrane Adhesives	250
Other Adhesives Not Listed	50
SPECIALTY APPLICATIONS	
PVC Welding	510
CPVC Welding	490
ABS Welding	325
Plastic Cement Welding	250
Adhesive Primer For Plastic	550
Contact Adhesive	80
Special Purpose Contact Adhesive	250
Structural Wood Member Adhesive	140
Top And Trim Adhesive	250
SUBSTRATE SPECIFIC APPLICATIONS	
Metal To Metal	30
Plastic Foams	50
Porous Material (Except Wood)	50
Wood	30
Fiberglass	80

1. If an adhesive is used to bond dissimilar substrates together, the adhesive with the highest VOC content shall be allowed.
2. For additional information regarding methods to measure the VOC content specified in this table, see South Coast Air Quality Management District Rule 1168.

TABLE 4.504.2 SEALANT VOC LIMITS
Less Water And Less Exempt Compounds In Grams Per Liter

SEALANTS	Current VOC Limit
Architectural	250
Marine Deck	760
Nonmembrane Roof	300
Roadway	250
Single-Ply Roof Membrane	450
Other	420
SPECIALTY APPLICATIONS	
Architectural Nonporous	250
Porous	775
Modified Bituminous	500
Marine Deck	760
Other	750

TABLE 4.504.3 VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]
Less Water And Less Exempt Compounds In Grams Per Liter

COATING CATEGORY	EFFECTIVE 1/1/2010	EFFECTIVE 1/1/2012
Flat Coatings	50	
Nonflat Coatings	100	
Nonflat-High Gloss Coatings	150	
SPECIALTY APPLICATIONS		
Aluminum Roof Coatings	400	
Basement Specialty Coatings	400	
Bituminous Roof Coatings	50	
Bituminous Roof Primers	350	
Bond Breakers	350	
Concrete Curing Compounds	350	
Concrete/Masonry Sealers	100	
Driveway Sealers	50	
Dry Fog Coatings	150	
Faux Finishing Coatings	350	
Fire Resistive Coatings	350	
Floor Coatings	100	
Form-Release Compounds	250	
Graphic Arts Coatings (Sign Paints)	500	
High Temperature Coatings	420	
Industrial Maintenance Coatings	250	
Low Solids Coatings[1]	120	
Magnesite Cement Coatings	450	
Mastic Texture Coatings	100	
Metallic Pigmented Coatings	500	
Multicolor Coatings	250	
Pretreatment Wash Primers	420	
Primers, Sealers, and Undercoaters	100	
Reactive Penetrating Sealers	350	
Recycled Coatings	250	
Roof Coatings	50	
Rust Preventative Coatings	400	250
Shellacs		
Clear	730	
Opaque	550	
Specialty Primers, Sealers and Undercoaters	350	100
Stains	250	
Stone Consolidants	450	
Swimming Pool Coatings	340	
Traffic Marking Coatings	100	
Tub and Tile Refinish Coatings	420	
Waterproofing Membranes	250	
Wood Coatings	275	
Wood Preservatives	350	
Zinc-rich Primers	340	

1. Grams of VOC per liter of coating, including water and including exempt compounds.
2. The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
3. Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 1,2008. More information is available from the Air Resources Board.

4.504.3 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the following:

1. Carpet and Rug Institute's Green Label Plus Program.
2. California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 201 0 (also known as Specification 01350.)
3. NSF/ANSI 140 at the Gold level.
4. Scientific Certifications Systems Indoor Advantage™ Gold.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.

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

4.504.4 Resilient flooring systems. Where resilient flooring is installed, at least 80 percent of floor area receiving resilient flooring shall comply with one or more of the following:

1. VOC emission limits defined in the Collaborative for High Performance Schools (CHPS) High Performance Products Database.
2. Products compliant with CHPS criteria certified under the Greenguard Children & Schools program.
3. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program.
4. Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350).

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

TABLE 4.504.5 FORMALDEHYDE LIMITS[1]
Maximum Formaldehyde Emissions in Parts per Million

PRODUCT	Current Limit
Hardwood Plywood Veneer Core	0.05
Hardwood Plywood Composite Core	0.05
Particleboard	0.09
Medium Density Fiberboard	0.11
Thin Medium Density Fiberboard[2]	0.13

1. Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E 1333. For additional information, see California Code of Regulations, Title 17, Sections 93120 through 93120.12
2. Thin medium density fiberboard has a maximum thickness of 5/16 inch (8mm).

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:

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

SECTION 4.505 INTERIOR MOISTURE CONTROL

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

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

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

1. A 4-inch-thick (101.6 mm) base of ½ inch (12.7 mm) or larger clean aggregate shall be provided with a vapor retarder 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.
2. Other equivalent methods approved by the enforcing agency.
3. A slab design specified by a licensed design professional.

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

1. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.
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 to be verified.
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

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.

SECTION 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:

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.
   a. Humidity controls shall be capable of adjustment between a relative humidity range of C.; 50 percent to a maximum of 80 percent. A humidity control may utilize manual or automatic means of adjustment.
   b. A humidity control may be a separate component to the exhaust fan and is not required to be integral
   (i.e., built-in).
   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*.

SECTION 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-2004 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.
2. Duct systems are sized according to *ANSI* ACCA 1 Manual D-2009 *(Residential Duct Systems)*, ASHRAE handbooks or other equivalent design software or methods.
3. Select heating and cooling equipment according to *ANSI* ACCA 3 Manual S-2004 *(Residential Equipment Selection)* or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the systems function are acceptable.

CHAPTER 7
INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS

SECTION 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. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

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 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.
   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).

[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.

SECTION 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 in the application checklist.

PixelArch ltd.
US Office:
1462N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

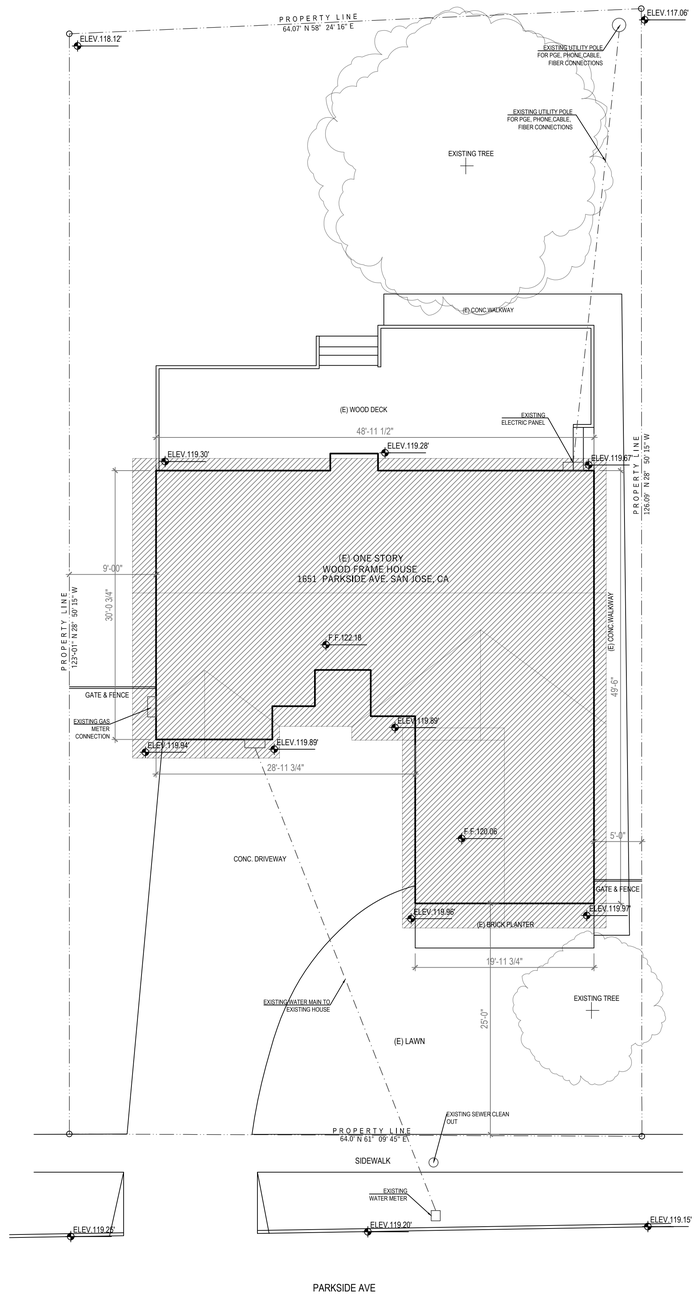
Date: July 26, 2019
Scale:

DRAWING TITLE: CAL-GREEN BUILDING STANDARDS CODE

Sheet : 4 OF 19

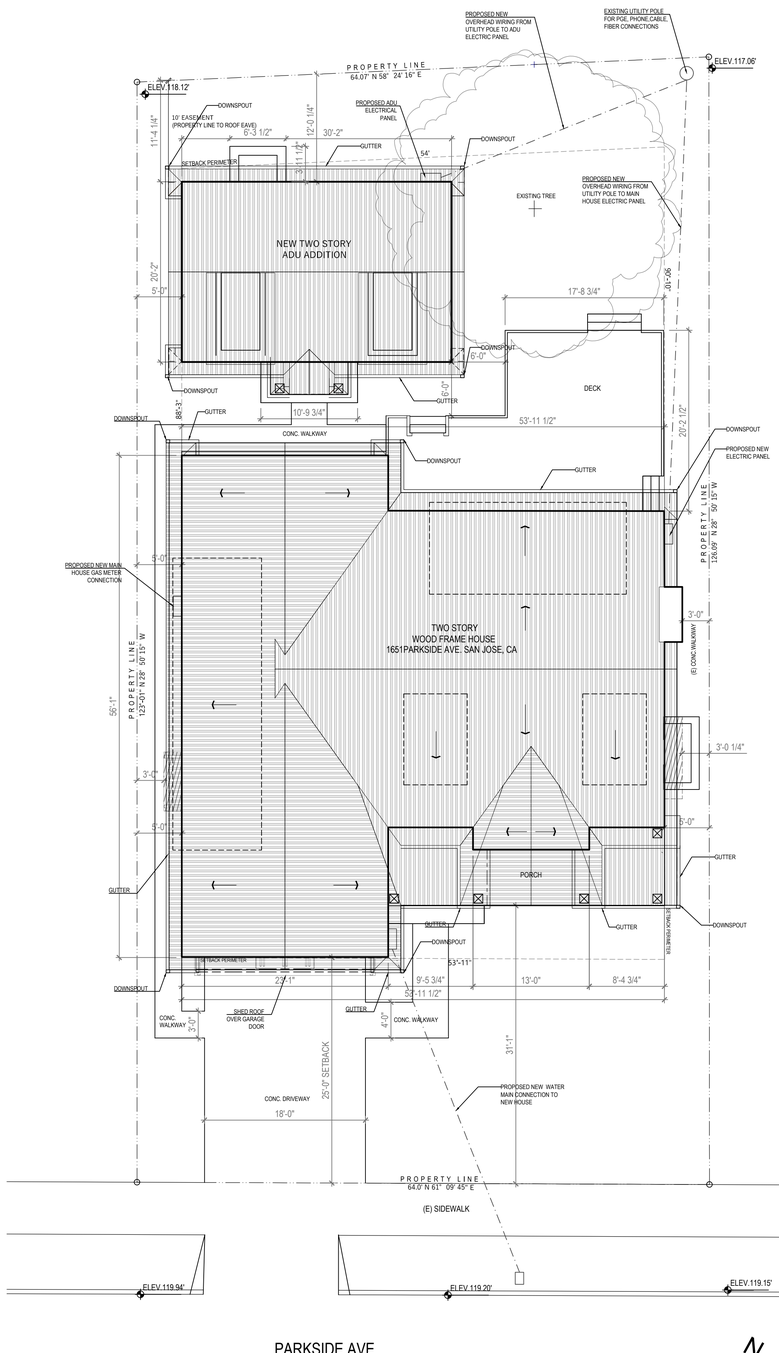
Page No. : A.003

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



1 EXISTING SITE PLAN

Scale: 1/4" = 1' - 00"



2 PROPOSED SITE PLAN

Scale: 1/4" = 1' - 00"

VICINITY MAP

AERIAL PHOTO

SCOPE OF WORK:

a. REMODEL EXISTING SINGLE STORY 2-CAR GARAGE HOME TO TWO STORIES, INCREASING SQUARE FOOTAGE AND 1 ½ BATH.
b. CONSTRUCT NEW ADU.

PROPERTY ADDRESS:

1651 PARKSIDE AVE. SAN JOSE, CA 95125

LEGAL DESCRIPTION:

LOT 19, OF PARKSIDE AVE. SAN JOSE, CALIFORNIA. TRACT NO. 922

ZONING CLASSIFICATION:

(TITLE 20 ZONING) : R-1-8 MEDIUM DENSITY RESIDENTIAL ZONE

APN: 429-25-026

OCCUPANCY GROUP:

R-1-8

CONSTRUCTION TYPE: TYPE V-B

REQUIRED SETBACKS/HEIGHT LIMITS:

MAIN STRUCTURE:

MIN. FRONT YARD: 25'

MIN. SIDE YARD: 5'

MIN. REAR YARD: 10'

MAX. BUILDING HEIGHT: 35'

LOT SIZE: 7971 SF

IMPERVIOUS SURFACE:

DWELLING = 1935.4 SF
GARAGE = 499 SF
PORCH = 239 SF
DECK = 496 SF
DRIVEWAY/ WALKS, PARKING SPACES = 1111.7 SF
LOT COVERAGE = 4281.1/7971 = 53.7%

BUILDING AREA CALCULATIONS (EXISTING AND PROPOSED):					
	CONDITIONED AREA	GARAGE	PORCH	DECK	TOTAL
EXISTING	1412 SF	393 SF	19 SF	674.5 SF	2498.5 SF
PROPOSED	1ST FLOOR 1935.4 SF 2ND FLOOR 1295.1 SF TOTAL 3230.5 SF	499 SF	239 SF	496 SF	4464.5 SF

BUILDING CODE REQUIREMENTS

THE GENERAL CONTRACTOR SHALL FULLY COMPLY WITH THE FOLLOWING INTERNATIONAL CODES,
2016 CALIFORNIA BUILDING STANDARDS CODE (CAL. CODE REGS., TITLE 24)
COMPLIANCE WITH CITY OF SAN JOSE MUNICIPAL CODES (TITLE 20).
CALGREEN CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11 OF TITLE 24
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 CODE (PART 6 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)
CRSC CALIFORNIA REFERENCED STANDARDS CODE (PART 12 OF TITLE 24)
DPH IDENTIFIES CODE PROVISIONS BY THE DEPARTMENT OF PUBLIC HEALTH
IBC INTERNATIONAL BUILDING CODE
IFC INTERNATIONAL FIRE CODE
IEBC INTERNATIONAL EXISTING BUILDING CODE
IRC INTERNATIONAL RESIDENTIAL CODE
NEC NATIONAL ELECTRICAL CODE
NFPA NATIONAL FIRE PROTECTION ASSOCIATION

CONTACT INFORMATION:

MR CUONG NGUYEN
PHONE: (650) 704 - 1280

ENGINEER OF RECORD:

PixelArch ltd.
US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

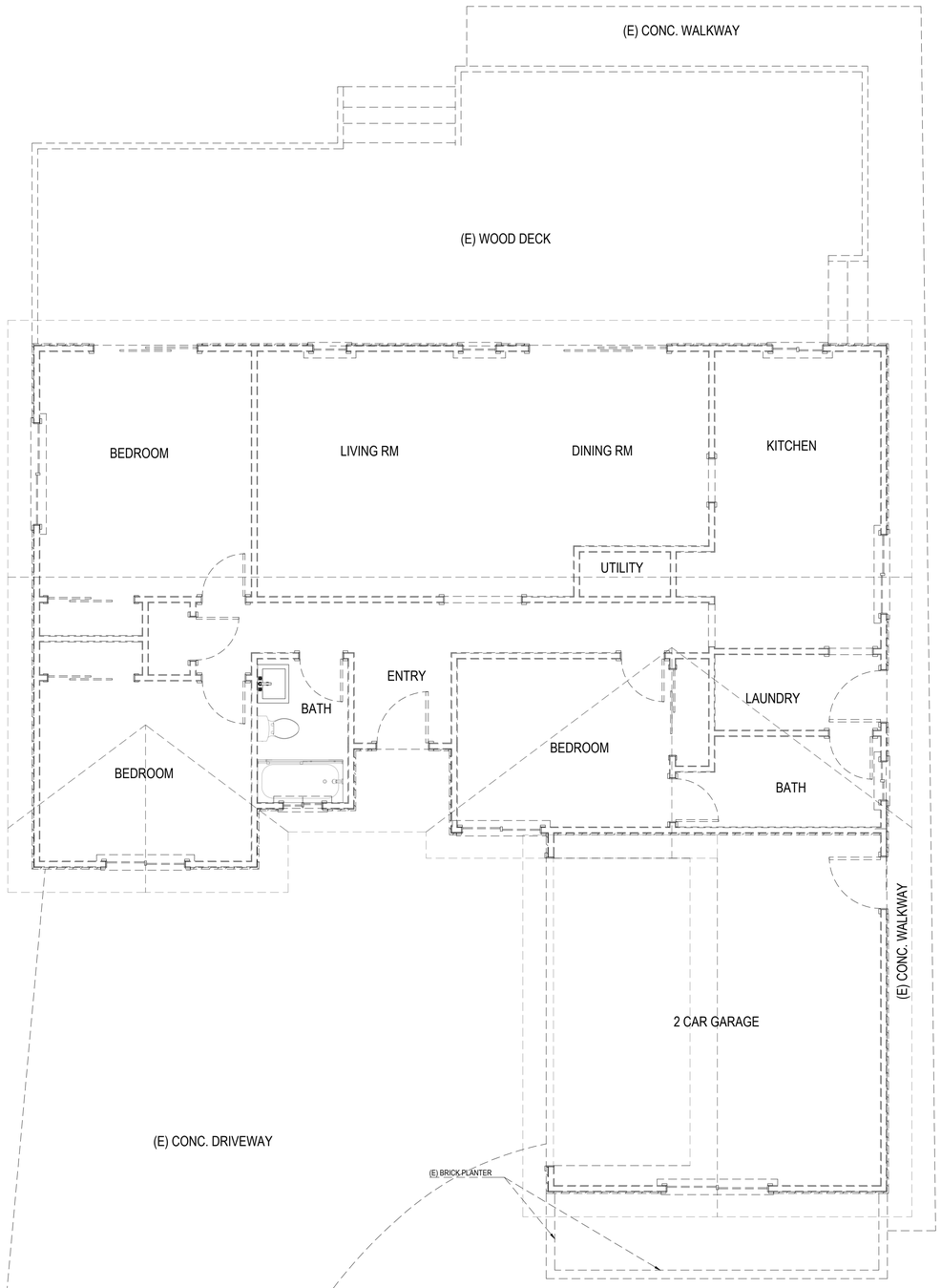
Date: July 26, 2019
Scale: 1/8"=1'-00"

DRAWING TITLE: EXISTING AND PROPOSED SITE PLAN

Sheet : 5 OF 19

Page No. : A.101

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



3 EXISTING / DEMO. PLAN

Scale: 1/4" = 1' - 00"

GENERAL DEMOLITION NOTES

1 - ALL DASHED WALLS, DOORS, AND WINDOWS ARE TO BE REMOVED.
2 - CONTRACTOR TO INSTALL TEMPORARY SHORING AS REQ'D. TO SUPPORT STRUCTURE UNTIL NEW PERMANENT SUPPORT IS IN PLACE.
3 - REMOVE EXISTING ROOF FRAMING AS INDICATED BY DASHED AREAS ON PLAN.
4 - REMOVE EXISTING SIDING MATERIAL AS REQ'D. AND PREPARE FOR NEW PER PLAN.
5 - REMOVE OF ALL SURROUNDING HARDSCAPES:
-DRIVEWAY
-FOUNDATION
-CEMENT WALKWAYS
-EXISTING DECK
-EXISTING BRICK PLANTER AREA
-EXISTING BRICK BBQ PIT.

GENERAL RENOVATION NOTES

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

FINISH NOTES

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

CONSTRUCTION PHASING PLAN:

PHASE I.
CONSTRUCT ADU UNIT FIRST, WHILE MAINTAINING ELECTRICAL, WATER, SEWER, GAS, AND ALL NECESSARY UTILITY CONNECTIONS TO EXISTING HOUSE TO MAINTAIN HABITABILITY OF EXISTING HOUSE DURING ADU CONSTRUCTION. ADU UTILITY CONNECTIONS SHALL CONNECT TO AND SHARE WITH EXISTING HOUSE WITHOUT DISRUPTING EXISTING HOUSE UTILITY SERVICE DURING CONSTRUCTION. SEE MEP PLAN FOR DETAILS.

PHASE II. DEMOLISH EXISTING HOUSE PER DEMO PLAN AND CONSTRUCT NEWLY PROPOSED MAIN HOUSE PER PLAN. UTILITY CONNECTIONS FOR WATER, GAS, AND SEWAGE FOR MAIN HOUSE SHALL SHARE JOIN WITH ADU CONNECTIONS. MAIN HOUSE SHALL HAVE SEPARATE ELECTRICAL CONNECTIONS FROM ADU. SEE MEP PLAN FOR DETAILS. PROVIDE SAFE ACCESS TO ADU CLEAR OF CONSTRUCTION DEBRIS AND MATERIALS WHILE MAIN HOUSE CONSTRUCTION IS IN PROCESS.

PHASE III. CLEAN-UP AND REMOVE ALL CONSTRUCTION MATERIAL AND DEBRIS ON ENTIRE PROPERTY AT COMPLETION OF MAIN HOUSE CONSTRUCTION.

WALLS TO BE DEMOLISHED

WALLS TO REMAIN

DEMOLITION NOTES

1. DEMOLITION DRAWINGS ARE SCHEMATIC. REMOVE ALL WORK AS INDICATED AND AS REQUIRED TO COMPLETE NEW CONSTRUCTION AS INDICATED. REFER TO CIVIL ENGINEERING, LANDSCAPE, MECHANICAL AND ELECTRICAL DRAWINGS FOR FEATURES NOT OTHERWISE SHOWN.
2. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
3. NOTIFY LOCAL AGENCY HAVING JURISDICTION PRIOR TO STARTING DEMOLITION WORK. COMPLY WITH ALL AGENCY REQUIREMENTS.
4. OWNER WILL REMOVE FURNITURE, STORED MATERIALS AND MOVABLE EQUIPMENT IN THE AREA OF WORK PRIOR TO START OF DEMOLITION.
5. VERIFY EXISTING CONDITIONS AND INVERT ELEVATIONS OF UNDERGROUND UTILITIES PRIOR TO DEMOLITION. NOTIFY DESIGNER OF DISCREPANCIES AND REQUEST DIRECTION.
6. DRAWINGS ARE PREPARED FROM INFORMATION MADE AVAILABLE BY THE OWNER AND ARE NOT A GUARANTEE OF EXISTING OR CONCEALED CONDITIONS.
7. PROVIDE ALL SHORING, BRACING AND SUPPORTS REQUIRED TO PREVENT SETTLEMENT OR DISPLACEMENT.
8. DISCONNECT ALL AFFECTED UTILITIES PRIOR TO STARTING DEMOLITION WORK.
9. NEATLY CUT AND REMOVE SURFACES AND FINISHES AS REQUIRED OR TO A NATURAL POINT OF DIVISION TO ENABLE INSTALLATION OF UTILITIES OR OTHER CONCEALED WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED FOR SUPPORT OR RENOVATION.
10. PROTECT EXISTING WORK DESIGNATED TO REMAIN FROM DAMAGE DUE TO DEMOLITION AND RECONSTRUCTION WORK.
11. REPAIR AND REPLACE ALL EXISTING SURFACES AND FINISHES TO MATCH EXISTING UNDISTURBED WORK.
12. CAP ALL ABANDONED UTILITIES BEHIND FACE OF NEW FINISHES, INCLUDING FINISH GRADE OR PAVING, RECORD ALL LOCATIONS ON RECORD DOCUMENTS.
13. SEE SITE PLAN(S) FOR DEMOLITION OF SITE FEATURES NOT OTHERWISE INDICATED, INCLUDING PAVING, UNDERGROUND UTILITIES AND SERVICES.
14. SEE STRUCTUAL DRAWINGS FOR DEMOLITION OF SHEAR WALLS, INTERIOR PARTITIONS, AND TRENCHES FOR INSTALLATION OF UNDERGROUND UTILITIES.
15. SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR DEMOLITION OF ITEMS NOT OTHERWISE INDICATED, INCLUDING UNDERGROUND OR CONCEALED UTILITIES AND SERVICES.
16. ALL DEMOLISHED MATERIALS ARE THE PROPERTY OF THE CONTRACTOR, EXCEPT FOR SUCH ITEMS AS THE OWNER WISHES TO CLAIM. STOCKPILE THESE ITEMS ON THE SITE AS DIRECTED BY THE OWNER.
17. REMOVE DEMOLISHED MATERIALS FROM SITE AND DISPOSE OF IN A LEGAL MANNER AT A LOCAL RECYCLING FACILITY.
18. REMOVE ALL EXISTING NAILS, TACKS, STAPLES, HANGER WIRES, SIGNAL WIRES, CABLES AND SIMILAR ITEMS FROM SURFACES TO REMAIN. PREPARE ALL REMAINING SURFACES /SUBSTRATE TO RECEIVE INDICATED FINISHES.
19. REMOVE AND STORE DESIGNATED EQUIPMENT / MATERIALS FOR RE-INSTALLATION AS INDICATED.
20. SELECTIVE DEMOLITON INDICATED IN THESE CONTRACT DOCUMENTS EXCLUDES REMOVAL OF HAZARDOUS MATERIALS AND TOXIC SUBSTANCES.
21. PRIOR TO START OF WORK, REFER TO HAZARDOUS MATERIALS SURVEY OR ABATEMENT DOCUMENTATION PROVIDED BY OWNER. HAZARDOUS MATERIALS MAY BE PRESENT ON THE SITE OR IN EXISTING CONSTRUCTION. THESE CONTRACT DOCUMENTS DO NOT CONTAIN MEASURES OR PRECAUTIONS FOR HAZARDOUS MATERIALS ABATEMENT.
22. IF HAZARDOUS MATERIALS ARE DISCOVERED OR SUSPECTED DURING DEMOLITION OPERATIONS, STOP WORK AND NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS IMMEDIATELY. TAKE MEASURES TO PROTECT WORKERS AND PUBLIC. DIRECT ALL QUESTIONS ABOUT HAZARDOUS MATERIALS TO THE OWNER'S REPRESENTATIVE.
23. COORDINATE DEMOLITION WITH WORK OF HAZARDOUS MATERIAL ABATEMENT WORK AS DIRECTED BY OWNER.

PixelArch ltd.
US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: July 26, 2019
Scale: 1/4"=1'-00"

DRAWING TITLE: EXISTING / DEMO. PLAN

Sheet : 6 OF 19

Page No. : A.102

No.	Revision/Issue	Date
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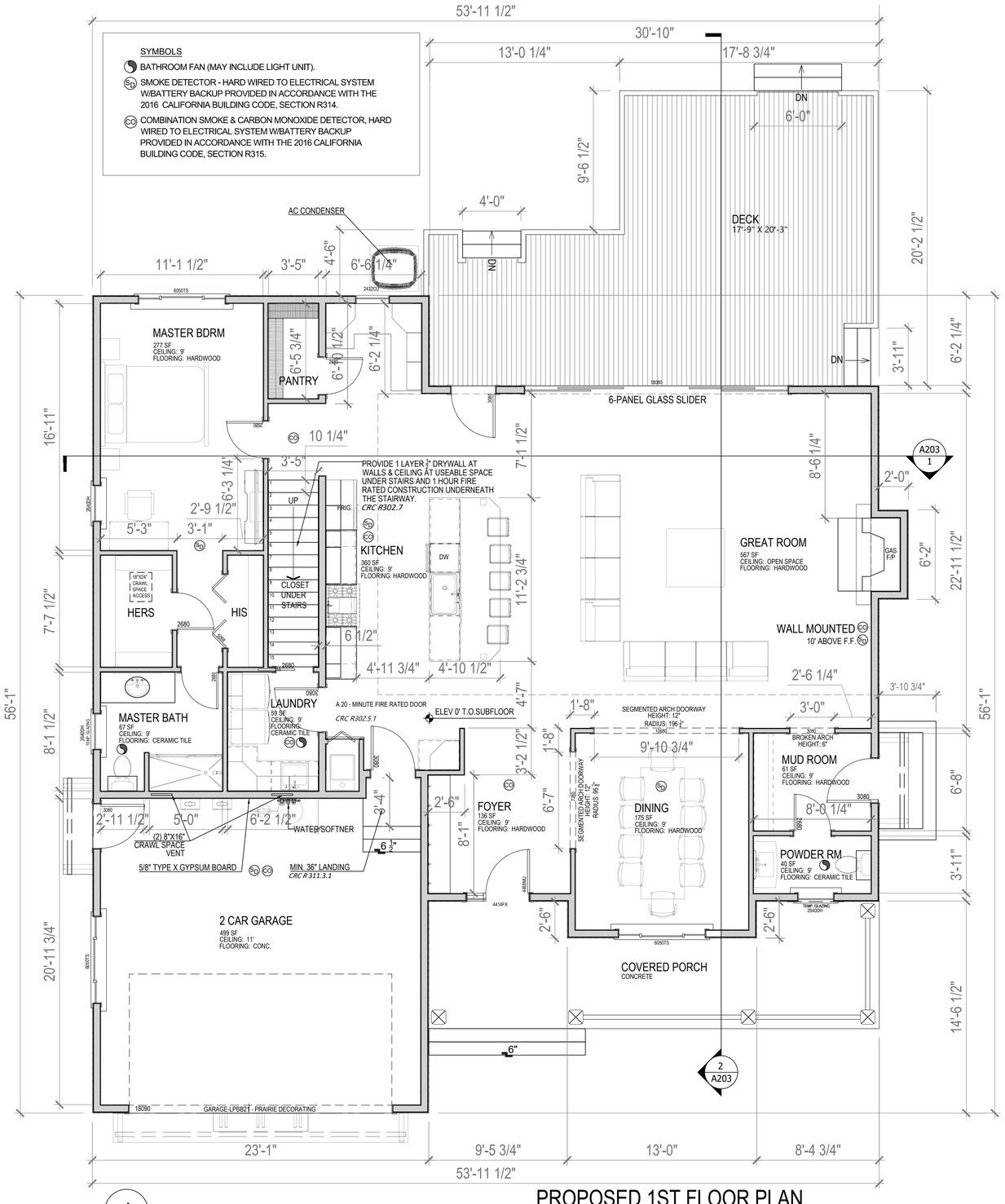
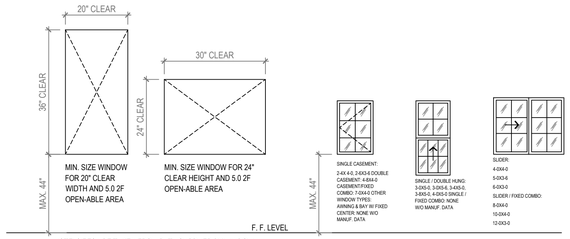


4

PROPOSED 1ST FLOOR PLAN

Scale: 1/4" = 1' - 00"



NOTE: SIZES ARE TAKEN FROM DATA SUPPLIED BY WINDOW MANUFACTURES. HOWEVER, THESE ARE GENERAL DIMENSIONS AND MUST BE VERIFIED WITH ACTUAL WINDOWS INSTALLED TO MEET MIN. EGRESS REQUIREMENTS.

SECTION 1026 OF THE 2016 INTERNATIONAL BUILDING CODE /SECTION 310 OF THE 2016 INTERNATIONAL RESIDENTIAL CODE

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

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

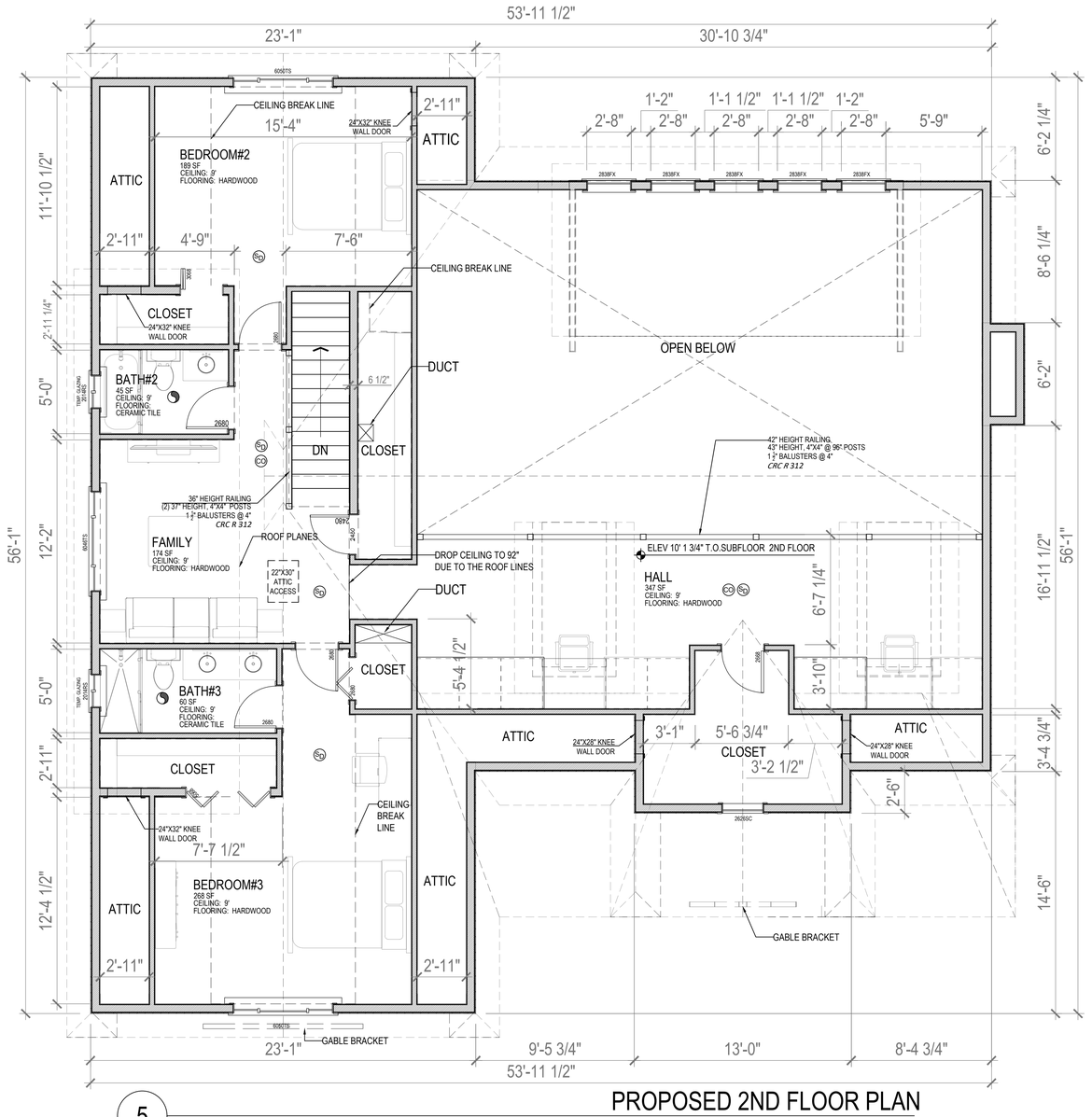
WHEN REPLACING EXISTING NONCONFORMING WINDOWS REQUIRED FOR EMERGENCY ESCAPE AND RESCUE THE REPLACEMENT WINDOWS MUST MEET THE FOLLOWING:

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

ADDITIONAL GLAZING REQUIREMENTS:

FOR MINIMUM LIGHT, ALL SLEEPING ROOMS AND OTHER HABITABLE ROOMS REQUIRE GLAZING EQUAL TO AT LEAST 8% OF THE FLOOR AREA OF THE ROOM. MINIMUM VENTILATION OF 4% OF THE FLOOR AREA. SEE THE INTERNATIONAL BUILDING OR RESIDENTIAL CODES AS APPLICABLE FOR EXCEPTIONS AND A COMPLETE LIST OF LIGHT AND VENTILATION REQUIREMENTS.

SAFETY GLAZING IS REQUIRED IN DOORS, STORM DOORS, RAILINGS, WITHIN 24 INCHES OF A DOOR, OR WHEN PANES ARE OVER 9 SQUARE FEET AND WITHIN 18 INCHES OF THE FLOOR. SEE THE INTERNATIONAL BUILDING OR RESIDENTIAL CODES FOR EXCEPTIONS AND A COMPLETE LIST OF SAFETY GLAZING REQUIREMENTS.



5

PROPOSED 2ND FLOOR PLAN

Scale: 1/4" = 1' - 00"

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+1 909 939 2585 info@pixelarchltd.com
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Date: July 26, 2019
Scale: 1/4"=1'-00"

DRAWING TITLE: PROPOSED FLOOR PLANS (MAIN HOUSE)

Sheet : 7 OF 19

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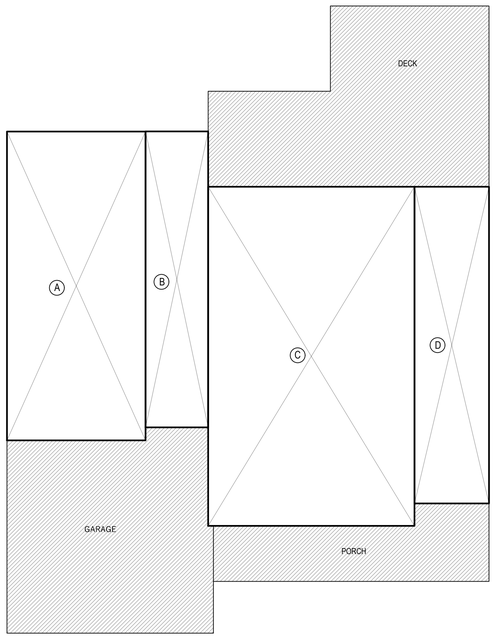
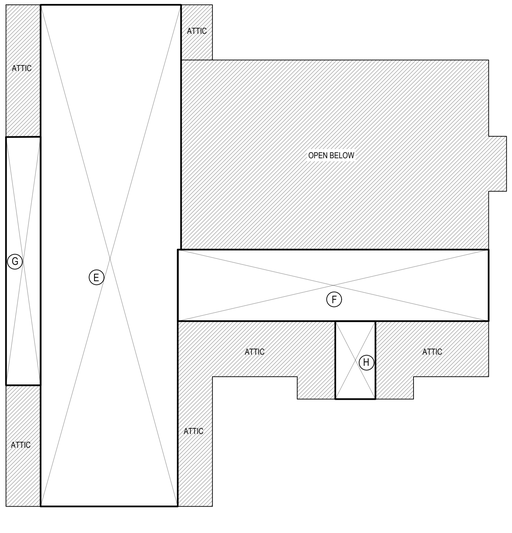
No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



6 PROPOSED 1ST FLOOR PLAN

Scale: 1/8" = 1' - 00"



7 PROPOSED 2ND FLOOR PLAN

Scale: 1/8" = 1' - 00"

FLOOR AREA CALCULATION		
LABLE	SUBJECT	AREA
	1ST FLOOR	
A	15'-6" X 34'-6 1/2"	535 SF
B	7'-0" X 33'-1"	231.5 SF
C	23'-1" X 37'-11"	874.3 SF
D	8'-4" X 35'-5"	294.6 SF
	TOTAL	1935.4 SF
	2ND FLOOR	
E	15'-8 1/2" X 56'-1"	870.3 SF
F	34'-9" X 8'-0"	278.1 SF
G	27'-9 1/2" X 3'-10 1/2"	107.6 SF
H	8'- 8" X 4'-6"	39.1 SF
	TOTAL	1295.1 SF
	TOTAL	3230.5 SF
	FLOOR AREA RATIO TOTAL	
	LOT SIZE	7971 SF
	F.A.R.	.40 (40.5%)

20.100.1030 FLOOR AREA RATIO EQUAL TO OR LESS THAN FORTY-FIVE HUNDREDTHS (.45)

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REMODEL AND ADU ADDITION FOR

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Date: July 26, 2019

Scale: 1/8"=1"-00"

DRAWING TITLE: PROPOSED SPACE PLANING CONFIGURATION

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

8 PROPOSED SOUTH (FRONT) ELEVATION

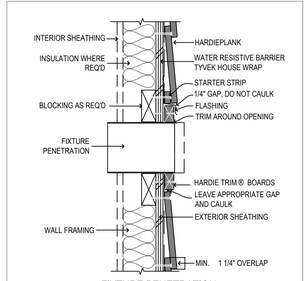
Scale: 1/4" = 1' - 00"

9 PROPOSED WEST ELEVATION

Scale: 1/4" = 1' - 00"

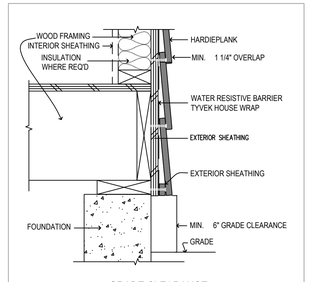
HARDIEPLANK HZ10 5/16 IN. X 8.25 IN. X 144 IN. FIBER CEMENT SELECT SMOOTH LAP SIDING (COLOR BY OWNER)

STANDING SEAM METAL ROOF



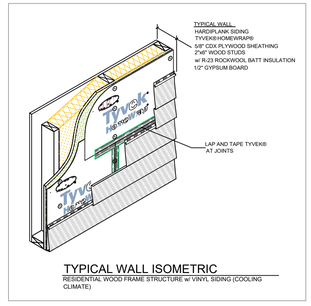
FIXTURE PENETRATION

NTS



GRADE CLEARANCE

NTS



TYPICAL WALL ISOMETRIC

RESIDENTIAL WOOD FRAME STRUCTURE w/ VINYL SIDING (COOLING CLIMATE)

FINISH NOTES:

RENDERINGS ARE NOT TO SCALE; ALL RENDERINGS ARE FOR ARTISTIC DEPICTION ONLY. PLAN UPDATES MAY NOT BE REFLECTED IN RENDERINGS. RENDERINGS SHALL NOT BE USED FOR CONSTRUCTION.

BASE BOARDS SHALL BE 6" IN ALL ROOMS, UNO.
FINAL FINISHES SHALL BE CONFIRMED WITH THE HOME OWNER PRIOR TO APPLICATION.

EXTERIOR FINISH NOTES:

EXTERIOR FINISH TO BE FIBER CEMENT SIDING OVER 5/8 CDX PLYWOOD. WINDOW & DOOR TRIM CEDAR. MATERIAL AND COLOR BY OWNER.
ROOFING TO BE STANDING SEAM METAL ROOFING OVER 30#FELT 5/8, CDX PLYWOOD.
DECKING TO BE TREX OR WOOD. FINAL MATERIAL AND COLOR BY OWNER.
CHIMNEYS ARE DECORATIVE AND PROVIDE FOR VENTING OF GAS FIREPLACES ONLY.
DOWNSPOUTS TO BE COLLECTED AND ROOF RUN OFF TO BE DIRECTED AWAY FROM STRUCTURE PER THE SITE PLAN.
FINISH GRADE SHALL SLOPE AWAY FROM STRUCTURE MIN" 1/2. PER FOOT OF RUN FOR ' 4MIN.
BASALT RETAINING WALLS TO MATCH EXISTING RETAINING WALL.

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REMODEL AND ADU ADDITION FOR

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Date: July 26, 2019
Scale: 1/4"= 1'-00"

DRAWING TITLE: PROPOSED SOUTH AND WEST ELEVATIONS

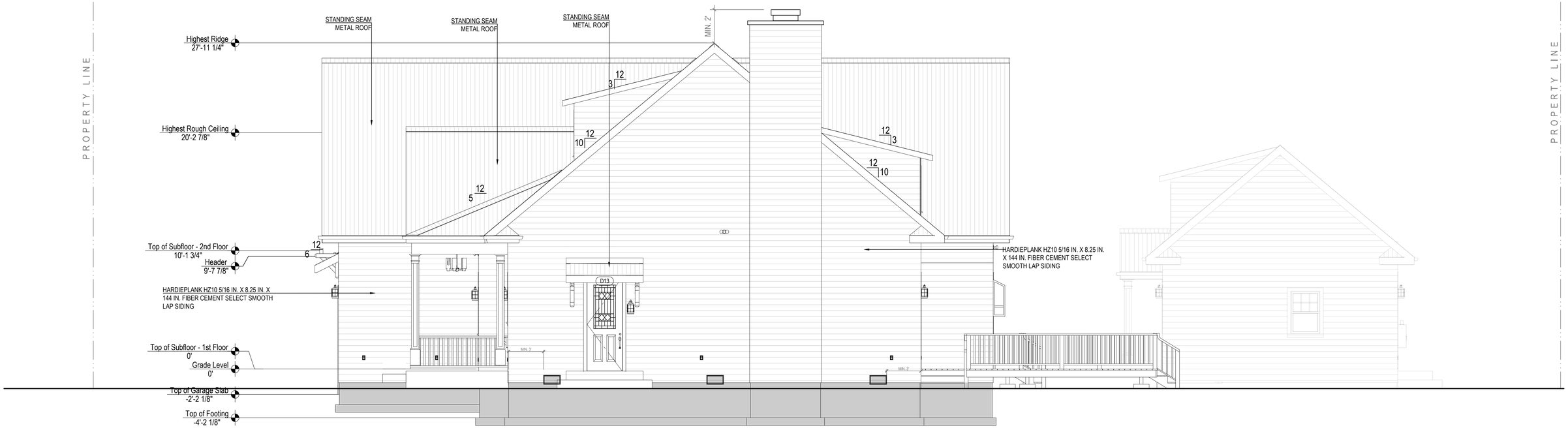
Sheet : 9 OF 19

Page No. : A. 201

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

10 PROPOSED NORTH ELEVATION

Scale: 1/4" = 1' - 00"



11 PROPOSED EAST ELEVATION

Scale: 1/4" = 1' - 00"

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. 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 COLORS FOR SIDING, TRIM, WINDOWS, ROOFING, ETC. ARE TO MATCH EXISTING FINISHES AND COLORS.

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 7-¾" 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 ½" MIN. REQUIRED PER R506.1

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REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: July 26, 2019
Scale: 1/4"=1'-00"

DRAWING TITLE: PROPOSED NORTH AND EAST ELEVATIONS

Sheet : 10 OF 19

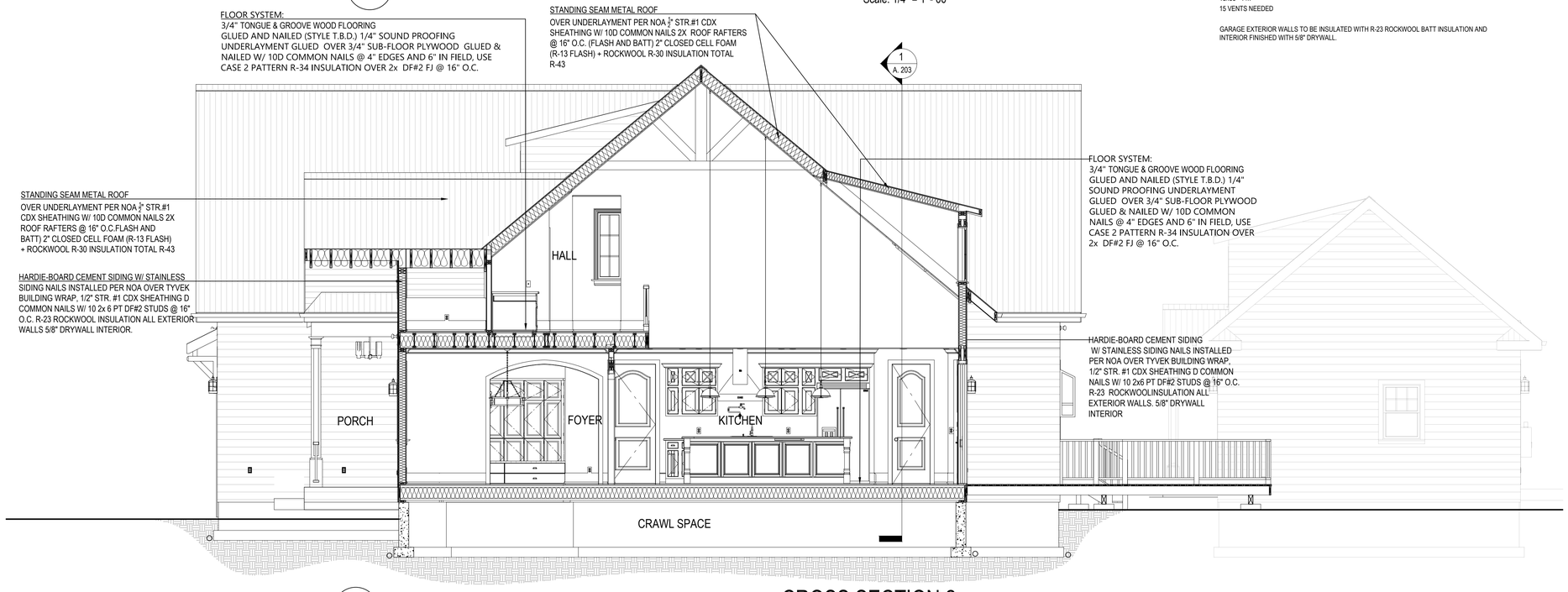
Page No. : A. 202

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

1

CROSS SECTION 1

Scale: 1/4" = 1' - 00"

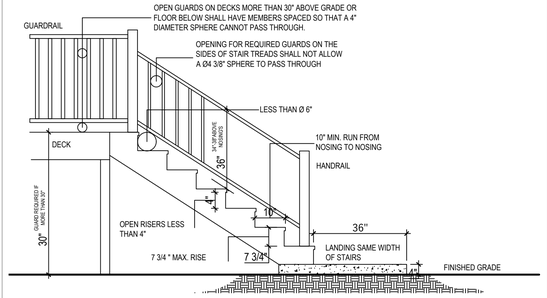


2

CROSS SECTION 2

Scale: 1/4" = 1' - 00"

CODE REQUIREMENTS BASED ON THE 2016 INTERNATIONAL 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 11" OR MORE.
COMPOSITE MATERIALS MAY REQUIRE ADDITIONAL STRINGERS.

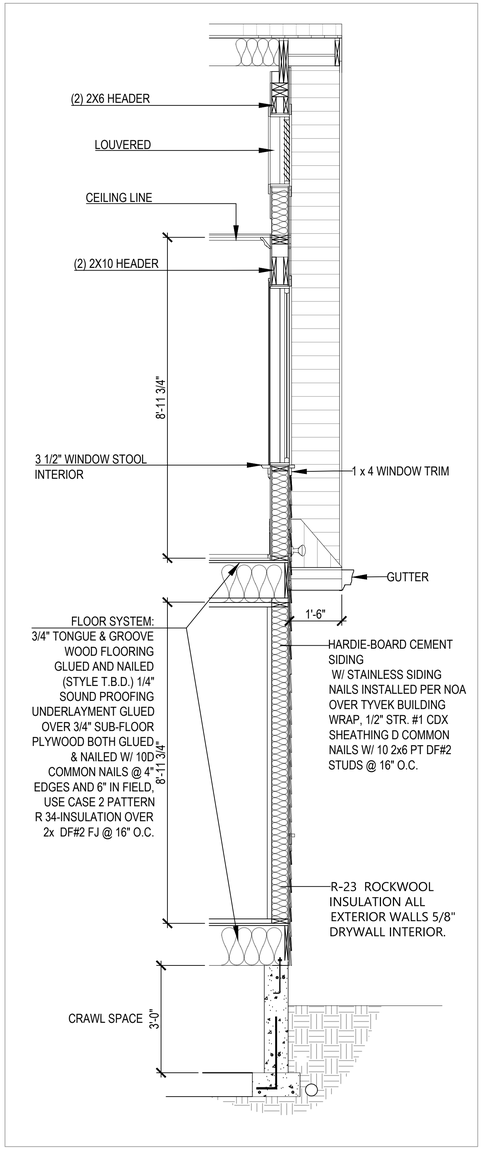
BUILDING CODE REQUIREMENT

ANY ACCESS DOOR TO THE CRAWL SPACE MUST BE AT LEAST 18X24 INCHES (2015 INTERNATIONAL CONFORM TO SPECIFICATIONS RESIDENTIAL CODE (IRC) - SECTION R408.4).

ANY DRAIN LOCATED IN THE CRAWL SPACE MUST BE ALLOWED TO RUN OFF AND TERMINATE OUTDOORS OR NEED TO MEET SPECIFICATIONS TO AN INTERIOR CRAWL SPACE DRAIN OR SUMP PUMP. CRAWL SPACE DRAINS MAY NOT RUN OFF TO GUTTERS OR FOUNDATION PERIMETER DRAINS, AND DRYER VENTS MUST BE TERMINATED OUTDOORS (2015 IRC – SECTIONS R405 AND P2719).

(R408.1), 2009 IRC- OPENINGS FOR UNDER-FLOOR VENTILATION:
THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1 SQUARE FOOT (0.0929 M2) FOR EACH 150 SQUARE FEET (14 M2) OF UNDER-FLOOR SPACE AREA.
1849/150= 13 SF
(8"X16") VENT DIMENSION=.88 SF
13/.88= 14.7
15 VENTS NEEDED

GARAGE EXTERIOR WALLS TO BE INSULATED WITH R-23 ROCKWOOL BATT INSULATION AND INTERIOR FINISHED WITH 5/8" DRYWALL.



12

EXTERIOR WALL DETAILS

Scale: 1/2" = 1' - 00"

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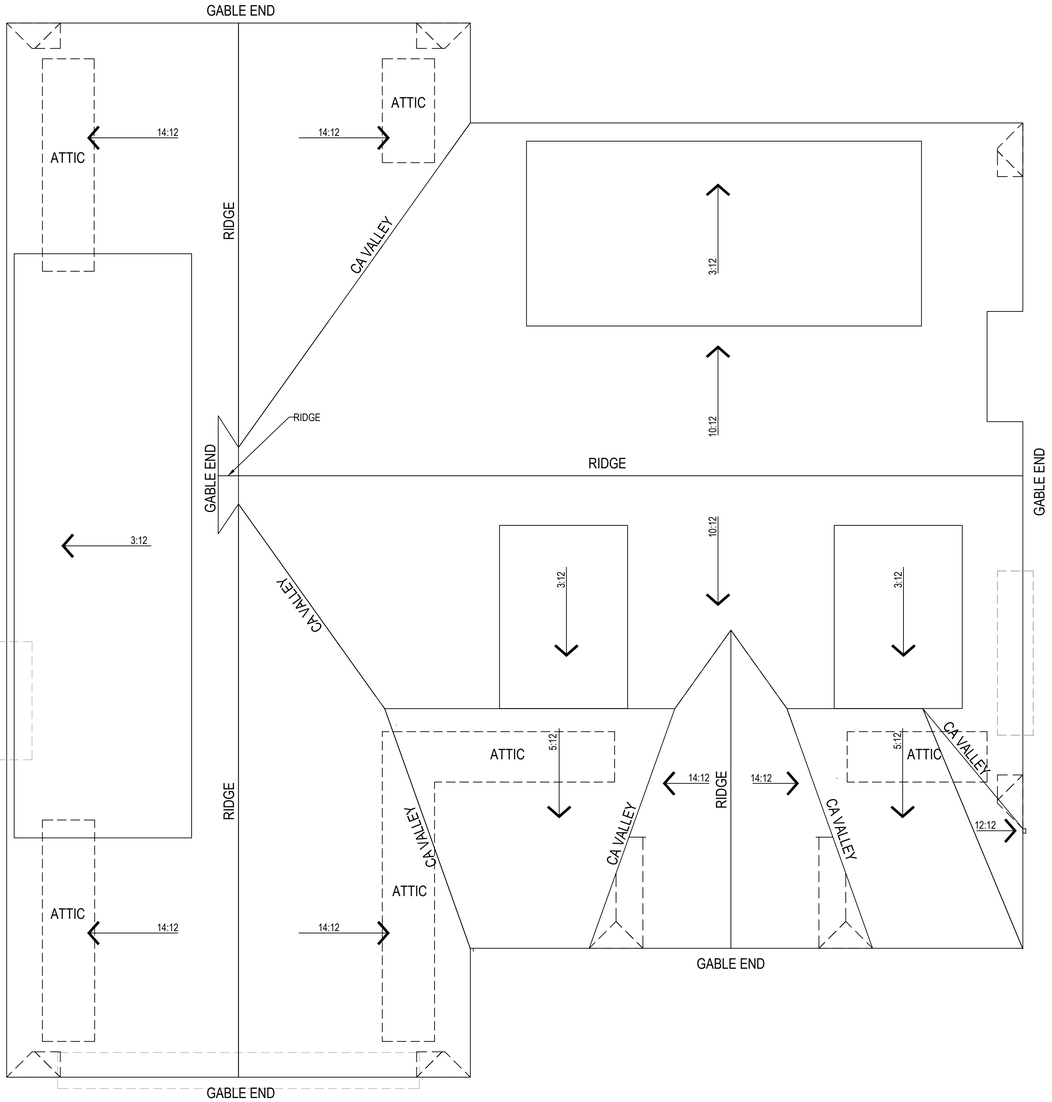
DRAWING TITLE: PROPOSED CROSS SECTIONS

Sheet : 11 OF 19

Page No. : A. 203

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



13 PROPOSED ROOF PLAN

Scale: 1/4" = 1' - 00"

ROOF AREA VENTILATION:

CONTRACTOR TO PROVIDE NEW ROOF AREA VENTILATION AS REQUIRED BELOW. CONTRACTOR SHALL VERIFY EXISTING ROOF VENTILATION AND MAINTAIN SUCH IN AREAS WHERE EXISTING ROOF IS TO BE REWORKED.

ROOF AREA:	188.2 S.F.
VENTILATION CALC:	188.2 S.F./300 = .6 S.F.
REQ'D VENTILATION:	86.5 SQ. IN
EAVE VENTING (50%):	43.2 SQ. IN/9 SQ IN = 4.8 BAYS
UPPER ATTIC VENTING (50%):	43.243.2 SQ IN/150 SQ IN = .3 DORMER

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.

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Date: July 26, 2019

Scale: 1/4"=1'-00"

DRAWING TITLE: PROPOSED ROOF PLAN (MAIN HOUSE)

Sheet : 12 OF 19

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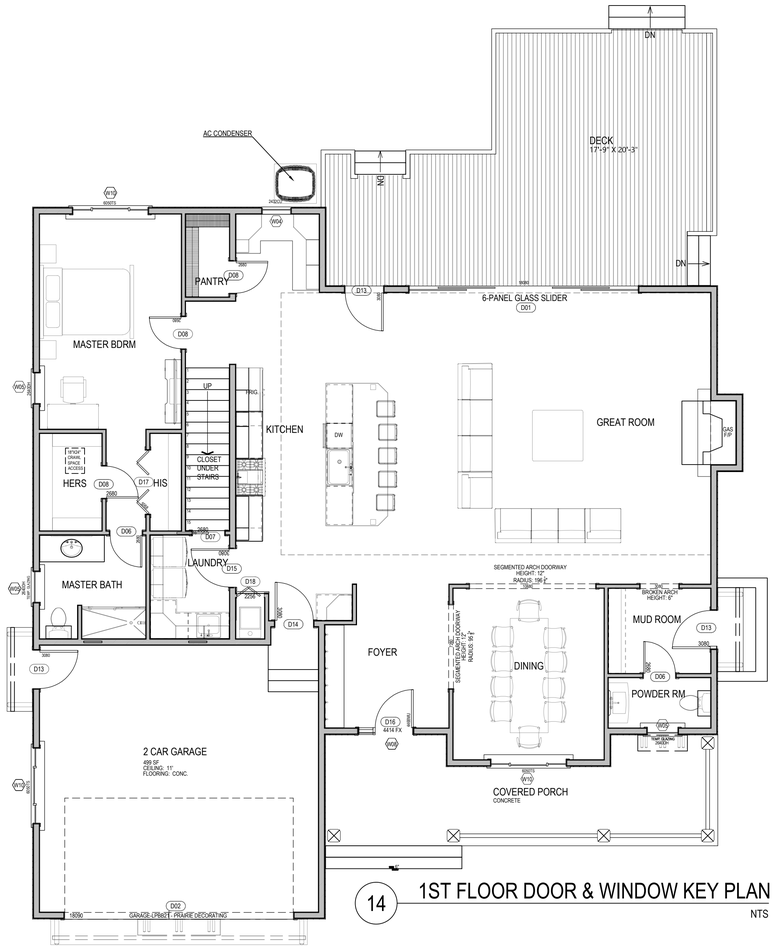
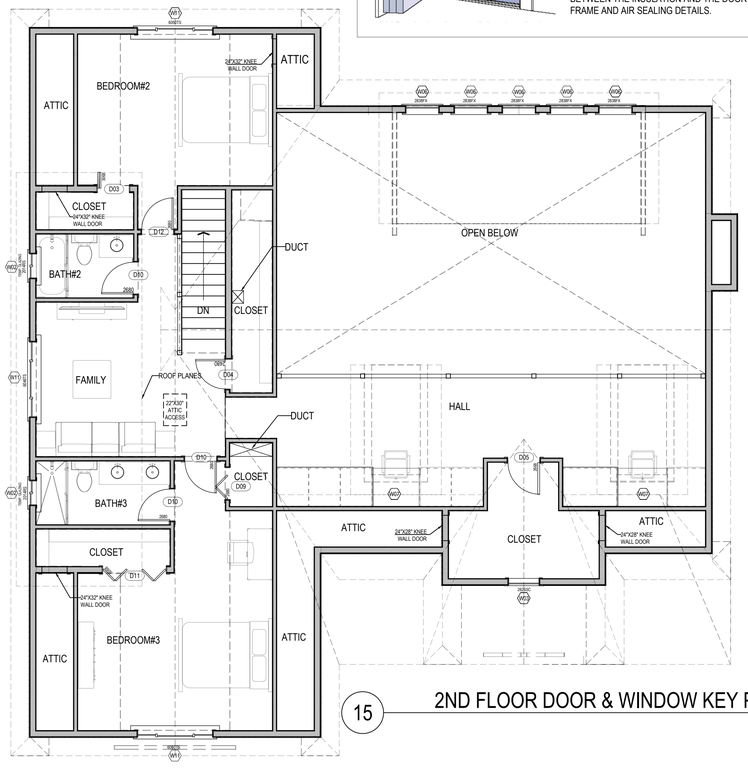
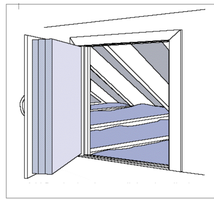
No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



14 1ST FLOOR DOOR & WINDOW KEY PLAN
NTS

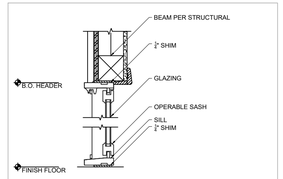


15 2ND FLOOR DOOR & WINDOW KEY PLAN
NTS

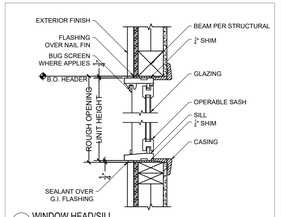


ATTIC ACCESS KNEE-WALL DOOR

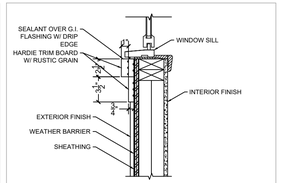
ADD R-VALUE TO A KNEE-WALL DOOR BY ADHERING RIGID INSULATION BOARDS (SANDWICHED TOGETHER WITH CONSTRUCTION ADHESIVE AND SCREWS) TO THE BACK OF THE DOOR. PAY SPECIAL ATTENTION TO THE BACK OF THE DOOR. PAY SPECIAL ATTENTION TO THE CLEARANCE BETWEEN THE INSULATION AND THE DOOR FRAME AND AIR SEALING DETAILS.



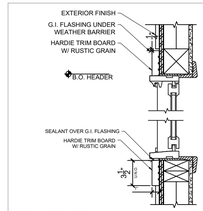
1 SLIDING GLASS DOOR HEAD/SILL
NTS



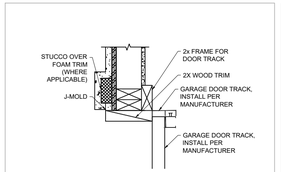
2 WINDOW HEAD/SILL
NTS



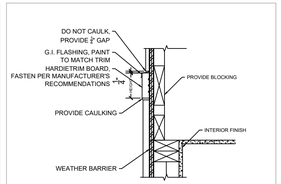
3 HARDIE SILL
NTS



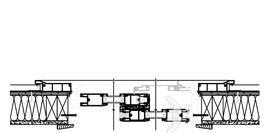
4 HARDIE TRIM
NTS



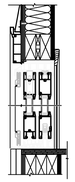
5 GARAGE DOOR JAMB
NTS

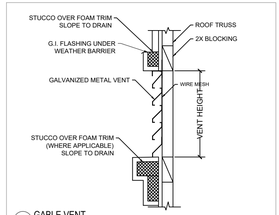


6 HARDIETRIM BOARD
NTS



8 WOOD SIDING - STANDARD 5" BM - PANEL GLASS SLIDER DOOR
NTS





7 GABLE VENT
NTS

ENERGY NOTES

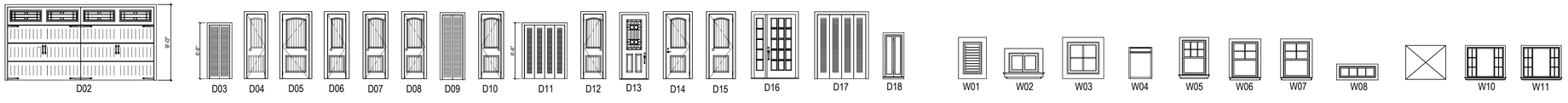
1. ALL OPENABLE WINDOWS AND SLIDING DOORS SHALL LIMIT AIR LEAKAGE AND BE CERTIFIED AND LABELED TO COMPLY WITH ANSI STANDARD AIS 4.2-1972.
2. FIXED WINDOWS SHALL BE SEALED TO LIMIT AIR INFILTRATION.
3. ALL EXTERIOR DOORS AND WINDOWS ARE TO BE WEATHERSTRIPPED.
4. SITE BUILT DOORS MOUNTED ON THE INSIDE OR THE OUTSIDE OF EXTERIOR WALLS SHALL HAVE A MIN. 1" LAP AT JAMPS.
5. OPEN EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES BETWEEN WALLS, FOUNDATIONS, ROOFS, PANELS, AND AT PENETRATION OF UTILITIES THRU THE ENVALOPE, SHALL BE SEALED, CAULKED, OR WEATHERSTRIPPED TO LIMIT AIR LEAKAGE.
6. PROVIDE A "CERTIFICATE OF COMPLIANCE" SIGNED BY THE OWNER, G.C., ARCHITECT, OR ENGINEER TO THE BLDG. DEPARTMENT STATING THAT THE WORK HAS BEEN PERFORMED AND MATERIALS INSTALLED ACCORDING TO THE PLANS AND SPECIFICATIONS AFFECTING NON-RESIDENTIAL ENERGY.
7. INSULATION SHALL BE INSTALLED TO MEET FLAME SPREAD AND SMOKE DENSITY REQUIREMENTS OF 5311 AND TITLE 24.

DOOR SCHEDULE

Number	Label	Qty	Floor	Size	Width	Height	R/O	Description	Header	Thickness	Manufacturer	Comments	EX/IN	Finish	Floor	SHGC	Swing Side	U-Factor
D01	18080	1	1	18080 L/R EX	216 "	96 "	218"x99"	Ext. 6-Panel glass slider	2x12x221" (2)	1 3/4"	to be chosen by owner		EX	Color - White, Glass	1	0.25		0.32
D02	18090	1	1	18090	216 "	108 "	218"x111"	Garage-LPBB21 - Prairie Decratrim	2x12x224" (2)	1 3/4"	to be chosen by owner		EX	Color - White, Glass Standard, Chrome Polished 1		0.25		0.32
D03	3068	1	2	3068 L	36 "	80 "	38"x82 1/2"	2 Dr. Bifold-Louvered	2x6x41" (2)	1 3/8"	to be chosen by owner		IN	Color - White	2	0.25		0.32
D04	2480	1	2	2480 R IN	28 "	96 "	30"x98 1/2"	Hinged-Door	2x6x33" (2)	1 3/4"	to be chosen by owner		IN	Color - White	2	0.25	Out	0.32
D05	2668	1	2	2668L IN	30 "	80 "	32"x82 1/2"	Hinged-Door	2x6x35" (2)	1 3/8"	to be chosen by owner		IN	Color - White	2	0.25	In	0.32
D06	2680	2	1	2680 L IN	30 "	96 "	32"x98 1/2"	Hinged-Door	2x6x35" (2)	1 3/4"	to be chosen by owner		IN	Color - White	1	0.25	Out	0.32
D07	2680	1	1	2680 R	30 "	96 "	62"x98 1/2"	Pocket-Door	2x6x65" (2)	1 3/4"	to be chosen by owner		IN	Color - White	1	0.25		0.32
D08	2680	3	1	2680 R IN	30 "	96 "	32"x98 1/2"	Hinged-Door	2x6x35" (2)	1 3/4"	to be chosen by owner		IN	Color - White	1	0.25	In	0.32
D09	2680	1	2	2680 L	30 "	96 "	32"x98 1/2"	2 Dr. Bifold-Louvered	2x6x35" (2)	1 3/4"	to be chosen by owner		IN	Color - White	2	0.25	Out	0.32
D10	2680	3	2	2680 L IN	30 "	96 "	32"x98 1/2"	Hinged-Door	2x6x35" (2)	1 3/4"	to be chosen by owner		IN	Color - White	2	0.25	In	0.32
D11	5068	1	2	5068R IN	60 "	80 "	62"x82 1/2"	4 Dr. Bifold-Louvered	2x8x65" (2)	1 3/8"	to be chosen by owner		IN	Color - White	1	0.25		0.32
D12	2680	1	2	2680 R IN	30 "	96 "	32"x98 1/2"	Hinged-Door	2x6x35" (2)	1 3/4"	to be chosen by owner		IN	Color - White	2	0.25		0.32
D13	3080	3	1	3080 L EX	36 "	96 "	38"x99"	ext. Hinged-Door L05	2x6x41" (2)	1 3/4"	to be chosen by owner		EX	Color - White, Glass Standard, Color - Light	1	0.25	In	0.32
D14	3080	1	1	3080 L EX	36 "	96 "	38"x99"	ext. Hinged-Door PS02	2x6x41" (2)	1 3/4"	to be chosen by owner		EX	Color - White	1	0.25	In	0.32
D15	3080	1	1	3080 R IN	36 "	96 "	38"x98 1/2"	Hinged-Door PS02	2x6x41" (2)	1 3/4"	to be chosen by owner		IN	Color - White	1	0.25	In	0.32
D16	4468MU	1	1	4468 R EX	52 "	80 "	53"x81"	Mulled Unit	2x8x56" (2)		to be chosen by owner		EX	Color - White	1	0.25		0.32
D17	5080	1	1	5080 R IN	60 "	96 "	62"x98 1/2"	4 Dr. Bifold-Louvered	2x8x65" (2)	1 3/4"	to be chosen by owner		IN	Color - White	1	0.25		0.32
D18	2256	1	1	2256L	26"	66"	28"x68 1/2"	2 Dr. Bifold-Louvered Panel	2x6x31" (2)	1 3/8"	to be chosen by owner		IN	Color - White	1	0.25		0.32

WINDOW SCHEDULE

Number	Label	Qty	Floor	Size	Width	Height	R/O	Egress	Description	Header	Dimensions	Divided Lites	Glazing Type	SHGC	Tempered	U-Factor	Manufacturer	Comments
W01	1220LV	2	2	1220LV	14 "	24 "	15"x25"		Louvered	2x6x18" (2)	14"x24"LV							Attic vent
W02	2014RS	2	2	2014RS	24 "	16 "	25"x17"		Right Sliding	2x6x28" (2)	24"x16"RS	1 / 1	Double Pane	0.4	TEMP. GLAZING	0.35		
W03	2020FX	1	2	2020FX	24 "	24 "	25"x25"		Fixed Glass	2x6x28" (2)	24"x24"FX	2x2	Double Pane	0.4		0.35		
W04	2432CU	1	1	2432CU	28 "	38 "	28"x38"		Garden	2x6x31" (2)	2432CU			0.4		0.35		
W05	2640DH	3	1	2640DH	30 "	48 "	31"x49"		Double Hung	2x6x34" (2)	30"x48"DH	3x2 / 1	Double Pane	0.4	TEMP. GLAZING	0.35		
W06	2838FX	5	2	2838FX	32 "	44 "	33"x45"		Fixed Glass	2x6x36" (2)	32"x44"DH	2x2 / 1	Double Pane	0.4		0.35		
W07	2838DH	2	DORMER WINDOW	2838DH	32 "	44 "	33"x45"		Double Hung	2x6x36" (2)	32"x44"DH	2x2 / 1	Double Pane	0.4		0.35		
W08	4414FX	1	1 ABOVE ENTRY	4414FX	52 "	16 "	53"x17"		Fixed Glass	2x8x56" (2)	52"x16"FX	4x1	Double Pane	0.4		0.35		
W10	6050TS	3	1	6050TS	72 "	60 "	73"x61"		Triple Sliding	2x10x76" (2)	72"x60"TS	2x3 / 1 / 2x3	Double Pane	0.4		0.35		
W11	6050TS	3	2	6050TS	72 "	60 "	73"x61"		Triple Sliding	2x10x76" (2)	72"x60"TS	2x3 / 1 / 2x3	Double Pane	0.4		0.35		



PixelArch ltd.
US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3315Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

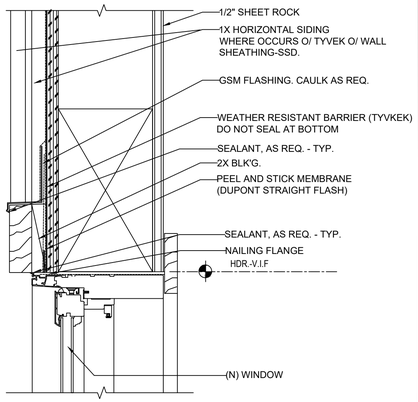
Date: July 26, 2019
Scale: NTS

DRAWING TITLE: PROPOSED DOOR & WINDOW SCHEDULE

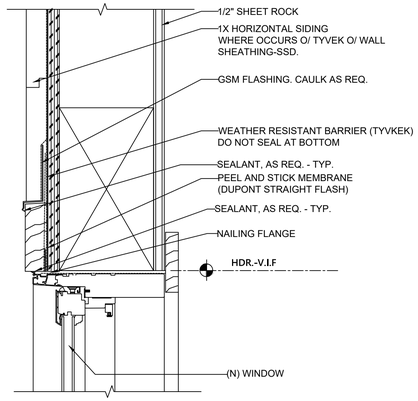
Sheet : 13 OF 19

Page No. : A. 301

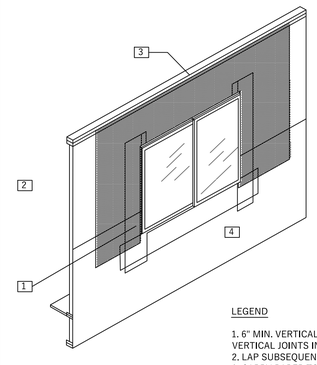
No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



WINDOW HEAD @ WD. BOARD & BATTEN SIDING 12



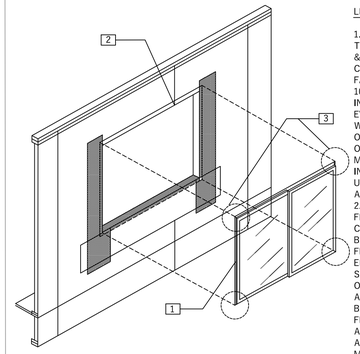
WINDOW HEAD @ HORIZONTAL SIDING 9



LEGEND

1. 6" MIN. VERTICAL LAP FOR ALL HORIZONTAL & VERTICAL JOINTS IN BUILDING PAPER.
2. LAP SUBSEQUENT COURSES OVER "MOISTOP".
3. CARRY PAPER TO UPPER EDGE OF TOP PLATE.
4. HOLD PAPER BACK 1" FROM WINDOW.

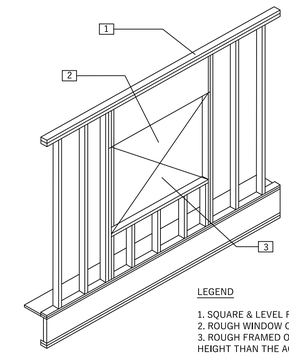
BUILDING PAPER-SECOND COURSE 7



LEGEND

1. SHIM & ADJUST WINDOW TO ACHIEVE SQUARE PLUMB & LEVEL CONDITION. USE CORROSION RESISTANT FASTENERS. FASTEN WITHIN 10" AND NO CLOSER THAN 3" IN EACH DIRECTION FROM EVERY CORNER. SECURE WINDOW AROUND FRAME OPENING WITH EQUIVALENT OF 64 FASTENERS AT 16" O.C. MAX. REFER TO MFG.'S INSTRUCTIONS REGARDING UPPER NAIL FIN ATTACHMENT.
2. TO SEAL THE WINDOW FRAME TO OPENING, APPLY CONTINUES SEALANT TO THE BACKSIDE OF THE MOUNTING FLANGE NEAR THE OUTER EDGE OR APPLY CONTINUES SEALANT TO PERIMETER OF OPENING AT A POINT TO ASSURE CONTACT WITH BACKSIDE OF MOUNTING FLANGE.
AFTER INSTALLATION, SEAL ALL CORNERS OF MECHANICALLY JOINT FRAMES TO SEAL FRAME SEAM JUNCTURE.

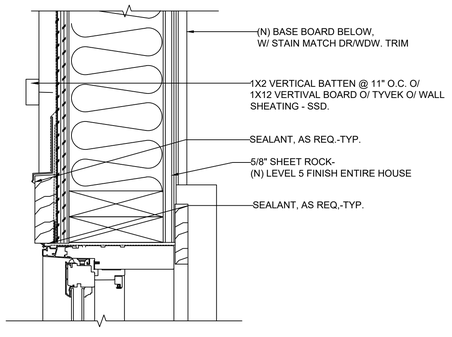
WINDOW INSTALLATION 4



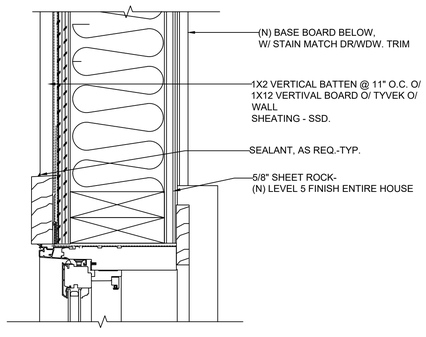
LEGEND

1. SQUARE & LEVEL FRAMING.
2. ROUGH WINDOW OPENING.
3. ROUGH FRAMED OPENING SUFFICIENTLY IN WIDTH & HEIGHT THAN THE ACTUAL FRAME DIMENSIONS OF THE WINDOW. TO ASSURE ADEQUATE CLEARANCE CONSULT THE WINDOW MANUFACTURED'S LITERATURE FOR THE RECOMMENDED ROUGH OPENING DIMENSIONS.

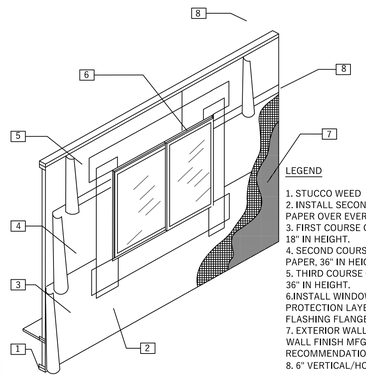
ROUGH WINDOW OPENING 1



WINDOW JAMB @ WD. BOARD & BATTEN SIDING 13



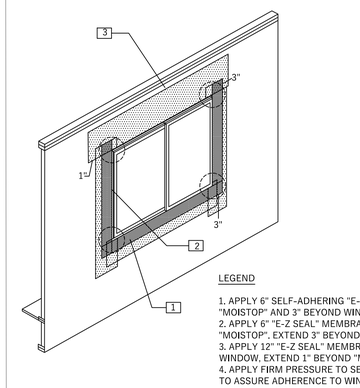
WINDOW JAMB@HORIZONTAL SIDING 10



LEGEND

1. STUCCO WEED
2. INSTALL SECOND LAYER OF 60 MIN. PAPER OVER EVERYTHING.
3. FIRST COURSE OF BUILDING PAPER, 18" IN HEIGHT.
4. SECOND COURSE OF BUILDING PAPER, 36" IN HEIGHT.
5. THIRD COURSE OF BUILDING PAPER, 36" IN HEIGHT.
6.INSTALL WINDOW HEAD FLASHING. PROTECTION LAYER LAPS OVER FLASHING FLANGE.
7. EXTERIOR WALL FINISH: INSTALL PER WALL FINISH MFG.'S RECOMMENDATION.
8. 6" VERTICAL/HORIZONTAL LAPS.

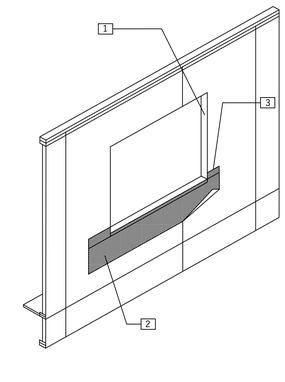
TRIM-FLASHING-PROTECTION COURSE 8



LEGEND

1. APPLY 6" SELF-ADHERING "E-Z SEAL" MEMBRANE OVER "MOISTOP" AND 3" BEYOND WINDOW FLANGE.
2. APPLY 6" "E-Z SEAL" MEMBRANE AT JAMBS OVER "MOISTOP", EXTEND 3" BEYOND WINDOW FLANGE.
3. APPLY 12" "E-Z SEAL" MEMBRANE AT HEADER OF WINDOW, EXTEND 1" BEYOND "MOISTOP".
4. APPLY FIRM PRESSURE TO SELF-ADHERING MEMBRANE TO ASSURE ADHERENCE TO WINDOW FINS.
5. CECH ALL CORNERS FOR PROPER SEAL OF SELF-ADHERING MEMBRANE.

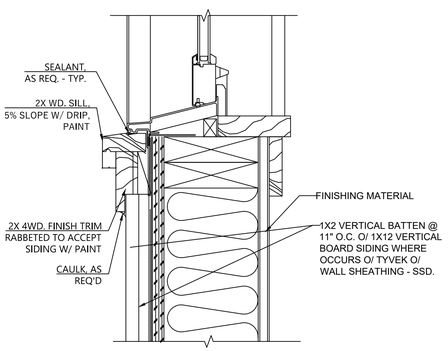
SELF-ADHESIVE MEMBRANE 5



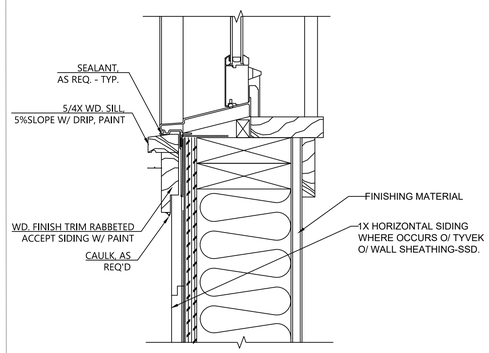
LEGEND

1. WALL SHEATHING (WHERE OCCURS). VERIFY SHEATHING EDGES FLUSH WITH FRAME OPENING AND COMPLETION OF STRUCTURAL NAILING & REINFORCEMENT BEFORE PROCEEDING.
2. APPLY 9" "MOISTOP" OR APPROVED EQUIVALENT SILL FLASHING HORIZONTALLY BELOW THE SILL. (WRAP FLASHING INTO ROUGH OPENING TO PROTECT FRAMING , AT RECESSED WINDOWS ONLY.) FASTEN THE TOP EDGE OF THE SILL FLASHING TO THE FRAMING. BUT DO NOT FASTEN THE LOWER EDGE, SO WEATHER RESISTANT BUILDING PAPER APPLIED LATER MAY BE SLIPPED UP & UNDERNEATH THE FLASHING IN WEATHER BOARD FASHION.
3. EXTEND "MOISTOP" OR APPROVED EQUIVALENT SILL FLASHING HORIZONTALLY 1" BEYOND VERTICAL JAMB FLASHING APPLIED LATER.

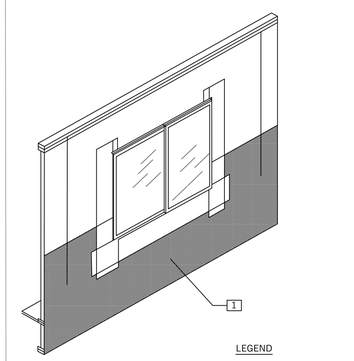
SILL FLASHING 2



WINDOW SILL @ WD. BOARD & BATTEN SIDING 14



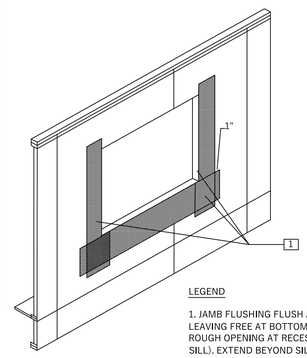
WINDOW SILL @ HORIZONTALN SIDING 11



LEGEND

1. INSERT FIRST COURSE 60 MIN. PAPER UNDER "MOISTOP" AND STAPLE "MOISTOP".

BUILDING PAPER- FIRST COURSE 6



LEGEND

1. JAMB FLUSHING FLUSH AT BOTH SIDES OF OPENING LEAVING FREE AT BOTTOM. (WRAP JAMB FLASHING INTO ROUGH OPENING AT RECESSED WINDOWS ONLY. SIMILAR AT SILL). EXTEND BEYOND SILL FLASHING ABOVE WHERE HEAD FLASHING WILL INTERSECT. LAP JAMB FLASHING OVER TOP SILL FLASHING. LEAVE PAPER FLASHING UNATTACHED FROM SILL DOWN.

JAMB FLASHING 3

PixelArch ltd.
US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: July 26, 2019
Scale: NTS

DRAWING TITLE:
BUILDING PAPER/ HOUSE WRAP DETAILS AROUND WINDOWS

Sheet : 14 OF 19
Page No. : A. 302

No.	Revision/Issue	Date
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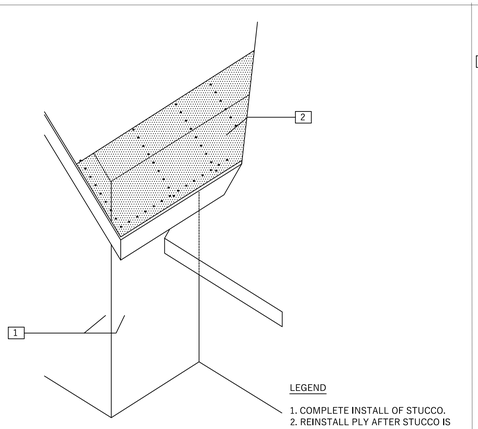
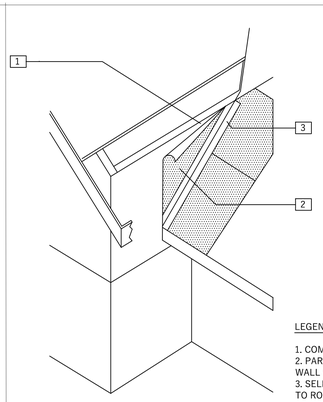


LEGEND

1. COMPLETE INSTALL OF STUCCO.
2. REINSTALL PLY AFTER STUCCO IS INSTALLED.

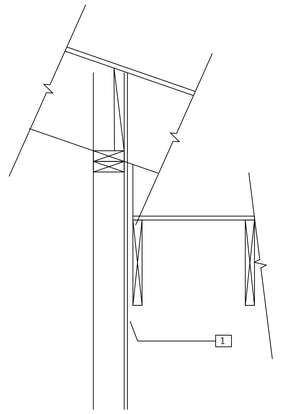
FINAL ROOF SHEATHING 7



LEGEND

1. COMPLETE PAPERING OF WALL.
2. PARTIAL INSTALL 30# ROOF FELT 18" UP WALL AND 24" ON ROOF TOP.
3. SELF-ADHERING MEMBRANE 3" ON WALL TO ROOF.

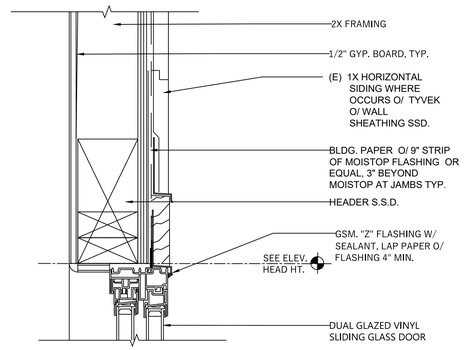
BUILDING PAPER TO WALL 4



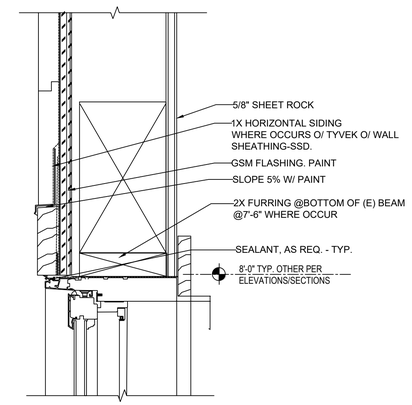
LEGEND

1. 1/2" CLEARANCE BETWEEN WALL AND ROOF SHEATHING.

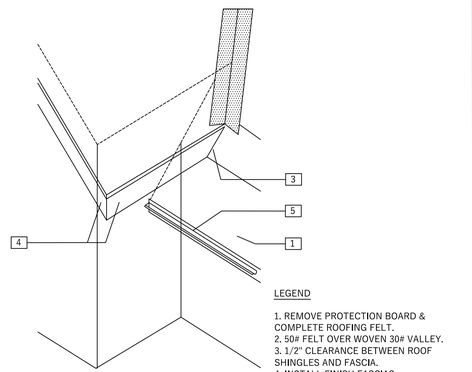
ROOF TO WALL 1



SLIDING GLASS DOOR HEAD/JAMB 18



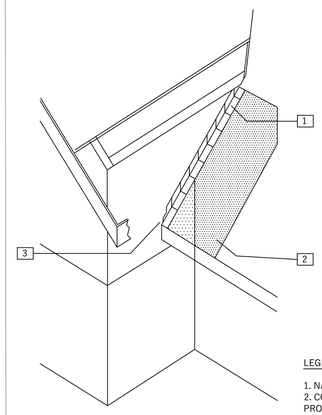
TYP. DOOR HEAD @ HORIZONTAL WD. SIDING 15



LEGEND

1. REMOVE PROTECTION BOARD & COMPLETE ROOFING FELT.
2. 50# FELT OVER WOVEN 30# VALLEY.
3. 1/2" CLEARANCE BETWEEN ROOF SHINGLES AND FASCIA.
4. INSTALL FINISH FASCIAS.
5. INSTALL GUTTERS.

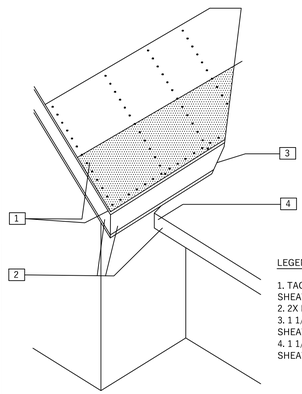
FINISH APPLICATION 8



LEGEND

1. NAIL G.I. FLASHING TO WALL.
2. COVER ROOF FELT WITH PROTECTION BOARD.
3. DIVERTER STEP FLASHING.

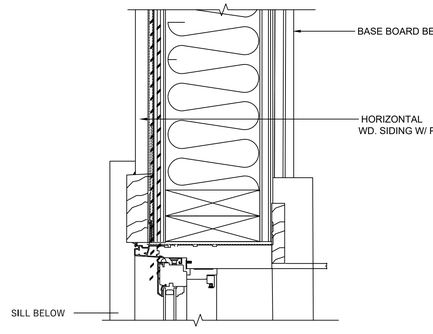
STEP FLASHING 5



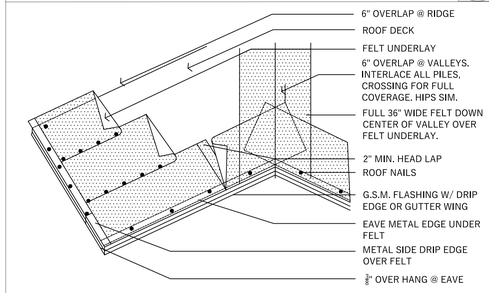
LEGEND

1. TACK NAIL LOWER EPIC OF ROOF SHEATHING.
2. 2X ROUGH FASCIA.
3. 1 1/2" CLEARANCE BETWEEN FASCIA AND SHEATHING.
4. 1 1/2" CLEARANCE BETWEEN WALL SHEATHING & ROOF RAFTER.

ROUGH FRAMING 2



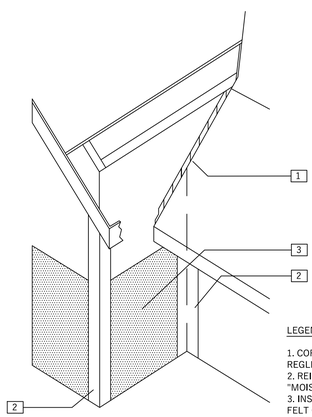
TYP. DOOR JAMB @ HORIZONTAL WD. SIDING 16



APPLICATION NOTES FOR LOW SLOPE, 2:12 TO LESS THAN 4:12 :

1. START W/ 1-19" WIDE SHEET OF FELT ALONG EAVE W/ ¾" OVERHANG.
2. TROWEL A CONTINUOUS LAYER OF ROOFING CEM. (@ A RATE OF 2 GAL. PER 100 SQ. FT) ON TO THE FELT.
3. PRESS 1-36" WIDE SHEET OF FELT FIRMLY ONTO THE CEM., & NAIL DOWN W/ GALV. ROOFING NAILS @ 12" O.C. ALONG A LINE 18" ABOUT THE BTM. EDGE OF THE FELT.
4. APPLY ROOFING CEM. TO THE UPPER 19" OF THE EXPOSED FELT.
5. COVER THE CEMENTED PORTION W/ THE NEXT SHEET OF FELT & NAILS.
6. REPEAT PROCESS UNTIL 24" INSIDE THE INTERIOR WALL LINE.
7. COVER THE REMAINING ROOF W/ DBL. LAYERS OF FELT, W/O CEM., UP TO THE RIDGE.

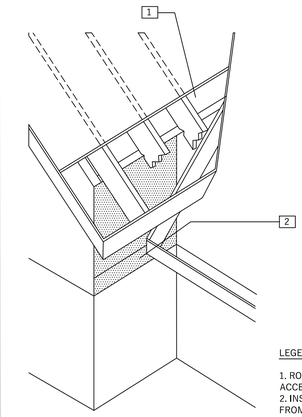
FELT UNDERLAYMENT 9



LEGEND

1. CORNER FLASH FLASHING WITH G.I. REGLET.
2. REINFORCE CORNERS WITH 12" "MOISTOP".
3. INSTALL SECOND COURSE OF 60 MINUTE FELT OVER REGLET AND STUCCO WEEP SCREED.

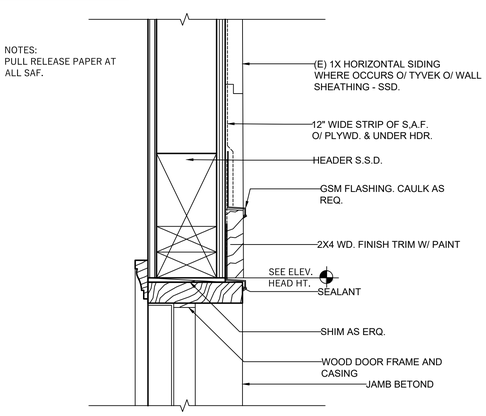
CORNER FLASHING 6



LEGEND

1. ROOF PLY TEMPORARILY MOVED FOR ACCESS.
2. INSTALL CONTINUOUS PIECE OF FELT FROM CORNER TO CORNER EXTENDING UP TO TOP PLATE.

FELT APPLICATION 3



DOOR HEAD/JAMB 17

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US Office:
1442N. Dale Ave. Anaheim, CA 92801

Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8

+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: July 26, 2019

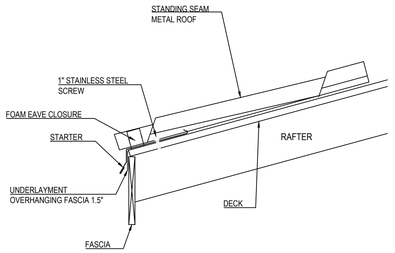
Scale: NTS

DRAWING TITLE:
BUILDING PAPER/ HOUSE WRAP DETAILS AROUND WALL TO ROOF TRANSITION

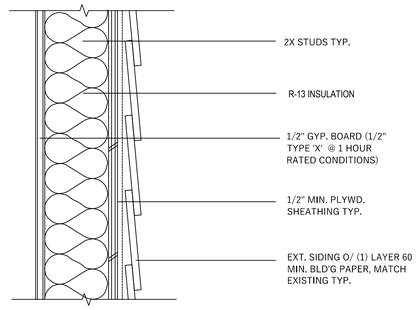
Sheet : 15 OF 19

Page No. : A. 303

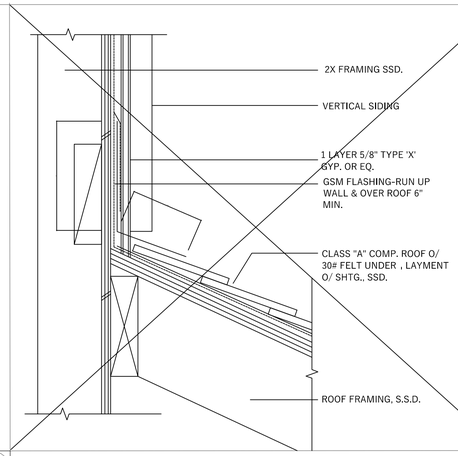
No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



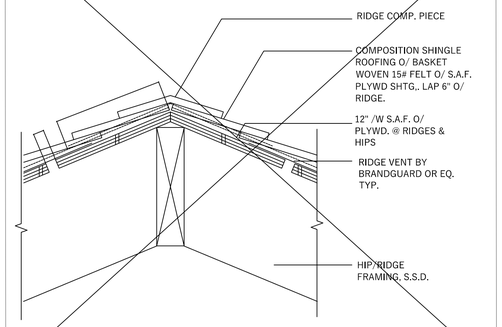
22 HORIZONTAL LAP SIDING



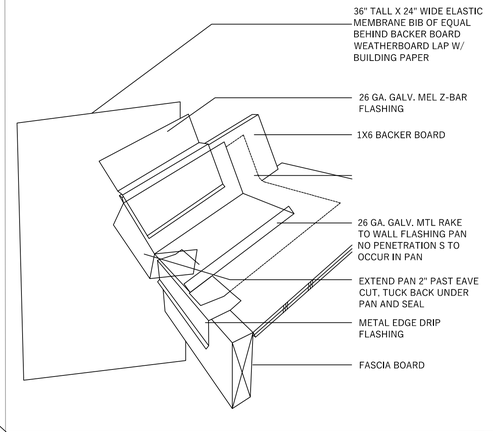
19 ROOF TO WALL PERP.



16 RIDGE



13 RAKE TO WALL DIVERTER



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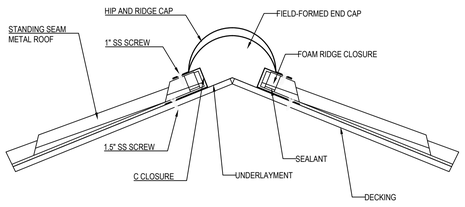
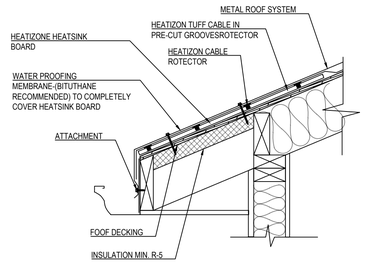


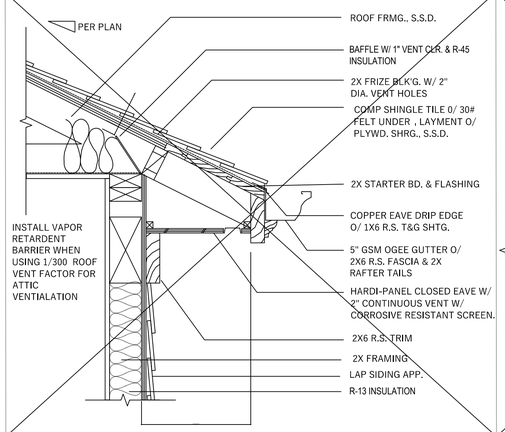
RIDGE CAP DETAIL 23

WARNING:
DO NOT CUT OR DAMAGE HEATIZON "TUFF CABLE"
OR IT'S INSULATOR IN ANY WAY.

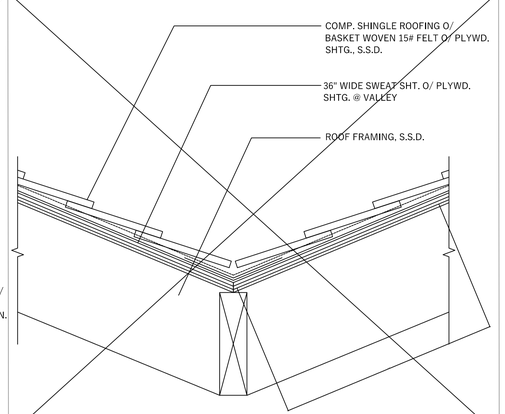


NOTE:
ALL ATTACHMENTS FOR ROOFING SYSTEM OR
OTHER COMPONENTS SHOULD BE MADE PRIOR TO
INSTALLATION OF WATER-PROOFING COVERING.

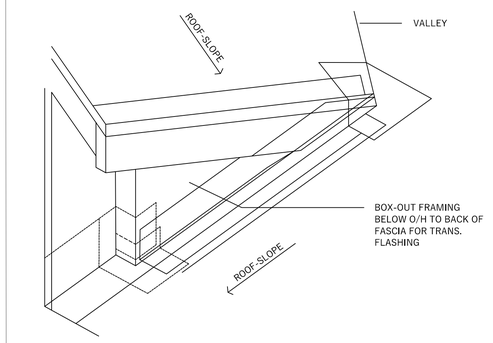
EAVE DETAIL-TUFF CABLE IN HEATSINK UNDER METAL ROOF 20



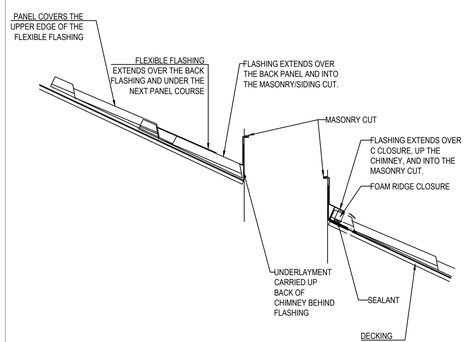
17 EAVE



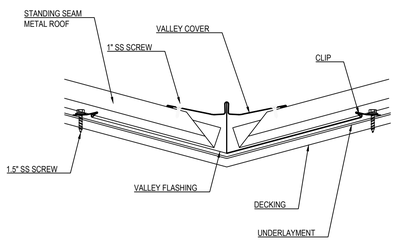
14 VALLEY



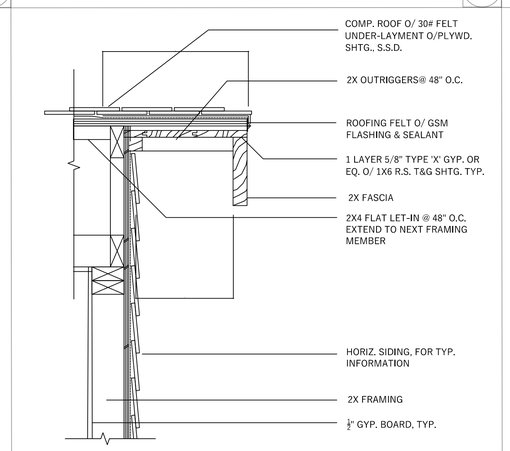
11 RAKE TO EAVE TRANSITION



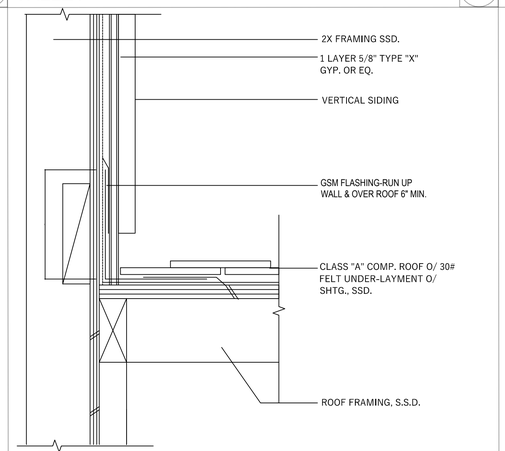
METAL ROOF CHIMNEY FLASHING DETAILS 24



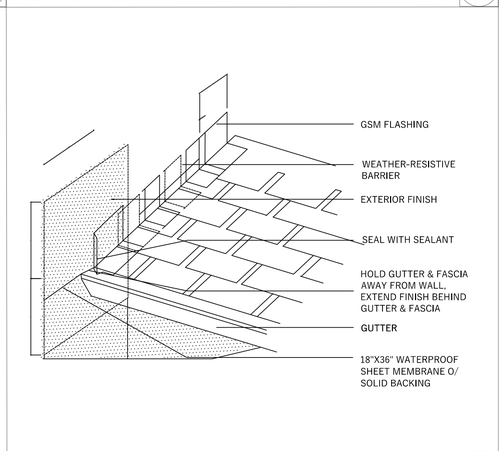
METAL ROOF VALLEY DETAIL 21



18 RAKE



15 ROOF TO WALL PARALLEL



12 ISOMETRIC EAVE PERP. TO WALL @ COMP.

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US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR

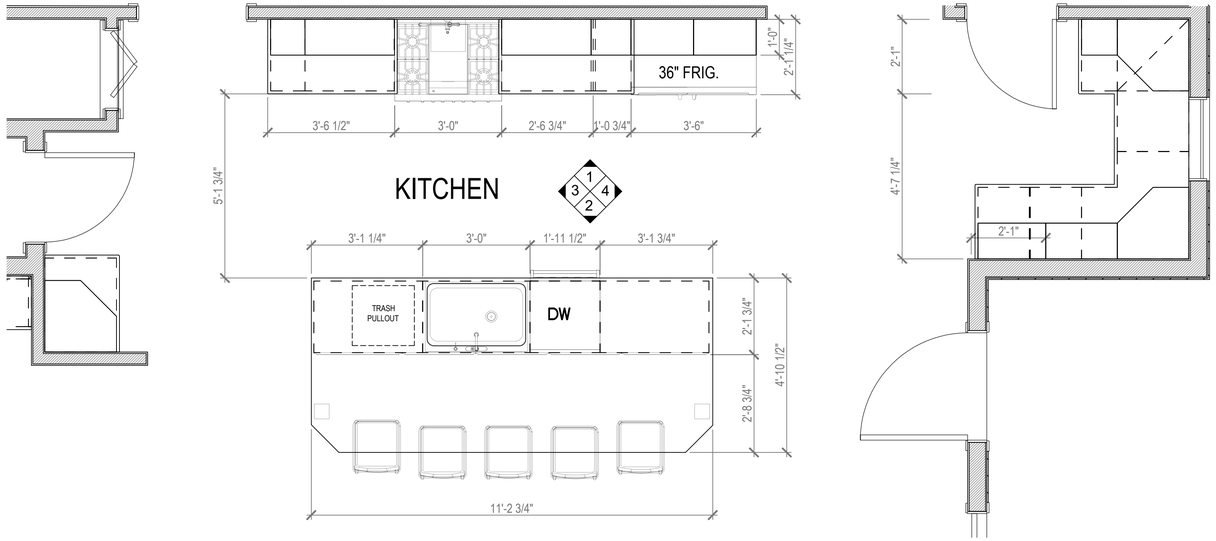
1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: July 26, 2019
Scale: NTS

DRAWING TITLE:
BUILDING PAPER/ HOUSE WRAP DETAILS AT
WALL TO ROOF TRANSITION

Sheet : 16 OF 19
Page No. : A. 304

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



16

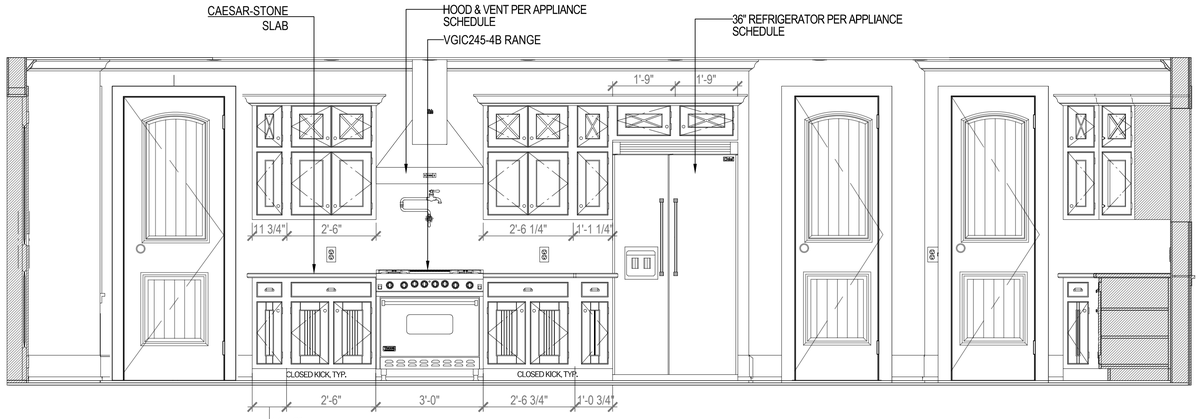
KITCHEN FLOOR PLAN

Scale:1/2" = 1' - 00"

17

KITCHEN ISO. VIEW

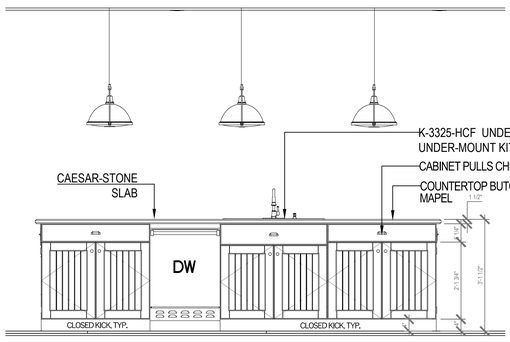
NTS

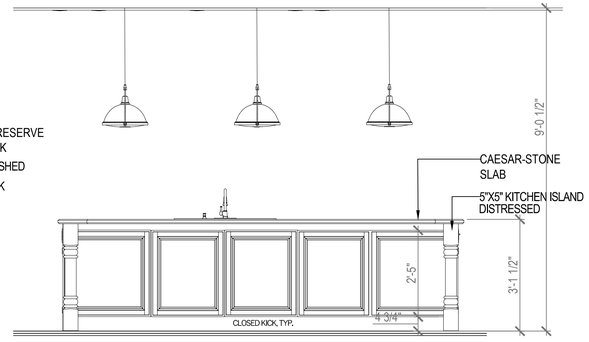


1

KITCHEN CABINETS INTERIOR ELEVATION

Scale:1/2" = 1' - 00"

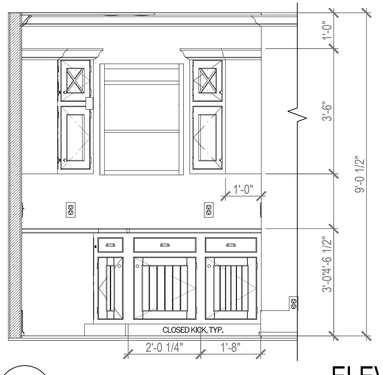




2

KITCHEN ISLAND

SCALE: 1/2"=1'-00"



4

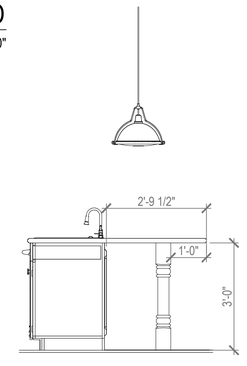
ELEVATION

Scale:1/2" = 1' - 00"

3

ELEVATION

Scale:1/2" = 1' - 00"



KITCHEN AND CABINET NOTES:

ALL CABINETS IN MAPLE CONFIRM COLOR WITH HOME OWNER PRIOR TO ORDERING.
CONFIRM DOOR & DRAWER STYLES WITH HOME OWNER PRIOR TO ORDERING.
INSTALL HARDWARE ON SITE.
INSTALL CROWN MOLDING ON SITE; MATCH CABINET COLOR; CONFIRM PROFILE AND DIMENSION WITH HOME OWNER.
CUT OVEN OPENING ON SITE, SEE APPLIANCE SPECIFICATIONS.
INSTALL HOOD AND ALL APPLIANCES PER MANUFACTURER SPECIFICATIONS.
ALL APPLIANCES TO BE ON DEDICATED CIRCUITS.
USE MIN 6" DUCT FOR HOOD.
CONFIRM FINAL MATERIALS FOR BACK SPLASH AND COUNTERTOP WITH HOME OWNER PRIOR TO ORDER.

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Canada Office
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REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: July 26, 2019
Scale: AS NOTED

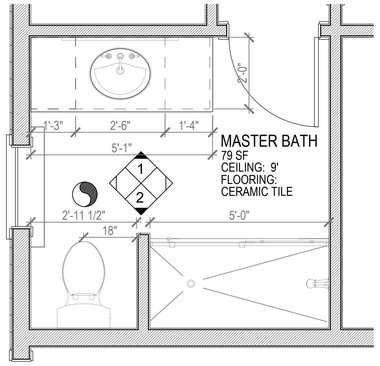
DRAWING TITLE: KITCHEN CABINETS INTERIOR ELEVATION

Sheet : 17 OF 19

Page No. :

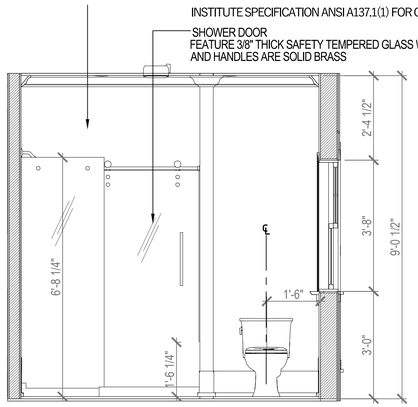
A. 401

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



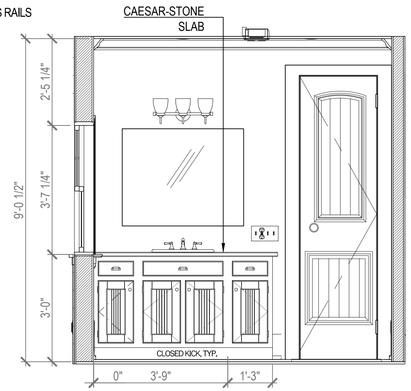
18 MASTER BATH FLOOR PLAN

Scale:1/2" = 1' - 00"



2 INTERIOR ELEVATION

Scale:1/2" = 1' - 00"

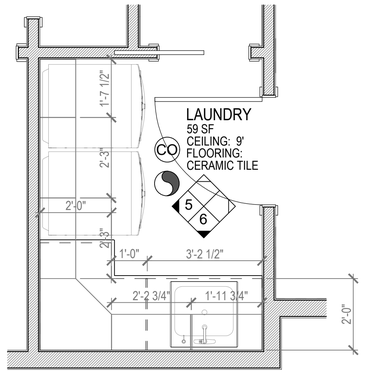


1 INTERIOR ELEVATION

Scale:1/2" = 1' - 00"

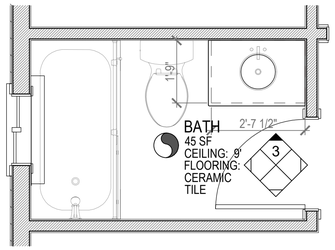
19 MASTER BATH ISO.

NTS



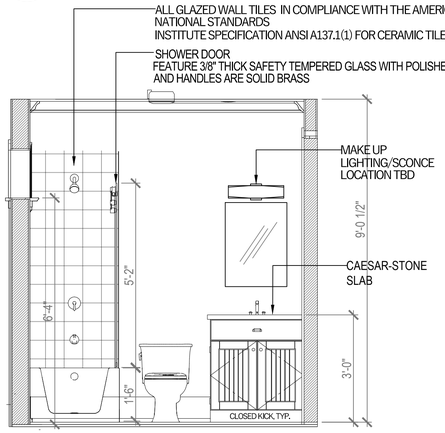
24 LAUNDRY FLOOR PLAN

SCALE: 1/2"= 1'-00"



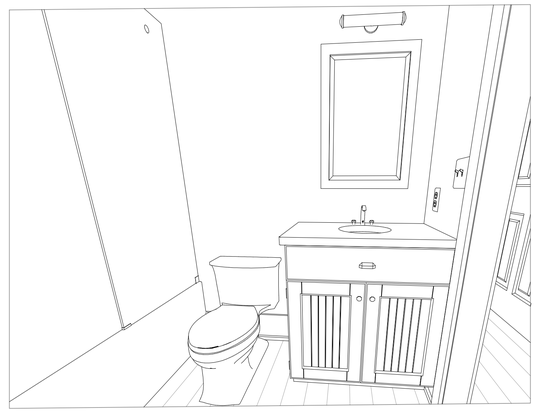
20 BATH#2 FLOOR PLAN

Scale:1/2" = 1' - 00"



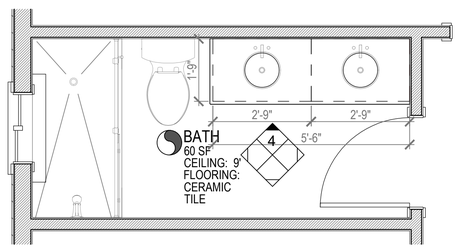
3 BATH#2 FLOOR PLAN

Scale:1/2" = 1' - 00"



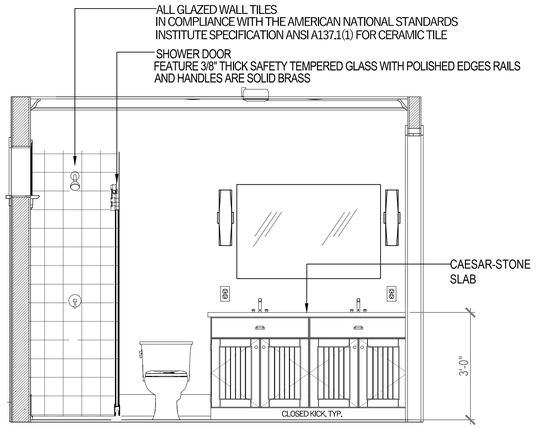
21 BATH#2 ISO.

Scale:1/2" = 1' - 00"



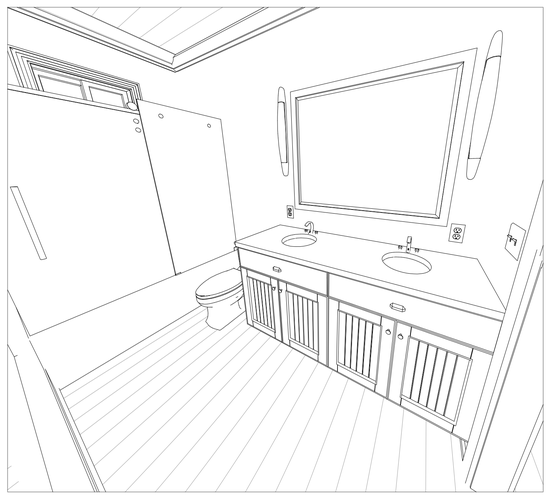
22 BATH#3 FLOOR PLAN

Scale:1/2" = 1' - 00"



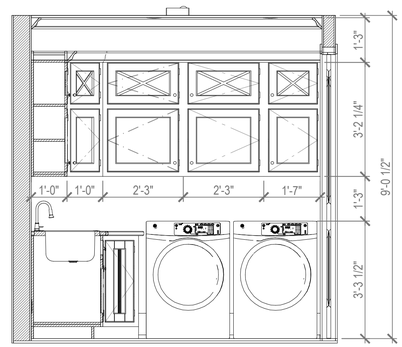
4 ELEVATION

Scale:1/2" = 1' - 00"



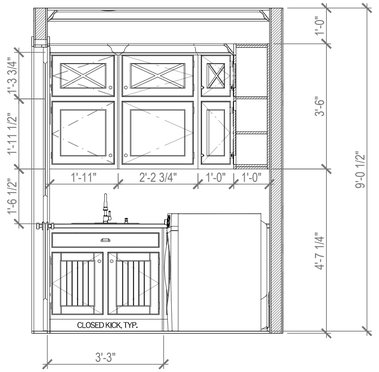
23 BATH#3 ISO.

NTS



5 ELEVATION

SCALE: 1/2"= 1'-00"



6 ELEVATION

SCALE: 1/2"= 1'-00"

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3315Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
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Project Name and Address:

REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: July 26, 2019

Scale: AS NOTED

DRAWING TITLE: BATHROOM'S CABINETS INTERIOR ELEVATIONS

Sheet : 18 OF 19

Page No. : A. 402

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

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1441N. Dale Ave. Anaheim, CA 92801

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3313Plateau Blvd. Coquitlam BC V3E 3B8

+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: July 26, 2019

Scale:

DRAWING TITLE: RENDERS

Sheet : 19 OF 19

Page No. : A. 500

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

REMODEL AND ADU ADDITION

1651 Parkside Ave.
San Jose
CA 95125

MEP set of plans:

PixelArch ltd.
US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODLE AND ADJ SINGLE FAMILY HOUSE

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date:

Scale:

DRAWING TITLE:
-

Sheet :

Page No. :
00

No.	Revision/Issue	Date
01	"Issued for Planing Approval Rev1.0"	8/18/2019

Space Schedule

Name	Number	Number of People	Calculated Cooling Load	Calculated Cooling Load per area	Calculated Heating Load	Calculated Heating Load per area	Calculated Supply Airflow	Calculated Supply Airflow per area
Master Bed room	1	2	309 W	1.73 W/ft²	-309 W	-1.73 W/ft²	36.2 ft³/min	0.20 CFM/ft²
Kitchen and Great Room	2	10	4916 W	4.63 W/ft²	3980 W	3.75 W/ft²	575.2 ft³/min	0.54 CFM/ft²
Dining	3	10	575 W	3.59 W/ft²	-575 W	-3.59 W/ft²	67.3 ft³/min	0.42 CFM/ft²
Bed room 2	13	2	1641 W	9.72 W/ft²	2350 W	13.91 W/ft²	192.0 ft³/min	1.14 CFM/ft²
family room	16	2	2438 W	11.51 W/ft²	1128 W	5.32 W/ft²	285.3 ft³/min	1.35 CFM/ft²
Bed room 3	19	2	3521 W	14.64 W/ft²	1670 W	6.94 W/ft²	412.0 ft³/min	1.71 CFM/ft²

STATE OF CALIFORNIA
ALTERATIONS - HVAC
CEC-CF1R-ALT-04-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	CF1R-ALT-04-E
Alterations - HVAC CZ 2, and 8-15	(Page 1 of 1)

Site Address:				Enforcement Agency:	Date Prepared:	Permit#:
Equipment Type		Equipment Efficiency		New Ducting or Lineset: Required R-value	Conditioned Floor Area (ft²)	Thermostat
☐ Packaged System ☐ Split System ☐ Mini Split ☐ Furnace	☐ Evaporator Coil ☐ Condensing Unit ☐ Compressor ☐ Lineset ☐ TXV	____AFUE ____SEER ____EER	____COP ____HSPF	☐ R-6 *(CZ 1-10, 12&13)* Ducts ☐ R-8[1] *(CZ 11, 14-16)* Ducts ☐ ≥ R-2.8 Lineset[4]	Served by system _____ft²	☐ Setback *(if not already present, must be installed)*

HERS VERIFICATION SUMMARY Installer determines work to be completed and matches to one of the options below. At permit application this form is allowed to be filled out by hand. For final inspection all forms are to be registered (no hand filled forms allowed) and a copy left on site.

☐ 1. HVAC Changeout/Repair	Required Compliance Documents to be left on site for Final:
All Equipment, Condenser Unit, Evaporator Coil, Compressor, TXV, Lineset, Air Handler/Furnace[2] (Can include new ducting)	CF1R-ALT-02-E CF2R-MCH-01-E, MCH-20-H, MCH-(23 or 24)-H[2], MCH-25-H[2] CF3R-MCH-20-H, MCH-(23 or 24)-H[2], MCH-25-H[2]

Installer Requirement: Duct leakage (≤15%, or ≤10% to outside, or seal all accessible leaks), Air Flow ≥ 300 CFM/ton, Refrigerant Charge.
Exempted from duct leakage testing if:
☐ 1. Duct system registered with HERS provider as previously sealed, or ☐ 2. There is less than 40 linear feet of duct in unconditioned space, or
☐ 3. Existing duct systems are constructed, insulated or sealed with asbestos (list manufacture date of building _____)

☐ 2. New HVAC System	Required Compliance Documents to be left on site for Final:
All new equipment and All New Ducts[3] including Mini Split	CF1R-ALT-02-E CF2R-MCH-01-E, MCH-20-H, MCH-22-H, MCH-(23 or 24)-H[2], MCH-25-H[2] CF3R-MCH-20-H, MCH-22-H, MCH-(23 or 24)-H[2], MCH-25-H[2] Mini Splits require CF1R-ALT-02-E, CF2R-MCH-01-E, and (CF2R-CF3R) MCH-25-H

Installer Requirement: Duct leakage ≤ 5%, Fan Efficacy (0.58W/CFM), Air Flow ≥ 350 CFM/ton (or alternative), Refrigerant Charge

☐ 3. All New Ducts with Replacement	Required Compliance Documents to be left on site for Final:
All New Ducts[3] and one or more of the following replaced: Condenser Unit, Evaporator Coil, Compressor, TXV, Lineset, Furnace[2]	CF1R-ALT-02-E CF2R-MCH-01-E, MCH-20-H, MCH-(23 or 24)-H, MCH-25-H CF3R-MCH-20-H, MCH-(23 or 24)-H, MCH-25-H

Installer Requirement: Duct leakage ≤ 5%, Air Flow ≥ 350 CFM/ton (or alternative), Refrigerant Charge
Exempted from duct leakage testing if: ☐ 1. Existing duct systems are constructed, insulated or sealed with asbestos

☐ 4. New Ducting over 40 feet	Required Compliance Documents to be left on site for Final:
New ducting but less than All New Ducts[3]	CF1R-ALT-02-E, CF2R-MCH-20-H, CF3R-MCH-20-H

Installer Required to: Duct leakage (≤15% or, ≤10% to outside or, or seal all accessible leaks)
☐ EXCEPTION: Existing duct systems constructed, insulated or sealed with asbestos.

[1] All new ducting requires R-8 insulation when more than 40 ft installed in CZs 11 & 14-16 and R-6 in CZs 1-10, 12 &13, and R-6 insulation when less than 40 ft installed. This includes in walls, between floors etc.
[2] Heating only systems and Air Handler/Furnace changes do not require Air Flow MCH-(23 or 24), or Refrigerant Charge verification MCH-25
[3] All New Ducts is when at least 75%of the duct system is new duct material, and up to 25%may consist of reused parts from the dwelling unit's existing duct system (e.g., registers, grilles, boots, air handler, coil, plenums, duct material)
[4] R-2.8 (1" thick insulation) for linesets 1" and less.

Contractor (Documentation Author's /Responsible Designer's Declaration Statement)

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the California Business and Professions Code to accept responsibility for the information on this document.
3. That the energy features and performance specifications for the design identified on this Certificate of Compliance conform to the requirements of Title 24, Parts 1 and 6 of the California Code of Regulations (CCR).
4. That the energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the CCR.
5. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name:	Responsible Designer Signature:	Date Signed:	License:
Company :	Address:	City/State/Zip:	Phone:

For assistance or questions regarding the Energy Standards, contact the Energy Hotline at: 1-800-772-3300

Building Type	Single Family
Area (SF)	3,246
Volume (CF)	35,292.06
calculated results	
Peak Cooling Total Load (W)	**35,517**
Peak Cooling Month and Hour	September 3:00 PM
Peak Cooling Sensible Load (W)	35,754
Peak Cooling Latent Load (W)	-237
Maximum Cooling Capacity (W)	35,517
Peak Cooling Airflow (ft³/min)	3,977.20
Peak Heating Load (W)	**28,911**
Peak Heating Airflow (ft³/min)	3,753.00
Cooling Load Density (W/ft²)	10.94
Cooling Flow Density (CFM/ft²)	1.23
Cooling Flow / Load (CFM/ton)	393.81
Cooling Area / Load (ft²/ton)	321.38
Heating Load Density (W/ft²)	8.91
Heating Flow Density (CFM/ft²)	1.16
1st floor summary	
Area (SF)	2,150
Volume (CF)	21,592.74
Peak Cooling Total Load (W)	**7,925**
Peak Cooling Month and Hour	July 11:00 AM
Peak Cooling Sensible Load (W)	7,438
Peak Cooling Latent Load (W)	486
Peak Cooling Airflow (ft³/min)	747.5
Peak Heating Load (W)	**2,507**
Peak Heating Airflow (ft³/min)	842.3
Cooling Load Density (W/ft²)	3.69
Cooling Flow Density (CFM/ft²)	0.35
Cooling Flow / Load (CFM/ton)	331.73
Cooling Area / Load (ft²/ton)	953.93
Heating Load Density (W/ft²)	1.17
Heating Flow Density (CFM/ft²)	0.39
2nd Floor summary	
Area (SF)	1,096
Volume (CF)	13,699.32
Peak Cooling Total Load (W)	**27,601**
Peak Cooling Month and Hour	September 3:00 PM
Peak Cooling Sensible Load (W)	27,781
Peak Cooling Latent Load (W)	-179
Peak Cooling Airflow (ft³/min)	3,229.70
Peak Heating Load (W)	**22,287**
Peak Heating Airflow (ft³/min)	2,910.60
Cooling Load Density (W/ft²)	25.18
Cooling Flow Density (CFM/ft²)	2.95
Cooling Flow / Load (CFM/ton)	411.51
Cooling Area / Load (ft²/ton)	139.66
Heating Load Density (W/ft²)	20.33
Heating Flow Density (CFM/ft²)	2.66

	Flex duct
	Diffuser
	Supply Duct
	Exhaust Duct
	Supply Fan
	Setback thermostat
	A/C Liquid line
	A/C Suction line
	Return diffuser
	Return Duct

Notes:
Duct Insulation:
In all cases, unless ducts are enclosed entirely in conditioned space, the minimum allowed duct insulation value is R-6
Thermostats:
Automatic setback thermostats will be installed in the house.
Air Distribution Ducts and Plenums:
air distribution ducts should be sealed and HERS tested for leakage be done by contractor.

HVAC ABBREVIATIONS

A	AMPERES	HZ	FREQUENCY
AC	AIR CONDITIONING	IN	INCH OR INCHES
AD	ACCESS DOOR	KW	KILOWATT
AFF	ABOVE FINISHED FLOOR	LG	LENGTH
AL	ACOUSTICAL LINING	LAT	LEAVING AIR TEMPERATURE
BHP	BRAKE HORSEPOWER	LBS	POUNDS
BTU	BRITISH THERMAL UNIT	LDB	LEAVING DRY BULB TEMPERATURE
BTUH	BTU PER HOUR	LIN FT	LINEAR FEET
CD	CEILING DIFFUSER	LWB	LEAVING WET BULB TEMPERATURE
CFM	CUBIC FEET PER MINUTE	MAX	MAXIMUM
CG	CEILING GRILLE	MBH	THOUSAND BTU PER HOUR
CLG	CEILING	MHP	MOTOR HORSEPOWER
COMPR	COMPRESSOR	MIN	MINIMUM
CR	CEILING REGISTER	NIC	NOT IN CONTRACT
DB	DRY BULB	NO.	NUMBER
DIAM	DIAMETER	NTS	NOT TO SCALE
DN	DOWN	RA	RETURN AIR
DWG	DRAWING	RM	ROOM
DX	DIRECT EXPANSION	RPM	REVOLUTIONS PER MINUTE
EAT	ENTERING AIR TEMPERATURE	SP	STATIC PRESSURE
EDB	ENTERING DRY BULB TEMPERATURE	SPEC	SPECIFICATION
EF	EXHAUST FAN	TEMP	TEMPERATURE
EWB	ENTERING WET BULB	TG	TOP GRILLE
EWT	ENTERING WATER TEMPERATURE	TV	TURNING VANES
°F	DEGREES FAHRENHEIT	TYP	TYPICAL
FC	FLEXIBLE CONNECTION	W	WIDTH
FD	FIRE DAMPER	W/	WITH
FIN FL	FINISHED FLOOR	W/O	WITHOUT
FLA	FULL LOAD AMPERES	WB	WET BULB
FPM	FEET PER MINUTE	WMS	WIRE MESH SCREEN
FT	FEET	SG	SUPPLY GRILLE
HD	HEAD	RG	RETURN GRILLE
HR	HOUR	SP	SMOKE PURGE
MAU	MAKE UP AIR UNIT		

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US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODLE AND ADJ SINGLE FAMILY HOUSE

1651 PARKSIDE AVE. SAN JOSE, CA 95125

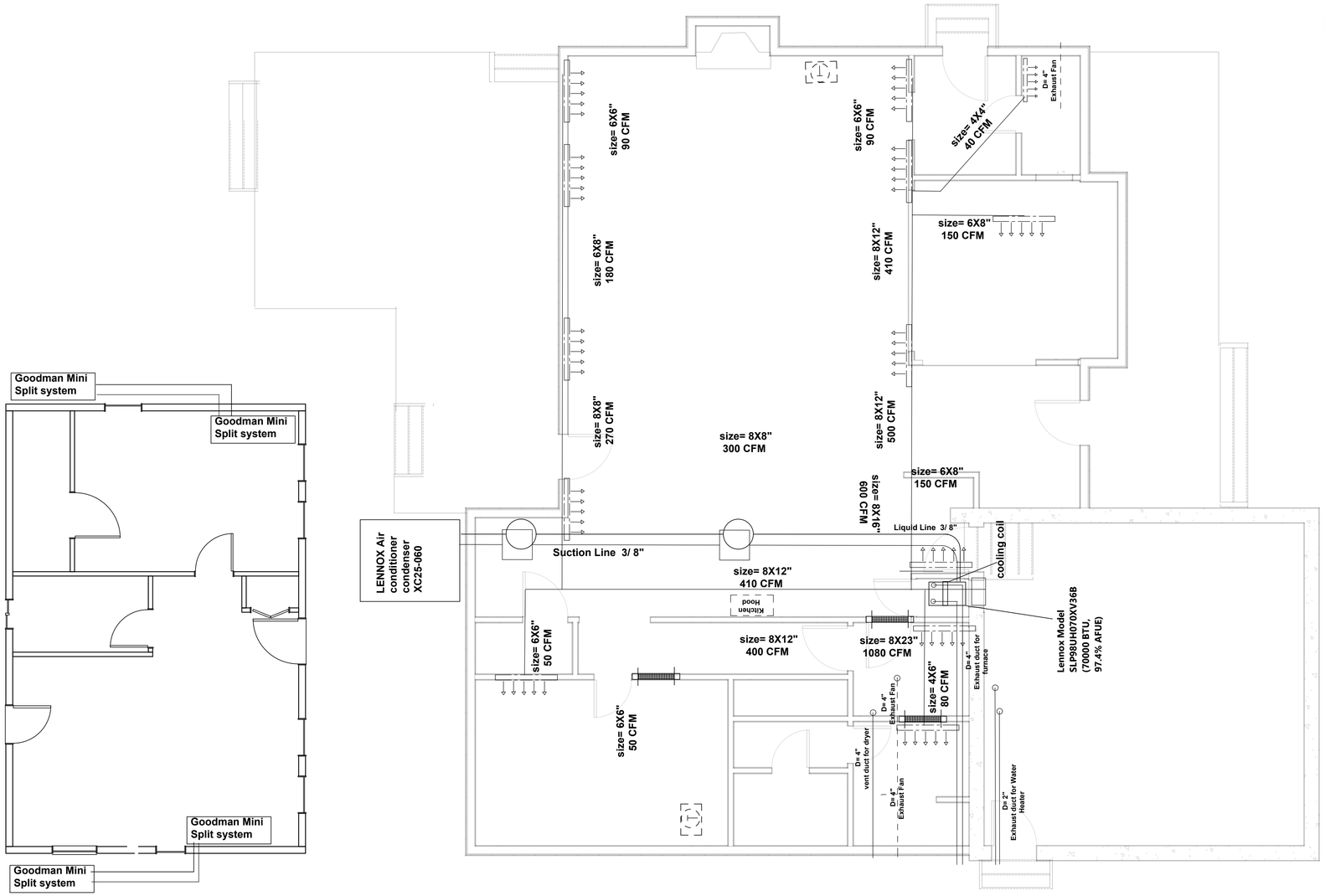
Date:
Scale:

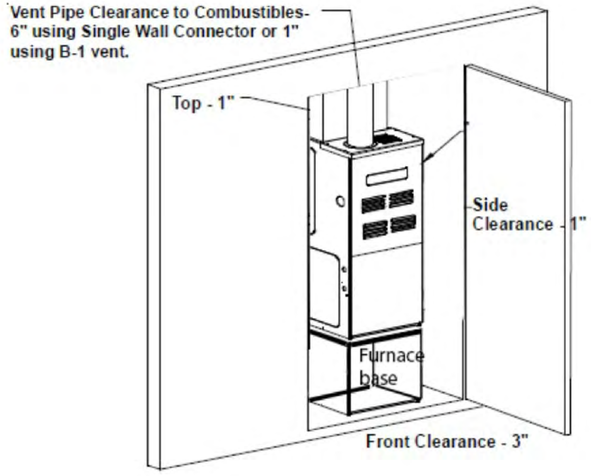
DRAWING TITLE:
HVAC Legend, abbreviations and codes

Sheet :

Page No. :
M00

No.	Revision/Issue	Date
01	"Issued for Planing Approval Rev1.0"	8/18/2019





Furnace must be completely sealed to floor or base.
Combustion/ ventilation air supply pipes must terminate 12" from top of closet and 12" from floor of closet. DO NOT remove solid base plate for side return.
Return air ducts must be completely sealed to the furnace and terminate outside the enclosure surfaces.
Unobstructed front clearance of 24" for servicing is recommended.

HVAC ductworks plan - 1st floor

---

scale : 1 / 4" = 1'

HVAC System 1st floor

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US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
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REMODLE AND ADJ SINGLE FAMILY HOUSE

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date:

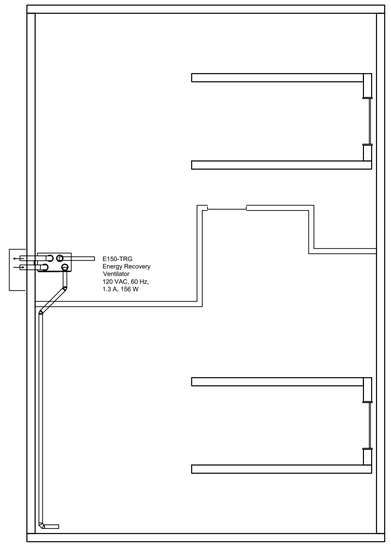
Scale: 1/4" = 1'-00"

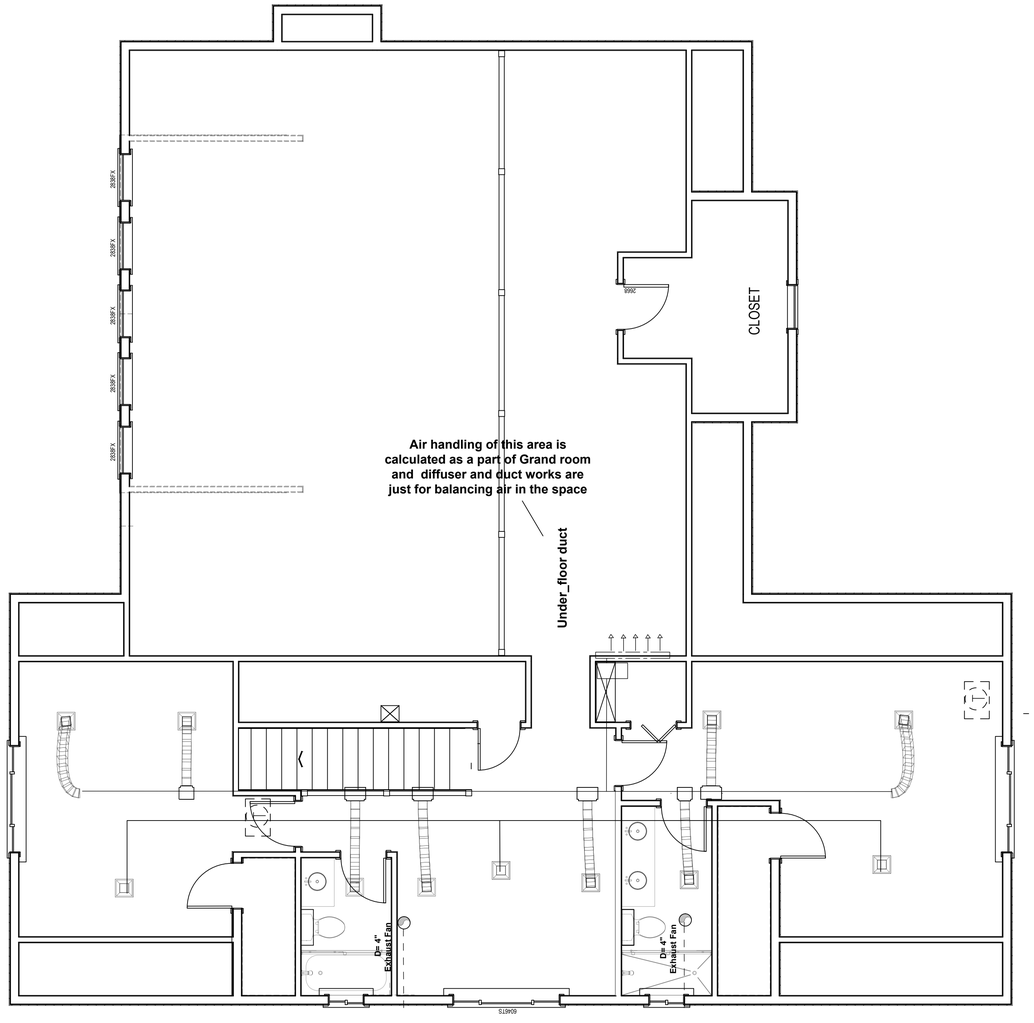
DRAWING TITLE: HVAC ductworks

Sheet :

Page No. : M01

No.	Revision/Issue	Date
01	"Issued for Planing Approval Rev1.0"	8/18/2019





HVAC ductworks plan - 2nd floor

scale : 1 / 4" = 1'

HVAC system 2nd floor

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US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
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REMODLE AND ADJ SINGLE FAMILY HOUSE

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date:

Scale: 1/4" = 1'-00"

DRAWING TITLE: HVAC ductworks

Sheet :

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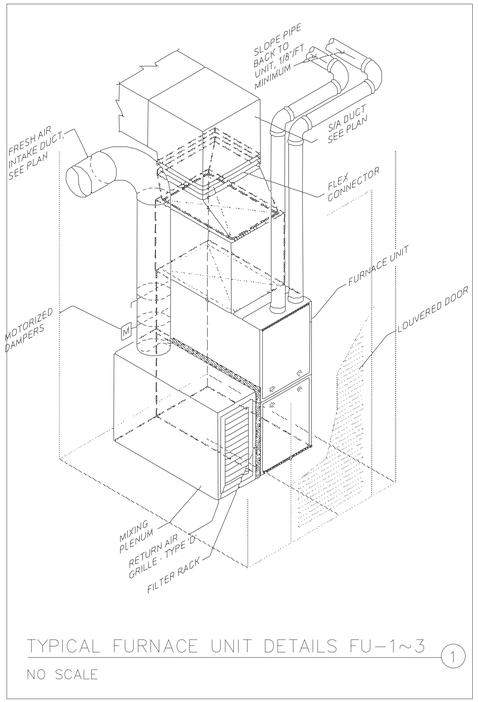
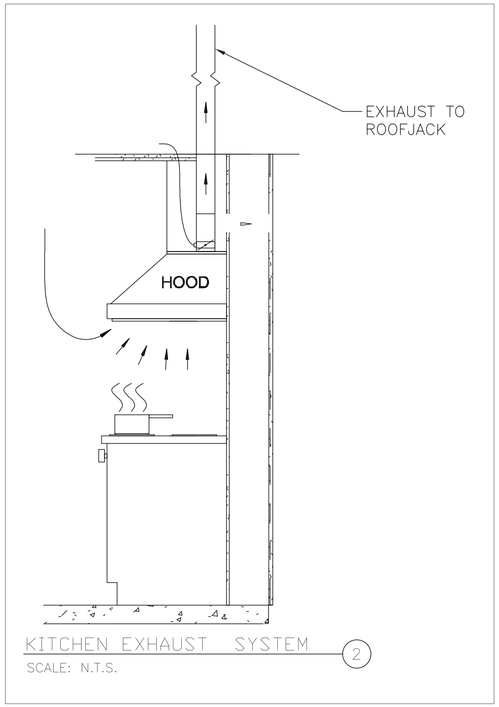
No.	Revision/Issue	Date
01	"Issued for Planing Approval Rev1.0"	8/18/2019



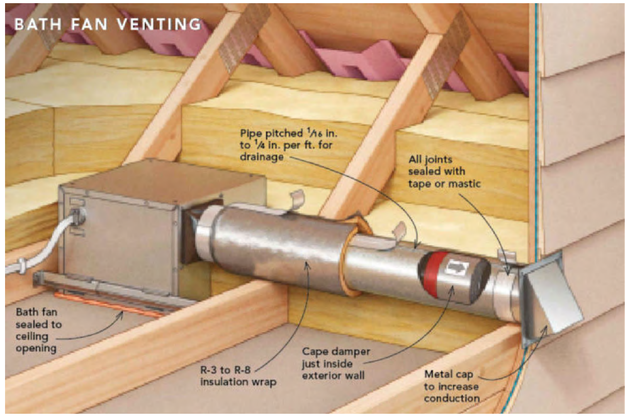
TYPICAL FURNACE UNIT DETAILS FU-1~3 (1)

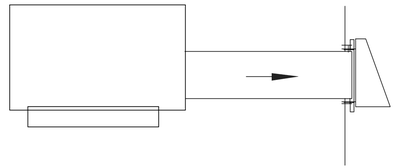
NO SCALE



KITCHEN EXHAUST SYSTEM (2)

SCALE: N.T.S.

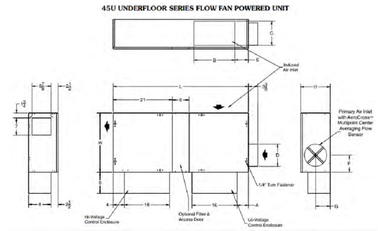




Bath- Fan Venting System

AW908 Ducted Ceiling Exhaust Fan
And Duct Kit - Box Grille

FLOOR AIR DIFFUSER /
RECTANGULAR AXIS™ 35BF-V



UNIT SIZE	INLET SIZE	DIMENSIONS (in.)									
		A	B	C	D	E	F	G	H	L	W
3	9-in. Diameter	5	14	8	8 7/8	3 1/2	5 5/8	7	10 1/2	48	21
4	9-in. Diameter	5	14	12	8 7/8	3	5 5/8	7	14 1/8	48	21
	10-in. Diameter				9 7/8		6 5/8				

XC25-060
Air Conditioner

CX35-60D-6F Cooling Coil

SPECIFICATIONS

General Data	Model No.	XC25-024	XC25-036	XC25-048	XC25-060
	Nominal Tonnage	2	3	4	5
Connections (sweat)	Liquid line (o.d.) - in.	3/8	3/8	3/8	3/8
	Suction line (o.d.) - in.	7/8	7/8	7/8	1-1/8
Refrigerant	[1] R-410A charge furnished	13 lbs. 10 oz.	10 lbs. 12 oz.	14 lbs. 8 oz.	12 lbs. 9 oz.
Outdoor Coil	Net face area - sq. ft. Outer coil	27.21	27.21	27.21	27.21
	Inner coil	26.36	26.36	26.36	26.36
	Tube diameter - in.	5/16	5/16	5/16	5/16
	No. of rows	2	2	2	2
	Fins per inch	22	22	22	22
Outdoor Fan	Diameter - in.	26	26	26	26
	No. of blades	5	5	5	5
	Motor hp	1/3	1/3	1/3	1/3
	Cfm - Max. Speed	2925	4100	4220	4385
	Min. Speed	1950	1950	3020	3020
	Rpm - Max. Speed	490	650	675	700
	Min. Speed	350	350	500	500
	Watts - Max. Speed	75	157	185	212
	Min. Speed	32	32	82	82
Shipping Data - lbs. - 1 pkg.		303	303	330	330

SPECIFICATIONS — 4 TO 5 TON

General Data	Model No.	CX35-49C-6F	CX35-50/60C-6F	CX35-60C-6F	CX35-60D-6F
	Nominal size - Tons	4	4 / 5	5	5
	Factory Installed Expansion Valve	12J20	12J20	12J20	12J20
Line Connections in.	Suction / vapor o.d. - sweat	7/8	7/8	7/8	7/8
	Liquid o.d. - sweat	3/8	3/8	3/8	3/8
	Condensate drain (fpt)	(2) 3/4	(2) 3/4	(2) 3/4	(2) 3/4
Shipping Data - lbs.		70	60	73	72

SLP98UH070XV36B Furnace

SPECIFICATIONS

Gas Heating Performance	Model No.	SLP98UH070XV36B	SLP98UH090XV36C	SLP98UH090XV48C
	AHRI Reference No.	4792115	4792116	4792117
	[1] AFUE	98.1%	98.1%	98.2%
Maximum	Input - Btuh	66,000	88,000	88,000
	Output - Btuh	64,000	85,000	85,000
	Temperature rise range - °F	50 - 80	60 - 90	50 - 80
	Gas Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane	3.5 / 10.0	3.5 / 10.0	3.5 / 10.0
Minimum	Input - Btuh	23,000	31,000	31,000
	Output - Btuh	22,000	30,000	30,000
	Temperature rise range - °F	35 - 65	35 - 65	35 - 65
	Gas Manifold Pressure (in. w.g.) Nat. Gas / LPG/Propane	0.5 / 1.5	0.5 / 1.5	0.5 / 1.5
	High static - in. w.g.	0.8	0.8	0.8
Connections in.	Intake / Exhaust Pipe (PVC)	2 / 2	2 / 2	2 / 2
	Gas pipe size IPS	1/2	1/2	1/2
	Condensate Drain Trap (PVC pipe) - i.d.	3/4	3/4	3/4
	with furnished 90° street elbow	3/4 slip x 3/4 Mipt	3/4 slip x 3/4 Mipt	3/4 slip x 3/4 Mipt
	with field supplied (PVC coupling) - o.d.	3/4 slip x 3/4 MPT	3/4 slip x 3/4 MPT	3/4 slip x 3/4 MPT
Indoor Blower	Wheel nominal diameter x width - in.	10 x 9	10 x 9	11 x 11
	Motor output - hp	1/2	1/2	3/4
	Tons of add-on cooling	2 - 3	2 - 3.5	2.5 - 4
	Air Volume Range - cfm	339 - 1365	520 - 1360	528 - 1770
Electrical Data	Voltage (Maximum Amps)	120 volts - 60 hertz - 1 phase		
	Blower motor full load amps	7.7	7.7	10.1
	Maximum overcurrent protection	15	15	15
Shipping Data	lbs. - 1 package	138	155	165

NOTE - Filters and provisions for mounting are not furnished and must be field provided.
[1] Annual Fuel Utilization Efficiency based on DOE test procedures and according to FTC labeling regulations. Isolated combustion system rating for non-weatherized furnaces.

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Project Name and Address:

REMODLE AND ADJ SINGLE FAMILY HOUSE

1651 PARKSIDE AVE. SAN JOSE, CA 95125

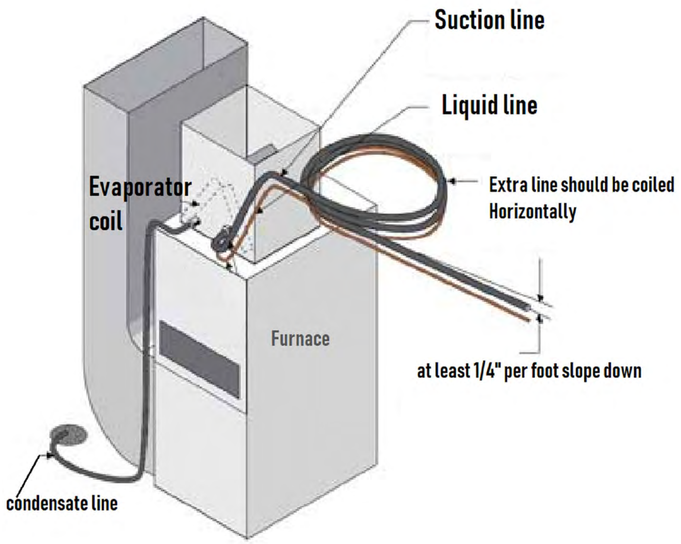
Date:

Scale:

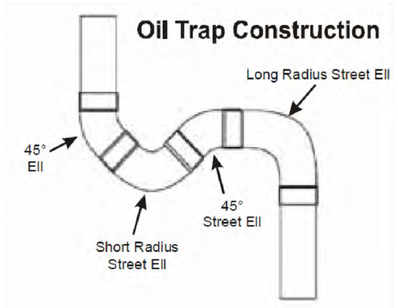
DRAWING TITLE:
HVAC Equip. details

Sheet :

No.	Revision/Issue	Date
01	"Issued for Planing Approval Rev1.0"	8/18/2019



Installation of Refrigerant Piping



Losses from suction line elbows (equivalent length, ft.)

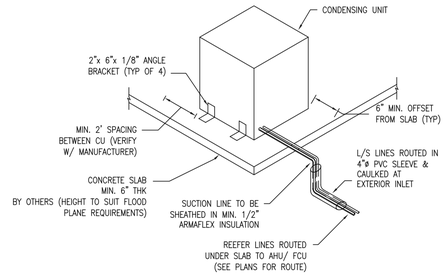
Type of Elbow Fitting	Inside Diameter (inches)		
	3/4	7/8	1 1/8
90° short radius	1.7	2	2.3
90° long radius	1.5	1.7	1.6
45°	0.7	0.8	1

Installation of Refrigerant Piping (Horizontal)

INSTALLATION GENERAL NOTES:
Clearance space to the structure, wall, or fence Allow at least 12" distance to a wall or fence or similar solid obstruction - typical of most installation instructions.

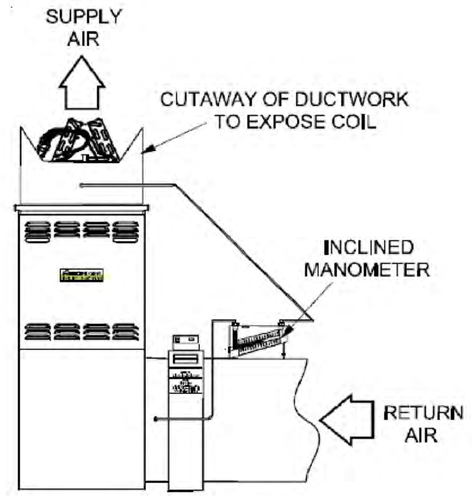
Clearance distances from an inside corner Inside corner locations on single story structures require evaluation. Large overhanging soffits may cause air recirculation in a corner area even though recommended clearances are maintained. As a guide locate the unit far enough out so that half of the discharge grille is out from under the soffit.

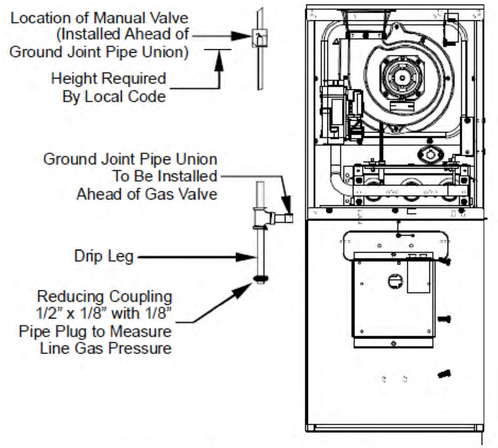
Clearance distances for the compressor/condenser from water, ice, snow : Position so water, snow, or ice from roof or eaves cannot fall directly on unit.

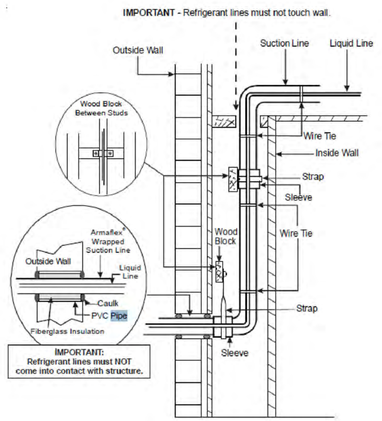


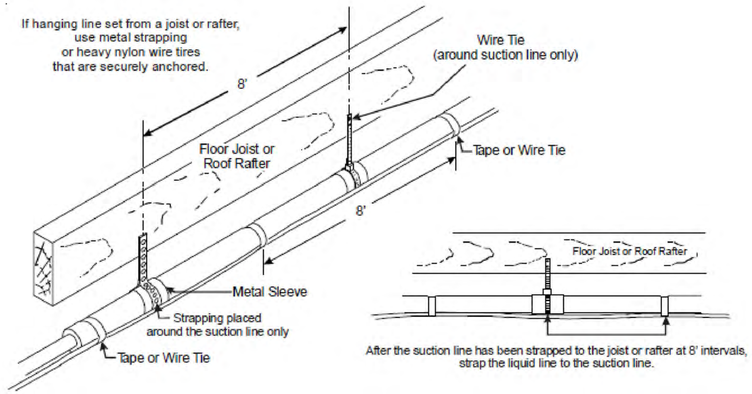
AIR COOLED CONDENSING UNIT
SCALE: N.T.S. 3

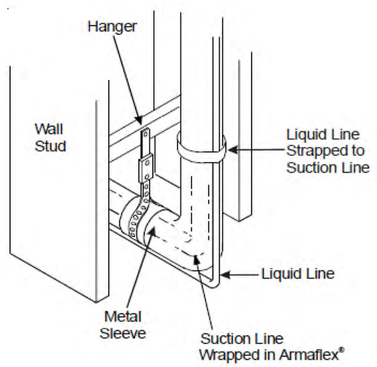
Installation of Refrigeration Piping From Vertical to Horizontal







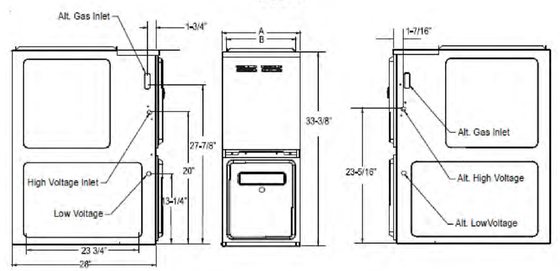




NOTE: For any residential split system installed with a long line set, 3/8” liquid line size must be used.

General Furnace Layout

GMS8



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Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
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REMODLE AND ADJ SINGLE FAMILY HOUSE

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Scale:

DRAWING TITLE:

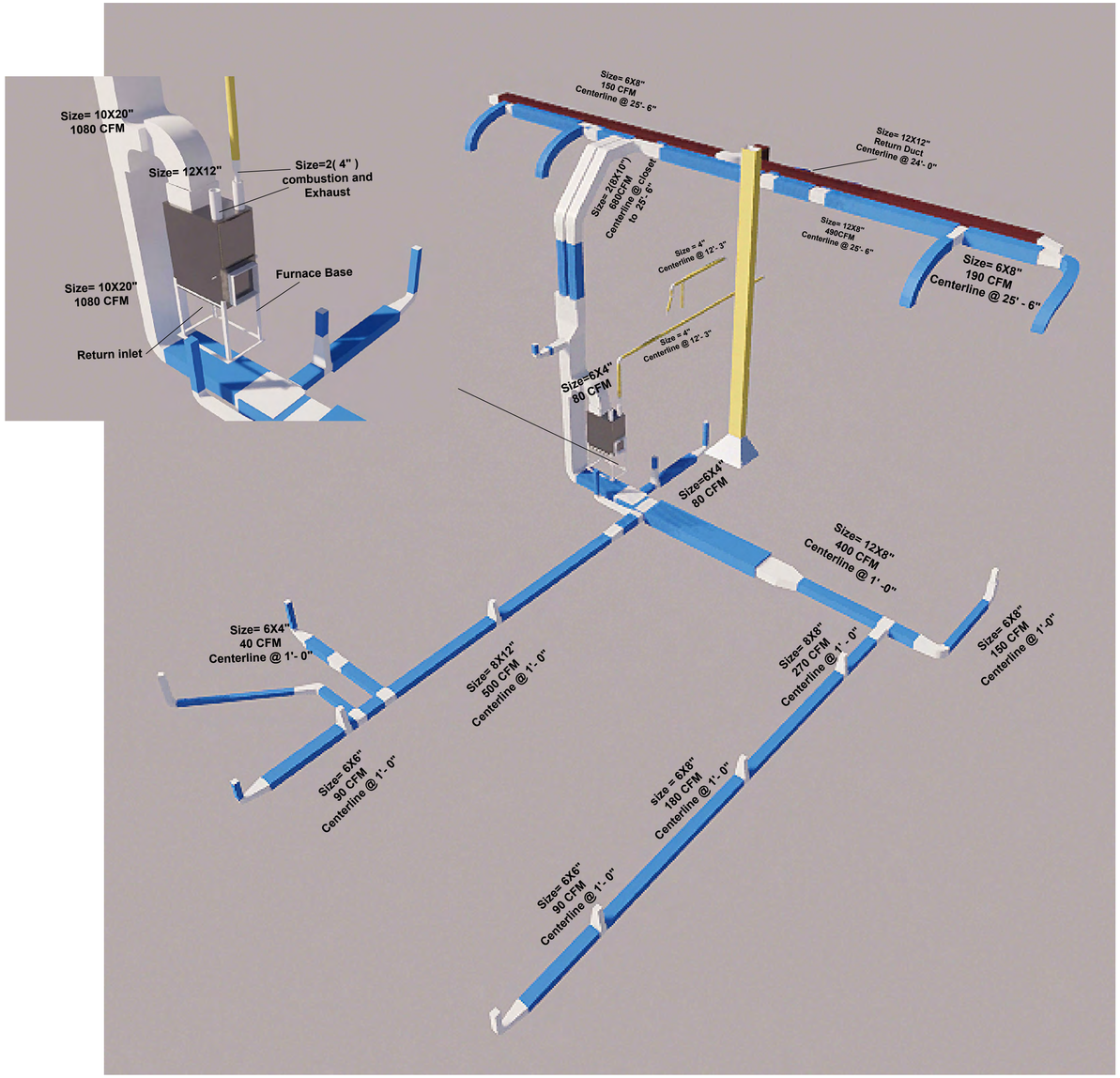
Furnace & Heat pump Details

Sheet :

Page No. :

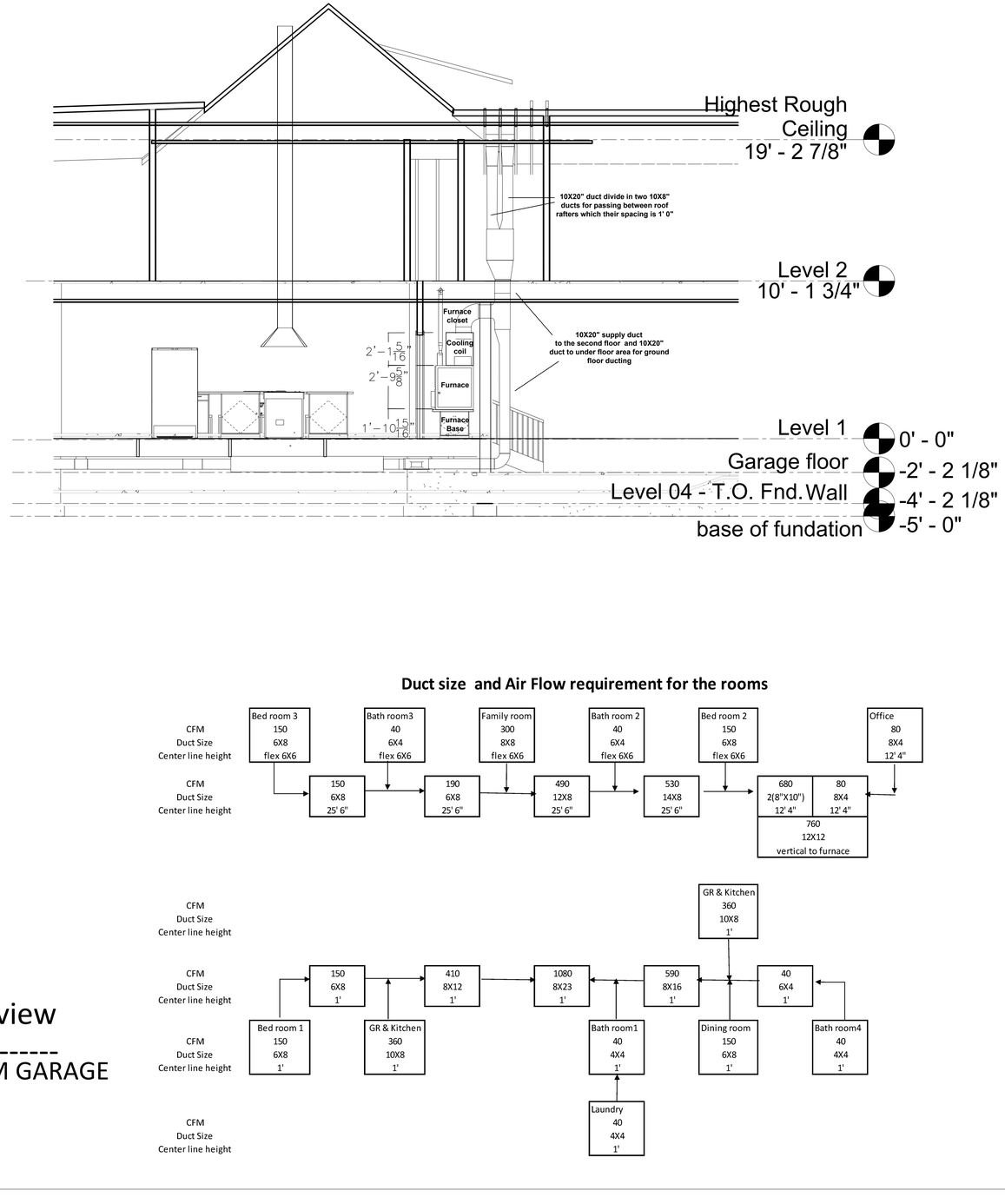
M04

No.	Revision/Issue	Date



HVAC System Isometric view

ALL LEVELS ARE MEASURED FROM GARAGE FLOOR



Duct size and Air Flow requirement for the rooms

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Duct works Isometric vieww

Sheet :

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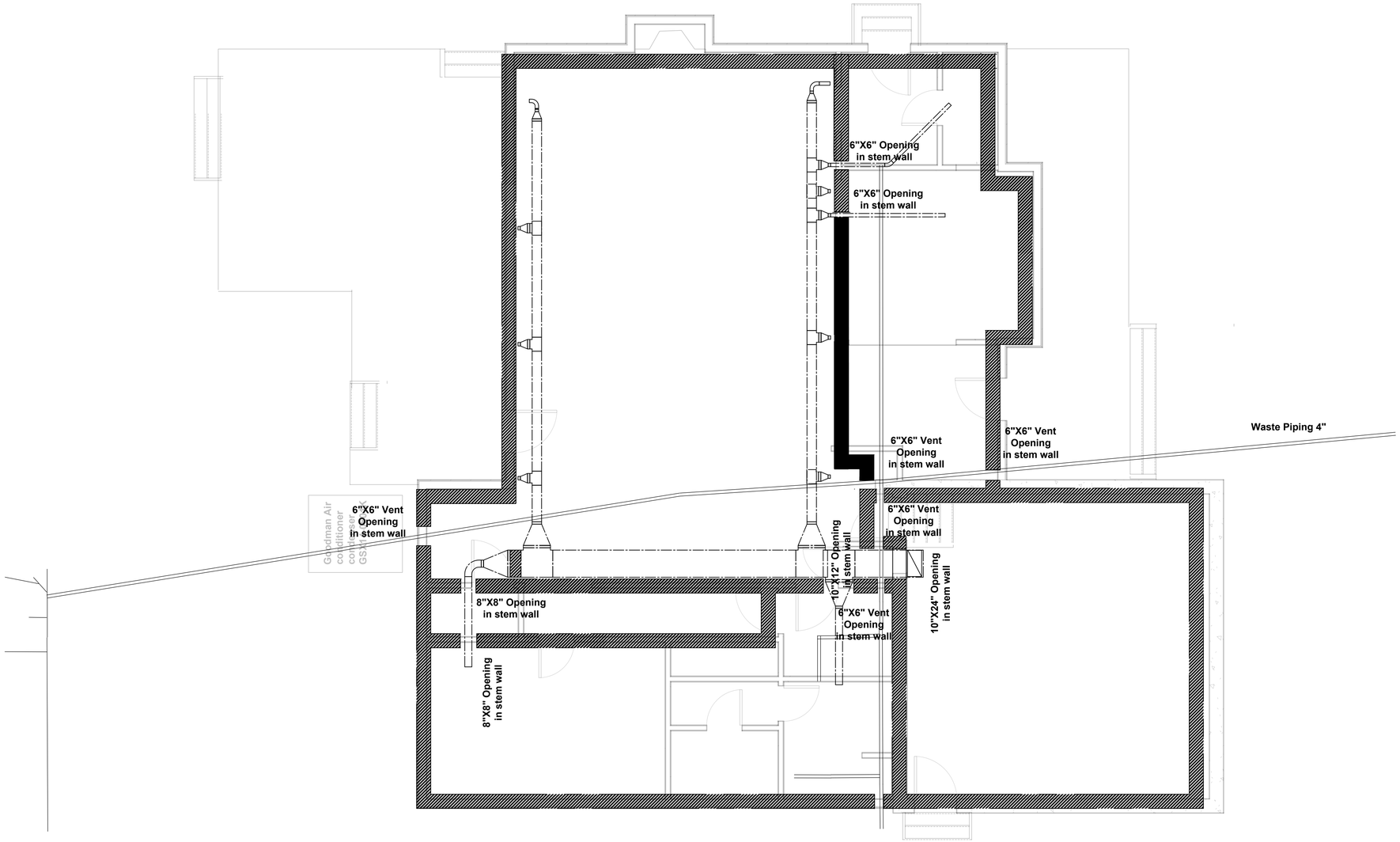
M05

No.	Revision/Issue	Date



Opening in Stem walls

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scale : 1 / 4" = 1'

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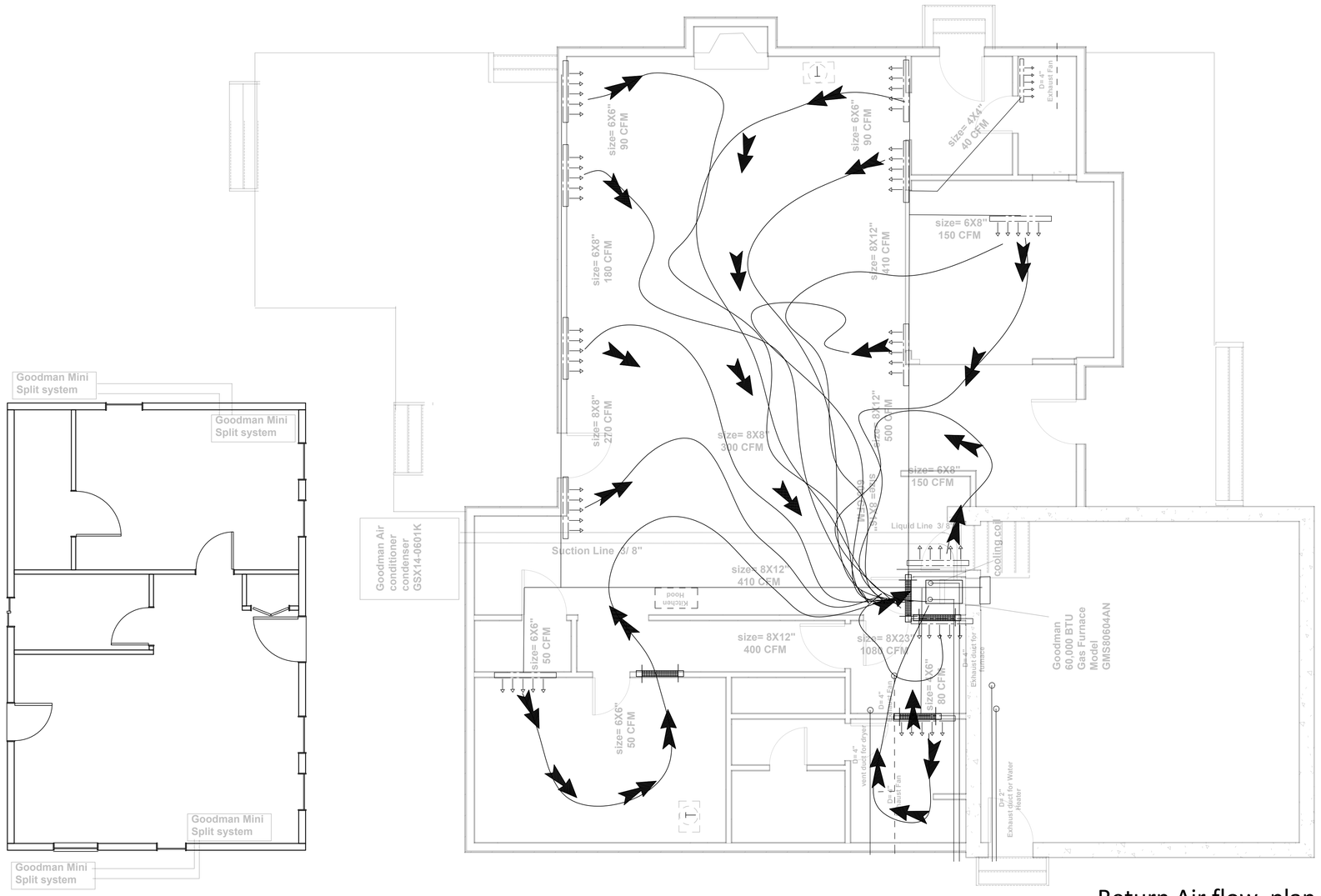
DRAWING TITLE:
stem wall openings

Sheet :

Page No. :
M06

No.	Revision/Issue	Date



Return Air flow plan - 1st floor

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scale : 1 / 4" = 1'

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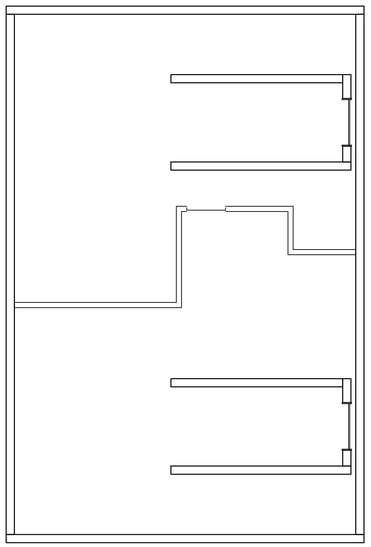
Scale:

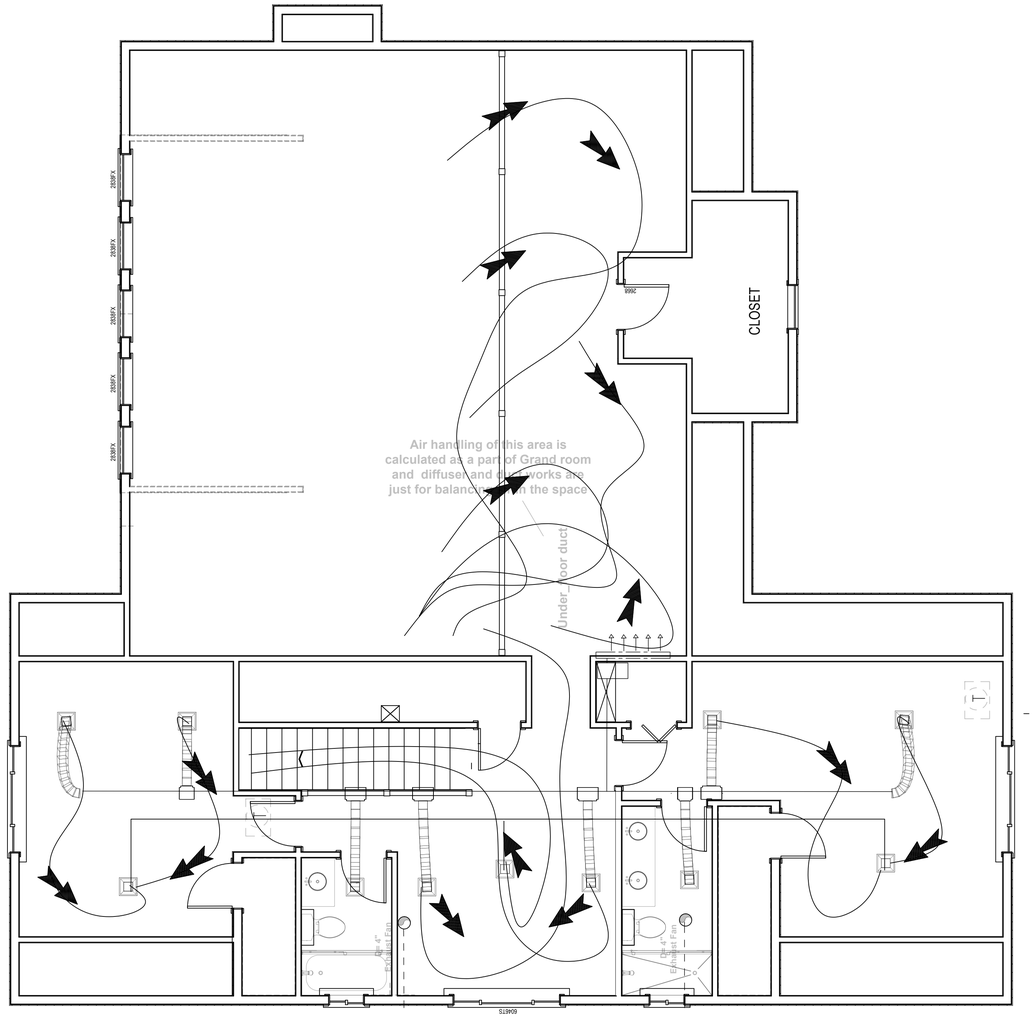
DRAWING TITLE:
return air flow 1st floor

Sheet :

Page No. :
M07

No.	Revision/Issue	Date





Return Air flow plan - 2nd floor

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scale : 1 / 4" = 1'

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Scale:

DRAWING TITLE:

return airflow 2nd floor

Sheet :

Page No. :

M08

No.	Revision/Issue	Date

NEC considerations:

210.12Arc–Fault Circuit–Interrupter Protection. Arc fault circuit–interrupter protection shall be provided as required in (210.12A) and (B). The arc–fault circuit interrupter shall be installed in a readily accessible location

(A) Dwelling Units. All –120volt, single phase– 15, and –20ampere branch circuits supplying outlets or devices installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas shall be protected as described by (1), (2), (3) or (4)

)1(A listed combination type arc–fault circuit interrupter, installed to provide protection of the entire branch circuit.

)2(A listed outlet branch circuit type arc–fault circuit interrupter installed at the first outlet on the branch circuit where all of the following conditions are met:

a. The branch circuit over current protection device shall be a listed circuit breaker having an instantaneous trip not exceeding 300 amperes

b. The branch circuit wiring shall be continuous from the branch circuit overcurrent device to the outlet branch circuit arc–fault circuit interrupter

c. The maximum length of the branch circuit wiring from the branch circuit overcurrent device to the first outlet shall not exceed 15.2m 50(ft) for a 14AWG or 21.3m 70(ft) for a 12AWG conductor– d. The first outlet box in the branch circuit shall be identified .

)1(A listed outlet branch circuit type arc–fault circuit interrupter installed at the first outlet on the branch circuit where the portion of the branch circuit between the branch–circuit overcurrent device and the first outlet is installed using RMC, IMC, EMT, Type MC, or steel armored Type AC cables meeting the requirements of 250.118and using metal outlet and junction boxes.

)2(A listed outlet branch circuit type arc–fault circuit interrupter installed at the first outlet on the branch circuit where the portion of the branch circuit between the branch–circuit overcurrent device and the first outlet is installed using a listed metal or nonmetallic conduit or tubing encased in not less than 50mm 2(in.) of concrete.

IRC Notes :

R314.6 Power source
Smoke alarms shall receive their primary power from the building wiring provided that such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery backup shall be connected to an emergency electrical system. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

R314.7 Fire alarm systems
Fire alarm systems shall be permitted to be used in lieu of smoke alarms and shall comply with Sections R314.7.1 through R314.7.4

R322.1.6 Protection of mechanical, plumbing and electrical systems
Electrical systems, equipment and components; heating, ventilating, air conditioning; plumbing appliances and plumbing fixtures; duct systems; and other service equipment shall be located at or above the elevation required in Section R322.2 or R322.3. If replaced as part of a substantial improvement, electrical systems, equipment and components; heating, ventilating, air conditioning and plumbing appliances and plumbing fixtures; duct systems; and other service equipment shall meet the requirements of this section. Systems, fixtures, and equipment and components shall not be mounted on or penetrate through walls intended to break away under flood loads..

R338.2 Charging In any building or interior area used for charging electric vehicles, electrical equipment shall be installed in accordance with the California Electrical Code.

ARTICLE 625 Electric Vehicle Charging:
625.15 Markings.
The electric vehicle supply equipment shall comply with 625.15(A) through (C).
(A) General. All electric vehicle supply equipment shall be marked by the manufacturer as follows:
FOR USE WITH ELECTRIC VEHICLES
(B) Ventilation Not Required. Where marking is required by 625.29(C), the electric vehicle supply equipment shall be clearly marked by the manufacturer as follows:
VENTILATION NOT REQUIRED
The marking shall be located so as to be clearly visible after installation.
(C) Ventilation Required. Where marking is required by 625.52(B), the electric vehicle supply equipment shall be clearly marked by the manufacturer, “Ventilation Required.” The marking shall be located so as to be clearly visible after installation.

Bedroom - Dormitory	20-30 FC	200-300 lux	0.38
Cafeteria - Eating	20-30 FC	200-300 lux	0.65
Classroom - General	30-50 FC	300-500 lux	1.24
Conference Room	30-50 FC	300-500 lux	1.23
Corridor	5-10 FC	50-100 lux	0.66
Exhibit Space	30-50 FC	300-500 lux	1.45
Gymnasium - Exercise / Workout	20-30 FC	200-300 lux	0.72
Gymnasium - Sports / Games	30-50 FC	300-500 lux	1.2
Kitchen / Food Prep	30-75 FC	300-750 lux	1.21
Laboratory (Classroom)	50-75 FC	500-750 lux	1.43
Laboratory (Professional)	75-120 FC	750-1200 lux	1.81
Library - Stacks	20-50 FC	200-500 lux	1.71
Library - Reading / Studying	30-50 FC	300-500 lux	1.06
Loading Dock	10-30 FC	100-300 lux	0.47
Lobby - Office/General	20-30 FC	200-300 lux	0.9
Locker Room	10-30 FC	100-300 lux	0.75
Lounge / Breakroom	10-30 FC	100-300 lux	0.73
Mechanical / Electrical Room	20-50 FC	200-500 lux	0.95
Office - Open	30-50 FC	300-500 lux	0.98
Office - Private / Closed	30-50 FC	300-500 lux	1.11
Parking - Interior	5-10 FC	50-100 lux	0.19

ELECTRICAL LEGEND		
SYMBOL	DEFINITION	NOTES
	125V OUTLET	20 AMP SINGLE POLE
	110V OUTLET	20 AMP two POLE
GFCI	110V OUTLET	EQUIPED WITH GROUND FAULT INTERRUPTER (TAMPER RESISTANT TYPE)
WP	EXTERIOR WATERPROOF OUTLET	GROUND FAULT INTERRUPTER
$ $ $_4$	SWITCH	
	Chandelier	
	WALL MOUNTED LIGHT	
RM	CEILING LIGHT	
DP-	PANEL	
M	METER	
SD	SMOKE DETECTOR	
CO	CARBON MONOXIDE/ SMOKE DETECTOR COMBO	BATT. BACK-UP W/ HARDWIRE INTER-CONNECTED SHALL BE A DISTANCE OF NOT LESS THEN 4' FROM WALL
	Exhaust fan JACK	
CO	Outdoor Fire Alarm	
	Light mounted Fan	
TV.	TELEVISION JACK	
	Countertop Island LIGHT	

NOTES:
* LOCATION OF TV JACKS & PHONE OUTLETS & FANS TO BE VERIFIED @ HOMEOWNER PRE-CONSTRUCTION MEETING.
* ALL RECEPTACLES IN ALL HABITABLE ROOMS TO BE ARC FAULT PROTECTED PER ELECTRICAL PROVISIONS OF FBCR 5TH EDITION (2011).
* BATHROOM EXHAUST FAN TO HAVE MIN. CAPACITY OF 50 CFM INTERMITTENT PER ELECTRICAL PROVISIONS OF SECTION M1507.3 FBCR 5TH EDITION (2011).
* LAUNDRY ROOM RECEPTACLE SHALL BE GROUND FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL ON FEEDERS
* WIRING METHOD SHALL BE NON METALLIC CABLE PER ELECTRICAL PROVISIONS OF FBCR 5TH ED (2011).
* ALL RECEPTACLES TO BE TAMPER- RESISTANT TYPE
* ALL WORK TO COMPLY WITH ELECTRICAL PROVISIONS OF THE FBCR 5TH ED (2011).

Note :
1. All receptacles are TAMPER RESISTANT RECEPTACLES
2. The main disconnector in DP is AFCI
3. receptacles in bathrooms are all GFI type

TITLE 24 NOTES
1. ALL HIGH EFFICACY LUMINAIRES SHALL BE SWITCHED SEPARATELY FROM LOW EFFICACY LUMINAIRES.
2. HIGH–EFFICACY LUMINAIRES SHALL CONSTITUTE MIN. 50% OF TOTAL WATTAGE IN KITCHEN LIGHTING. ADDITIONAL 50–WATTS OF LOW–EFFICACY LUMINAIRES ARE PERMITTED FOR DWELLING UNIT UNDER 2,500–SF AND ADDITIONAL 100–WATTS ALLOWED FOR OVER 2,500–SF.
3. ALL LOW–EFFICACY KITCHEN LUMINAIRES SHALL BE CONTROLLED BY CEC APPROVED VACANCY SENSOR OR DIMMER.
4. NO MORE THAN 20–WATTER PER LINEAR FOOT OF PERMANENTLY INSTALLED INTERNAL CABINET LIGHTING IS PROHIBITED.
5. ALL LOW–EFFICACY BUILDING MOUNTED EXTERIOR LUMINAIRES SHALL BE CONTROLLED BY PHOTOCELL & MOTION SENSOR.
6. ALL LOW–EFFICACY LUMINAIRES IN BATHROOMS MUST BE CONTROLLED BY CEC APPROVED VACANCY SENSOR OR TIMER.
7. ALL LOW EFFICACY LUMINAIRES LOCATED IN GARAGE, LAUNDRY ROOM, CLOSETS, AND UTILITY ROOMS SHALL BE CONTROLLED BY CEC APPROVED VACANCY SENSOR.
8. ALL LOW EFFICACY LUMINAIRES IN AREAS OTHER THAN THOSE LISTED ABOVE SHALL BE CONTROLLED BY DIMMERS OR CEC APPROVED VACANCY SENSOR.
9. ALL FIXTURES INSTALLED IN INSULATED CEILINGS MUST BE C–RATED & LABELED, AND OF AIR–TIGHT CONSTRUCTION BEARING AN ASTM E283 COMPLIANCE LABEL, AND SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND CEILING.
10. ALL EXHAUST FANS SHALL BE SWITCHES SEPARATELY FROM LUMINAIRES.
11. NO SWITCH SHALL BYPASS DIMMER OR CEC APPROVED VACANCY SENSOR.

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Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
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Date:

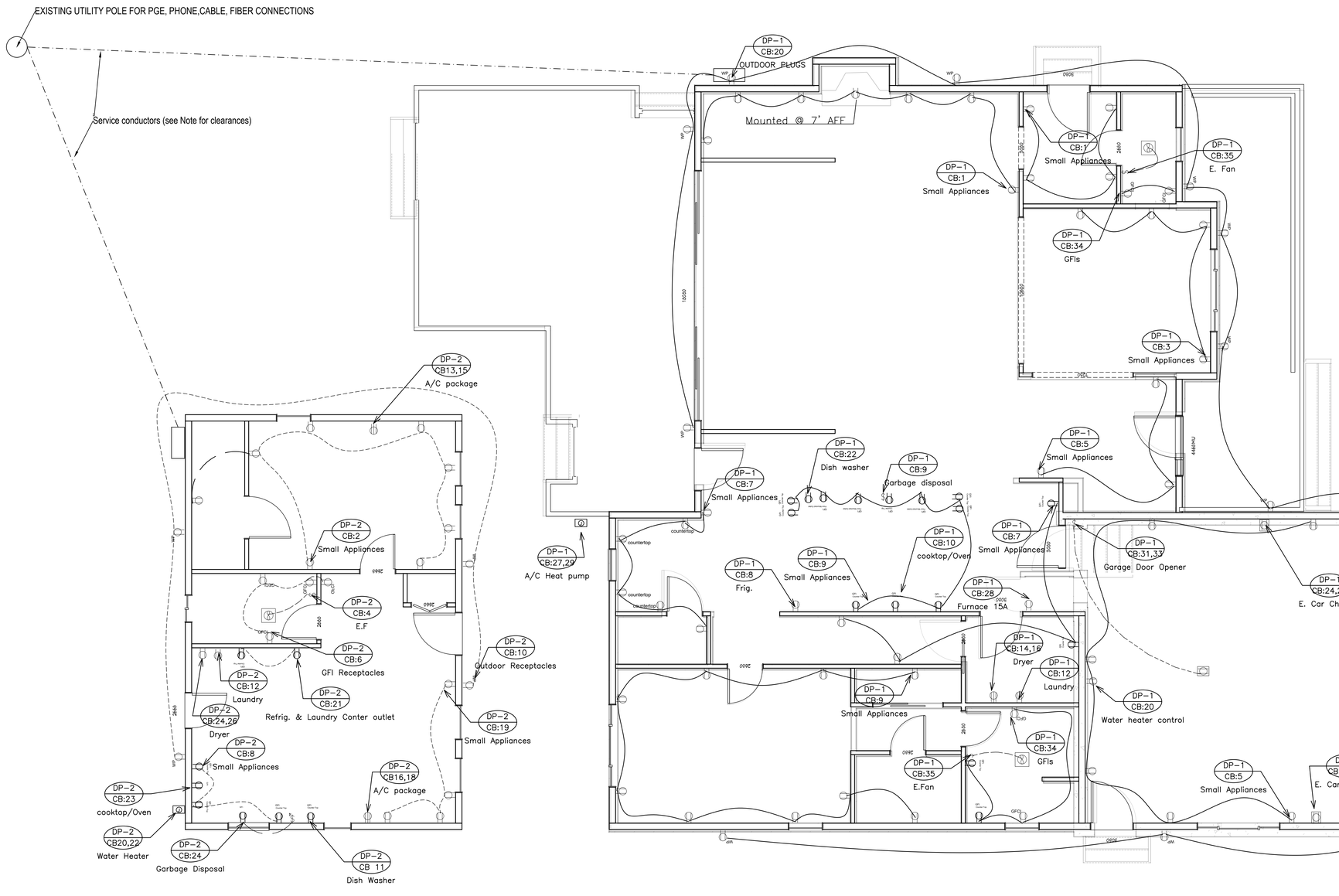
Scale: 1/4" = 1'-00"

DRAWING TITLE: Electrical Legend, Notes and NEC Notes

Sheet :

Page No. : E00

No.	Revision/Issue	Date



NEC Note for Service conductors

230.24 Clearances

Overhead service conductors shall not be readily accessible and shall comply with 230.24(A) through (E) for services not over 600 volts, nominal.

(A) Above Roofs

Conductors shall have a vertical clearance of not less than 2.5 m (8 ft) above the roof surface. The vertical clearance above the roof level shall be maintained for a distance of not less than 900 mm (3 ft) in all directions from the edge of the roof.

(B) Vertical Clearance for Overhead Service Conductors

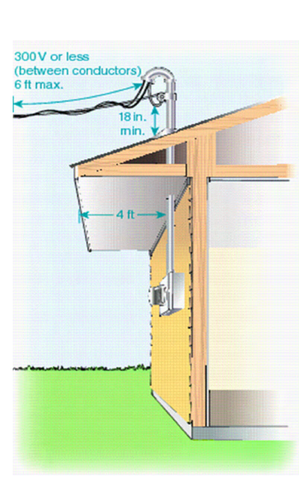
Overhead service conductors, where not in excess of 600 volts, nominal, shall have the following minimum clearance from final grade:

(1) 3.0 m (10 ft) -- at the electrical service entrance to buildings, also at the lowest point of the drip loop of the building electrical entrance, and above areas or sidewalks accessible only to pedestrians, measured from final grade or other accessible surface only for service-drop cables supported on and cabled together with a grounded bare messenger where the voltage does not exceed 150 volts to ground

(2) 3.7 m (12 ft) -- over residential property and driveways, and those commercial areas not subject to truck traffic where the voltage does not exceed 300 volts to ground

(3) 4.5 m (15 ft) -- for those areas listed in the 3.7-m (12-ft) classification where the voltage exceeds 300 volts to ground

(4) 5.5 m (18 ft) -- over public streets, alleys, roads, parking areas subject to truck traffic, driveways on other than residential property, and other land such as cultivated, grazing, forest, and orchard



Appliance plan - First floor

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scale : 1 / 4" = 1'

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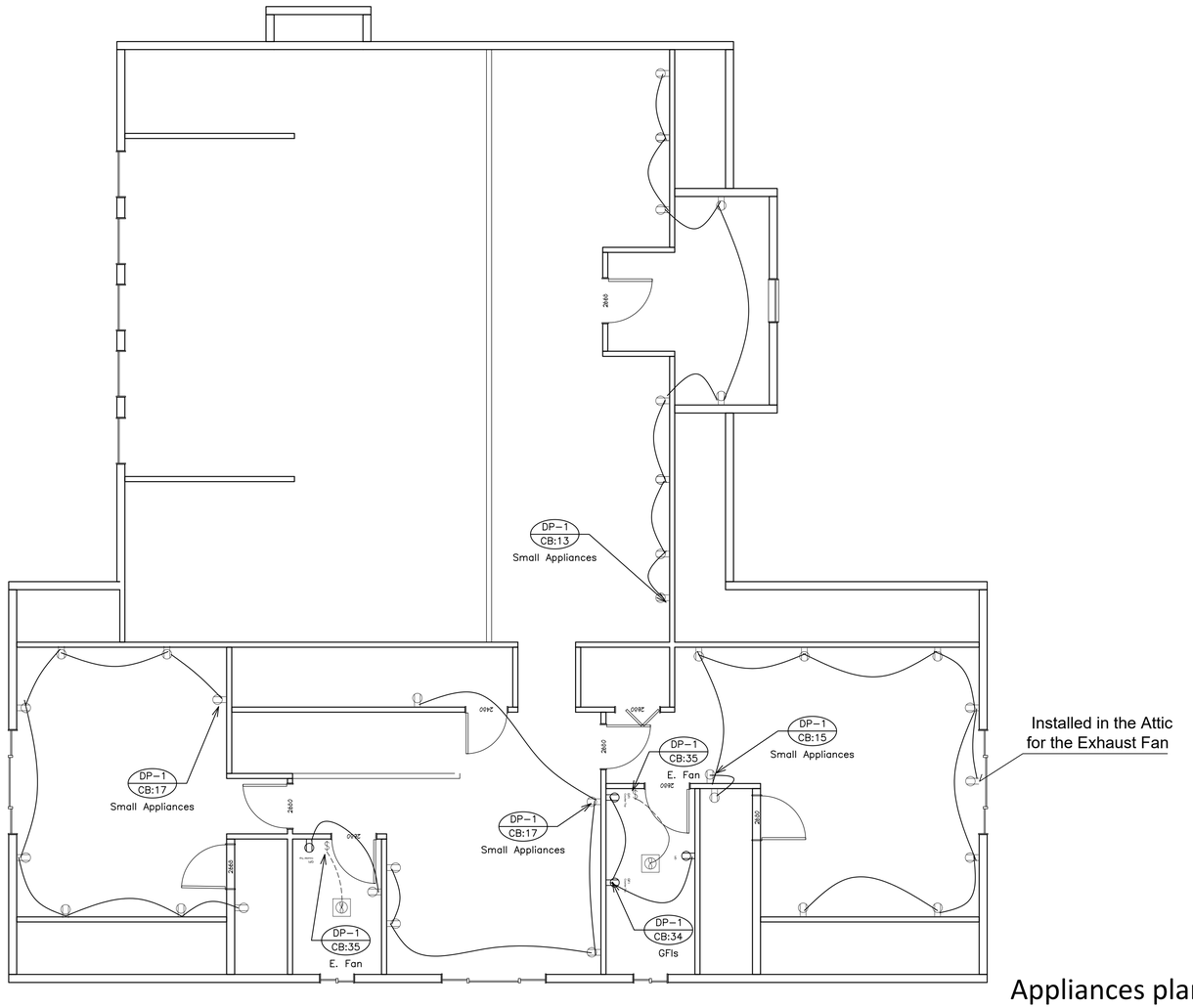
DRAWING TITLE: Appliances & wiring 1st floor

Sheet :

Page No. : E01

No.	Revision/Issue	Date



Appliances plan - second floor

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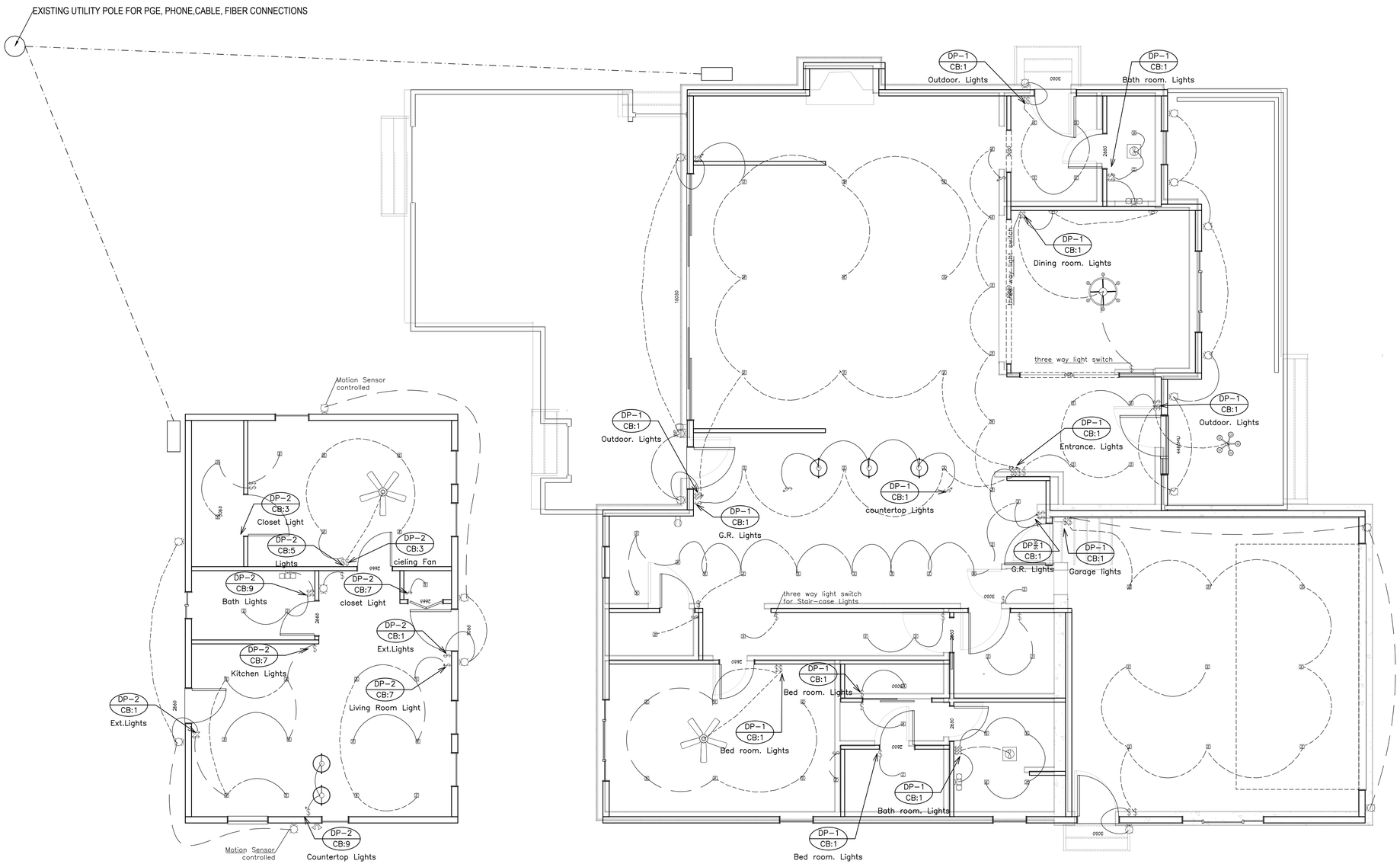
DRAWING TITLE: Appliances Plan 2nd Floor

Sheet :

Page No. : E02

No.	Revision/Issue	Date



Lights Circuit plan - First floor

scale : 1 / 4" = 1'

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DRAWING TITLE:

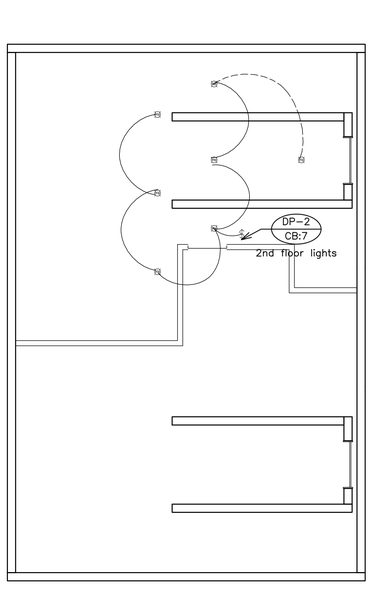
Lights circuitry Plan 1st floor

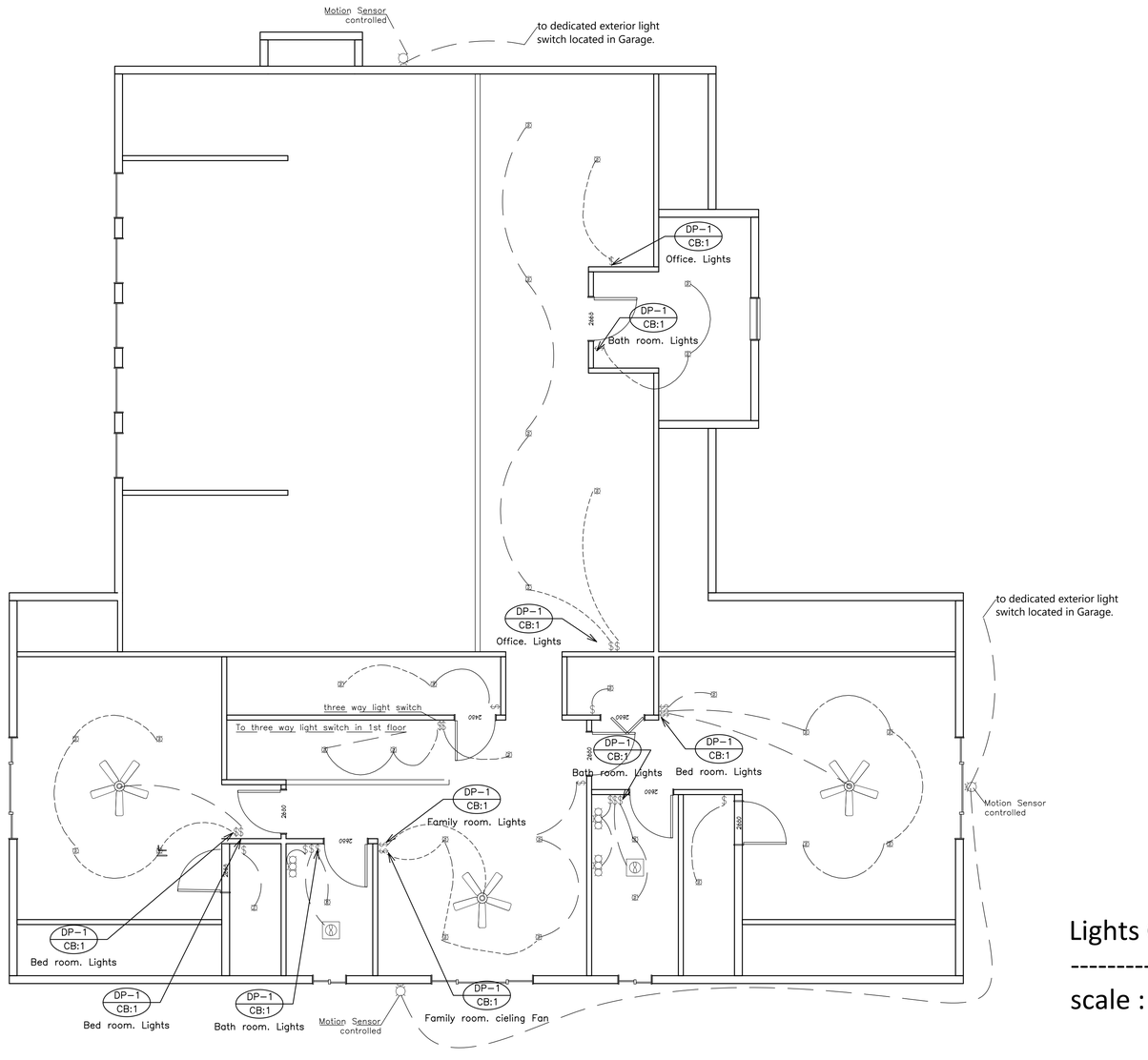
Sheet :

Page No. :

E03

No.	Revision/Issue	Date





Lights Circuit plan - second floor

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Scale: 1/4" = 1'-00"

DRAWING TITLE: Lights circuitry Plan 2nd floor

Sheet :

Page No. : E04

No.	Revision/Issue	Date

Gas fueled tankless water heater sizing For Main House:

people	5 X5 =25 gal/Hr
Dishwasher	1 X 10=10
Laundry Machine	1 X20= 20
Full Bath room	3 X10 = 30

Total Hot water requirement per Hour = 85 gal/Hr
Minimum Flow rate per minute = 1.41 Gal/Minute
Required a water heater to provide 50 degrees of Heat @ minimum 1.5 Gal/Hr
#2 water heater Rheem Model # RTGH-95DVELN-2 will be used in master- Slave connection mode

More Information
SKU RTGH-84XLN-2
MPN RTGH-84XLN-2
Weight 78.0000
Manufacturer Rheem
UPC 20352695143
GTIN 00020352695143
Energy Source Natural Gas
width 18 1/2
Height27 1/2
Flow Rate @ 35 F Rise 8.4 GPM
Flow Rate @ 45 F Rise 6.6 GPM
Flow Rate @ 65 F Rise 4.4
Max Flow Rate GPM 8.4 GPM
Water Connection 3/4 Inch
Max Heating BTU 157,000

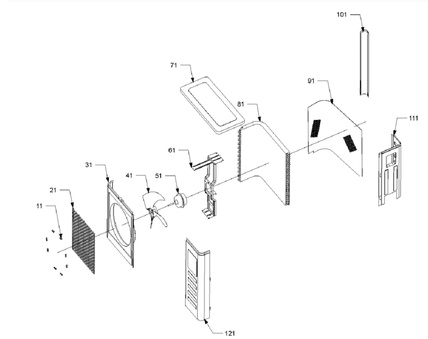
Rheem RTGH-84XLN-2 Natural Gas Condensing Tankless Water Heater

ADU tankless water heater sizing:

people	3 X5 =15 gal/Hr
Dishwasher	1 X 10=10
Laundry Machine	1 X20= 20
Full Bath room	1 X10 = 10

Total Hot water requirement per Hour = 55 gal/Hr
Minimum Flow rate per minute = 1 Gal/Minute
Required a water heater to provide 50 degrees of Heat @ minimum 1 Gal/Hr
A gas water heater Rheem Model # RTGH-84XLN-2 will be used.

24,000 Btu 13 Seer Goodman Single-Zone Mini Split Air Conditioning System - MSG24CRN1N - MSG24CRN1W



11 FRONT GRILLE CLAMPS
21 FRONT GRILLE
31 FRONT PANEL (M1)
41 FAN BLADE (M7, M8)
51 FAN MOTOR (M2, M3, M4)
61 FAN BRACKET (M1)
71 TOP COVER (M1)
81 CONDENSER (M4)
91 REAR GRILLE (M1)
101 LEFT PANEL (M2, M3, M4)
111 REAR PANEL (M5, M6)
121 RIGHT PANEL (M1)

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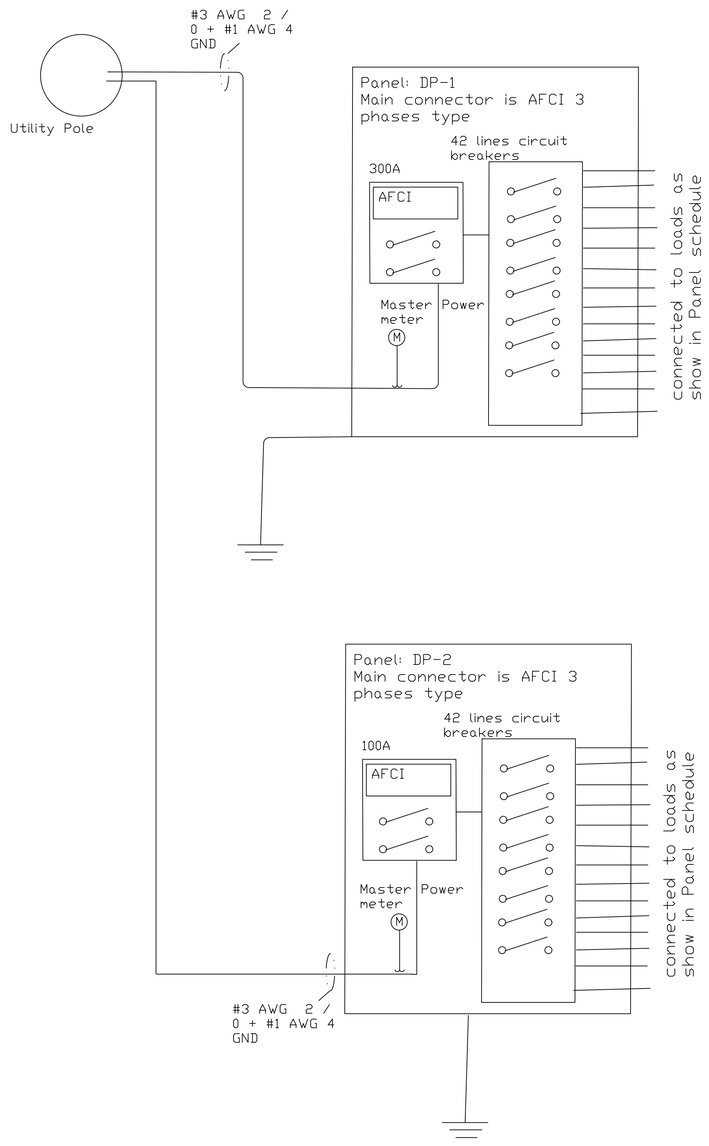
Project Name and Address:

REMODLE AND ADJ SINGLE FAMILY HOUSE

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date:
Scale:
DRAWING TITLE: Equipment, Specifications
Sheet :
Page No. : E05

No.	Revision/Issue	Date



POWER- SLD

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DRAWING TITLE: Power Riser SLD

Sheet :

Page No. : E06

No.	Revision/Issue	Date

PANELBOARD SCHEDULE - "DP-1"

MAIN: 350A MCB | 1ST FLOOR | VOLTAGE: 208/120 | PHASE: 1 | WIRE: 3 | MOUNTING: SURFACE | AIC: 22,000

CKT #	TRIP POLE	DESCRIPTION	LOAD (KVA) LTG	REC	MTR	A/C	HTG	KIT	MISC	PHASE A	PHASE B	LOAD (KVA) LTG	REC	MTR	A/C	HTG	KIT	MISC	DESCRIPTION	TRIP POLE	CKT #
1	20/1	Small Appliances 1		1.80										0.80					ceiling fans	20/1	2
3	20/1	Small Appliances 2		1.20								2.00							Lights 1	20/1	4
5	20/1	Small Appliances 3		1.80								2.00							Lights 2	20/1	6
7	20/1	Small Appliances 4		1.60													0.40		Refrigerator	20/1	8
9	20/1	Small Appliances 5(Kitchen GFIs)						1.60								1.80			Oven/Cooktop	20/1	10
11	20/1	Small Appliances 6		1.20													1.20		Laundry Machine	20/1	12
13	20/1	Small Appliances 7		1.60													1.80		Dryer Machine		14
15	20/1	Small Appliances 8		1.60																20/ 2	16
17	20/1	Bath rooms & Kitchen GFIs		1.60															Fire alarm & DATA	20/1	18
19	20/1	Extrior lghts	1.00										0.10						Gas Water heater control	20/ 1	20
21	20/1	Extrior Receptacles		1.80										1.44					DishWasher	20/ 1	22
23	20 /1																		Elec. Car charger	30/2	24
25																7.70					26
27	50 /2	AC Heat pump												1.80					Furnace	20/1	28
29						6.60													Elec. Car charger		30
31	30 /2	Garage Door														7.70				30 /2	32
33					2.00																34
35	20 /1	Elec. Fans			0.40																36
LIGHTING (KVA): 5.0			1.0	14.2	2.4	6.6	0.0	1.6	0.0			4.0	0.1	4.0	0.0	17.2	3.4	0.0	CONNECTED LOAD (KVA):		54.5
RECEPTACLES (KVA): 14.3																			DEMAND LOAD (KVA):		50.6
MOTORS (KVA): 6.4										PHASE A		25.7	247.5								
A/C (KVA): 6.6										PHASE B		28.8	276.9						CONNECTED LOAD (AMPS):		262.2
HEATING (KVA): 17.2												KVA	AMPS						DEMAND LOAD (AMPS):		243.5
KITCHEN (KVA): 5.0																					
MISCELLANEOUS (KVA): 0.0																			AMPACITY REQUIRED:		249.5

NOTES PROVIDE FEED THRU LUG KIT(S).
BREAKERS PROTECTING MULTI-WIRE BRANCH CIRCUITS SHALL BE FIELD-EQUIPPED WITH A MANUALLY OPERATED HANDLE-TIE DEVICE TO ENSURE THAT ALL UNGROUNDED CONDUCTORS ARE SIMULTANEOUSLY DISCONNECTED PER NEC 240.15.

Schneider SEA9BN6M Acti 9 250A Three Phase
6 Way Meter Ready Distribution Board

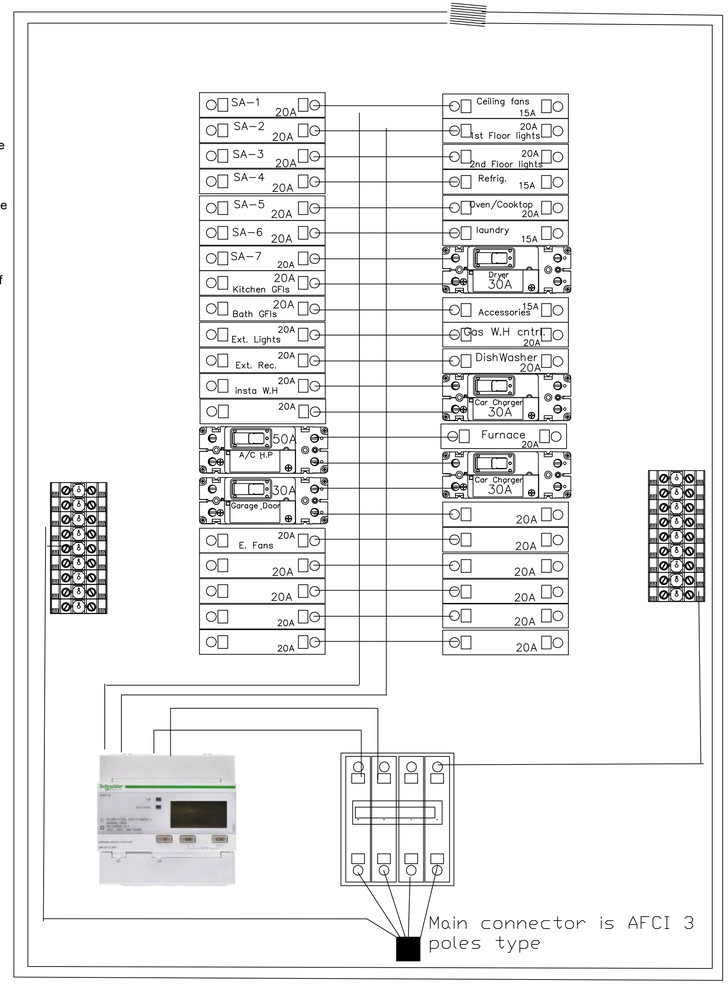
AMPACITY REQD CALCS

LIGHTING	5.00	KVA	X	125 %	=	**6.3 KVA**
RECEPTAC TOTAL	14.20	KVA				
1ST	10.00	KVA	X	100 %	=	**10.0 KVA**
REMAIN	4.20	KVA	X	50 %	=	**2.1 KVA**
MOTORS TOTAL	5.00	KVA	X	100 %		
LARGEST		KVA	X	125 %	=	**0.0 KVA**
REMAIN	5.00	KVA	X	100 %	=	**5.0 KVA**
A/C	6.20	KVA	X	100 %	=	**6.2 KVA**
HEATING	25.40	KVA	X	100 %	=	**25.4 KVA**
NON-COINCIDENT LOAD		KVA	X	100 %	=	**0.0 KVA**
KITCHEN	5.00	KVA	X	65 %	=	**3.3 KVA**
MISCELLANEOUS	0.00	KVA	X	100 %	=	**0.0 KVA**
TOTAL					=	**58.2 KVA**

San Jose Notes
Electrical Service Panel Upgrades:

Service panel installation requirements
Required meter height - 36 to 75 inches above ground
Required clear space in front of service panel - 30 inches wide by 36 inches deep with a minimum headroom clearance of 6 feet-6 inches
Circuit breakers

The circuit breaker brand must be listed and approved for use as stated on the panel label
A multi-wire circuit (3-wire, 120/240 volt circuit) requires a handle-tie on the circuit breaker. This is common where the wiring serves both the garbage disposal and the dishwasher
Existing breakers must be replaced with GFCI or AFCI only if receptacles are being replaced OR wiring is being added or extended



DP-1 with Power meter

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Scale: 1/4" = 1'-00"

DRAWING TITLE: DP-1 schedule and |Calculation

Sheet :

Page No. : E07

No.	Revision/Issue	Date

PANELBOARD SCHEDULE -DP-2

MAIN: 250A MCB | GR FLOOR | VOLTAGE: 208/120 | PHASE:3 | WIRE: 4 | MOUNTING: SURFACE | AIC: 22000

CKT #	BKR TYPE	TRIP POLE	DESCRIPTION	LOAD (KVA) LTG	REC	MTR	A/C	HTG	KIT	MISC	PHASE R	PHASE S	LOAD (KVA) LTG	REC	MTR	A/C	HTG	KIT	MISC	DESCRIPTION	TRIP POLE	BKR TYPE	CKT #
1		20/1	Small Appliances Bed room		1.80								0.08							Outdoor Lights	20/1		2
3		20/1	EF		0.10								0.22							Lights (Bed room)	20/1		4
5		20/1	GFI		0.54								0.20							ceiling fans	20/1		6
7		20/1	Small Appliances Kitchen						1.80				0.24							Lights (Kitchen and Living room)	20/1		8
9		20/1	Outdoor receptacles		1								0.10							counter top Lights	20/1		10
11		20/1	Dish washer		1.80													1.20		Laundry Machine	20/1		12
13			A/C Package #2				2.00														20/1		14
15		20/ 2														2.00				A/C Package #1			16
17		20/ 1	fire alarm sensors																		20/ 2		18
19		20 /1	Small Appliances living room		0.50												4.10			Water heater 1	30 / 2		20
21		20 /1	Refrig.		0.36																		22
23		30 /1	Oven/cooktop					1.80										3.80		Dryer Machine	20 /2		24
25		20 /1	IAQ Fan			0.20																	26

LIGHTING (KVA):	1	0	2	0	2	2	2	0
RECEPTACLES (KVA):	2							
MOTORS, Sump Pumps (KVA):	1							
A/C (KVA):	4							
HEATING (KVA):	6							
KITCHEN (KVA):	7							
MISCELLANEOUS (KVA):	0							

PHASE R	6	59					
PHASE S	5	47					
KVA	AMPS						

CONNECTED LOAD (KVA):	21
DEMAND LOAD (KVA):	19
CONNECTED LOAD (AMPS):	101
DEMAND LOAD (AMPS):	89
AMPACITY REQUIRED:	90

NOTES: PROVIDE FEED PROVIDE FEED THRU LUG KIT(S).
BREAKERS PROTECTING MULTI-WIRE BRANCH CIRCUITS SHALL BE FIELD-EQUIPPED WITH A MANUALLY OPERATED HANDLE-TIE DEVICE TO ENSURE THAT ALL UNGROUNDED CONDUCTORS ARE SIMULTANEOUSLY DISCONNECTED PER NEC 240.15.

BREAKER SELI OVERCURRENT PROTECTION DEVICE SELECTIONS BASED ON EATON CUTLER-HAMMER. EQUALS ALLOWED BY GE, SIEMENS, SQUARE D.
OVERCURRENT

AMPACITY REQD CALCS

LIGHTING	1	KVA	X	125	%	=	1 KVA	9	Amps
RECEPTA TOTAL	2	KVA							
1ST	10	KVA	X	100	%	=	2 KVA	17	Amps
REMAIN	0	KVA	X	50	%	=	0 KVA	0	Amps
MOTORS TOTAL	1	KVA	X	100	%				
LARGEST		KVA	X	125	%	=	0 KVA	0	Amps
REMAIN	1	KVA	X	100	%	=	1 KVA	10	Amps
A/C	4	KVA	X	100	%	=	4 KVA	33	Amps
HEATING	4	KVA	X	100	%	=	4 KVA	34	Amps
NON-COINCIDENT LOAD		KVA	X	100	%	=	0 KVA	0	Amps
KITCHEN	7	KVA	X	65	%	=	4 KVA	37	Amps
MISCELLANEOUS	0	KVA	X	100	%	=	0 KVA	0	Amps
TOTAL						=	17 KVA	140	Amps

Table 326.80 Ampacity of Type IGS Cable

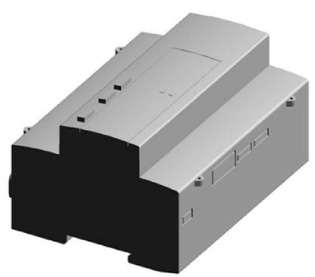
Size (kcmil)	Amperes	Size (kcmil)	Amperes
250	119	2500	376
500	168	3000	412
750	206	3250	429
1000	238	3500	445
1250	266	3750	461
1500	292	4000	476
1750	315	4250	491
2000	336	4500	505
2250	357	4750	519

Conductor Size

AWG	CMA	Diameter (mm)	mm²	Size	Current Rating
#32	63	0.20	0.03	•	0.3A
#30	101	0.26	0.05	•	0.5A
#28	160	0.32	0.08	•	0.7A
#26	254	0.41	0.13	•	1.0A
#24	404	0.51	0.20	•	2.0A
#22	643	0.64	0.33	•	3.0A
#20	1,020	0.81	0.52	•	5.0A
#18	1,624	1.02	0.82	•	7.0A
#16	2,583	1.29	1.31	•	10.0A
#14	4,106	1.63	2.08	•	20.0A
#12	6,530	2.05	3.31	•	30.0A
#10	10,384	2.59	5.26	•	50.0A

DP-2 with Power meter

Schneider SEA9BN6M Acti 9 250A Three Phase 6 Way Meter Ready Distribution Board



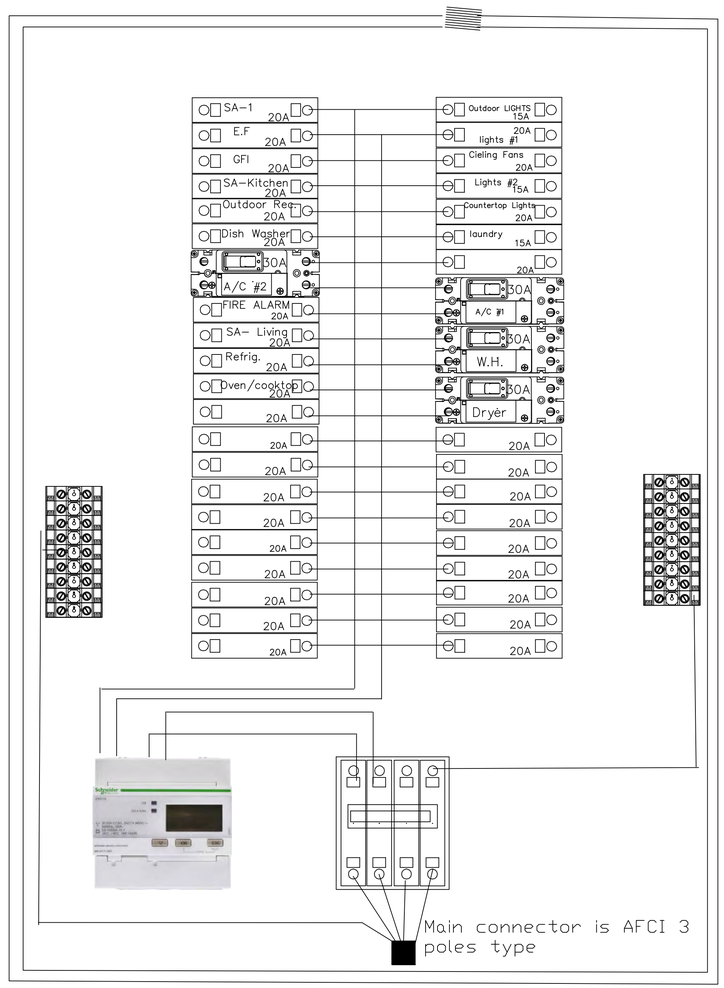
Acti9 iEM3100 Energy Meters
The iME3100 energy measurement counter is used to measure the active energy consumed by single-phase, three-phase or three-phase + neutral type electrical circuits.

Operating voltage: 3 x 100/173 Vac (50/60 Hz) → 3 x 277/480 Vac (50/60 Hz)
Imax: 63 A
IP40 front panel, IP20 casing
Overvoltage and measurement category III, degree of pollution 2
Electromagnetic environmental class: E2
Mechanical environmental class: M1
Operating temperature: -25 → + 55 °C

Desigr

NEC 700.2
multiple e
breakers.

If this pane
& AJ. Als
If this pane
COORDIN
applicable.
schedule.



DP-2 with Power meter

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DRAWING TITLE: DP-2 schedule and |Calculation

Sheet :

Page No. : E08

No.	Revision/Issue	Date

Luminaire parts list								
Index	Manufacturer	Luminaire type	Item number	Fitting	Luminous flux	Light loss factor	Connected load	Quantity
1	Verbatim	IN-0302-1-WH		1x52450	1890 lm	0.80	9w	104

#	Name	Parameter	Min	Max	Average	Min/average	Min/max
1	ADU BLDG	Perpendicular illuminance (Adaptive)	8.48 fc	64.3 fc	37.3 fc	0.227	0.132

#	Name	Parameter	Min	Max	Average	Min/average	Min/max
1	GARAGE	Perpendicular illuminance (Adaptive)	8.23 fc	38.8 fc	26.0 fc	0.317	0.212
2	Master Bath room	Perpendicular illuminance (Adaptive)	31.2 fc	56.2 fc	45.6 fc	0.685	0.556
3	Laundry	Perpendicular illuminance (Adaptive)	14.8 fc	35.5 fc	26.5 fc	0.558	0.417
4	Closet #1	Perpendicular illuminance (Adaptive)	11.4 fc	20.8 fc	16.5 fc	0.689	0.548
5	Master Bed room	Perpendicular illuminance (Adaptive)	7.69 fc	33.8 fc	23.2 fc	0.332	0.227
6	Closet #2	Perpendicular illuminance (Adaptive)	0.00 fc	0.000 fc	0.00 fc	/	/
7	Stairs	Perpendicular illuminance (Adaptive)	17.1 fc	42.0 fc	28.2 fc	0.607	0.408
8	Grand Room	Perpendicular illuminance (Adaptive)	9.55 fc	112 fc	50.6 fc	0.189	0.085
9	Bath room	Perpendicular illuminance (Adaptive)	26.0 fc	40.1 fc	33.8 fc	0.767	0.647
10	Mud room	Perpendicular illuminance (Adaptive)	41.8 fc	66.2 fc	56.1 fc	0.744	0.631

#	Name	Parameter	Min	Max	Average	Min/average	Min/max
1	ADU 2nd Floor	Perpendicular illuminance (Adaptive)	0.38 fc	17.4 fc	4.65 fc	0.082	0.022
2	Office	Perpendicular illuminance (Adaptive)	2.57 fc	9.47 fc	5.83 fc	0.441	0.272
3	Closet #1	Perpendicular illuminance (Adaptive)	3.30 fc	8.80 fc	6.08 fc	0.543	0.375
4	Bed room#2	Perpendicular illuminance (Adaptive)	2.34 fc	9.41 fc	6.41 fc	0.365	0.249
5	Bath Room #2	Perpendicular illuminance (Adaptive)	1.85 fc	9.55 fc	5.25 fc	0.353	0.194
6	Family Room	Perpendicular illuminance (Adaptive)	2.76 fc	13.4 fc	10.0 fc	0.275	0.206
7	closet#2	Perpendicular illuminance (Adaptive)	2.12 fc	8.71 fc	6.13 fc	0.346	0.243
8	Corridor	Perpendicular illuminance (Adaptive)	3.20 fc	9.74 fc	7.25 fc	0.441	0.328
9	Bath Room #3	Perpendicular illuminance (Adaptive)	3.68 fc	7.74 fc	6.42 fc	0.574	0.476
10	Bed Room #3	Perpendicular illuminance (Adaptive)	0.69 fc	6.35 fc	3.55 fc	0.194	0.108

GetInLight 5 Inch Flush Mount LED Ceiling Light with ETL Listed, Soft White 3000K, Matte White Finish, IN-0302-1-WH

Brand GetInLight
Part NumberIN-0302-1-WH
Item Weight 9.6 ounces
Product Dimensions 5.4 x 5.4 x 1 inches
Assembled Height 1.02 inches
Assembled Length 5.4 inches
Assembled Width 5.4 inches
Style Modern
Color 3000k(soft White)
ShapeCircular
Material Metal
Finish Matte White
Number of Lights 38
Included Components Wood Screws, Wire Nuts
Voltage 120 volts
Specific Uses Commercial/Residential
Fixture Features Dimmable
Shade Material Plastic
Light Direction Downlight
Power Source AC
Amperage Capacity 2.3 A
Switch Installation Type Embedded
Batteries Included?No
Batteries Required? No
Certification ETL Listed
Type of BulbLED
Luminous Flux 550.00
Wattage 9.00
Wattage 9 watts
Color Temperature 3000 Kelvin
Color Rendering Index (CRI) 90.00

Wall Sconce - 3 Lights - LED - Chrome and Aluminum

Product specifications

Type	Wall sconce
Warranty	1-year warranty
Bulb Type	Integrated LEDs
Style	Contemporary
Collection	Ledgo
Component	Metal
Finish	Chrome and aluminum
Thickness	3" (7.62 cm)
Width	3.5" (8.89 cm)
Length	19" (48.26 cm)
Wattage	3 x 5 W
Quantity per Box	Each

6pcs 5 W LED Candle Lights 500 lm E14 CA35 35 LED Beads SMD 2835 Decorative Warm White White 220-240 V 110-130 V / 6 pcs / RoHS

Quantity 6pcs
LED Beads Quantity 35
Light Color White, Warm White
Type LED Candle Lights
Features Decorative
Wattage (W)5
Initial Lumens (lm) 500
Certification CE, RoHS
Color Temperature (k) 3000 6000
Lifetime (H) >50000
Primary ApplicationGarage / Carport, Storage Room / Utility Room, Hallway / Stairwell, Bathroom, Bedroom, Living Room / Dining Room, Kitchen, Children's Room, Home / Office
Bulb Shape CA35
LED Type SMD 2835
Bulb Base E14
What's in the box LED

6-Light Candle-style Chandelier Ambient Light Painted Finishes Metal Candle Style 110-120V / 220-240V Bulb Not Included / E12 / E14

Specifications
Light Information

Type	Chandelier
Style	Retro
Features	Candle Style
Suggested Space Fit	Dining Room, Kitchen, Bedroom, Living Room, Hallway
Number of Tier(Tiers)	1
Suggested Room Size	10-15㎡
Power (W)	45
Dimensions	
Fixture Height (cm)	36
Fixture Width (cm)	61
Chain/Cord Length (cm)	32
Bulb Type	LED, Incandescent
Number of Bulb	6-Light
Wattage per Bulb (W)	45
Bulb Base	E12 / E14

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Canada Office
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+1 909 939 2585 info@pixelarchltd.com
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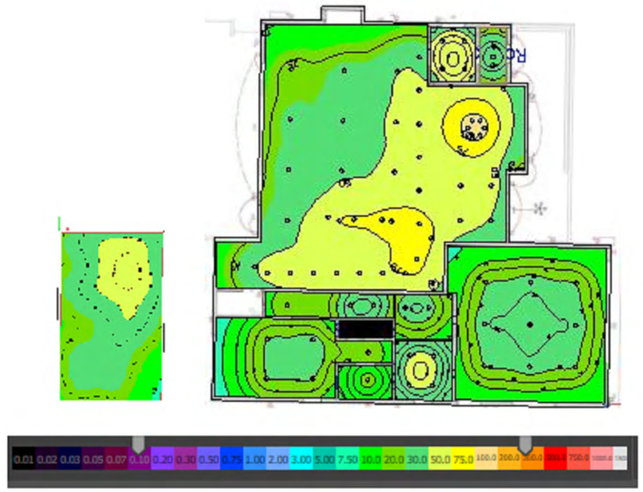
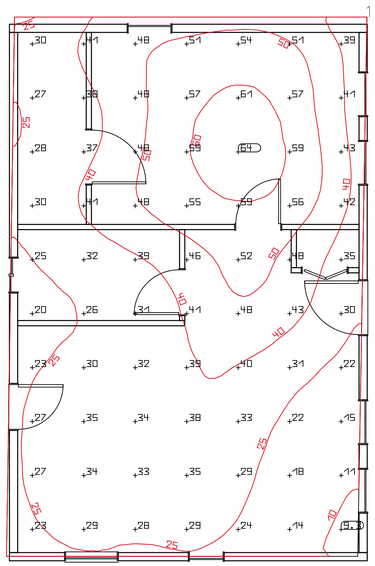
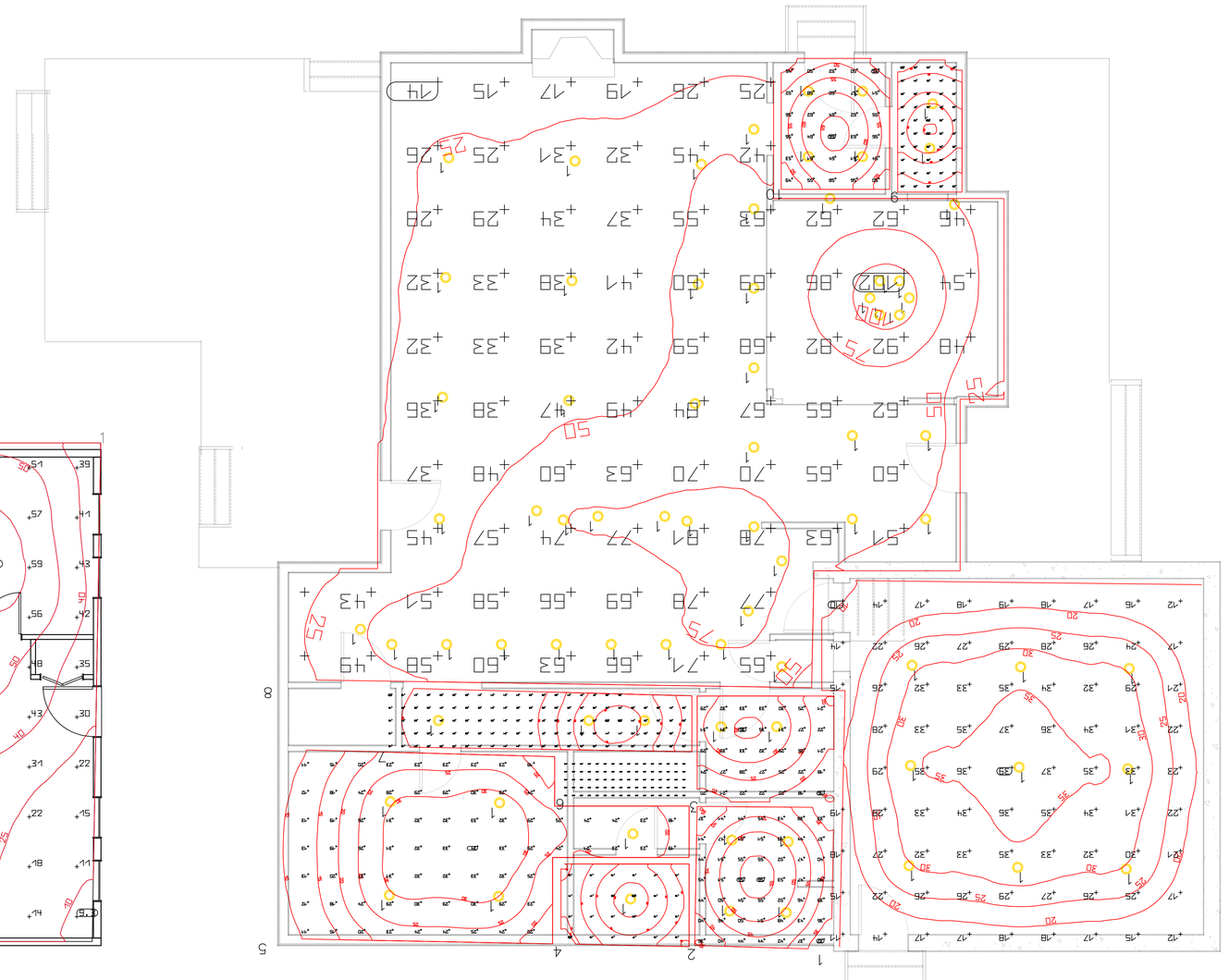
DRAWING TITLE: FC Level and Lights specifications

Sheet :

No.	Revision/Issue	Date







Photometric plan- first floor

---

scale : 1 / 4" = 1'

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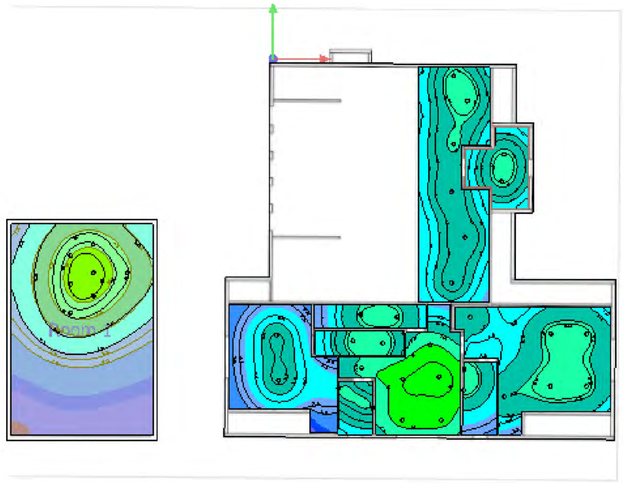
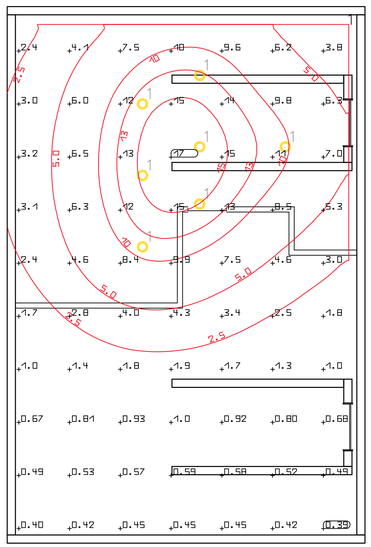
DRAWING TITLE: Photometric Plan 1st floor

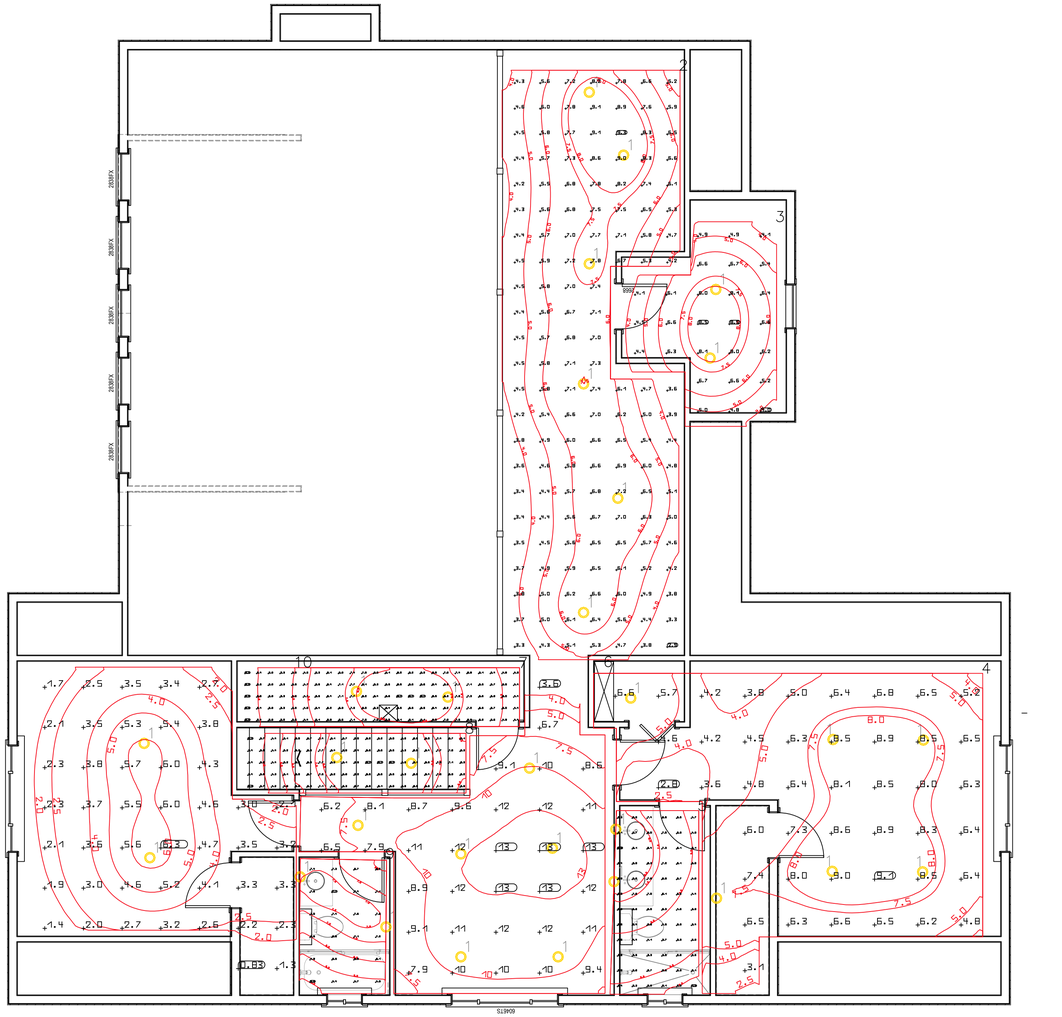
Sheet :

Page No. : E10

No.	Revision/Issue	Date







Photometric plan - second floor

---

scale : 1 / 4" = 1'

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DRAWING TITLE: Photometric Plan 2nd floor

Sheet :

Page No. : E11

No.	Revision/Issue	Date

BRK Electronics First Alert 4120B 120V AC/DC Hardwired with 9V Battery Backup Ionization Smoke Alarm (Upgraded to 9120B)

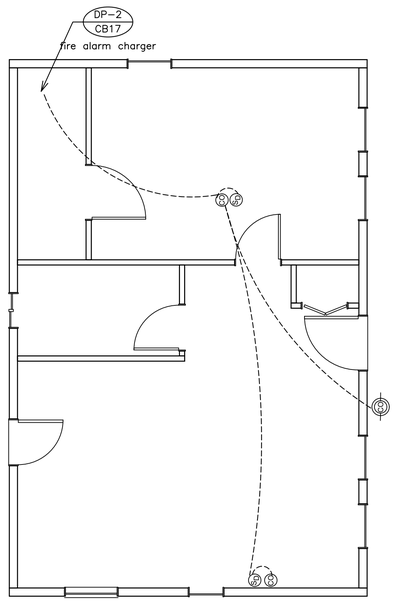
BRK 4120B Smoke Alarm AC Powered with Battery Back-up. Designed for the fastest possible installation! If AC power fails, the battery back-up keeps the smoke alarm working.

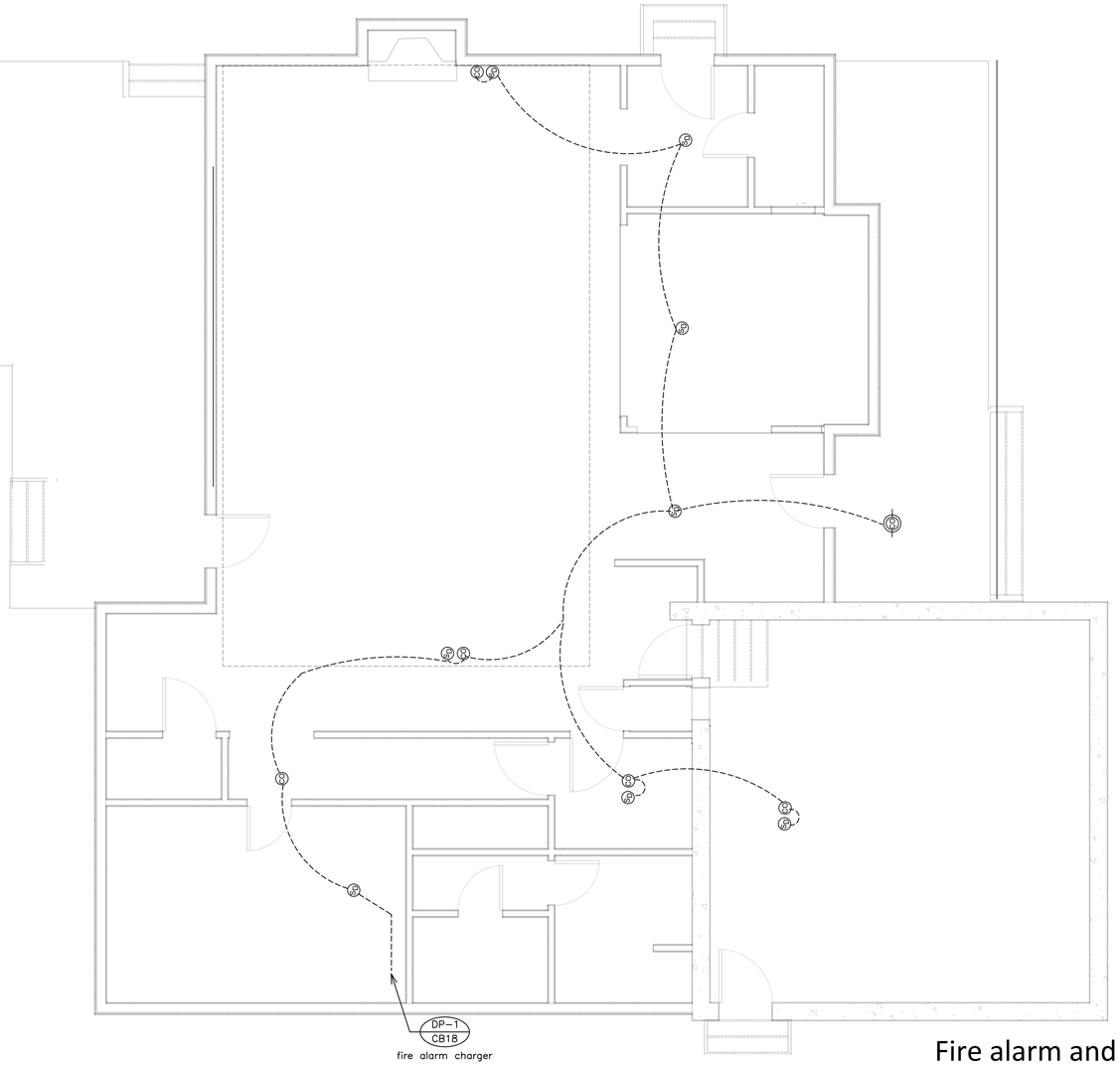
Ionization Sensor
Quick Plug-In Power Connector
Alarm Indication
Battery Drawer Lock
Mounting Bracket Lock
Swing-Open Battery Door
Battery Activation Tab
Battery Back-Up
AC Power Indicator
Low Battery Warning "Chirp"
Missing Battery Tab
9V Battery Included

Model # 4120B
Operating Voltage 120V AC 60Hz w/ 9V battery backup (4120B only)
Listing UL Listed to U.S. and Canadian safety standards

Kidde 120V Carbon Monoxide Alarm

	KD-2100646	KD-9000121
Power Source	120V AC, 9V Battery Backup	120V AC, 9V Battery Backup
Sensor	Electrochemical	Electrochemical
Audio Alarm	85dB at 10ft	85dB at 10ft
Temp. Range	40° F to 100° F	40° F to 100° F
Humidity Range	5% - 95% relative humidity	5% - 95% relative humidity
Size	5.75" Diameter x 1.8" Depth	5.75" Diameter x 1.8" Depth
Weight	1 lb	1 lb
Interconnect Up to 24 Kidde Devices		Up to 24 Kidde Devices





Fire alarm and sensors plan - First floor

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scale : 1 / 4" = 1'

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US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODLE AND ADJ SINGLE FAMILY HOUSE

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date:

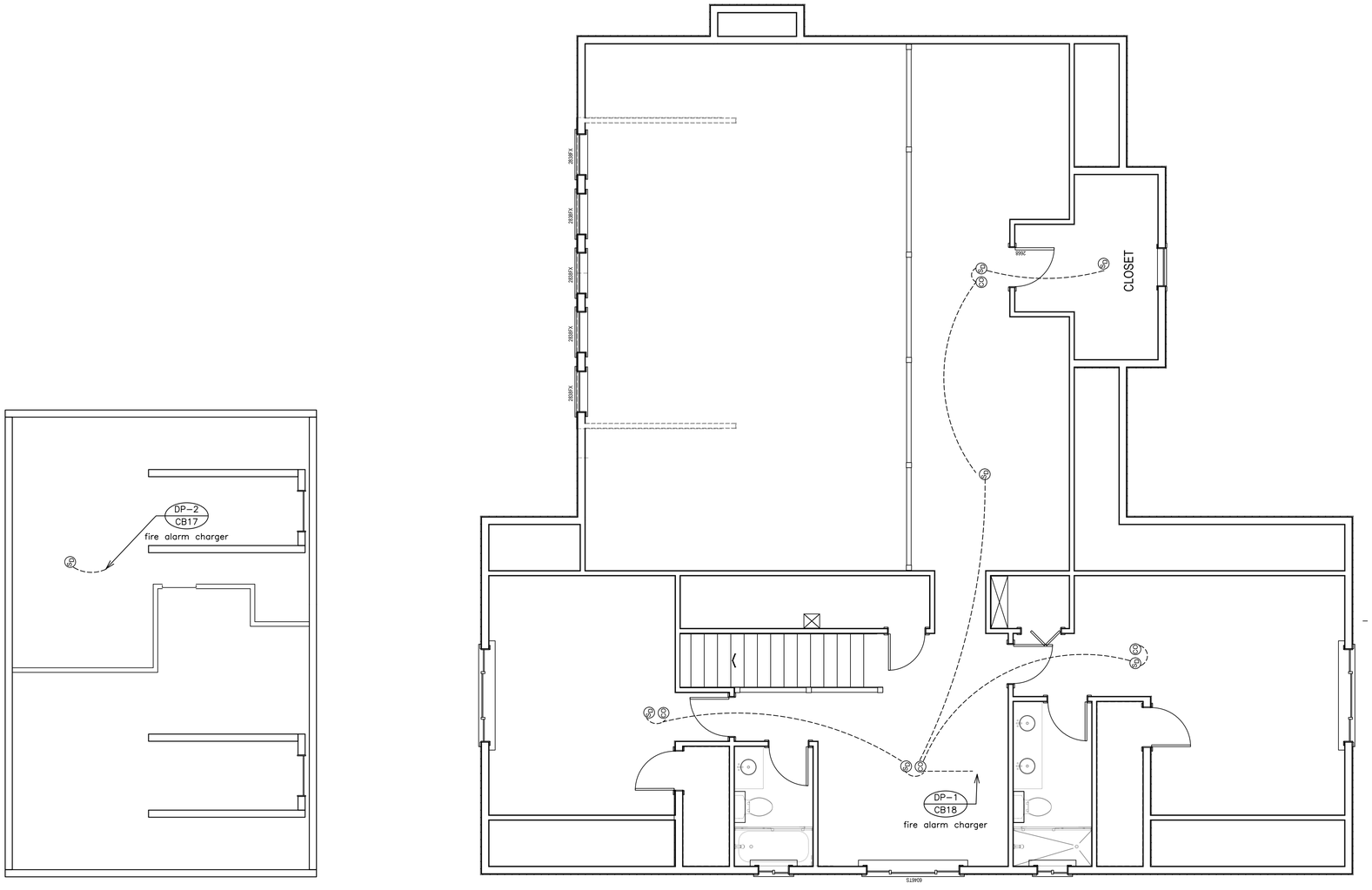
Scale: 1/4" = 1'-00"

DRAWING TITLE: Fire Alarm sensors 1st floor

Sheet :

Page No. : E12

No.	Revision/Issue	Date



Fire alarm and sensors plan - second floor

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Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
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Scale: 1/4" = 1'-00"

DRAWING TITLE: Fire Alarm sensors 2nd floor

Sheet :

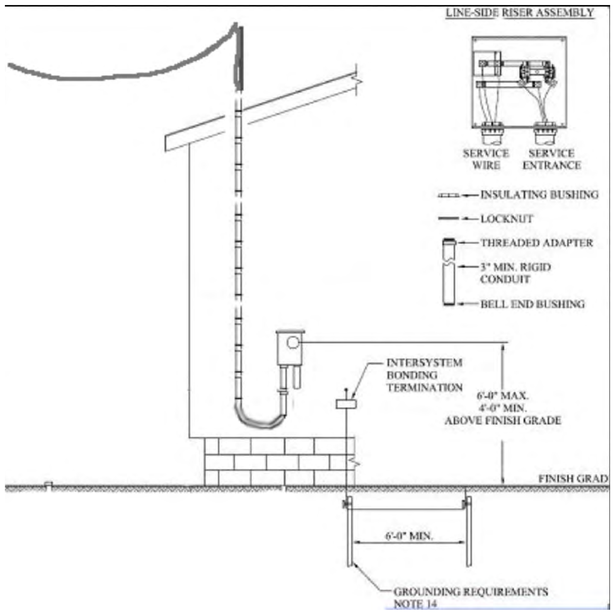
Page No. : E13

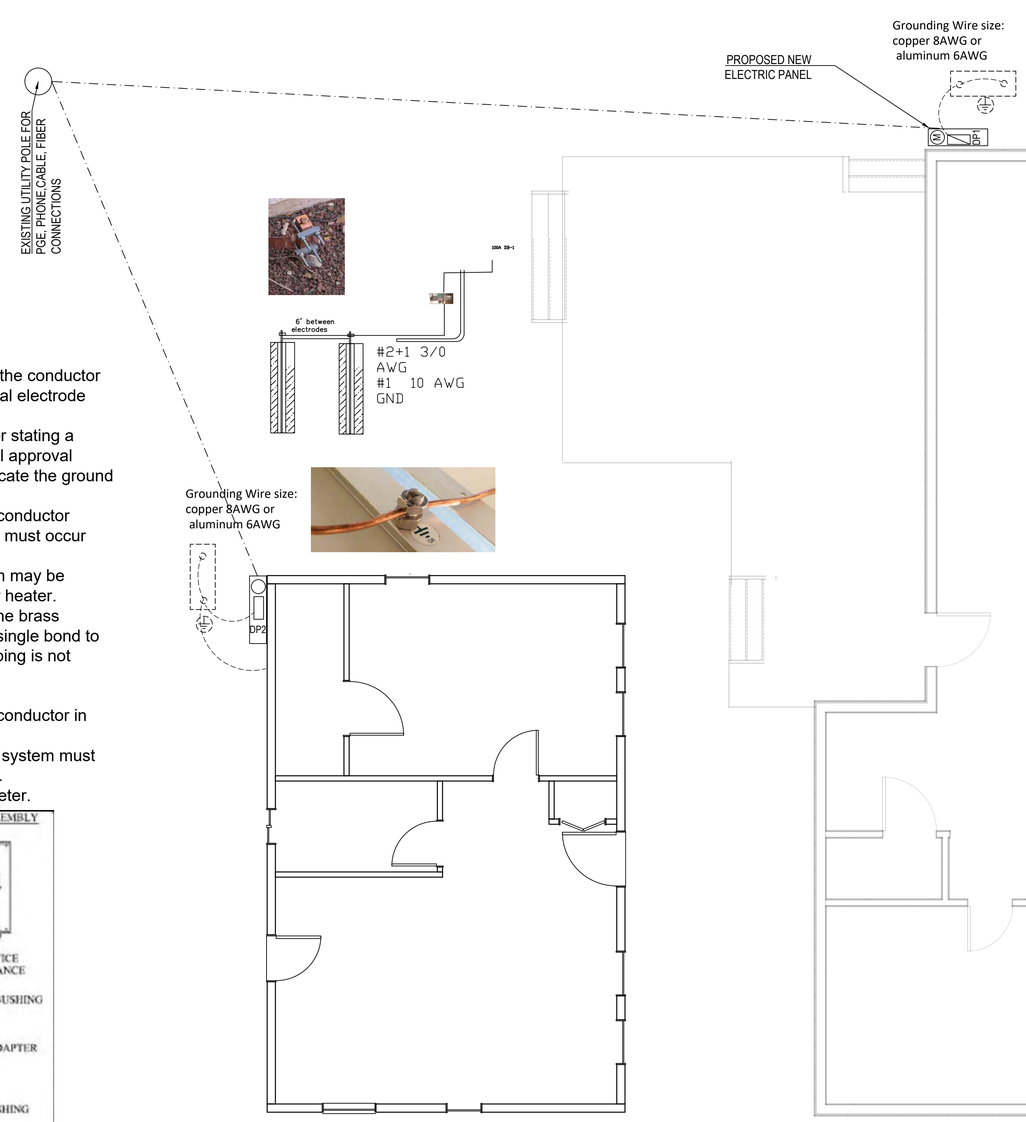
No.	Revision/Issue	Date

CEC Notes:

CEC Section 250.50 Grounding Electrode System and Grounding Electrode Conductor
250.50 Grounding Electrode System. All grounding electrodes as described in 250.52(A)(1) through (A)(7) that are present at each building or structure served shall be bonded together to form the grounding electrode system. Where none of these grounding electrodes exist, one or more of the grounding electrodes specified in 250.52(A)(4) through (A)(8) shall be installed and used.
Exception: Concrete-encased electrodes of existing buildings or structures shall not be required to be part of the grounding electrode system where the steel reinforcing bars or rods are not accessible for use without disturbing the concrete.
CEC Section 250.104 Bonding of Piping Systems and Exposed Structural Metal.
(A) Metal Water Piping. The metal water piping system shall be bonded as required in (A)(1), or (A)(3) of this section. The bonding jumper(s) shall be installed in accordance with 250.64 (A), (B), and (E).
(1) General. Meter water piping system(s) installed in or attached to a building or structure shall be bonded to the service equipment enclosure, the grounded conductor at the service, the grounding electrode conductor where of sufficient size, or to the one or more grounding electrodes used. The bonding jumper(s) shall be sized in accordance with Table 250.66 except as permitted in 250.104(A)(2) and (A)(3).

Grounding - Refer to California Electrical Code (CEC) Table 250.66 to size the conductor
If the water piping system is the only grounding source, then a supplemental electrode must be installed.
If using only a single ground rod, a verification document from the contractor stating a resistance to earth of 25 ohms or less at the property is needed prior to final approval
A minimum 5/8" ground rod must be buried at least 8 feet in the ground. Locate the ground rod as close as practicable to the electric service
Bonding the water piping system - Refer to CEC Table 250.122 to size the conductor
If the main water service piping to the house is metallic, accessible bonding must occur within 5 feet of where the water service enters the house.
If the main water service piping is non-metallic, the cold water piping system may be bonded at any accessible location. Piping is commonly bonded at the water heater.
The hot and cold water piping systems are effectively bonded together by the brass plumbing mixing valves at tubs and showers, etc. The San Jose accepts a single bond to the cold water piping only; an additional bonding jumper to the hot water piping is not required.
Bonding the gas piping system
If gas appliances are available, the gas piping is bonded via the grounding conductor in the branch circuit to the gas appliances
If the electrical system does not contain equipment grounds, the gas piping system must be bonded externally with a bonding jumper (same as water piping system).
Gas bonding shall only be connected to the house side of the PG&E gas meter.





2 ground rods must be at least 8 feet buried in the ground with minimum of 6 feet apart. When made of iron or steel, the ground rod must be a minimum 5/8" diameter. Listed stainless steel or nonferrous rods may be 1/2" in diameter.
Grounding electrode conductor shall be connected within 5 ft. from the point of entrance to a cold water pipe grounding electrode. (2007 CEC Section 250-30 Item 3)

Grounding Plan

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1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
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1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date:

Scale: 1/4" = 1'-00"

DRAWING TITLE: Lightening Protection and Ground System

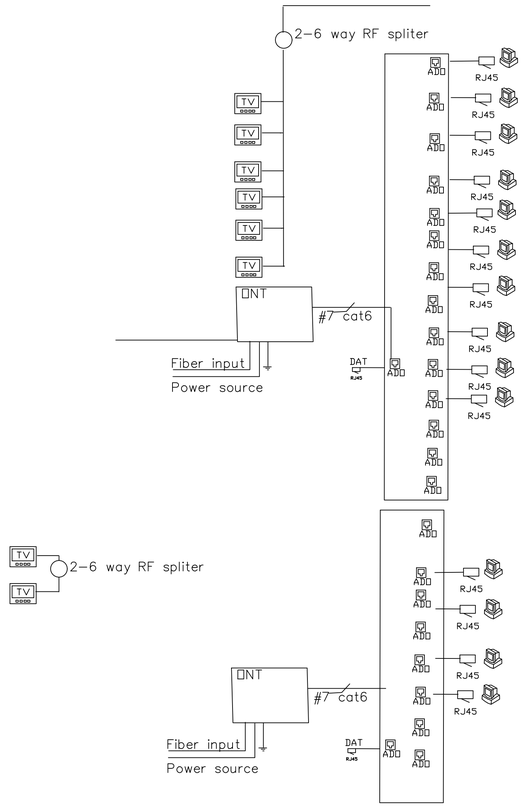
Sheet :

Page No. : E14

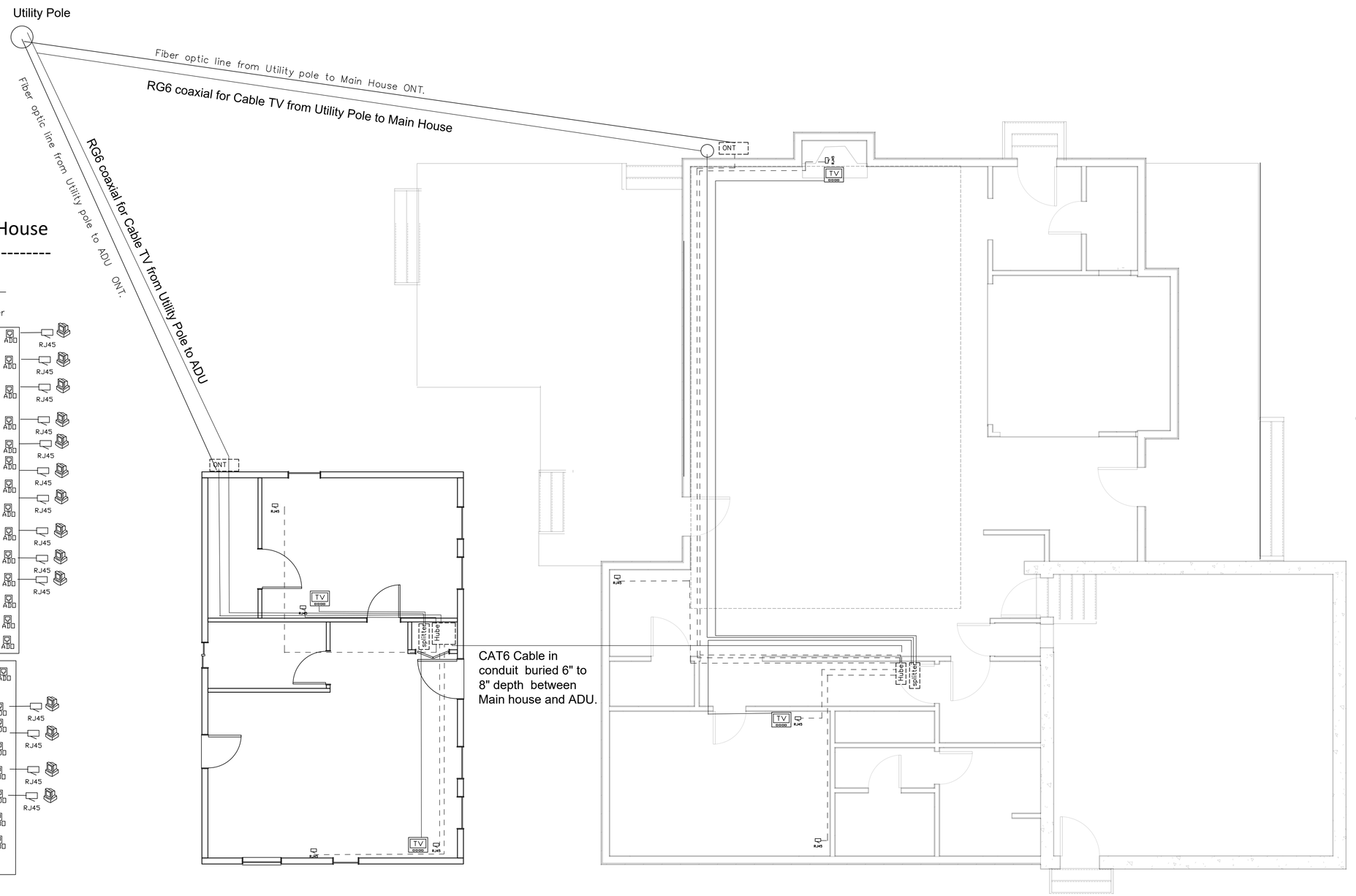
No.	Revision/Issue	Date

TV = TV location (rg6)
PH = phone location (cat6)
DAT = Data location (cat6)
NO = Network Office(3 cat6 /1 rg6)
NP = Network/Phone (2 cat6)
SP = speaker prewire location
SUB = Subwoofer Prewire location
DD = Distribution Device
ADO = Auxiliary Disconnect Outlet
FODB = Fiber Optic Distribution Box

Data, Phone and CATV SLD for Main House



Data, Phone and CATV SLD for ADU



Data, Phone and CATV plan- first floor

scale : 1 / 4" = 1'

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Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
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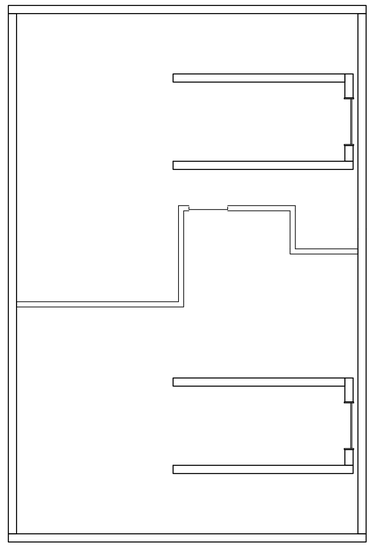
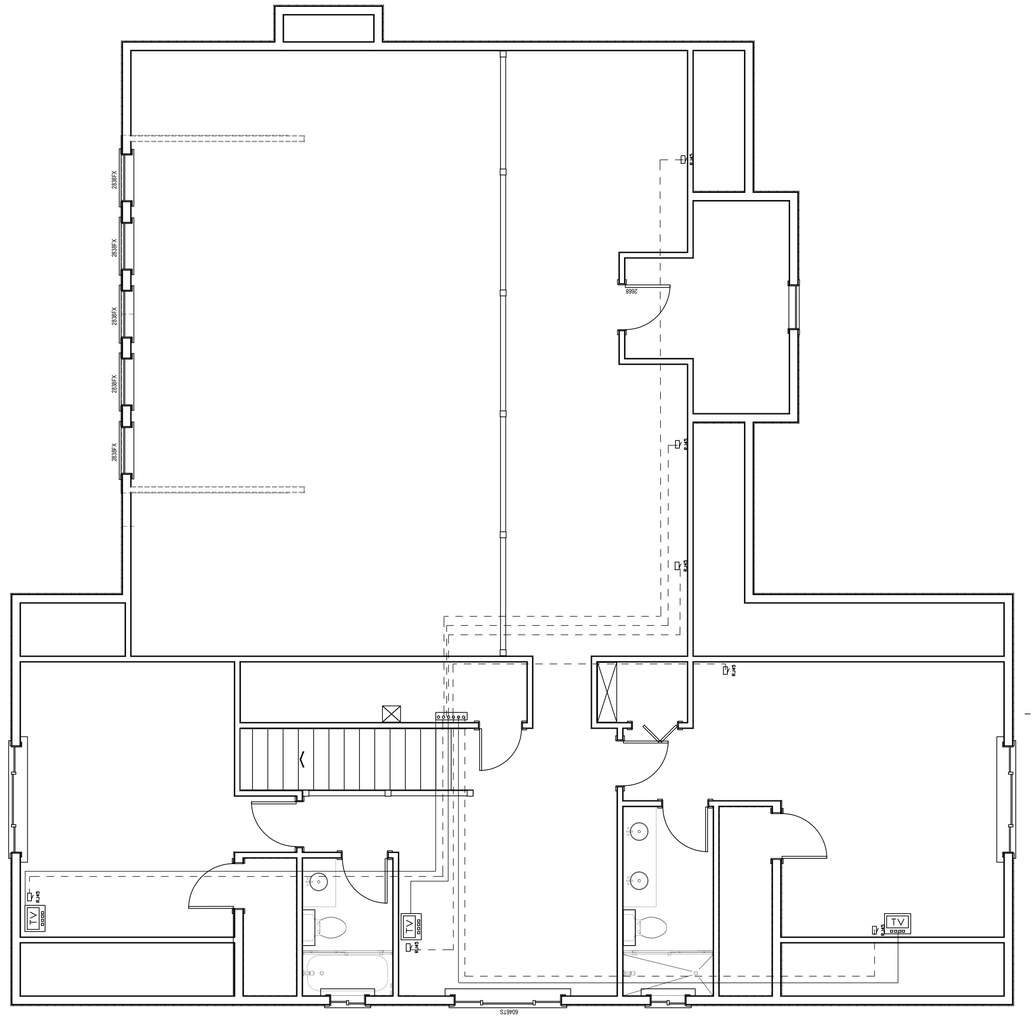
Scale: 1/4" = 1'-00"

DRAWING TITLE: Data and CATV plan 1st floor

Sheet :

No.	Revision/Issue	Date





Data, Phone and CATV plan - second floor

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+1 909 939 2585 info@pixelarchltd.com
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Date:

Scale: 1/4" = 1'-00"

DRAWING TITLE: Data and CATV plan 2nd floor

Sheet :

Page No. : E16

No.	Revision/Issue	Date

CALIFORNIA GENERAL REGULATIONS:

312.0 Protection of Piping, Materials, and Structures

312.1 General

Piping passing under or through walls shall be protected from breakage. Piping passing through or under cinders or other corrosive materials shall be protected from external corrosion in an approved manner. Approved provisions shall be made for expansion of hot water piping. Voids around piping passing through concrete floors on the ground shall be sealed.

312.2 Installation

Piping in connection with a plumbing system shall be so installed that piping or connections will not be subject to undue strains or stresses, and provisions shall be made for expansion, contraction, and structural settlement. No plumbing piping shall be directly embedded in concrete or masonry. No structural member shall be seriously weakened or impaired by cutting, notching, or otherwise, as defined in the California Building Code or California Residential Code.

312.3 Building Sewer and Drainage Piping

No building sewer or other drainage piping or part thereof, constructed of materials other than those approved for use under or within a building, shall be installed under or within 2 feet (610 mm) of a building or structure, or less than 1 foot (305 mm) below the surface of the ground.

312.4 Corrosion, Erosion, and Mechanical Damage

Piping subject to corrosion, erosion, or mechanical damage shall be protected in an approved manner.

312.5 Protectively Coated Pipe

Protectively coated pipe or tubing shall be inspected and tested, and a visible void, damage, or imperfection to the pipe coating shall be repaired in an approved manner.

312.6 Freezing Protection

No water, soil, or waste pipe shall be installed or permitted outside of a building, in attics or crawl spaces, or in an exterior wall unless, where necessary, adequate provision is made to protect such pipe from freezing.

312.7 Fire–Resistant Construction

Piping penetrations of fire–resistance–rated walls, partitions, floors, floor/ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of the California Building Code or California Residential Code.

312.8 Waterproofing of Openings Joints at the roof around pipes, ducts, or other appurtenances shall be made watertight by the use of lead, copper, galvanized iron, or other approved flashings or flashing material. Exterior wall openings shall be made watertight. Counterflashing shall not restrict the required internal cross–sectional area of the vent.

407.2.1 Maximum Flow Rate

The maximum flow rate for public lavatory faucets shall not exceed 0.5 gpm at 60 psi (1.9 L/m at 414 kPa).

407.2.1.1 Residential Lavatory Faucets [HCD 1]

The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons (4.54 L) per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons (3.03 L) per minute at 20 psi.

407.2.1.2 Lavatory Faucets in Common and Public Use Areas [HCD 1 & HCD 2]

The maximum flow rate of lavatory faucets, installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings, shall not exceed 0.5 gallons (1.89 L) per minute at 60 psi.

RESIDENTIAL WATER & SEWER PIPES

BUILDING INSPECTION REQUIREMENTS
A plumbing permit is required to replace residential water supply piping (main water line from meter to the house), distribution pipes (plumbing within the building), and the sewer system within the building. Permits shall be obtained prior to removal or installation of the plumbing system.
Following is a listing of the general requirements for replacing water and sewer lines based on the 2016 California Plumbing Code, 2016 California Electrical Code, and 2016 California Energy Efficiency Standards. This brochure is intended to provide general information, contact the Building Inspection Division for additional information.
Sewer Line Replacement
•Material for sewer lines outside of the building (minimum 2'outside) can be cast iron, copper type DWV, or schedule 40 DWV ABS/PVC (when used in residential buildings, ABS/PVC is limited to twostory buildings; there is no limit on the number of stories for non–residential buildings). (CPC 701.1, CPC 701.2)
•Clean outs shall be installed at the exterior of the building, within 5'of an underfloor access, at the end of each branch over 5', at the upper terminal, at each aggregate horizontal change in direction exceeding 135o , and may be required at the property line by your sanitary district. (CPC 719, 707.4)
•Sewer line shall be 12"below grade minimum and have a minimum of ¼"per one foot slope. (CPC 708)
Main Water Supply Line Replacement (Outside the footprint of the building)
•Water supply pipes and fittings shall be PVC, copper (type L or M), malleable iron, galvanized steel, CPVC, or other approved material and shall be in accordance with NSF 61. (CPC 604)
•Underground water lines shall be buried a minimum of 12"below grade. (CPC 609)
•Non–metallic piping shall have a blue insulated 18–guage copper tracer wire adjacent to the piping. The tracer wire shall terminate above ground at each end of the non–metallic pipe. (CPC 604.10.1)
Water Distribution Pipe Replacement (Within and underneath of the building)
•Water distribution pipes shall be copper (Type L or M), malleable iron, galvanized steel, CPVC, PEX, or other approved material and shall be in accordance with NSF 61. (CPC 604)
•All domestic water piping in the following conditions/locations shall be insulated (CEES 150.0(j)2A, CPC 609.11):
The first 5'of cold water pipes from the storage tank (i.e. water heater tank).
All domestic hot water piping.
•All materials used in the water distribution system shall be of like materials, except valves and similar devices, unless otherwise approved by the Chief Building Official (CPC 604.1). Following are acceptable methods of joining dissimilar materials:
Joints from copper tubing to threaded pipe shall be made by the use of brass adapter fittings.
Dielectric unions shall be used at all point of connection where dissimilar metals are used. Listed clamps and bonding jumpers shall be installed at all such connections (CEC 250.68(B) and 250.104).
RESIDENTIAL WATER & SEWER PIPES
These requirements apply to building permits submitted on or after January 1, 2017.
When connecting plastic pipe to other types of piping, approved types of fittings and adapters designed for the specific transition shall be used.
•Non–removable backflow preventer, vacuum breaker or atmospheric breaker devices are required on all hose bibs. (CPC 603.5.7)
•If shear walls, braced wall panels, or firewalls are compromised or altered during the re–pipe, these areas are required to be inspected prior to covering.
Grounding and Bonding Requirements
If the existing main water service pipe was used as a grounding electrode, the grounding electrode conductor must be re–established to the replacing pipe. Grounding shall consist of a continuous grounding electrode conductor run from the panel to a ground rod (grounding electrode) and to the cold water pipe. Grounding of the electrical service at the main water line must be within the first 5'of water piping into the building. The underground water service shall not be used as the grounding electrode without supplemental electrode. [CEC 250.52 (A)(1) and 250.53 (D)(2), 250.68(C)]
Bonding of all metal piping within the building is required with water service replacements and for all re–pipes. Bonding shall consist of a continuous bond jumper installed at the water heater between the hot, cold, and gas lines, and continued to the main electrical service. (CEC250.4(A)(4))

All Outside piping shall be installed under or within 2 feet (610 mm) of a building or structure, or less than 1 foot (305 mm) below the surface of the ground.
according to CPC.609.11 Pipe Insulation,Insulation of domestic hot water piping shall be in accordance with Section 09.11.1 and Section 609.11.2. of CPC.
609.11.2 Pipe Insulation Wall Thickness. Hot water pipe insulation shall have a minimum wall thickness of
not less than the diameter of the pipe for a pipe up to 2 inches (50 mm) in diameter. Insulation wall thickness
shall be not less than 2 inches (51 mm) for a pipe of 2 inches (50 mm) or more in diameter.

ABBREVIATIONS :

ABBREV.	DESCRIPTION
CO.	CLEAN OUT
DN.	DOWN
FD	FLOOR DRAIN
FCO	FLOOR CLEAN OUT
F.F.L	FINISH FLOOR LEVEL
UG	UNDER GROUND
UT	UNDER TILE
WP	WASTE PIPE
VP	VENT PIPE
VS	VENT STACK
IC	INSPECTION CHAMBER

	Hot Water Pipe line (HWP)
	Cold Water Pipe line (CWP)
	Sewage and waste water line (SWP)
	Valve
	Piping fixtures (Tee, Elbow, ...)
F	Compact Water Filtration System
	Coupling Reducing

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US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

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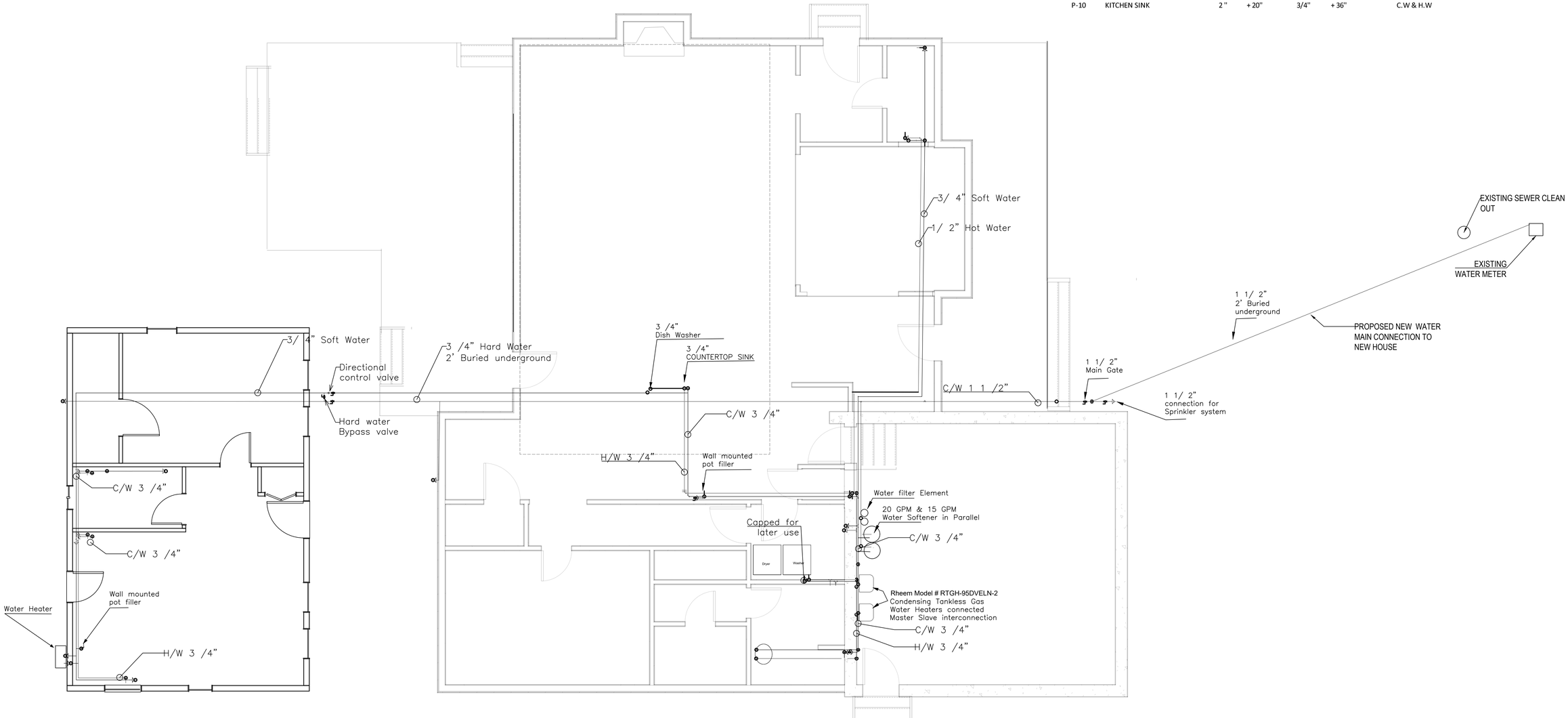
Scale:

DRAWING TITLE:
Plumbing Codes and Legends

Sheet :

No.	Revision/Issue	Date

code	Item	Drain	elevation	supply	elevation	type
P-1	Hand Sink	2 "	+ 20"	3/4"	+ 36"	C.W & H.W
P-2	countertop sink	2 "	+ 20"	3/4"	+ 38"	C.W & H.W
P-3	Range			3/4"	+ 54"	C.W & H.W
P-4	Dishwasher	2 "	+ 6"	3/4"	+ 38"	C.W & H.W
P-5	Laundry	2 "	+ 6"	3/4"	+ 38"	C.W & H.W
P-6	Water Heater			3/4"	+ 72"	C.W & H.W
P-7	Bath tube	3/4"	+ 2"	1/2"	+ 24"	C.W & H.W
P-8	water Closet with Flush Tank	4 "	+ 1"	3/8"	+ 20"	C.W
P-10	KITCHEN SINK	2 "	+ 20"	3/4"	+ 36"	C.W & H.W



Water Piping Plan Schematic- first floor

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scale : 1 / 4" = 1'

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US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
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lumbing schematic 1st floor

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Date:

Scale: 1/4" = 1'-00"

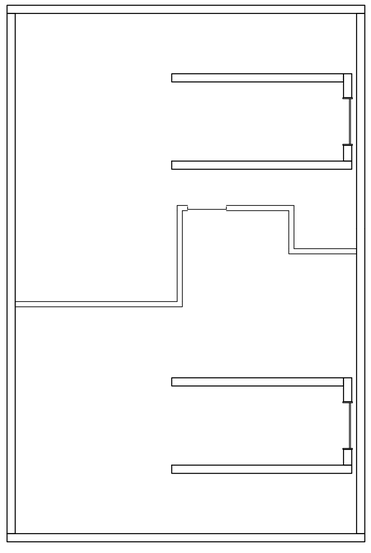
DRAWING TITLE: Water Piping plans

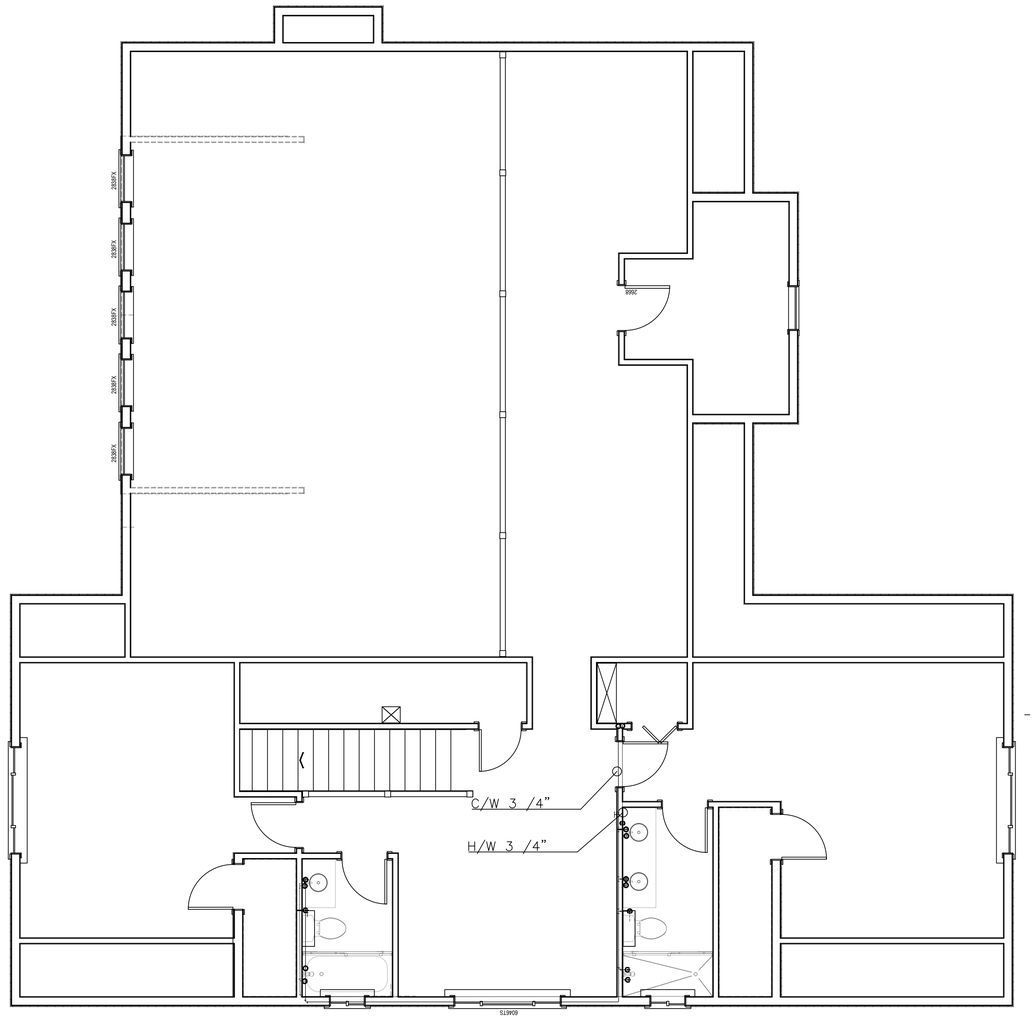
Sheet :

Page No. : P01

No.	Revision/Issue	Date

code	Item	Drain	elevation	supply	elevation	type
P-1	Hand Sink	2 "	+ 20"	3/4"	+ 36"	C.W & H.W
P-2	countertop sink	2 "	+ 20"	3/4"	+ 38"	C.W & H.W
P-3	Range			3/4"	+ 54"	C.W & H.W
P-4	Dishwasher	2 "	+ 6"	3/4"	+ 38"	C.W & H.W
P-5	Laundry	2 "	+ 6"	3/4"	+ 38"	C.W & H.W
P-6	Water Heater			3/4"	+ 72"	C.W & H.W
P-7	Bath tube	3/4"	+ 2"	1/2"	+ 24"	C.W & H.W
P-8	water Closet with Flush Tank	4 "	+ 1"	3/8"	+ 20"	C.W
P-10	KITCHEN SINK	2 "	+ 20"	3/4"	+ 36"	C.W & H.W





Water Piping Plan Schematic- 2nd floor

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US Office:
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Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

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REMODLE AND ADJ SINGLE FAMILY HOUSE

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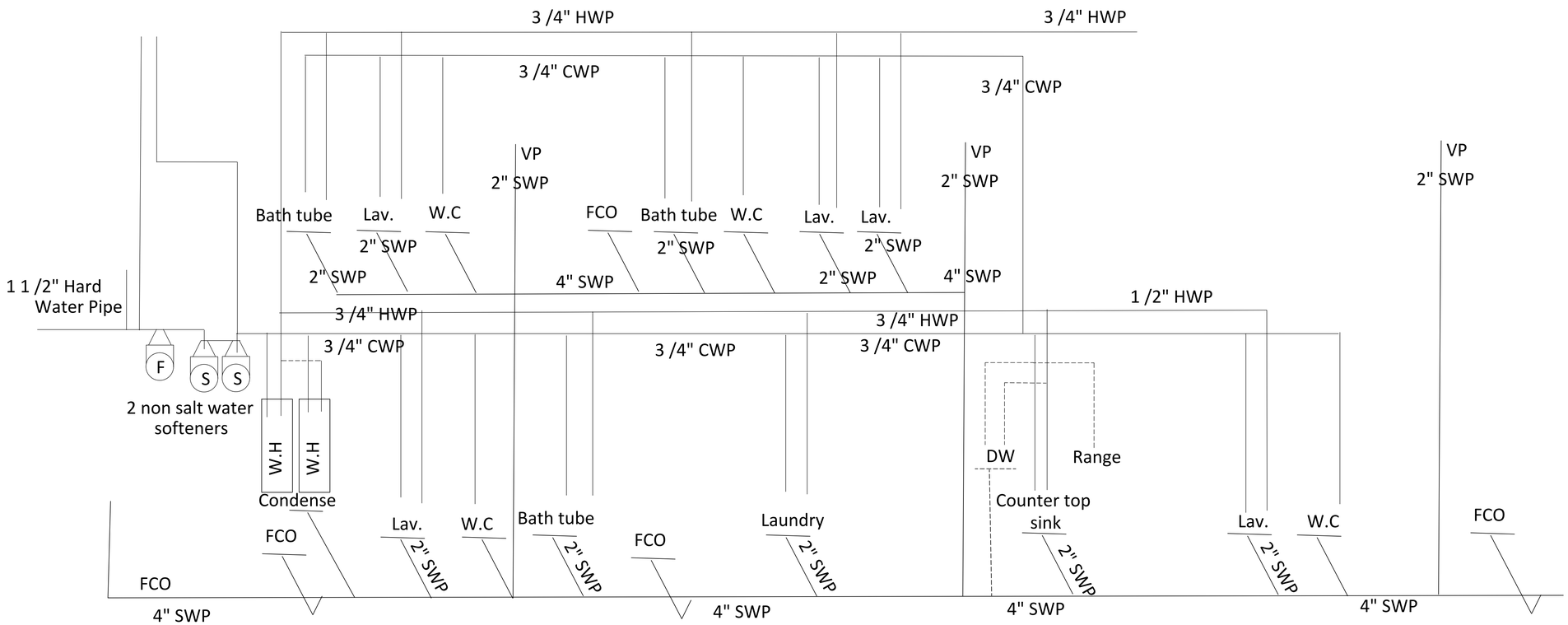
Scale: 1/4" = 1'-00"

DRAWING TITLE: Plumbing Schematic 2nd floor

Sheet :

Page No. : P02

No.	Revision/Issue	Date



Main House Water Piping SLD

PixelArch ltd.
US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

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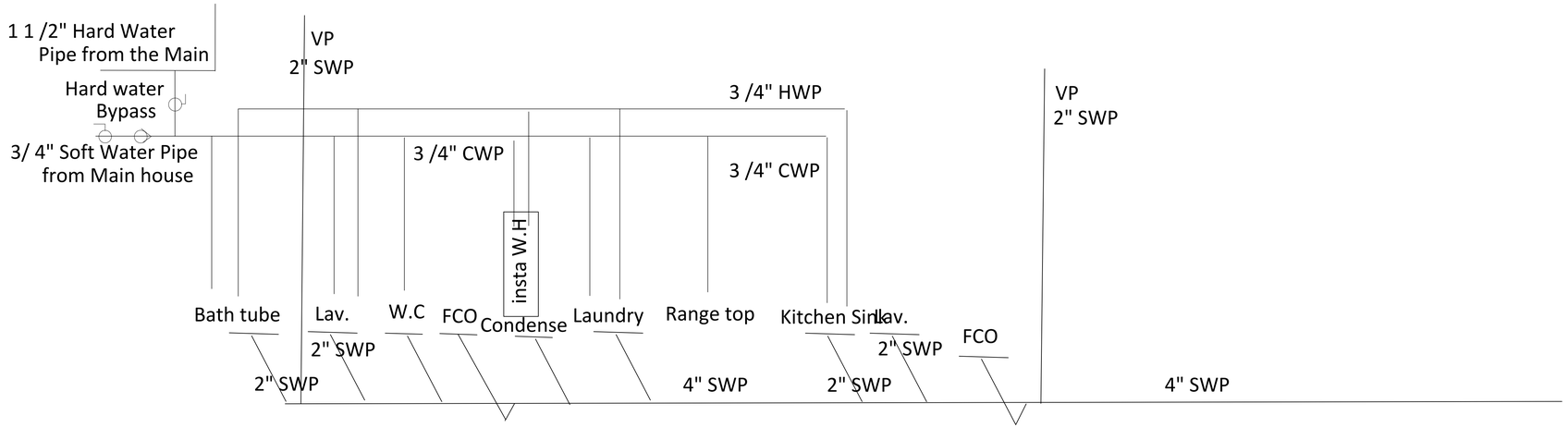
DRAWING TITLE:

Plumbing SLD - Main House

Sheet :

No.	Revision/Issue	Date



ADU Water Piping SLD

Plumbing SLD – ADU

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US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
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1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date:

Scale:

DRAWING TITLE:
Piping SLD and standards

Sheet : 18 of 20

Page No. : P03

No.	Revision/Issue	Date

PLUMBING ROUGH-IN SCHEDULE

code	Item	Drain	elevation	supply	elevation	type
P-1	Hand Sink	2 "	+ 20"	3/4"	+ 36"	C.W & H.W
P-2	countertop sink	2 "	+ 20"	3/4"	+ 38"	C.W & H.W
P-3	Range			3/4"	+ 54"	C.W & H.W
P-4	Dishwasher	2 "	+ 6"	3/4"	+ 38"	C.W & H.W
P-5	Laundry	2 "	+ 6"	3/4"	+ 38"	C.W & H.W
P-6	Water Heater			3/4"	+ 72"	C.W & H.W
P-7	Bath tube	3/4"	+ 2"	1/2"	+ 24"	C.W & H.W
P-8	water Closet with Flush Tank	4 "	+ 1"	3/8"	+ 20"	C.W
P-9	Floor Drain	4 "				Waste
P-10	KITCHEN SINK	2 "	+ 20"	3/4"	+ 36"	C.W & H.W

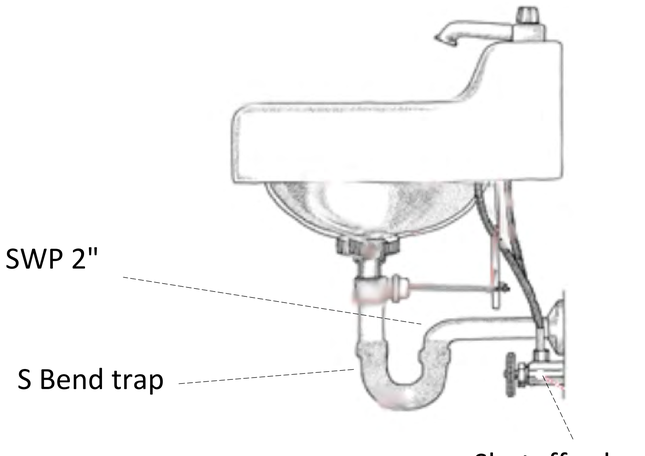
Maximum Drainage Fixture Units - Stacks and Horizontal Fixture Branches

Maximum Drainage Fixture Units *(DFU)*					
Pipe Size		Horizontal fixture branch	Stacks less than three stories in height	Stacks more than three stories high	
NPS *(inches)*	DN *(mm)*			Total for stack	Total for one story
1 1/2[0)]	40	3	4	8	2
2[0)]	50	6	10	24	6
2 1/2[0)]	65	12	20	42	9
3	80	20[1)]	48[1)]	72[2)]	20[1)]
4	100	160	240	500	90
5	125	360	540	1100	200
6	150	620	960	1900	350

0) No water closet permitted

1) Maximum two water closets

2) Maximum six water closets



ABBREVIATIONS :

ABBREV.	DESCRIPTION
CO.	CLEAN OUT
DN.	DOWN
FD	FLOOR DRAIN
FCO	FLOOR CLEAN OUT
F.F.L	FINISH FLOOR LEVEL
UG	UNDER GROUND
UT	UNDER TILE
WP	WASTE PIPE
VP	VENT PIPE
VS	VENT STACK
IC	INSPECTION CHAMBER

Drainage capacities from fixture and their systems (DFU):

Individual Appliance, Appurtenance or Fixture	Minimum Size	Drainage Fixture Unit Values *(DFU)*	
	(inch)	Private Installations	Public Installations
Bar sink	1 1/2	1	1
Bathroom (water closet, lavatory, bidet and tub or shower)	3	6	-
Bathtub	1 1/2	2	2
Bidet	1 1/4	1	
Bidet	1 1/2	2	
Clothes Washer	2	3	3
Dishwasher, domestic	1 1/2	2	2
Drinking fountain	1 1/4	0.5	0.5
Floor drain	2	2	2
Shower	2	2	2
Laundry tub	1 1/2	2	2
Lavatory	1 1/4	1	1
Bar sink	1 1/2	1	
Kitchen sink, domestic	1 1/2	2	2
Laundry sink	1 1/2	2	2
Service or mop basin	2		3
Urinal	2	2	2
Water closet with gravity tank	3	3	4
Water closet with flushometer tank	3	3	4

Water Supply Fixture Units (WSFU):

Individual Fixtures	Minimum Fixture Branch Pipe Size	Water Supply Fixture Units *WSFU*	
	(inch)	Private Installations	Public Installations
Bathtub	1/2	4	4
Bathtub with 3/4" fill valve	3/4	10	10
Bidet	1/2	1	
Dishwasher, domestic	1/2	1.5	1.5
Drinking fountain	1/2	0.5	0.5
Hose Bibb	1/2	2.5	2.5
Lavatory	1/2	1	1
Bar sink	1/2	1	2
Clinic fauce sink	1/2	3	
Kitchen sink, domestic	1/2	1.5	1.5
Laundry sink	1/2	1.5	1.5
Service or mop basin	1/2	1.5	3
Washup basin	1/2	2	
Shower head	1/2	2	2
Urinal with flush tank	1/2	2	2
Wash fountain	3/4	4	
Water closet with gravity tank	1/2	2.5	2.5
Water closet with flushometer tank	1/2	2.5	2.5
Water cooler	1/2	0.5	0.5

Maximum Drainage Fixture Units - Building Drains and Building Drain Branches from Stacks

Maximum Drainage Fixture Units *(DFU)*			
Pipe Size		Slope *(in/ft (cm/m))*	
NPS *(inches)*	DN *(mm)*	*1/4 (2.1)*	*1/2 (4.2)*
2[0)]	50	21	26
2 1/2[0)]	65	24	31
3	80	42[1)]	50[1)]
4	100	216	250
5	125	480	575
6	150	840	1000

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US Office:
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Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
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Project Name and Address:

REMODLE AND ADJ SINGLE FAMILY HOUSE

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date:

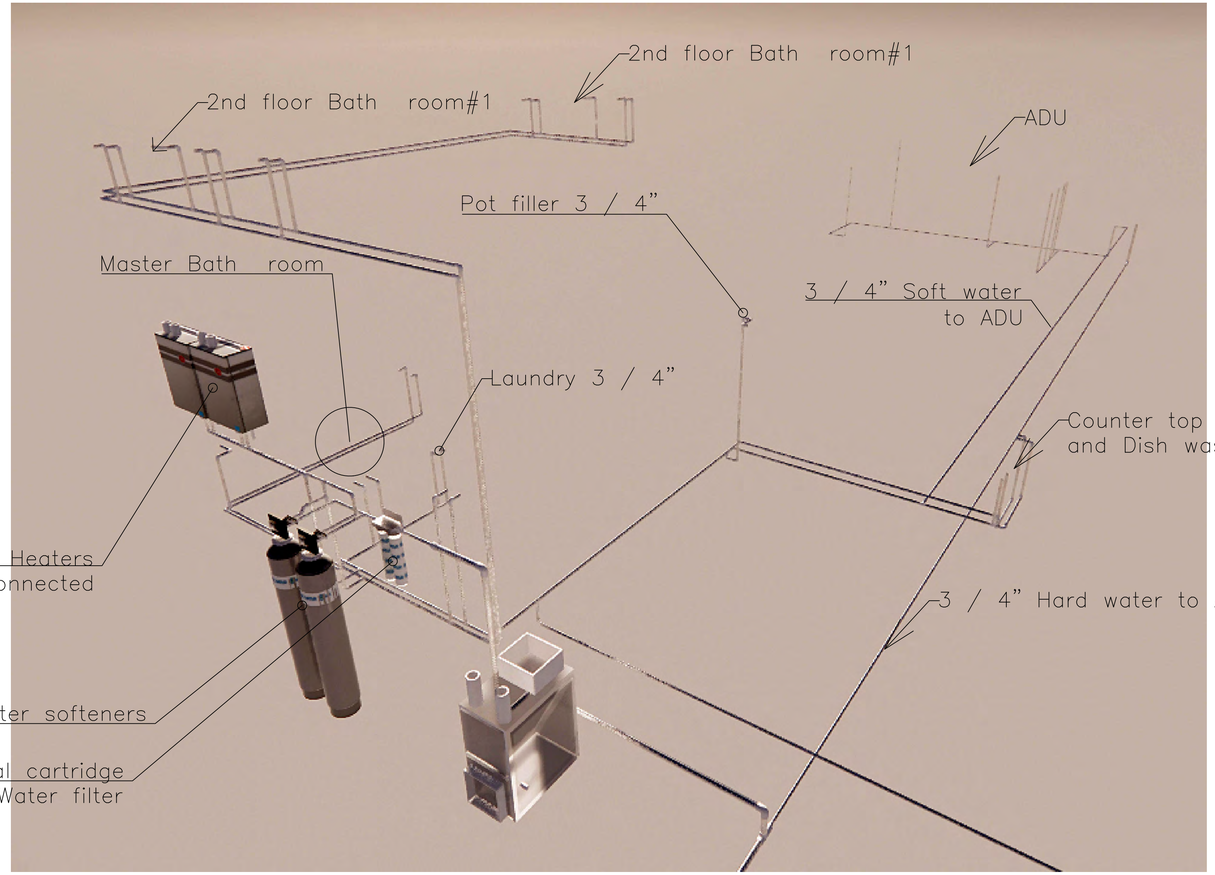
Scale: 1/4" = 1'-00"

DRAWING TITLE: Main House Rough-in

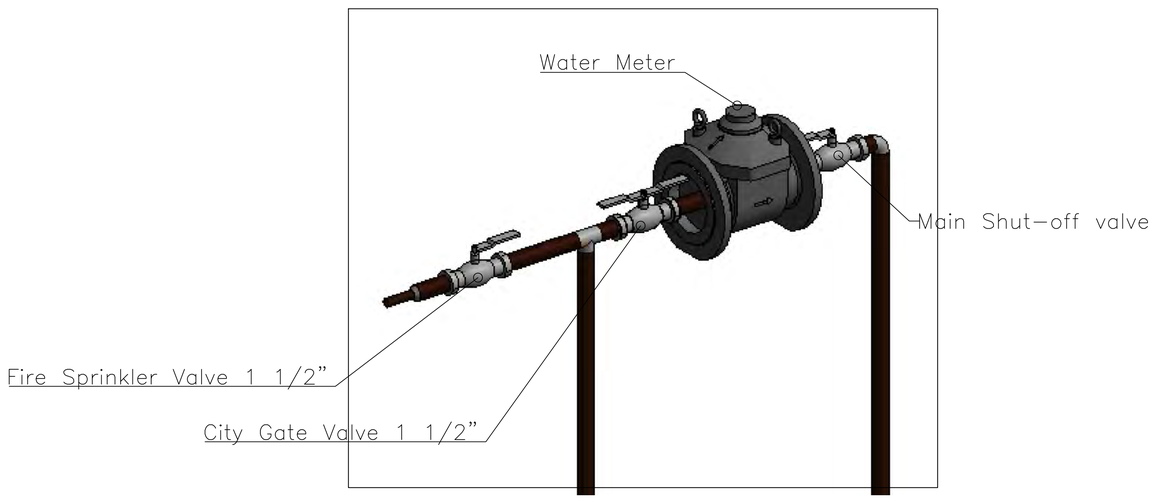
Sheet :

Page No. : P05

No.	Revision/Issue	Date



Water-Softener connection



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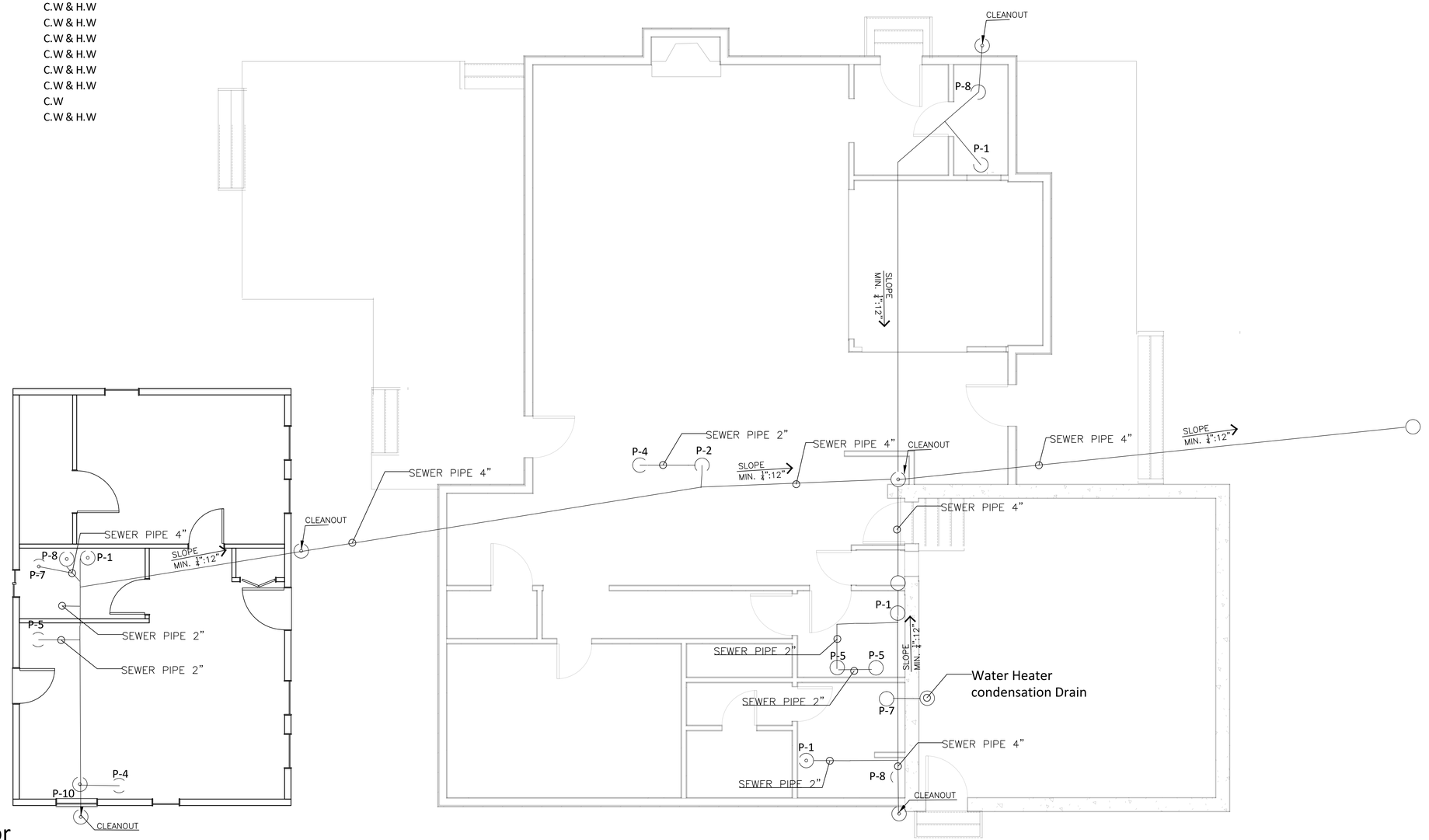
DRAWING TITLE:

Water Softner and Meter Connection

Sheet :

No.	Revision/Issue	Date

code	Item	Drain	elevation	supply	elevation	type
P-1	Hand Sink	2 "	+ 20"	3/4"	+ 36"	C.W & H.W
P-2	countertop sink	2 "	+ 20"	3/4"	+ 38"	C.W & H.W
P-3	Range			3/4"	+ 54"	C.W & H.W
P-4	Dishwasher	2 "	+ 6"	3/4"	+ 38"	C.W & H.W
P-5	Laundry and Dryer	2 "	+ 6"	3/4"	+ 38"	C.W & H.W
P-6	Water Heater			3/4"	+ 72"	C.W & H.W
P-7	Bath tube	3/4"	+ 2"	1/2"	+ 24"	C.W & H.W
P-8	water Closet with Flush Tank	4 "	+ 1"	3/8"	+ 20"	C.W
P-10	KITCHEN SINK	2 "	+ 20"	3/4"	+ 36"	C.W & H.W



Waste Water Piping Plan - first floor

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scale : 1 / 4" = 1'

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DRAWING TITLE:

Waste Water Plan 1st floor

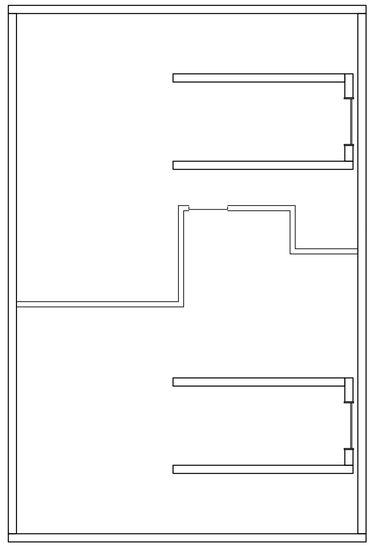
Sheet :

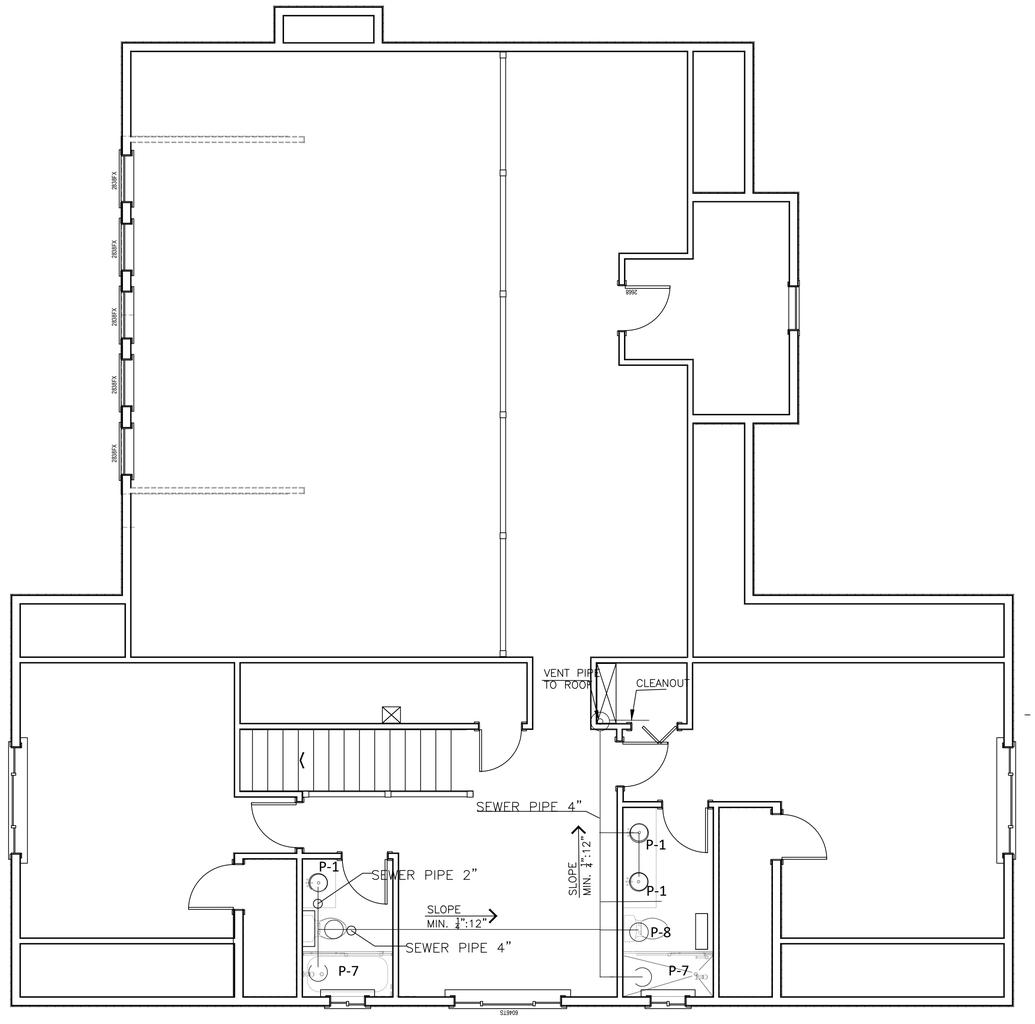
Page No. :

P07

No.	Revision/Issue	Date

code	Item	Drain	elevation	supply	elevation	type
P-1	Hand Sink	2 "	+ 20"	3/4"	+ 36"	C.W & H.W
P-2	countertop sink	2 "	+ 20"	3/4"	+ 38"	C.W & H.W
P-3	Range			3/4"	+ 54"	C.W & H.W
P-4	Dishwasher	2 "	+ 6"	3/4"	+ 38"	C.W & H.W
P-5	Laundry	2 "	+ 6"	3/4"	+ 38"	C.W & H.W
P-6	Water Heater			3/4"	+ 72"	C.W & H.W
P-7	Bath tube	3/4"	+ 2"	1/2"	+ 24"	C.W & H.W
P-8	water Closet with Flush Tank	4 "	+ 1"	3/8"	+ 20"	C.W
P-10	KITCHEN SINK	2 "	+ 20"	3/4"	+ 36"	C.W & H.W





Waste Water Piping Plan - 2nd floor

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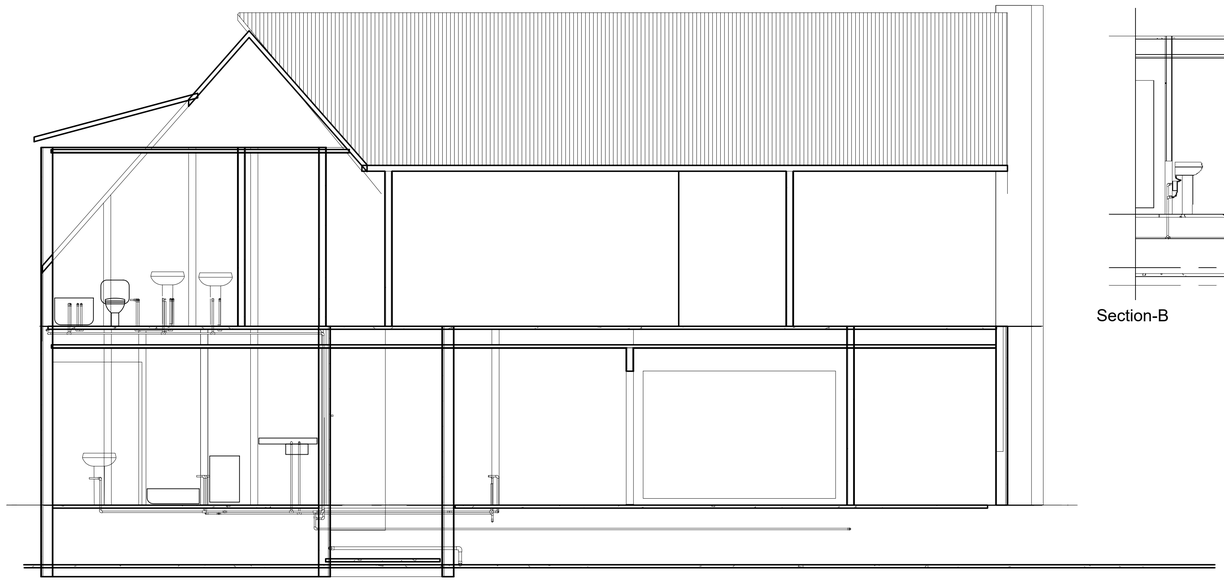
DRAWING TITLE: Waste Water Plan 2nd floor

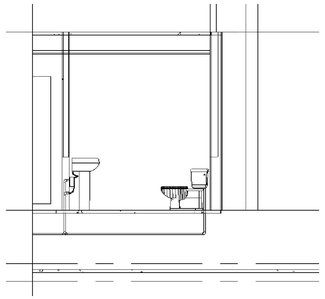
Sheet :

Page No. : P08

No.	Revision/Issue	Date



Section-A



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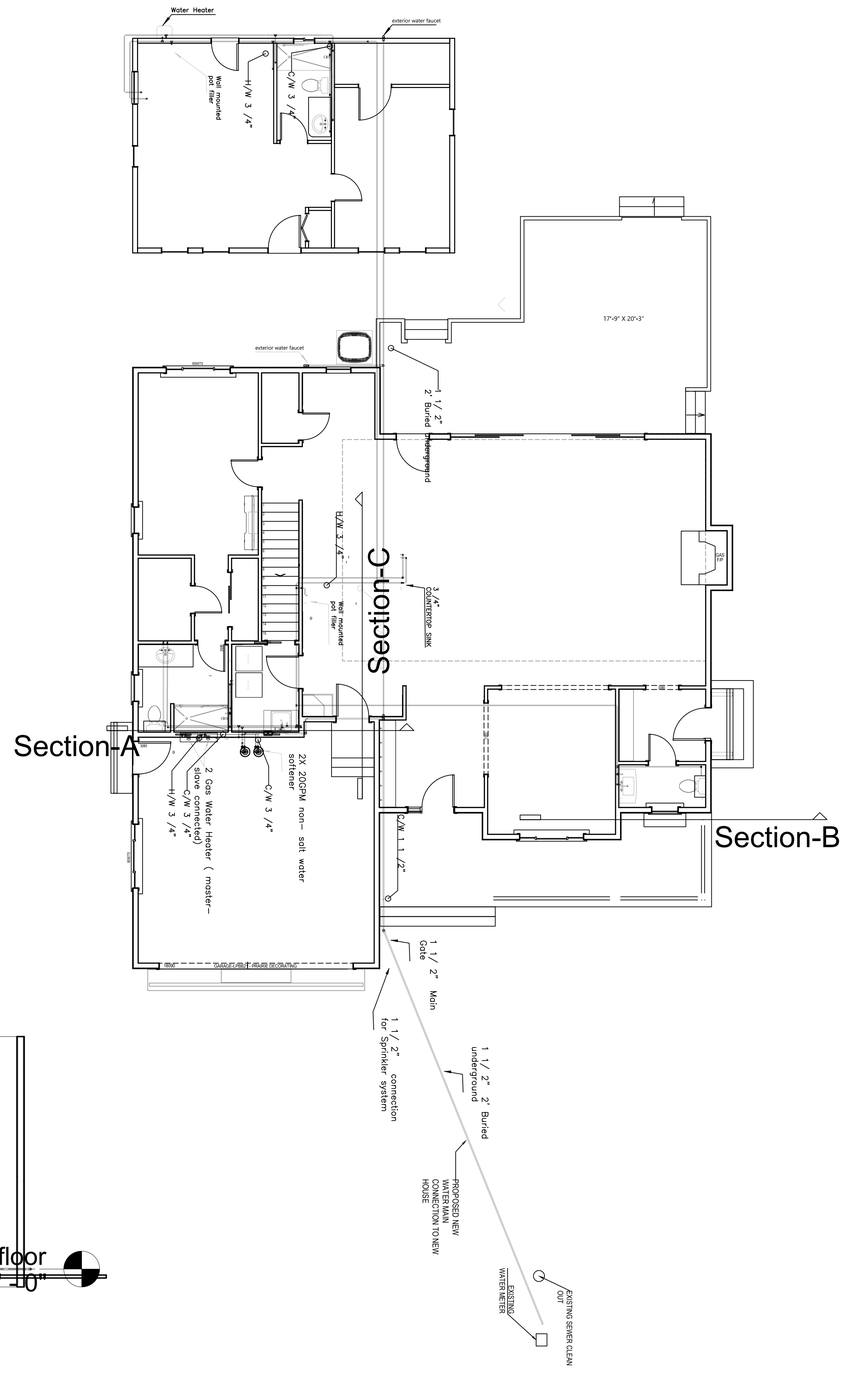

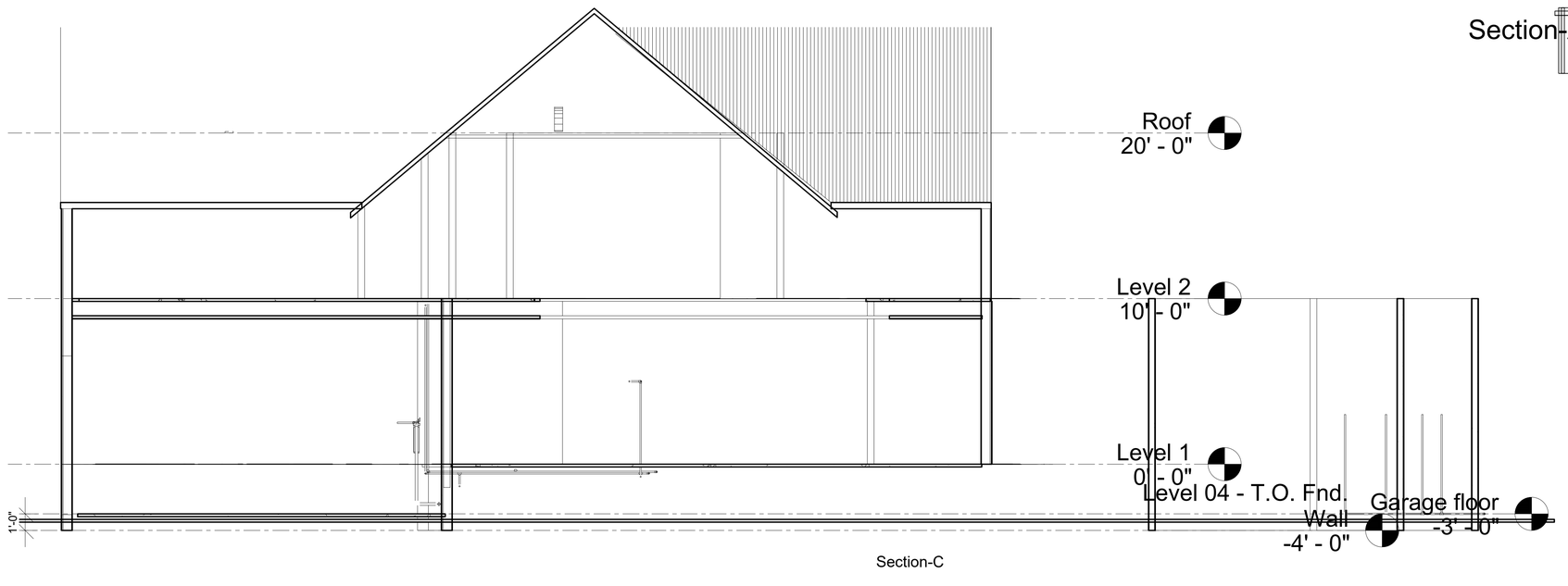

Section-C

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DRAWING TITLE:

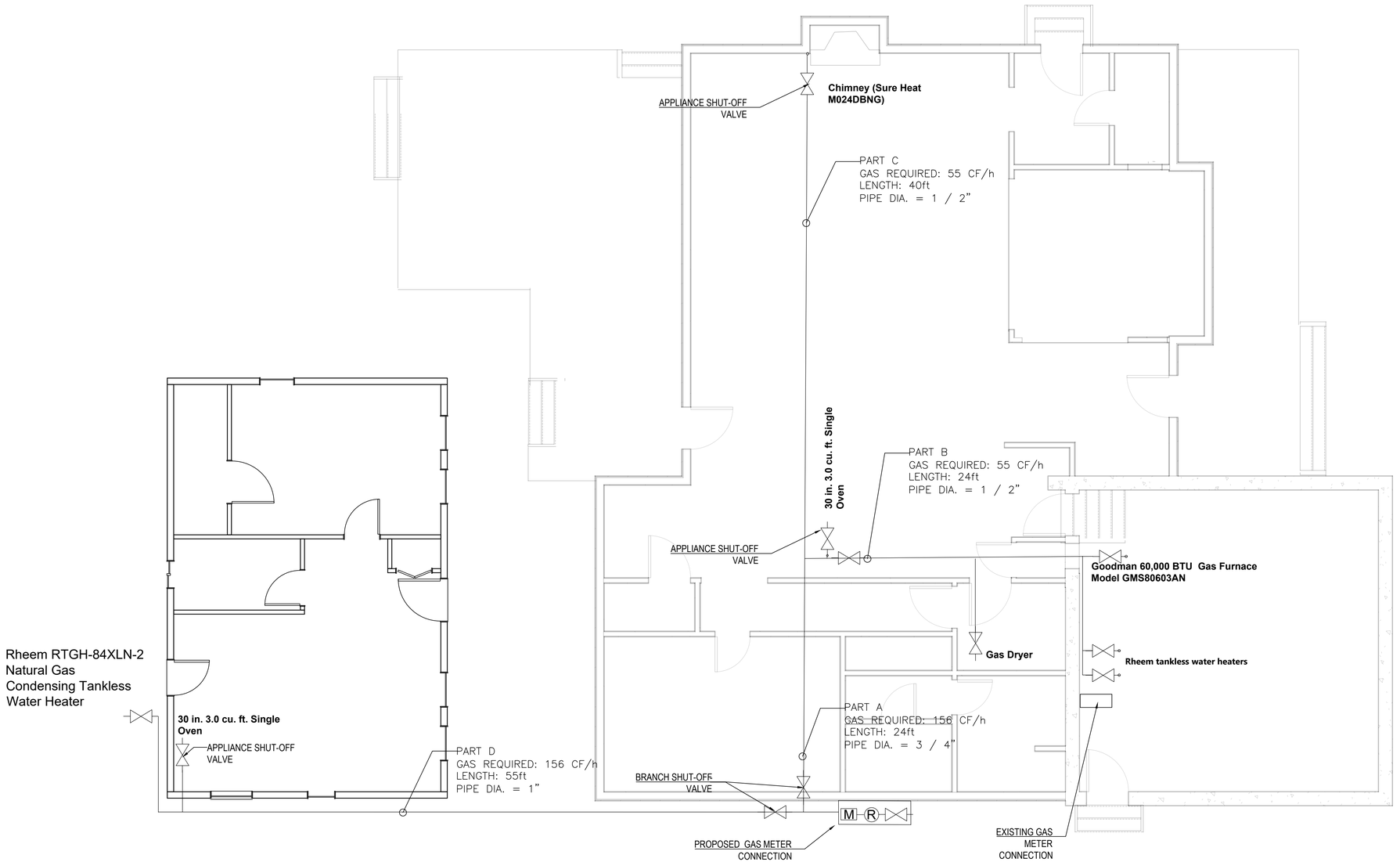
Sectional Views

Sheet :

Page No. :

P09

No.	Revision/Issue	Date



Natural Gas Piping Plan

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scale : 1 / 4" = 1'

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Natural Gas Piping Plan

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date:

Scale:

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Piping SLD and standards

Sheet :

No.	Revision/Issue	Date

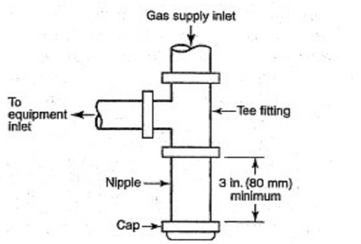
NATURAL GAS PIPE SIZES REGARDING TO TABLE 1216.2(1) SCHEDULE 40 METALLIC PIPE(NFPA 54

ADU	KITCHEN RANGE	171500	156	13	3 / 4"
			0		
PART	APPLIANCES	BTU/h	GAS REQUIRED	LENGTH	PIPE SIZE
A	FURNACE+ KITCHEN RANGE+ CHIMNEY+ W.H+ Dryer	531500	484	24	1 1/2"
B	FURNACE+W.H+ Dryer	299000	272	24	1"

GAS PIPE SUPPORT	
Size of Pipe	**Pipe Support Distance**
1/2" Tubing	4 feet
1/2" Steel Pipe 5/8" or 3/4"	6 feet
3/4" to 1" Steel Pipe	8 feet
1-1/4" or larger (Horizontal)	10 feet
1-1/4" or larger (Vertical)	Every Floor

GAS PIPE ALLOWABLE MATERIALS		
Pipe Material	**Indoor Installation**	**Outdoor, Above Ground Installation**
Galvanized Wrought Iron	Yes	Yes
Galvanized Steel	Yes	Yes
Black Steel	Yes	No
Corrugated Stainless Steel Tubing	Yes	Yes

Sediment Trap (CPC 1212.8)
A sediment traps is required at each water heater, boiler, and furnace, downstream of the appliance shut-off valve and as close to inlet of the equipment as practical.

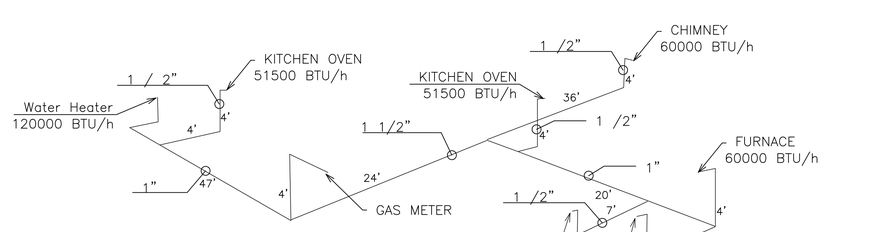


Building Permit Review
Two inspections are required; a rough plumbing and a final.
The rough plumbing inspection should be scheduled when the new gas lines are installed, before walls are covered, and before the connection is made to the gas service. A pressure test inspection will be done and all testing equipment is to be provided by the permittee. (CPC 1213.3)
The final inspection should be scheduled after all the work has been completed.
Building Permit Application Requirements
A completed Building Permit Application.

Gas Meter Clearance Distances from Building Features	
Building Feature	***Minimum* Clearance Distance to Gas Meter or Regulator Vent**
Gas meter location	Front wall (front presumed facing public access), or within 3 feet of side wall (see corner clearances)
Regulator relief vent distance from any outside building corner	12 inches. With this specification met, there are no clearance distance requirements for building features located around the corner from the gas meter. If the regulator relief vent is less than 12" from any outside corner, then the minimum clearances specified in this table must be maintained. Measure as a direct, straight line from the nearest meter set or component to the nearest edge of the building feature "as if using a string"
Gas meter clearances to finish grade (soil surface)	
Bottom of gas meter to finish grade	6 inches
Bottom of gas line shut-off to finish grade	8 inches
Fuel line connection location (at meter top) to finish grade	32 inches to 46 inches depending on gas meter model & meter type (size or capacity)
Landscape features (e.g. shrubs or fences)	3 feet clear to front of meter 2 feet clear to either side of meter
Minimum soil depth or cover over residential gas service line	18 inches - residential 24 inches - commercial 24 inches - snow country
Maximum soil depth or cover over gas service line	36 inches Depth includes 4 inches of bedding sand under gas line & 6 inches of sand shading over the gas line, & typical excavation trench width of 12 inches.
Gas meter regulator vent clearance distances to building features	
Gas meter regulator vent clearance distance to windows, attic vent, crawl space vent, soffit vent	3 feet in any direction horizontally or vertically to the feature 1 foot to a feature located below
Gas meter regulator vent clearance to electrical devices such as switches, electrical receptacles, power disconnects	3 feet in any direction to the feature
Gas meter regulator vent clearance to building doors or garage doors	3 feet in any direction horizontally or vertically to the feature 1 foot to a feature located below
Gas Meter Clearances to Other Building Features	
Gas meter clearance distance to air conditioner or heat pump (pad mounted) compressor/condenser unit	Three Feet in any direction
Gas meter clearance distance to electrical generator or electrical transformer	
Gas meter clearance distance to open flame barbeque or cooker or to an incinerator or other open flame device	
Gas meter clearance distance to telephone, cable or other communications connection box or terminal	Two Feet in any direction
Gas meter clearance distance to water spigot (hose bibb)	

SEMI-RIGID COPPER TUBING [NFPA 54: TABLE 6.3(f)][2, 3]

								GAS:	UNDILUTED PROPANE	
								INLET PRESSURE:	11.0 in. w.c.	
								PRESSURE DROP:	0.5 in. w.c.	
								SPECIFIC GRAVITY:	1.50	
INTENDED USE: TUBE SIZING BETWEEN SINGLE OR SECOND STAGE (LOW PRESSURE) REGULATOR AND APPLIANCE										
		TUBE SIZE (inch)								
NOMINAL:	**K & L:**	¼	⅜	½	⅝	¾	1	1¼	1½	2
	ACR:	⅜	½	⅝	¾	⅞	1⅛	1⅜	–	–
OUTSIDE:		0.375	0.500	0.625	0.750	0.875	1.125	1.375	1.625	2.125
INSIDE:[1]		0.305	0.402	0.527	0.652	0.745	0.995	1.245	1.481	1.959
LENGTH (feet)		**CAPACITY IN THOUSANDS OF BTU PER HOUR**								
10		45	93	188	329	467	997	1800	2830	5890
20		31	64	129	226	321	685	1230	1950	4050
30		25	51	104	182	258	550	991	1560	3250
40		21	44	89	155	220	471	848	1340	2780
50		19	39	79	138	195	417	752	1180	2470



Natural Gas Piping SLD -

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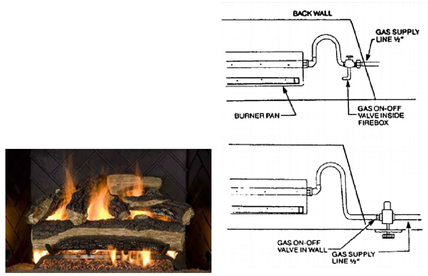
30 in. 3.0 cu. ft. Single Oven Italian Gas Range with True Convection, 5 Burners, LP Gas

Details

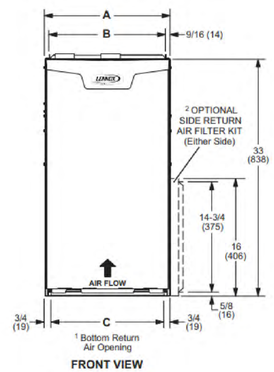
Appliance Type	Gas Range	Cooktop Surface Type	Recessed
Burner Grate Material	Cast Iron	Fuel Type	Gas
Burner No.1 BTU	15500	Ignition Type	Continuous Spark
Burner No.2 BTU	10500	Included	Installation Kit,Propane (LP) Conversion Kit
Burner No.3 BTU	10500	Number of Burners	5
Burner No.4 BTU	7000	Number of Oven Racks	2
Burner No.5 BTU	7000	Number of Rack Positions	5
Capacity of Oven (cu. ft.)	3.0	Oven Cleaning Options	Manual Clean
Color of Cooktop	Stainless Steel	Oven Features	Broiler,Built-In Clock,Built-In Timer,Convection Oven,Hidden Bake Element,Interior Light,LP Convertible,On Indicator Light,Oven Window,Temperature Control,Warming

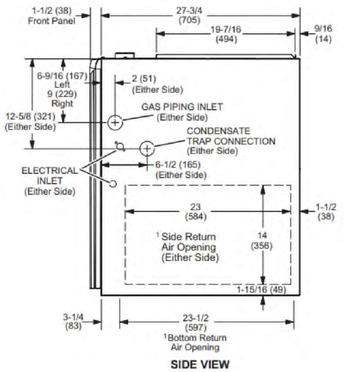
Sure Heat MO24DBNG Sure Heat Mountain Oak Dual Burner Vented Gas Log Set, 24-Inch, Natural Gas
60,000 BTU's with 12-percent efficiency fireplace with minimum measurements of 32" front width, 15" depth and 24" back



SL P 98 UH 070 X V 36 B

1. SilentComfort™ Technology
2. Lennox Duralok Plus™ Heat Exchanger
3. Secondary Heat Exchanger
4. Inshot Burners
5. Variable Capacity Gas Control Valve
6. Variable-Speed Combustion Air Inducer
7. SureLight® Integrated Furnace Control
8. Variable Speed Direct Drive Blower
9. Insulated Cabinet
10. Safety Interlock Switch
11. Gas Piping And Electrical Inlets





Natural Gas Piping SLD - specifications and details

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US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3315Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
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DRAWING TITLE:

Natural Gas SLD and Equip. Details

Sheet :

Page No. :

P11

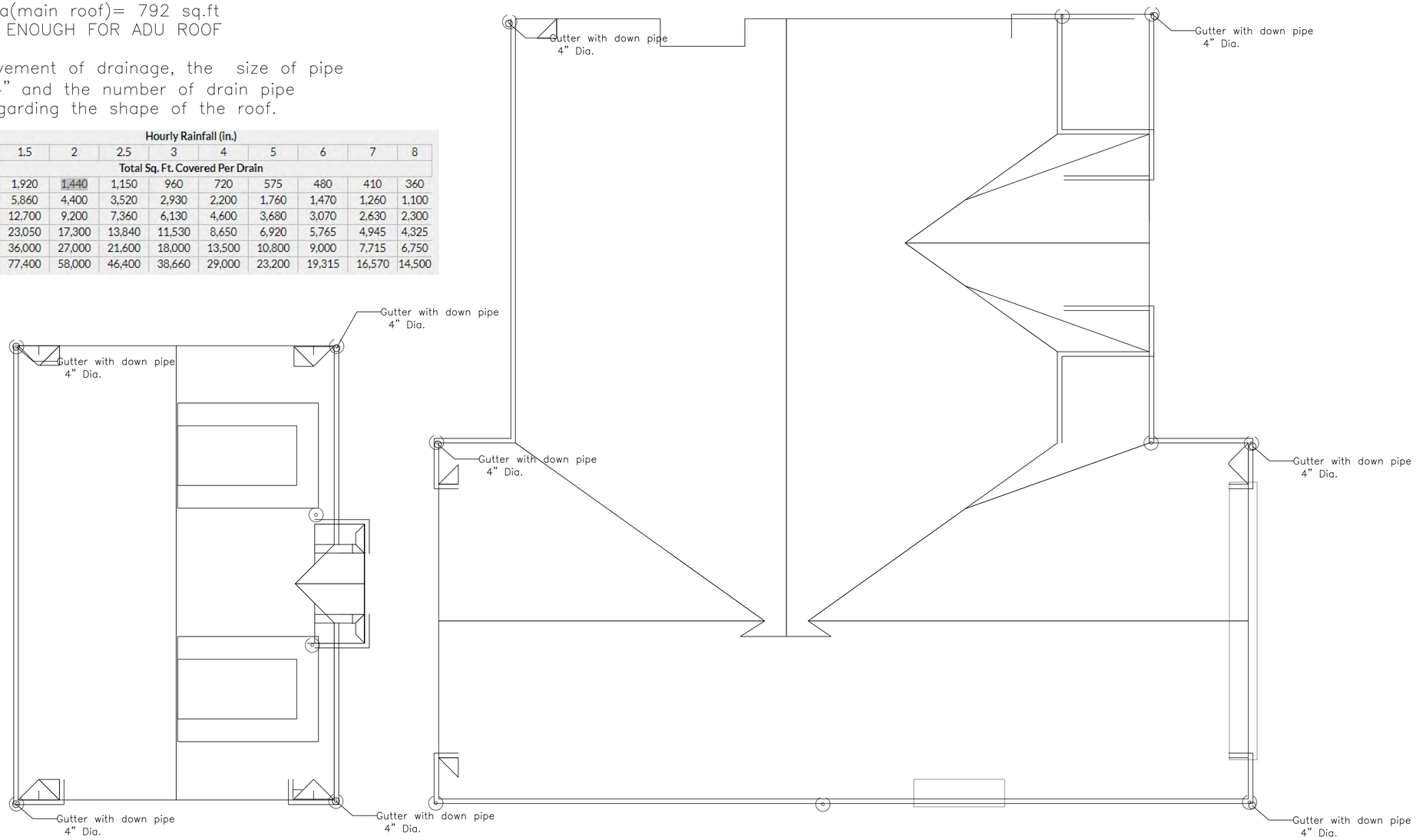
No.	Revision/Issue	Date

Total roof area(main roof)= 3029 sq.ft
Rainfall rate = 2.1
pipe size required : 2”

sq. ft. covered per drain= 1150
TWO DRAIN IS REQUIRED FOR MAIN ROOF
Total roof area(main roof)= 792 sq.ft
ONE DRAIN IS ENOUGH FOR ADU ROOF

****For improvement of drainage, the size of pipe upgraded to 4” and the number of drain pipe determined regarding the shape of the roof.

	Hourly Rainfall (in.)									
Leader / Pipe Size (in.)	1	1.5	2	2.5	3	4	5	6	7	8
	Total Sq. Ft. Covered Per Drain									
2	2,880	1,920	1,440	1,150	960	720	575	480	410	360
3	8,800	5,860	4,400	3,520	2,930	2,200	1,760	1,470	1,260	1,100
4	18,400	12,700	9,200	7,360	6,130	4,600	3,680	3,070	2,630	2,300
5	34,600	23,050	17,300	13,840	11,530	8,650	6,920	5,765	4,945	4,325
6	54,000	36,000	27,000	21,600	18,000	13,500	10,800	9,000	7,715	6,750
8	116,000	77,400	58,000	46,400	38,660	29,000	23,200	19,315	16,570	14,500



Roof Drainage plan

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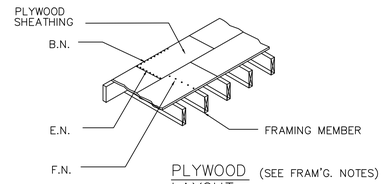
Roof Drainage Plan and calculation

Sheet :

No.	Revision/Issue	Date



SHEAR WALL SCHEDULE 2016 C.B.C.

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

NOTES:

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

2. * DESIGNATES SILL BOLTING OR NAILING WHERE SHEAR WALL PANELS ARE TO BE APPLIED TO BOTH SIDES OF WALL.

3. PAPER BACKED SELF-FURRING EXPANDED METAL OR WOVEN WIRE LATH AND PORTLAND CEMENT PLASTER.

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

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

6. ALL CONTINUOUS EXTERIOR AND INTERIOR SHEAR/BEARING WALL FOOTINGS TO HAVE 5/8"Ø A.B.'S @ 48" O.C. WITH 3" X 3" X 1/4" PLATE WASHERS U.N.O.

MINIMUM OF TWO BOLTS PER EACH PIECE OF SILL PLATE AT 4" TO 12" CLEARANCE TO THE END AND 7" MINIMUM EMBEDMENT.(FOR TWO POUR SYSTEM,BOLTS SHALL BE EMBEDDED 4 INCH MIN. INTO FIRST POUR.)

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

7. ALL INTERIOR NON-BEARING FTGS TO HAVE 3/16" Ø SHOT PINS AT 32" O.C., I.E., HILTI SHOT PINS (ICC ESR-1663).

8. USE APA RATED PLYWOOD SHEATHING. OR O.S.B. PANEL. ALL PLYWOOD SHALL BE DOUGLAS FIR. 4-PLY MIN. OTHER SPECIES MAY REQUIRE CHANGES.

9. USE 3 X 3 X 1/4 PLATE WASHERS WITH 5/8"Ø A.B. AT ALL SHEAR WALLS. USE 3 X 3 X 5/16 PLATE WASHERS WITH 3/4"Ø A.B. AT ALL SHEAR WALLS.

10. AT EXISTING FOOTINGS, USE THREADED RODS W/ SIMPSON "SET-XP" EPOXY 7" MIN. EMB. W/MIN. EDGE DIST. OF 1-7/8" (ICC ESR-2508) (SPECIAL INSPECTION REQ'D.)

11. ALL ANCHOR BOLTS SHALL CONFORM TO ASTM A-307 U.N.O.

12. ANCHOR BOLT SPEC.:

	BOLT LENGTH	
	SINGLE POUR	DOUBLE POUR
2X SILL	12"	16"
3X SILL	14"	18"

SHEAR WALL SCHEDULE

01

PLYWOOD LAYOUT (SEE FRAM'G. NOTES)

NAILING: (EXCEPT WHERE NOTED OTHERWISE)

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

NOTES:

1. NAILS SHALL BE GALV. COMMON(HOT-DIPPED OR TUMBLED), PLACED NOT LESS THAN 3/8" FROM PANEL EDGES AND SHALL BE FIRMLY DRIVEN.
2. NO UNBLOCKED PIECE LESS THAN 12" SHALL BE USED.
3. WOOD STRUCTURAL PANELS SHALL COMPLY WITH 2016 CBC STANDARD AND SHALL BE APA RATED EXPOSURE I.
4. WOOD STRUCTURAL PANELS, WHEN USED, SHALL COMPLY WITH THE REQUIREMENTS FOR THEIR TYPE IN DOC PSI-95 OR PS2-92.
5. ALL PANELS SHALL BE IDENTIFIED BY TRADE MARK OF AN APPROVED TESTING & GRADING AGENCIES, APA, TECO OR PITTSBURG.

PLYWOOD DIAPHRAGM

02

CONNECTION: (TABLE 2304.9.1)

1.	JOISTS TO SILL OR GURDER, TOE NAIL	3 – 8d
2.	BRIDGING TO JOISTS, TOE NAIL EA. END	2 – 8d
3.	1X6 SUBFLR. OR LESS TO EA. JST., FACE NAIL	2 – 8d
4.	WIDER THAN 1X6 SUBFLR. TO EA. JST., FACE NAIL	3 – 8d
5.	2" SUBFLR. TO JST. OR GURDER, BUND & FACE NAIL	2 – 16d
6.	SILL PLATE TO JST. OR BLK'G., FACE NAIL	16d @ 16" O.C.
7.	TOP PLATE TO STUD, END NAIL	2 – 16 d
8.	RAFT. BLK'G TO TOP PLATE, FACE OR TOE NAIL	16d @ 8" O.C.
9.	STUD TO SILL PLATE, TOE NAIL	4 – 8d
10.	DOUBLE STUDS, FACE NAIL	16d @ 24" O.C.
11.	DOUBLE TOP PLATES, FACE NAIL	16d @ 16" O.C.
12.	TOP PLATES LAPS & INTERSECTIONS, FACE NAIL	2 – 16d
13.	CONTINUOUS HEADER, TWO PIECES	16d @ 16" O.C. ALONG EA. SIDE
14.	CEILING JOISTS TO PLATE, TOE NAIL	3 – 8d
15.	CONTINUOUS HEADER TO STUD, TOE NAIL	4 – 8d
16.	CEILING JOISTS, LAPS O/ PARTITIONS, FACE NAIL	3 – 16d
17.	CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	3 – 16d
18.	RAFTER TO TOP PLATE, TOE NAIL	3 – 8d
19.	1" BRACE TO EA. STUD & PLATE, FACE NAIL	2 – 8d
20.	1X8 SHT'G. OR LESS TO EA. BEARING WALL FACE NAIL	2 – 8d
21.	WIDER THAN 1X8 SHT'G. TO EA. BEARING WALL FACE NAIL	3 - 8d
22.	BUILT-UP CORNER STUDS	16d @ 24" O.C.
23.	BUILT-UP GRADERS & BEAMS	20d @ 32" O.C. @ TOP & BOT. & STAGG. 2 – 20d @ END & @ EA. SPLICE
24.	2" PLANKS	2 – 16d @ EA. BRG.
25.	PARTICLE BD. – WALL SHTG. (TO FRMG.)	8d
26.	PLYWOOD –	
	SUBFLR. RF. & WALL SHTG. (TO FRMG.):	
	1/2" & LESS	8d
	5/8" – 3/4"	8d
	7/8" – 1"	8d
	1 1/8" – 1 1/4"	10d
	COMBINATION SUBFLR. / UNDERLAYMENT (TO FRMG.):	
	3/4" & LESS	8d
	7/8" – 1"	8d
	1 1/8" – 1 1/4"	10d
	FIBERBD. SHTG.:	
	1/2"	NO. 11 GA. 6d, NO. 16 GA.
	25/32"	NO. 11 GA. 6d, NO. 18 GA.

NOTE:

1. ALL NAILS SHALL BE COMMON WIRE NAILS. WHERE DRIVING OF NAILS CAUSES SPLITTING HOLES FOR THE NAILS SHALL BE SUB DRILLED.
2. FASTENERS IN PRESERVATIVE–TREATED WOOD SHALL BE OF HOT–DIPPED ZINC–COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.(CBC 2304.9.5)

NAILING SCHEDULE

03

DESIGN DATA:

APPLICABLE DESIGN LOADS: PER ASCI/SEI 7-10

FLOOR LIVE LOAD: 40 PSF
FLOOR DEAD LOAD: 15 PSF
ROOF LIVE LOAD: 20 PSF
ROOF DEAD LOAD: 15 PSF
BASIC WIND SPEED: 110 MPH
EXPOSURE: D
STRUCTURAL CATEGORY: II
SEISMIC DESIGN CATEGORY = D

ALL PRESSURES SHOWN ARE BASED ON ASD DESIGN

GENERAL NOTES:

1. CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ABIDING TO ALL APPLICABLE CALIFIORNIA BUILDING CODES, LOCAL CITY ORDINANCES, ZONING REQUIREMENTS, AND LICENSING/PERMIT REQUIREMENTS. CONTRACTOR IS FULLY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES INCLUDING WITHOUT LIMITATION TO DEMOLITION, EXCAVATION AND ERECTION PROCEDURES.
2. THE CONTRACTOR SHALL EXAMINE THE CONSTRICTION DOCUMENTS AND NOTIFY THE PROJECT ENGINEER & ARCHITECT OF ANY DISCREPANCIES, ERRORS, OR OMISSIONS SHE/HE MAY FIND BEFORE PROCEEDING WITH THE WORK.
3. NOTIFY THE PROJECT ENGINEER OF ANY DESIGN CHANGES PROPOSED BY OWNER OR THE CONTRACTOR DURING THE COURSE OF CONSTRUCTION. SUCH CHANGES AFFECTING ROOM ADDITION DESIGN MAY ALSO AFFECT STRUCTURAL DESIGN.
4. ANY SUBCONTRACTOR WHICH AGREES TO CONSTRUCT THE PROJECT PURSUANT TO THESE PLANS FULLY ASSUMES THE RISK OF ALL ERRORS AND OMISSIONS WHICH SHOULD HAVE BEEN DETECTED BY A CAREFUL REVIEW BY A KNOWLEDGEABLE LICENSED CONTRACTOR, THAT WHICH FOR ANY REASON WERE NOT RESOLVED DURING THE BIDDING OR NEGOTIATION PROCESS. FURTHER, THE CONTRACTOR SHALL CAREFULLY REVIEW THESE PLANS AS THE WORK PROGRESSES IN ORDER TO IDENTIFY ANY SIGNIFICANT ERRORS AND OMISSIONS AND TO ASCERTAIN ALL NECESSARY INFORMATION BEFORE PROCEEDING WITH THE AFFECTED WORK, AND ASSUMES THE RISK OF ANY AND ALL LOSS, INCLUDING DELAY, WHICH MAY BE CAUSED OR CONTRIBUTED TO BY THE FAILURE TO ASCERTAIN CORRECT OR NECESSARY INFORMATION IN A TIMELY MANNER.
5. ALL TRADES SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR WORK, AND AT THE COMPLETION OF THE WORK SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE JOBSITE AND ALL THEIR TOOLS, SCAFFOLDING AND SURPLUS MATERIALS, AND SHALL LEAVE THE JOB BROOM CLEAN, INCLUDING REMOVING ALL LABELS, STICKERS, PAINT SMEARS, ETC.., FROM LIGHTING FIXTURES, PLUMBING FIXTURES, GLASS SURFACES, FINISH HARDWARE, CABINETS, COUNTER TOPS, ETC.
6. EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE NOTED OR SHOWN ON THE PLANS, WORKMANSHIP & MATERIALS SHALL CONFORM, TO THE LATEST EDITION OF THE C.B.C. OR LOCAL CODE.
7. THE PLANS SHALL BE REVIEWED FOR DIMENSIONAL & EXISTING SITE CONFORMANCE WITH THE PLANS BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE ARCHITECT & ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.
8. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD; AND ALL QUESTIONS AS TO DIMENSIONS AND FIELD CONDITIONS SHALL BE RESOLVED BEFORE THE AFFECTED WORK PROCEEDS. NO DIMENSIONS SHALL BE OBTAINED BY SCALING THESE PLANS.
9. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR DIMENSIONS AND CONDITIONS OF THE JOB.
10. THE PRECISE DIMENSIONS AND LOCATIONS OF ALL DOOR, WINDOW AND ROOF OPENINGS SHALL BE DETERMINED FROM DRAWINGS AND OTHER FLOOR, WALL OPENING REQUIRED BY MECHANICAL OR ELECTRICAL SHALL BE VERIFIED FROM SHOP DRAWINGS, EQUIPMENT DATA SHEETS, ETC. AS REQUIRED.
11. ITEMS IDENTIFIED BY TRADE NAMES MAY BE SUBSTITUTED BY APPROVED EQUALS.
12. NOTES & DETAILS ON DRAWINGS SHALL PRECEDE THESE GENERAL NOTES.
13. PROVIDE ANY SHORING & OR BRACING PRIOR TO REMOVING EXISTING WALLS, BEAMS, OR SUPPORTS FOR CONSTRUCTION. REMOVE SHORING ONLY WHEN NEW SUPPORTS ARE IN PLACE AND SECURED.
14. PROVIDE RED HEADS INTO EXISTING CONCRETE AT ALL SHEAR WALLS PER MFG. SPECIFICATIONS. SEE SHEAR WALL SCHEDULE FOR SIZE AND SPACING.
15. PROVIDE SIMPSON ST-6224 BETWEEN NEW WALLS AND EXISTING WALLS AT THE DOUBLE TOP PLATE.
16. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON DRAWINGS AND PROTECT THEM FROM DAMAGE
17. DO NOT CUT POST TENSION SLABS. CONTRACTOR TO DETERMINE EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION.
18. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS FOR FOOTING, BEAMS AND JOISTS, SIZES, LOCATIONS, ETC., AND SHALL NOTIFY THE ARCHITECT & ENGINEER OF ANY DISCREPANCIES.
19. DOWEL NEW INTO EXISTING SLABS W/ #4 REBAR @ 24" O.C. AND FOOTINGS W/ DOWELS TO MATCH NEW REINF. SIZE/ LOCATION.

ENGINEERING NOTES

1. CONCRETE SLABS ON GRADE HAVE NOT BEEN DESIGNED BY THE STRUCTURAL ENGINEER.
2. THE VIBRATIONAL EFFECTS OF MECHANICAL EQUIPMENT HAVE NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER.
3. THE DESIGN, ADEQUACY AND SAFETY OF ERECTION, BRACING SHORING, TEMPORARY SUPPORTS ETC., IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND HAS NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING THE ENTIRE COURSE OF CONSTRUCTION. THE ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR FIELD INSPECTION/OBSERVATION OF THE ABOVE ITEMS.
4. ALLOWABLE SOILS PRESSURE TO BE A MINIMUM OF 1500 PSF UNLESS A SOILS REPORT IS PROVIDED. SOILS IN THE BUILDING AREA & 5 FEET BEYOND SHALL BE COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION PER 2016-C.B.C.

REFER TO SOIL REPORT BY: ____________

JOB NUMBER: ____________ DATED: ____________

STRUCTURAL SYMBOLS

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

☒ INDICATES POST (BELOW BEAM)

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

BEAM SIZE	POST SIZE
4 X 12 & SMALLER	2-2X4 W/16d NAILS @ 12" O.C.
4 X 14 & LARGER	4X4
6 X 10 & SMALLER	4X6
6 X 12 & LARGER	6X6 SEE HOLDDOWN DETAILS AND TYPICAL WALL

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

FOUNDATION NOTES

GENERAL

1. SOIL BENEATH FOOTINGS AND SLABS SHALL BE COMPACTED PER 2016 C.B.C. (90%) RELATIVE COMPACTION MINIMUM.
2. CONTINUOUS FOOTINGS AND GRADE BEAMS SHALL BE EXCAVATED TO THE DEPTH SHOWN ON THE DRAWINGS BELOW UNDISTURBED SOIL OR COMPACTED EARTH. PROVIDE 1-#4 HORIZONTAL BARS ON TOP AND BOTTOM U.N.O. ON FOUND. PLAN.
3. ALLOWABLE SOIL BEARING PRESSURE IS ASSUMED TO BE 1500. PSF IF NO SOILS REPORT IS PROVIDED.
4. SLAB ON GRADE: 4 INCH. NET CONCRETE SLAB WITH #3 BARS @ 18" O.C. EACH @ CENTER OF SLAB OVER 2 INCH. OF SAND OVER 6 MIL. VISQUEEN OVER 2" SAND BED OVER COMPACTED SOIL. U.N.O.
5. NO TRENCHES OR EXCAVATIONS FIVE FEET IN DEPTH OR GREATER INTO WHICH A PERSON SHALL BE REQUIRED TO DESCEND SHALL BE MADE WITHOUT PROPER PERMIT.
6. THE MINIMUM BOLTING FOR SILL PLATES TO FOUNDATION SHALL BE AS FOLLOWS: 5/8" DIAMETER ANCHOR BOLTS WITH 7" MIN EMBEDMENT IN CONCRETE WITH SPACING NO GREATER THAN 4 FEET O.C. NOR FURTHER THAN 12" FROM CORNERS (MIN 2 BOLTS PER PIECE). SEE THE FOUNDATION PLAN & SHEAR WALL SCHEDULE FOR FURTHER BOLTING REQUIREMENTS.(FOR TWO POUR SYSTEMS,BOLTS SHALL BE EMBEDDED 4 INCH MIN. INTO FIRST POUR.)
7. PIPES OR DUCTS THAT EXCEED ONE THIRD THE SLAB OR CONC. WALL THICKNESS SHALL NOT BE PLACED IN STRUCTURAL CONC. UNLESS SPECIFICALLY DETAILED. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES, ACCESSORIES, ETC.
8. PIPES MAY PASS THRU STRUCTURAL CONC. IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN.
9. PROVIDE 3/4" CAMBERS AT ALL EXPOSED CORNERS.
10. SEE ARCHITECTURAL PLANS FOR MOLDS, GROOVES, ORNAMENTS, CLIPS OR GROUNDS REQUIRED TO BE CAST IN CONCRETE, AND FOR LOCATION OF FLOOR FINISHES AND SLAB DEPRESSIONS.
11. LOCATION OF POUR JOINTS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.

CONCRETE

1. UNLESS OTHERWISE NOTED ON PLANS, CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI IN 28 DAYS.
2. FINE & COURSE AGGREGATE SHALL CONFORM TO A.S.T.M. C-33, USE 3000 P.S.I. CONC. @ GRADE BEAMS. CEMENT SHALL CONFORM TO A.S.T.M. C-150 (STANDARD BRAND PORTLAND CEMENT) TYPE II (USE TYPE V CEMENT IF NOTED IN SOILS REPORT)
3. CONCRETE SHALL BE MACHINE-MIXED USING A MAXIMUM OF '7' GALLONS OF WATER PER SACK OF CEMENT. READY MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C-94 MIXED AT A RATE OF 5 SACKS OF CEMENT PER CUBIC YARD. MAXIMUM SLUMP SHALL BE 4 INCH AS MEASURED BY THE ASTM "STANDARD METHOD OF TESTING FOR SLUMP OF PORTLAND CEMENT CONCRETE.
4. DRY PACK SHALL CONSIST OF 1 PART CEMENT, 4 PARTS SAND. BASED ON DRY LOOSE VOLUMES AND NOT LESS THAN 1/4 PART, NOR MORE THAN 1/2 PART, LINE PUTTY OR DRY HYDRATED LIME. DRY PACK SHALL OBTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.
5. ADDING CALCIUM CHLORIDE TO CONCRETE OR GROUT IS NOT PERMITTED.
6. CONC. SHALL BE KEPT MOIST FOR 10 DAYS FOR PROPER CURING.

REQUIREMENTS FOR CONCRETE EXPOSED TO SULFATE-CONTAINING SOLUTIONS (ACI 4.3)

SULFATE EXPOSURE	CEMENT TYPE	WATER-CEMENT RATIO	COMPRESSIVE STRENGTH
NEGLIGIBLE	NOT REGULATED	-	2500 psi
MODERATE	I, II	0.50	4000 psi
SEVERE	V	0.45	4500 psi
VERY SEVERE	V	0.45	4500 psi

CONCRETE BLOCK MASONRY

1. CONCRETE BLOCK SHALL CONFORM TO A.S.T.M. C-90 MED. WT. GRADE N UNITS, WITH MIN. COMP. STRENGTH OF 1500 PSI. ALL CMU BLOCKS SHALL BE LAID UP IN RUNNING OR COMMON BOND CONFIGURATION.
2. MORTAR SHALL CONFORM TO ASTM C-270, TYPE S, WITH MINIMUM COMPRESSIVE STRENGTH OF 2000. PSI AT 28 DAYS.

MIX: 1 PART PORTLAND CEMENT.
1/2 PART LIME PUTTY.
4 PARTS SAND.
} BY VOLUME

3. GROUT SHALL CONFORM TO ASTM C-476, WITH MINIMUM COMPRESIVE STRENGTH OF 2000. PSI AT 28 DAYS.

MIX: 1 PART PORTLAND CEMENT.
3 PARTS SAND
2 PARTS PEA GRAVEL
} BY VOLUME

WATER SUFFICIENT TO ALLOW GROUT TO FLOW INTO ALL JOINTS.

4. CELLS SHALL BE IN VERTICAL ALIGNMENT TO PROVIDE A MIN. UNOBSTRUCTED CORE OF 3" X 3". DOWELS FROM FOOTINGS SHALL BE SET TO ALIGN WITH CORE REINFORCING.
5. ALL CELLS BELOW FINISHED GRADE AND ALL CELLS WITH REINFORCING, ANCHORS OR INSERTS SHALL BE FILLED SOLID WITH GROUT.
6. CONCRETE SURFACES SHALL BE CLEANED OF ALL LAITANCE PRIOR TO SETTING OF BLOCKS.
7. PROVIDE VERTICAL CONSTRUCTION JOINTS AT 40 FT. O.C.
8. MINIMUM LAP FOR ALL STEEL IS 40 BAR DIAMETER, OR 24 INCHES, WHICHEVER IS GREATER.
9. IF WORK IS STOPPED FOR ONE HOUR OR LONGER, PROVIDE HORIZONTAL CONSTRUCTION JOINTS BY STOPPING GROUT 1-1/2 INCH BELOW THE TOP OF THE BLOCK.
10. CLEANOUT OPENINGS MUST BE PROVIDED IN CMU WALLS WHICH ARE TO BE HIGH LIFT GROUTED. (OVER 4 FEET).AT BOTTOM COURSE. IN SOLID GROUTED WALLS CLEANOUTS MUST BE PROVIDED AT NO MORE THAN 32 INCHES ON CENTER.FOR PARTIALLY GROUTED WALLS CLEANOUTS SHALL BE PROVIDED NO MORE THAN 48 INCHES O.C. WHEN CLEANOUTS ARE REQUIRED, THEY SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING.

REINFORCING STEEL

1. REINFORCING STEEL, #3 AND #4 GRADE 40, #5 AND LARGER GRADE 60 PER A.S.T.M. A615.
2. LOW HYDROGEN WELDING RODS SHALL BE USED FOR ALL WELDING OF REINFORCING BARS.
3. BARS NOTED AS "CONT" TYPICAL WALL REINFORCING AND VERTICAL COLUMN REINFORCING SHALL HAVE A MINIMUM SPLICE OF 50 BAR DIAMETERS LAP IN MASONRY OR 40 BAR DIAMETERS MINIMUM IN CONCRETE.
4. REINFORCING SHALL BE SPLICED ONLY AS SHOWN OR NOTED. OTHER SPLICES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.
5. SPLICES IN ADJACENT HORIZONTAL WALL REINFORCING BARS SHALL BE STAGGERED 4 FEET UNLESS OTHERWISE NOTED.
6. PROVIDE DOWELS IN FOOTINGS AND/OR GRADE BEAMS THE SAME SIZE AND NUMBER AS VERTICAL WALL OR COLUMN REINFORCING. DOWELS SHALL HAVE A MINIMUM PROJECTION EQUAL TO STANDARD LAP SPLICE UNLESS OTHERWISE NOTED.
7. ALL REINFORCING, ANCHOR BOLTS, AND OTHER INSERTS SHALL BE SECURED IN PLACE PRIOR TO PLACEMENT OF CONCRETE OR GROUTING OF MASONRY.
8. PROVIDE THE FOLLOWING MINIMUM PROTECTIVE COVERING OF CONCRETE:

BELOW GRADE (UNFORMED)	3" CLEAR
BELOW GRADE (FORMED)	2" CLEAR
WALLS	1" CLEAR
COLUMNS	1.5" CLEAR
BEAMS AND GIRDERS	1.5" CLEAR
STRUCTURAL SLAB (ABOVE GRADE)	3/4" CLEAR

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

GRADING NOTES

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

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36,(Fy=36.KSI) FOR PLATES AND TO ASTM A992,(Fy=50.KSI) FOR W-SHAPE STEEL SECTIONS.
2. CORTEN STEEL SHALL CONFORM TO ASTM A588, Fy=50. KSI.
3. STAINLESS STEEL SHALL CONFORM TO ASTM A276 TYPE 304-HOT ROLLED, Fy=18. KSI.
4. FABRICATION, ERECTION & PAINTING SHALL COMPLY WITH THE AISC SPECS. CHAPTER M. (THIRTEENTH EDITION).
5. ALL BOLTS FOR STEEL MEMBERS SHALL CONFORM TO ASTM A325 OR A490, UNLESS OTHERWISE NOTED.
6. HIGH TENSILE BOLTS WHERE INDICATED ON THE PLANS OR DETAILS SHALL BE THE FRICTION TYPE AND THERE SHALL BE NO PAINT, OIL, LAQUER, OR GALVANIZING BETWEEN THE CONTACT SURFACES. HIGH TENSILE BOLTS SHALL CONFORM TO ASTM A325 OR A490.
7. HIGH STRENGTH BOLTS SHALL HAVE LOAD INDICATOR WASHERS TO SERVE AS A DIRECT TENSION INDICATOR INSTALLATION FOR HIGH STRENGTH BOLTS SHALL REQUIRE INSPECTION BY A DEPUTY INSPECTOR.
8. ANCHOR RODS SHALL BE ASTM F-1554 GRD. 55 KSI U.N.O. ALL ANCHOR RODS SHALL BE. HEADED RODS.ANCHOR ROD WASHER SHALL BE ASTM A436. NUTS SHALL BE ASTM A563.
9. PIPE COLUMNS SHALL CONFORM TO ASTM A-53 GRADE B.
10. STEEL TUBE SHAPED MEMBERS SHALL CONFORM TO ASTM A-501 OR OR A-500 GRADE B.
11. WHERE FINISH IS ATTACHED TO STRUCTURAL STEEL, PROVIDE HOLES FOR 1/2" WELDED STUDS AT 4 FEET O.C. FOR THE ATTACHMENT OF NAILERS. SEE ARCHITECTURAL DRAWINGS FOR FINISHES.
12. OPEN WEB JOISTS SHALL COMPLY WITH THE STANDARDS OR "THE STEEL JOIST INSTITUTE".
13. STEEL STUDS, JOIST, TRACKS & BRIDGING:
    ASTM A-570 GRADE "E" Fy = 50 KSI 12, 14 & 16 GA.
    ASTM A-570 GRADE "C" Fy = 33 KSI 18 & 20 GA.
14. SPECIAL INSPECTION OF HIGH-STRENGTH A325 AND A490 BOLTS SHALL BE IN ACCORDANCE WITH APPROVED NATIONALLY RECOGNIZED STANDARDS AND REQUIREMENT OF SECTION 1701.
15. SHOP DRAWINGS SHALL BE PROVIDED TO ENGINEER OR ARCHITECT OF RECORD FOR REVIEW PRIOR TO FABRICATION.

STRUCT. STEEL WELDING

1. WELDING SHALL BE DONE BY THE ELECTRIC SHIELDED ARC PROCESS W/E70-XX ELECTRODES AND SHALL COMPLY WITH A.W.S. SPECIFICATIONS FOR WELDING AND FABRICATION.
2. WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS WHO ARE APPROVED BY THE LOCAL AUTHORITY USING ARC PROCESS WITH E70XX ELECTRODES.
3. ALL FIELD WELDS SHALL HAVE CONTINUOUS INSPECTION PER CBC (1701) UNLESS OTHERWISE NOTED.
4. ALL BUTT WELDS SHALL BE FULL PENETRATION U.N.O.
5. A CERTIFICATE OF FABRICATION FROM THE SHOP PERFORMING WELDING OR A REPORT FROM THE SPECIAL INSPECTOR MUST BE FURNISHED TO THE JOB INSPECTOR PRIOR TO FRAMING APPROVAL.
6. WELDED, FULLY RESTRAINED CONNECTION BETWEEN MEMBERS OF ORDINARY MOMENT FRAMES OR SPECIAL MOMENT-RESISTING FRAMES SHALL HAVE SPECIAL CONTINUOUS INSPECTION AND CONNECTION TESTED BY NONDESTRUCTIVE METHODS PER SECTION 1703.
7. FIELD WELDING OF REINFOCING STEEL SHALL BE DONE BY WELDERS SPECIFICALLY CERTIFIED FOR REINFORCING STEEL WELDING .BEFORE WELDING,THE "CARBON EQUIVALENT" (CE) OF STEEL SHALL BE DETERMINED. IF THE (CE) OF STEEL IS MORE THAN 0.75% , THEY SHALL NOT BE WELDED.

FRAMING NOTES

1. FRAMING SHALL COMPLY WITH CHAPTER 23 OF THE 2016 CBC

FRAMING-GENERAL

1. USE SIMPSON U-HANGERS ON ALL JOIST/BEAM/BEAM CONNECTIONS UNLESS NOTED ON PLANS.
2. ALL POSTS SHALL HAVE SIMPSON "PC" CONNECTORS AT TOP AND SIMPSON "BC" OR "BCO" CONNECTORS AT BASES UNLESS OTHERWISE NOTED ON PLANS.
3. ALL CONNECTING HARDWARE, JOIST HANGERS, TIE STRAPS, ETC., SHALL BE SIMPSON "STRONG TIE" UNLESS OTHERWISE NOTED OR SHOWN ON PLANS.
4. FRAMING @ CHIMNEY ENCLOSURE SHALL BE 2x6 STUDS BALLOON FRAMED W/APPROVED STRAPS TO ROOF AND FLOOR DIAPHRAGMS.

FRAMING - WALL

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

2X4 @ 16" OC (BEARING WALL) SUPPORTING A MAXIMUM OF ONE FLOOR AND ONE ROOF SHALL HAVE A MAXIMUM HEIGHT OF 10 FEET
2X4 @ 16" OC (NON-BEARING WALL) SHALL HAVE A MAXIMUM HEIGHT OF 14 FEET

2X6 @ 16" OC (BEARING WALL) SUPPORTING A MAXIMUM OF TWO FLOORS AND A ROOF SHALL HAVE A MAXIMUM HEIGHT OF 10 FEET
2X6 @ 16" OC (NON-BEARING WALL) MAXIMUM HEIGHT IS 20 FEET

2. RAKE WALLS ADJACENT TO SLOPED CEILINGS SHALL BE BALLOON FRAMED. DOUBLE TOP PLATES SHALL ALWAYS BE SUPPORTED BY A ROOF OR CEILING DIAPHRAGM.
3. SHEAR WALL PANELS MUST BE CONTINUOUS TO THE TOP PLATE AT ROOF FRAMING. SHEATHING SHALL HAVE ALL EDGES BLOCKED & THE APPROPRIATE SHEAR TRANSFER THRU CEILING OR SOFFIT FRAMING.
4. BORING AND NOTCHING OF WALL STUDS SHALL BE PER CBC (2308.9)

NOTCHING MAXIMUM:	25% OF WIDTH OF STUDS ON BEARING WALLS 40% OF WIDTH OF STUDS ON NON-BEARING WALLS BORING
MAXIMUM:	40% OF WIDTH OF STUDS ON BEARING WALLS 60% OF WIDTH OF STUDS ON NON-BEARING WALLS

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

5. DOUBLE 2X TOP PLATE SHALL BE LAPPED 48" AT ALL SPLICES AND SHALL OVERLAP AT CORNERS.
6. WALL BRACING SHALL BE PROVIDED PER CBC (2308.9.3)
7. HARDY FRAMES INSTALLATION PER MFR. SPECIFICATION (ICC ESR-2089)
8. STRONG WALL INSTALLATION PER MFR. SPECIFICATION (ICC-ESR-1267)

FRAMING - FLOOR

1. FLOOR SHEATHING (MIN) 5/8" STRUCTURAL I T & G PLYWOOD PANEL INDEX NO. 32/16 WITH EXTERIOR GLUE. USE 10d COMMON NAILS AT 6" OC AT ALL EDGES, BOUNDARIES, AND 10" O.C. FIELD. NO BLOCKING IS REQUIRED UNLESS NOTED ON PLAN. ALL EDGES BLOCKED AT DECKS.
2. PROVIDE DOUBLE FLOOR JOISTS UNDER ALL PARALLEL NON- BEARING PARTITIONS.
3. PROVIDE CONTINUOUS BLOCKING BETWEEN FLOOR JOISTS UNDER BEARING WALLS WHICH ARE PERPENDICULAR TO JOISTS.
4. FRAMING AROUND OPENINGS: TPT RIMMER AND HEADER JOISTS SHALL BE DOUBLED AND SUPPORTED BY HANGERS PER (CBC 2320.12.5).

FRAMING - ROOF

1. ROOF SHEATHING (MIN) 15/32" STRUC. I PLYWOOD SHEATHING PANEL INDEX NO. 32/16 WITH EXTERIOR GLUE. USE 8d COMMON NAILS AT 6" OC AT ALL EDGES, BOUNDARIES, AND 12" OC FIELD. NO BLOCKING IS REQUIRED UNLESS NOTED ON PLAN.
2. FRAMING AROUND OPENINGS: TPT RIMMER AND HEADER JOISTS SHALL BE DOUBLED AND SUPPORTED BY HANGERS PER CODE

FRAMING - CEILING (PER TABLE 2308.10.2)

1. CEILING JOISTS SHALL BE 2X6 @ 16" O.C. (MAX SPAN= 17'-8")
2. CEILING JOISTS SHALL BE 2X8 @ 16" O.C. (MAX SPAN= 23'-0")

FRAMING - JOISTS/RAFTERS

1. BORING AND NOTCHING OF JOISTS SHALL BE AS FOLLOWS: (CBC 2308.10) 2016 EDITION

BORING-	MAX DIA OF HOLE SHALL NOT EXCEED 1/3 OF DRESSED DEPTH OF JOIST WITH A MINIMUM EDGE CLEARANCE OF TWO INCHES.
NOTCHING-	MAX NOTCH AT ENDS SHALL NOT EXCEED 1/4 OF DEPTH. NO NOTCHING IS ALLOWED IN THE CENTER THIRD OF THE JOIST SPAN. MAX NOTCH IN TOP OR BOTTTOM OF THE JOIST SHALL NOT EXCEED 1/6 OF THE JOIST DEPTH.

2. WHERE THREE OR MORE (MULTI JOISTS) ARE USED, THE JOISTS SHALL BE BOLTED TOGETHER WITH 1/2" DIA. MACHINE BOLTS W/ WASHERS AT 24" OC STAGGERED. BOLTS SHALL BE RETIGHTENED PRIOR TO APPLYING FINISH MATERIALS.
3. JOISTS/RAFTERS SHALL LAP AT SPLICES A MIN. OF 4 INCHES WITH 3-16d NAILS OR USE SIMPSON ST 2115 @ 48 INCHES O.C.
4. CROSS BRIDGING OR 2X BLDG. SHALL BE PROVIDED @ 8'-0" O.C. MAX. FOR ALL JOISTS AND RAFTERS MORE THAN 8" IN DEPTH.
5. 2X SOLID BLOCKING SHALL BE PLACED BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS.

DRAINAGE NOTES

1. MINIMUM GRADIENTS ARE AS FOLLOWS: EARTH= 2%, PAVING= .5%
2. POSITIVE DRAINAGE AWAY FROM STRUCTURES SHALL BE AS FOLLOWS:

2% MIN. TO 21% MAX
SWALES TO BE 3 FEET MIN. AWAY FROM STRUCTURES.

FRAMING-BOLTING

1. ALL BOLTS BEARING ON WOOD SHALL HAVE WASHERS UNDER HEAD OR NUT. SEE S.W. SCHEDULE.
2. ALL BOLTS SHALL BE RETIGHTENED, PRIOR TO APPLICATION OF PLYWOOD, PLASTER, ETC.
3. HOLES FOR BOLTS SHALL BE BORED 1/32" TO 1/16" LARGER THAN NOMINAL BOLT DIAMETER.
4. FASTENERS IN PRESSURE-TREATED AND FIRE-RETARDANT,TREATED WOOD SHALL BE OF HOT-DIPPED,ZINC-COATED GALVANIZED STEEL,STAINLESS STEEL,SILICON BRONZE OR COPPER.

LUMBER

1. ALL LUMBER SHALL BE DOUGLAS FIR-LARCH OR THE FOLLOWING GRADES UNLESS OTHERWISE NOTED (MAX MOISTURE CONTENT SHALL NOT EXCEED 19% & GRADED IN ACCORDANCE WITH THE (WEST COAST LUMBERMAN'S ASSOCIATION.)

REPETITIVE USE MEMBERS

STUDS & PLATES	NO. 2
JOISTS & RAFTERS:	
2X4 TO 4X4 INCLUSIVE	N0. 2
2X6 TO 3X16 INCLUSIVE	NO. 2

SINGLE USE MEMBERS

BEAMS:	
4X	N0. 2
6X OR LARGER	N0. 1
POSTS & MULLION:	
4X4 & SMALLER	N0. 2
4X6 & LARGER	N0. 2
6X6 & LARGER	N0. 1
BLOCKING, FURRING, ETC.	N0. 3
DECKING & SHEATHING 2X, 3X, 4X	CONST. GRADE

2. ALL WOOD BEARING ON CONCRETE OR MASONRY IF LESS THAN 4 FEET FROM GRADE SHALL BE PRESSURE TREATED DOUG. FIR.
3. GLUED-LAMINATED WOOD BEAMS SHALL BE DOUGLAS FIR COMB. 24F-V4 (*) DF/DF (Fb=2400 PSI, Fv=165 PSI, E=180,000 PSI) INDUSTRIAL APPEARANCE WITH EXTERIOR GLUE UNLESS OTHERWISE NOTED ON PLANS. A CERTIFICATE OF INSPECTION FOR EACH GLU-LAM BEAM FROM AN APPROVED TESTING AGENCY TO BE SUBMITTED AND APPROVED BY THE BUILDING DEPT. PRIOR TO ERECTION. (*) USE V8 FOR CANT. BEAMS AND V4 FOR SIMPLE SPANS BEAMS]
4. SHOP DRAWING SHALL BE PROVIDED TO ENGINEER OR ARCHITECT OF RECORD FOR REVIEW PRIOR TO FABRICATION.
5. ALL STRUCTURAL PLYWOOD SHALL BE IN ACCORDANCE WITH (PS 1-95)
6. PARALLAM PSL PER TRUS JOIST MACMILLAN (ICC ESR-1387) (Fb= 2900 PSI, Fv=290 PSI, E= 2,000,000 PSI)
7. TJI JOISTS INSTALLATION PER MANUFACTURE SPECIFICATION (ICC ES ESR-1153 AND ICC ES ESR-1387)

SPECIAL INSPECTION (PER CBC SECTION 1704,1706 & 1707)

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

ITEMS REQUIRE SPECIAL INSPECTION AS MARKED:

VERIFICATION & INSPECTION CONTINUOUS PERIODIC		
1. STRUCTURAL EPOXY BOLTING.	☒	
2. WELDING.	☐	
2a: FIELD WELDING OF MOMENT RESISTING STEEL FRAMES.	☐	
2b: STRUCTURAL STEEL OR REINFORCING	☐	
2c: STEEL DECKING.	☐	
2d: SHEAR CONNECTORES.	☐	
3. PLACEMENT OF REINFORCING STEEL IN CMU WALL.	☐	
4. HIGH STRENGTH BOLTING	☐	
5. EXPANSION TYPE ANCHOR BOLTS.	☐	
6. HIGH STRENGTH BOLTING		☐
7. CONCRETE WHERE CONCRETE STRENGTH OF 3000 PSI OR GREATER IS SPECIFIED.		☐
8. DIAPHRAGM CONNECTION TO STEEL SUPPORT MEMBERS.		☐
10. WOOD SHEAR WALLS AND WOOD DIAPHRAGMS NAILING.		☐
11. WOOD STRUCTURAL PANEL SHEATHING.		☐
12. NOMINAL SIZE OF FRAMING MEMBERS AT PANEL EDGES.		☐
13. NAIL OR STAPLE DIAMETER AND LENGTH.		☐
14. COMPACTED FILL		☐
15. FOUNDATION -ANCHOR BOLT AND HOLD DOWN.		☒
16. INSPECTION OF LATERAL FORCE RESISTING ELEMENTS.		☐

"CONTRACTOR RESPONSIBILITY:

EACH CONTRACTOR OR SUB-CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF THE WIND AND/OR SEISMIC RESISTING SYSTEM THAT IS LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK REQUIRING SPECIAL INSPECTION.
THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:
1) ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS;
2) ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL;
3) PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS; AND
3) PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS; AND
4) IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION."

ABBREVIATIONS:

A.B.	ANCHOR BOLT
ABV.	ABOVE
BAR	REINF. BAR
BD	BOARD
BLKG.	BLOCKING
BLW.	BELOW
BM	BEAM
B.N.	BOUNDARY NAIL
B.W.	BOTH WAYS
CONT.FTG.	CONTINUOUS FOOTING
C.J.	CEILING JOIST
COL.	COLUMN
CONC.	CONCRETE
CONT.	CONTINUOUS
CLG.	CEILING
DP	DEEP
DBL	DOUBLE
D.F.	DOUGLAS FIR
DIA.	DIAMETER
DO	DITTO
(E)	EXISTING
E.W.	EACH WAY
E.J.	EXPANSION JOINT
E.N.	EDGE NAIL
EQ	EQUAL
FB	FLOOR BEAM
F.G.	FINISH GRADE
F.J.	FLOOR JOIST
FL	FLUSH
FMG.	FRAMING
F.N.	FIELD NAIL
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUDS
F.P.	FULL PENETRATION
FTG	FOOTING
GA.	GAUGE
GALV.	GALVANIZED
GLB	GLUE-LAMINATED BEAM
GRD. BM.	GRADE BEAM
GWB	GYPSUM WALLBOARD
H	HIGH
HDR.	HEADER
HGT.	HEIGHT
HNGR.	HANGER
HORIZ.	HORIZONTAL
K.P.	KING POST
L	LENGTH
LT. WT.	LIGHT WEIGHT
LVL	LAMINATED VENEER LUMBER
MAS.	MASONRY
M.B.	MACHINE BOLT
MLB	MICRO=LAM BEAM
(N)	NEW
N.G.	NATURAL GRADE
O.C.	ON CENTER
P.A.	POST ABOVE
PSL	PARALLAM PSL BEAM
PLWD	PLYWOOD
P.T.	PRESSURE TREATED
R.B.	RIDGE BEAM
REINF.	REINFORCING
REQ'D.	REQUIRED
RF	ROOF
R.R.	ROOF RAFTER
SIM.	SIMILAR
T.R.	THREADED ROD
TYP.	TYPICAL

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

GENERAL NOTES

04

05

PixelArch ltd.
US Office:
1442N. Dale Ave. Anaheim, CA 92801
Canada Office
3313Plateau Blvd. Coquitlam BC V3E 3B8
+1 909 939 2585 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR
1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date:
APRIL 25, 2019

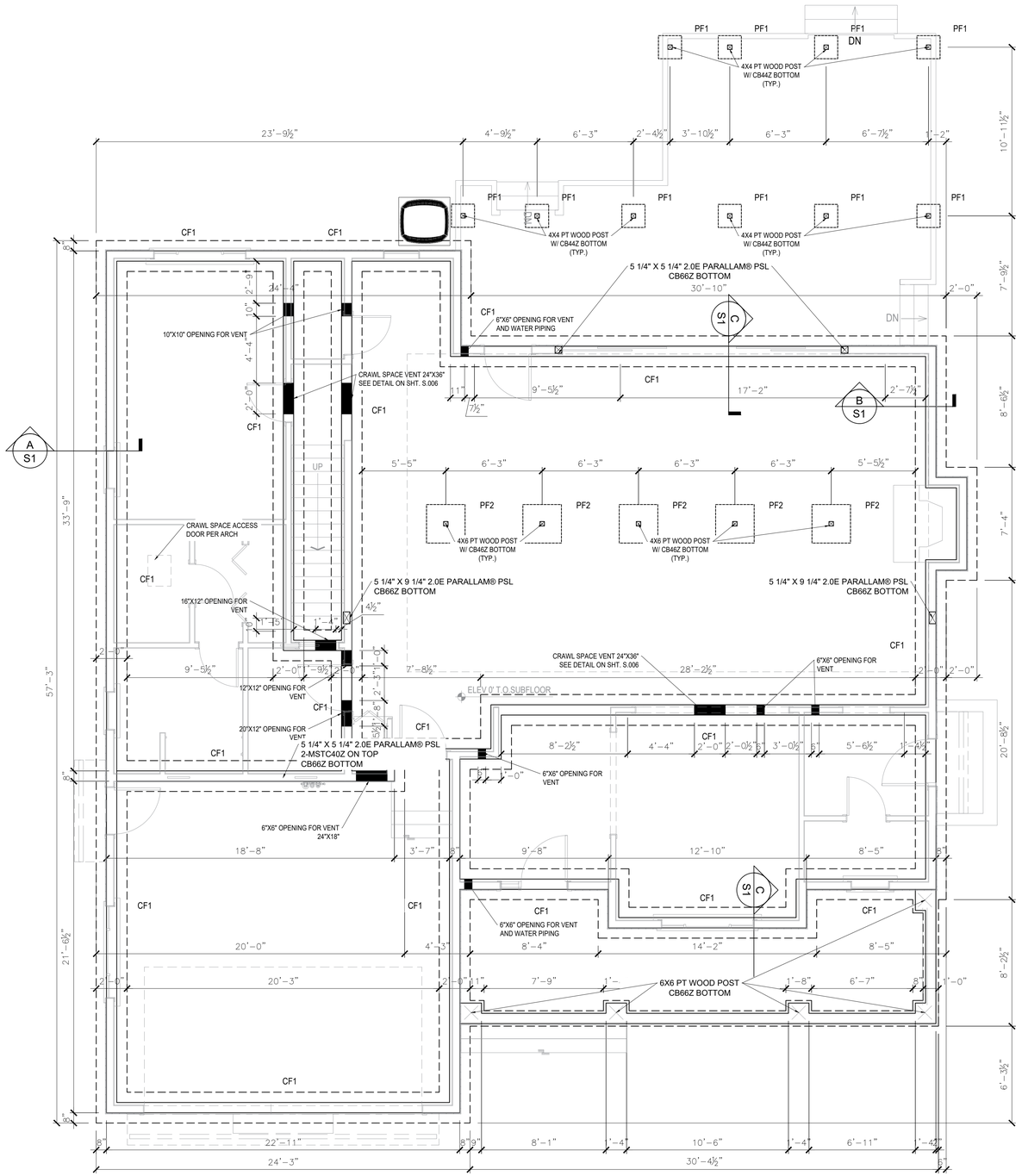
Scale:
1/4"=1'-00"

DRAWING TITLE:
GENERAL NOTES

Sheet :
1 OF

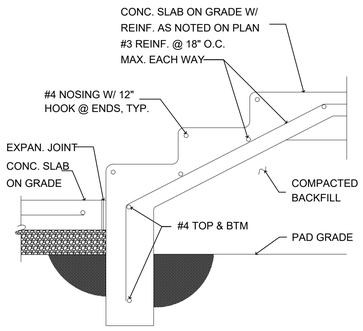
Page No. :
S.000

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



1 FOUNDATION PLAN

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



TYPICAL CONCRETE STAIRWAY ON GRADE

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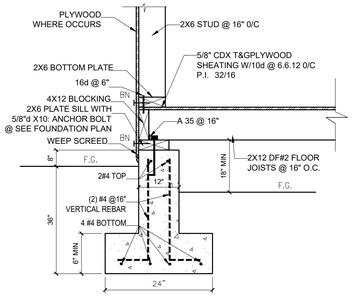

SECTION A - A

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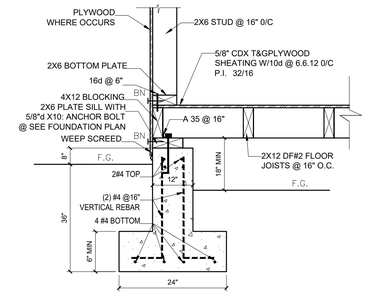

SECTION B - B

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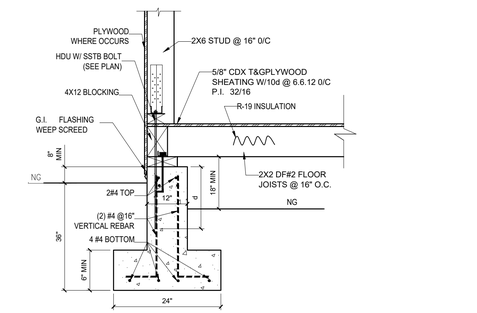
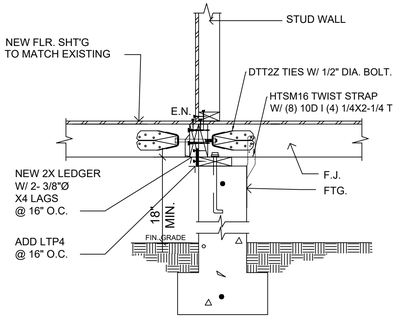


SECTION A-A (HOLDOWN)

NTS



SECTION C - C

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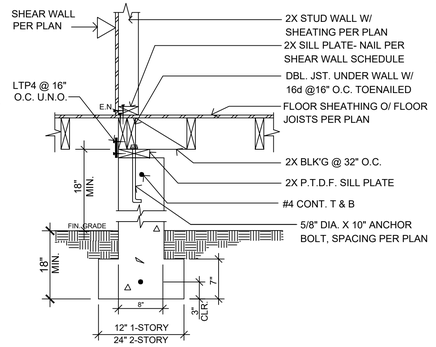

INTERIOR FOOTING

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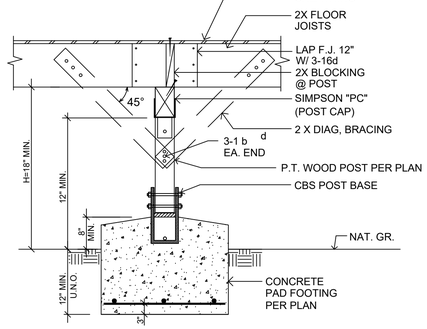

FOOTING PAD

SCALE: NTS

HOLDOWN SCHEDULE

SIMPSON TYPE	HOLDOWN POST	POST FASTENERS	HOLDOWN ANCHORS: BOLT DIAMETER	HOLDOWN ANCHORS: MONOLITHIC SSTB TYPE	HOLDOWN ANCHORS: TWO-POUR SSTB TYPE	BOLT TYPE MINIMUM EMBEDMENT	EPOXY RETROFIT: MIN. EMBED.	EPOXY RETROFIT: DIST. FROM CORNER	MIN STEM WIDTH 1/2	KEYNOTES
(2) CS16	(2) 2x STUDS	(26) 8d COMMON @ EA. STRAP	N / A	N / A	N / A	N / A	N / A	N / A	N / A	7 , 9
STHD 14 / STHD14RJ	(2) 2x STUDS	(3.8) 10d COMMON	N / A	N / A	N / A	N / A	USE. PHD5 IF MISINSTALLED		6"	3 , 6 , 11
HDU2	(2) 2x STUDS	(6) SDS 1/4 x 2-1/2 WOOD SCREWS	5 / 8" Ø	SSTB16	SSTB16	16 - 5 / 8"	5"	5"	6"	1 , 5
HDU5	(2) 2x STUDS	(14) SDS 1/4x2-1/2 WOOD SCREWS	5 / 8" Ø	SSTB20	SSTB24	20 - 5 / 8"	5"	5"	8"	1 , 5
HDU4	(2) 2x STUDS	(10) SDS 1/4x2-1/2 WOOD SCREWS	5 / 8" Ø	SSTB20	SSTB24	20 - 5 / 8"	5"	5"	6"	1 , 5
HDU11	(2) 6x6 POST	(33) SDS 1/4x2-1/2 WOOD SCREWS	1" Ø	SB1 x 30	N / A	24"	8"	–	–	1 , 5

KEYNOTES:

1. EITHER "BOLT TYPE" OR SSTB ANCHORS MAY BE USED. "BOLT TYPE" IS DEFINED AS: THREADED ROD OR BOLT w / DBL NUT & WASHER ASSEMBLY, "L" BOLT, OR "J" BOLT, SEE DET. 3 / SN3 IN CONJUNCTION WITH THE SCHEDULE ABOVE FOR ANCHORAGE REQUIREMENTS. AT "TWO POUR" FOUNDATIONS, THE DIFFERENCE BETWEEN THE FIRST POUR AND TOP OF CONCRETE (SLAB THICKNESS) SURROUNDING THE HOLDOWN ANCHOR SHALL NOT EXCEED 4" WHERE "SIMPSON" SSTB OR "USP" STB TYPE ANCHORS ARE USED. SEE DET. 15 / S01 FOR HOLDOWN POST CONNECTION AND OTHER REQUIREMENTS.
2. "SIMPSON" N16 FASTENERS (16 d "SHORTS") OR "SIMPSON" SS16D FASTENERS MAY BE USED IN LIEU OF 16d COMMONS.
3. 16d SINKERS (0.148" DIA.) MAY BE USED IN LIEU OF 10d COMMON NAILS
4. 5 / 8" Ø SSTB MAY BE SUBSTITUTED FOR 3 / 4" Ø THREADED ROD ANCHOR BOLT PROVIDED A DOUBLE WASHER IS INSTALLED BELOW NUT.
5. SEE THE MOST RECENT "SIMPSON" (CATALOG EDITION FOR WOOD SCREW FASTENER INFORMATION.
6. THE FOLLOWING HOLDOWN SUBSTITUTIONS MAY BE USED AT CONTRACTOR DISCRETION: HTT5 FOR STHD10 OR LSTHD10, HTT5 FOR STHD14 OR LSTHD14, HTT5 FOR HDU2 OR HDU5
7. FLOOR -/FLOOR STRAP TYPE HOLDOWN (NOT TO BE INSTALLED IN CONCRETE). PROVIDE LONGER STRAP AS NEEDED TO EXTEND TO SIDE GRAIN OF FASTENING MEMBER (END GRAIN NAILING NOT ALLOWED). LENGTH OF STRAP IS TO BE SUFFICIENT TO ACCOMODATE 1 / 2 OF THE NUMBER OF FASTENERS PER SCHEDULE IN TO THE FASTENING MEMBERS AT EACH END OF THE STRAP (# OF FASTENERS SPECIFIED ON SCHEDULE IS THE TOTAL REQUIRED FOR EACH STRAP.)
8. HDC ANCHOR BOLT IS TO ALIGN DIRECTLY UNDER HOLDOWN POST SEE SIMPSON CATALOG FOR MORE INFORMATION
9. A SINGLE "SIMPSON" CS16 OR "USP" RS150 STRAP SHALL BE ATTACHED TO A MINIMUM OF ONE 2x OR GREATER HOLDOWN POST. FOR DOUBLE CS16 OR RS150 STRAP, EACH STRAP SHALL ATTACH TO SINGLE 2x OR GREATER AND STRAPS SHALL NOT BE STACKED.
10. "MIN. STEM WIDTH" IS THE MINIMUM THICKNESS OF CONCRETE STEM WALL OR CURB WHERE THE HOLDOWN ANCHOR IS INSTALLED, ANCHOR.
11. INDICATES STRAP TYPE FOUNDATION HOLDOWN - SEE DET. 3 / SN3. 6" STEM WIDTH @ STHD10 & STHD14 HOLDOWNS IS ALLOWED, PROVIDED THAT A #4 HAIRPIN IS INSTALLED PER 3 / SN3.

FOOTING SCHEDULE			
TYPE	WIDTH	DEPTH	REBAR
CF-1	2'-0"	3'-0"	4 #4 TOP & BOTTOM

PAD FOOTING SCHEDULE			
TYPE	WIDTH	DEPTH	REBAR
PF-1	18"	24"	2 #4 EACH WAY
PF-2	30"	24"	3 #4 EACH WAY

FOUNDATION SHOULD BE PRESSURE TREATED, OR FOUNDATION GRADE REDWOOD

"HOLD-DOWN CONNECTORS BOLT INTO WOOD FRAMING REQUIRE APPROVED PLATE WASHERS"

"HOLD-DOWN SHOULD BE RE-TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING.

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Canada Office
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www.pixelarchltd.com

Project Name and Address:

REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: APRIL 25, 2019

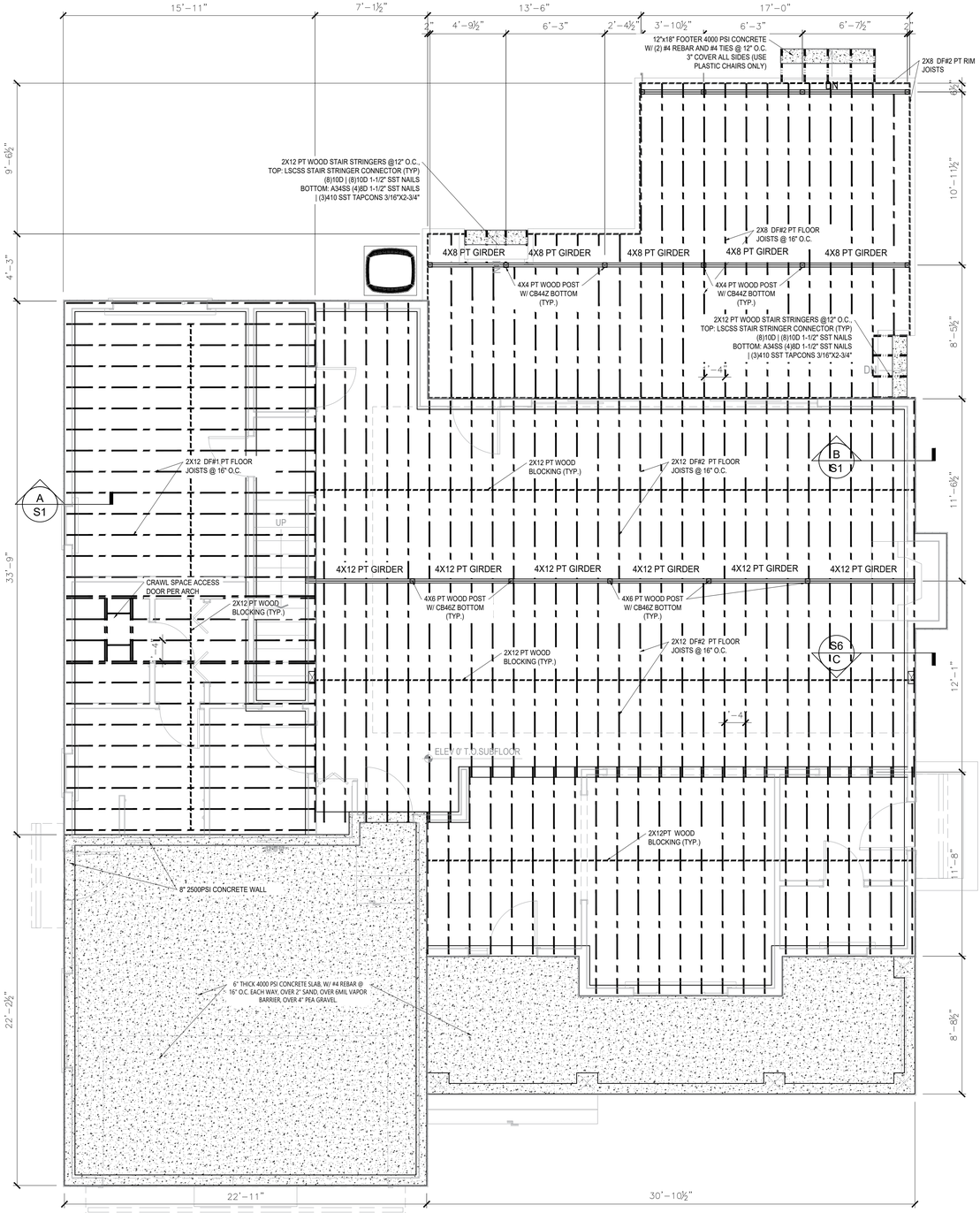
Scale: 1/4"=1'-00"

DRAWING TITLE: FOUNDATION PLAN

Sheet : 1 OF

Page No. : S.001

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



1 1ST FLOOR FRAMING PLAN

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

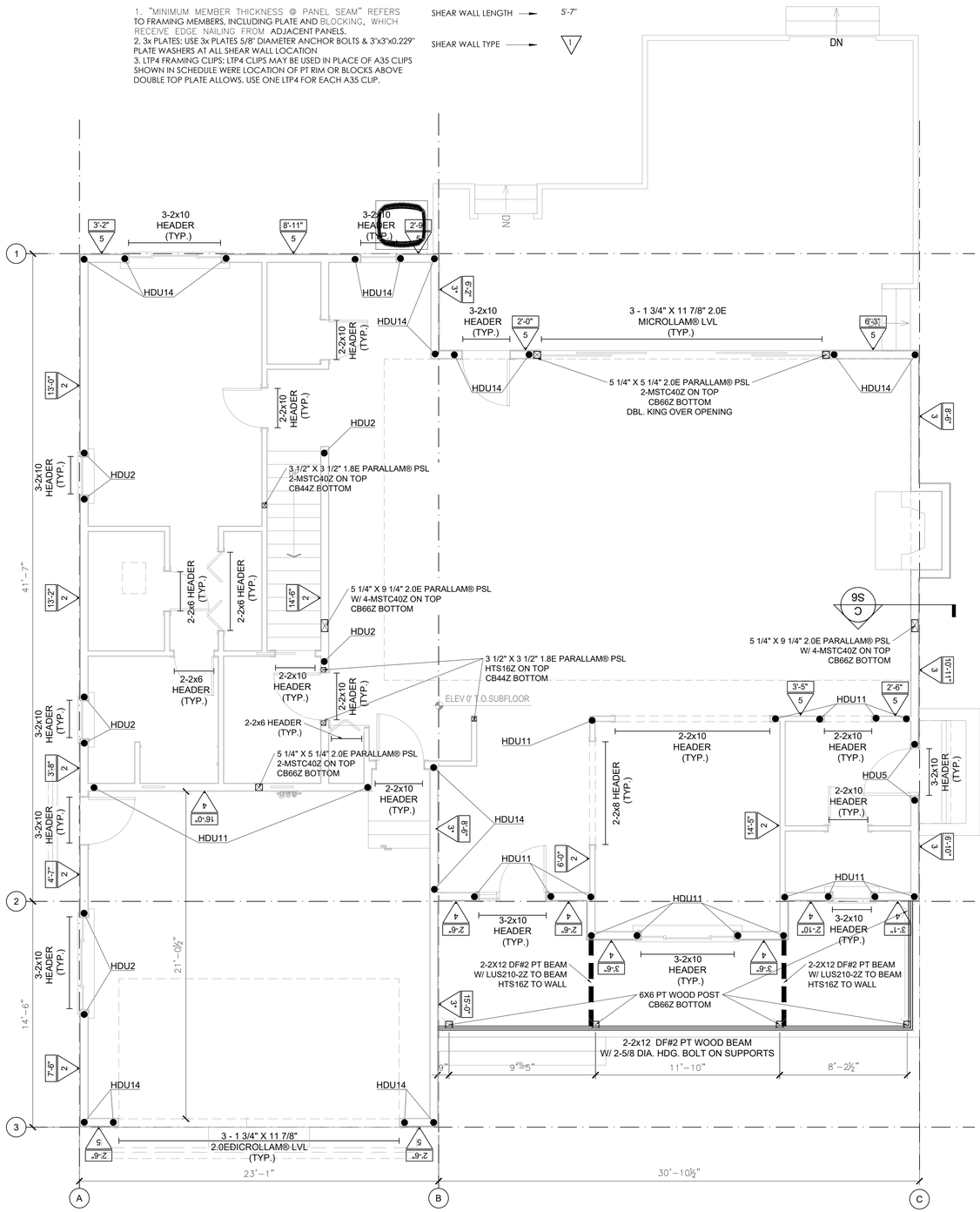
NOTES:

1. "MINIMUM MEMBER THICKNESS @ PANEL SEAM" REFERS TO FRAMING MEMBERS, INCLUDING PLATE AND BLOCKING, WHICH RECEIVE EDGE NAILING FROM ADJACENT PANELS.
2. 3x PLATES: USE 3x PLATES 5/8" DIAMETER ANCHOR BOLTS & 3"x3"x0.229" PLATE WASHERS AT ALL SHEAR WALL LOCATION
3. LTP4 FRAMING CLIPS: LTP4 CLIPS MAY BE USED IN PLACE OF A35 CLIPS SHOWN IN SCHEDULE WERE LOCATION OF PT RIM OR BLOCKS ABOVE DOUBLE TOP PLATE ALLOWS, USE ONE LTP4 FOR EACH A35 CLIP.

SHEAR WALL SYMBOL

SHEAR WALL LENGTH —— 5'-7"

SHEAR WALL TYPE —— 1



1 FIRST FLOOR SHEAR-WALLS PLAN

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

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REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: APRIL 25, 2019

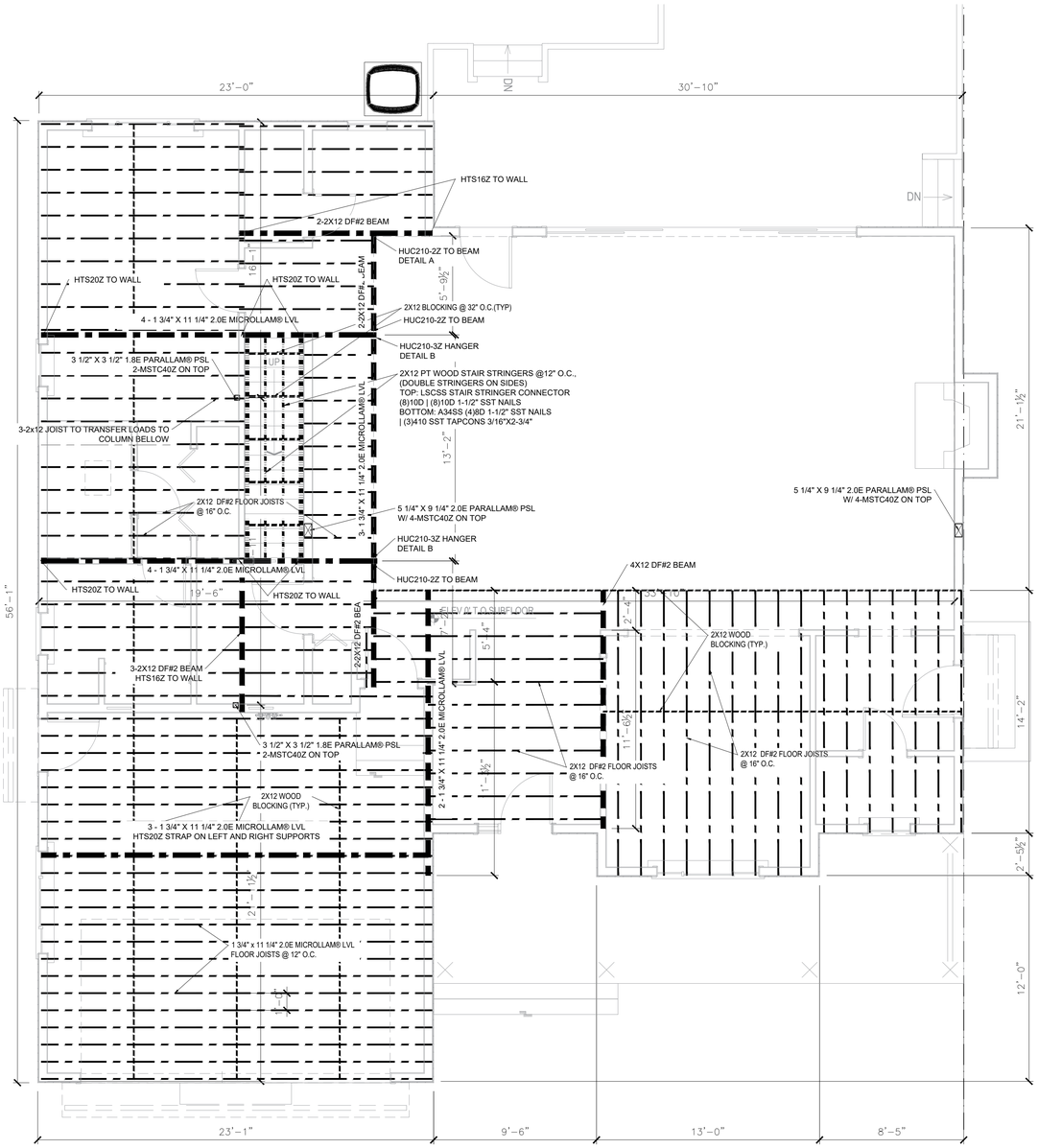
Scale: 1/4"=1'-00"

DRAWING TITLE: 1ST FL FRAMING & SHEAR-WALLS PLANS

Sheet : 1 OF

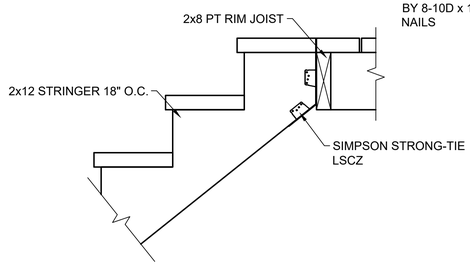
Page No. : S.002

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	



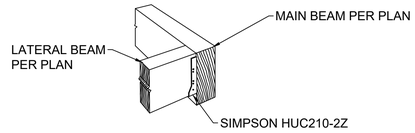
1 2ND FLOOR FRAMING PLAN

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

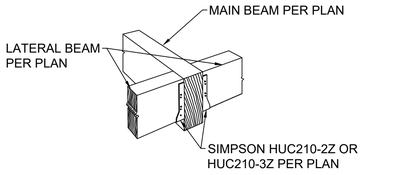


STAIRS CONNECTION

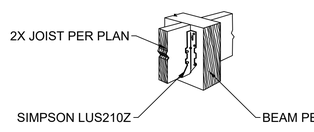
SCALE 1"=1'-0"



CONNECTION DETAIL A

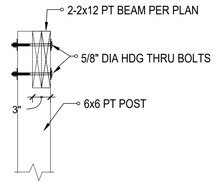


CONNECTION DETAIL B



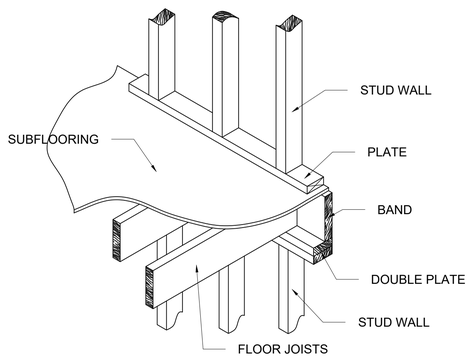
JOIST AND BEAM CONNECTION DETAIL

NOT TO SCALE



POST TO BEAM CONNECTION DETAIL

NOT TO SCALE



WOOD JOISTS TO STUD WALL CONNECTION

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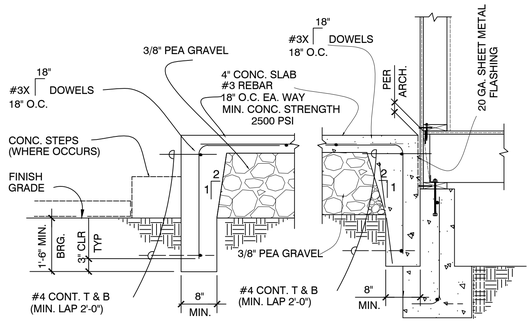

TYPICAL CONCRETE PORCH SECTION

NOT TO SCALE

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REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: APRIL 25, 2019

Scale: 1/4"=1'-00"

DRAWING TITLE: 2ND FL FRAMING

Sheet : 1 OF

Page No. : S.003

No.	Revision/Issue	Date
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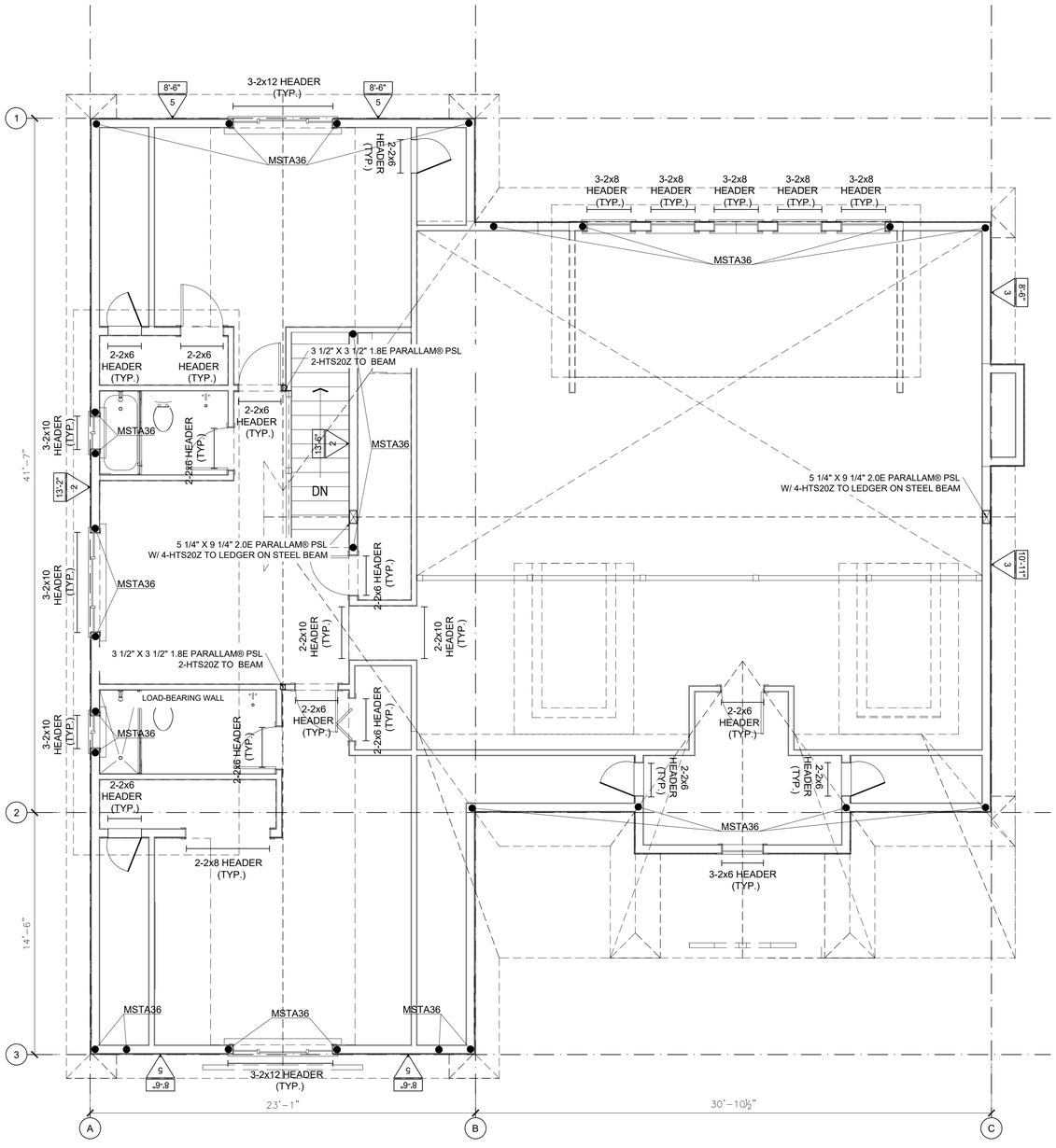
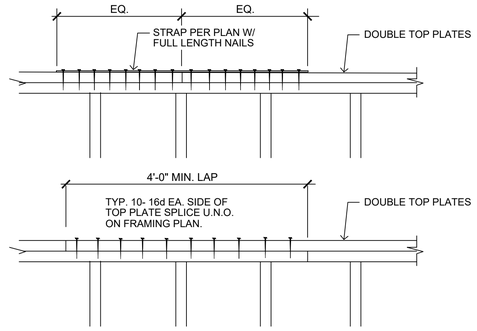


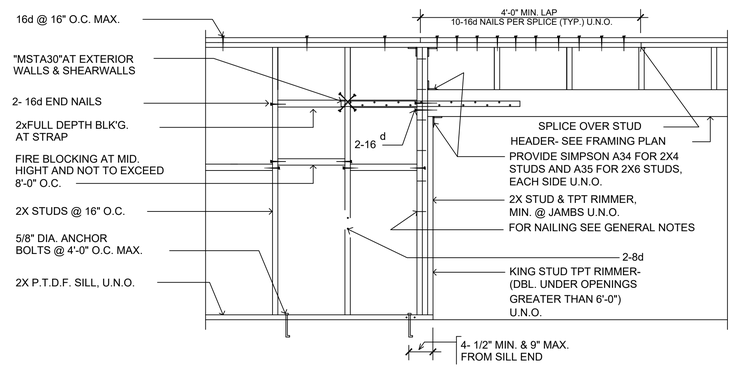
1 2ND FLOOR SHEAR-WALLS PLAN

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



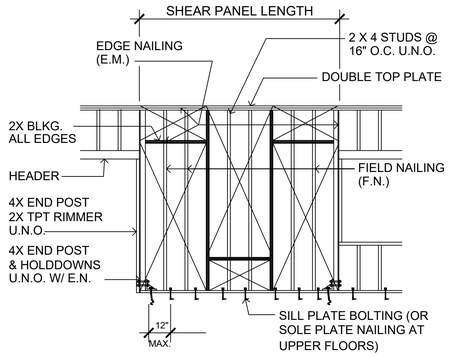
2 TYPICAL PLATE SPLICE DET.

SCALE: 1"=1'-0"



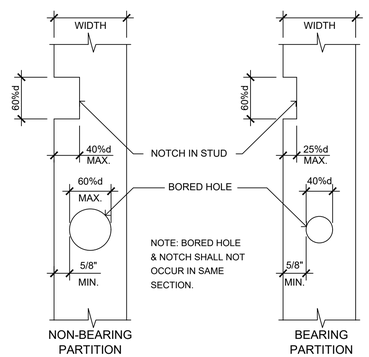
3 TYP. WOOD STUD WALL FRAMING

SCALE: 1"=1'-0"



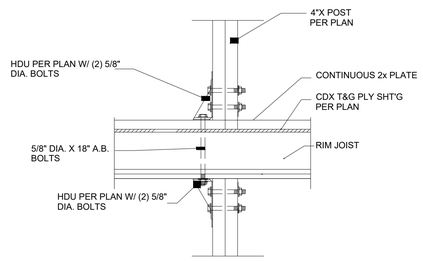
4 TYP. SHEAR WALL LAYOUT

SCALE: 1"=1'-0"



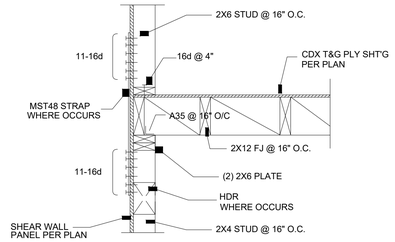
5 TYPICAL NOTCHING & BEARING @ STUD WALL

SCALE: 1"=1'-0"



6 POST OVER BEAM BELOW DETAIL

N.T.S.



7 SHEAR TRANSFER

N.T.S.

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Canada Office 3313Plateau Blvd. Coquitlam BC V3E 3B8
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REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: APRIL 25, 2019

Scale: 1/4"=1'-00"

DRAWING TITLE: SHEAR-WALLS PLANS

Sheet : 1 OF

Page No. : S.004

No.	Revision/Issue	Date
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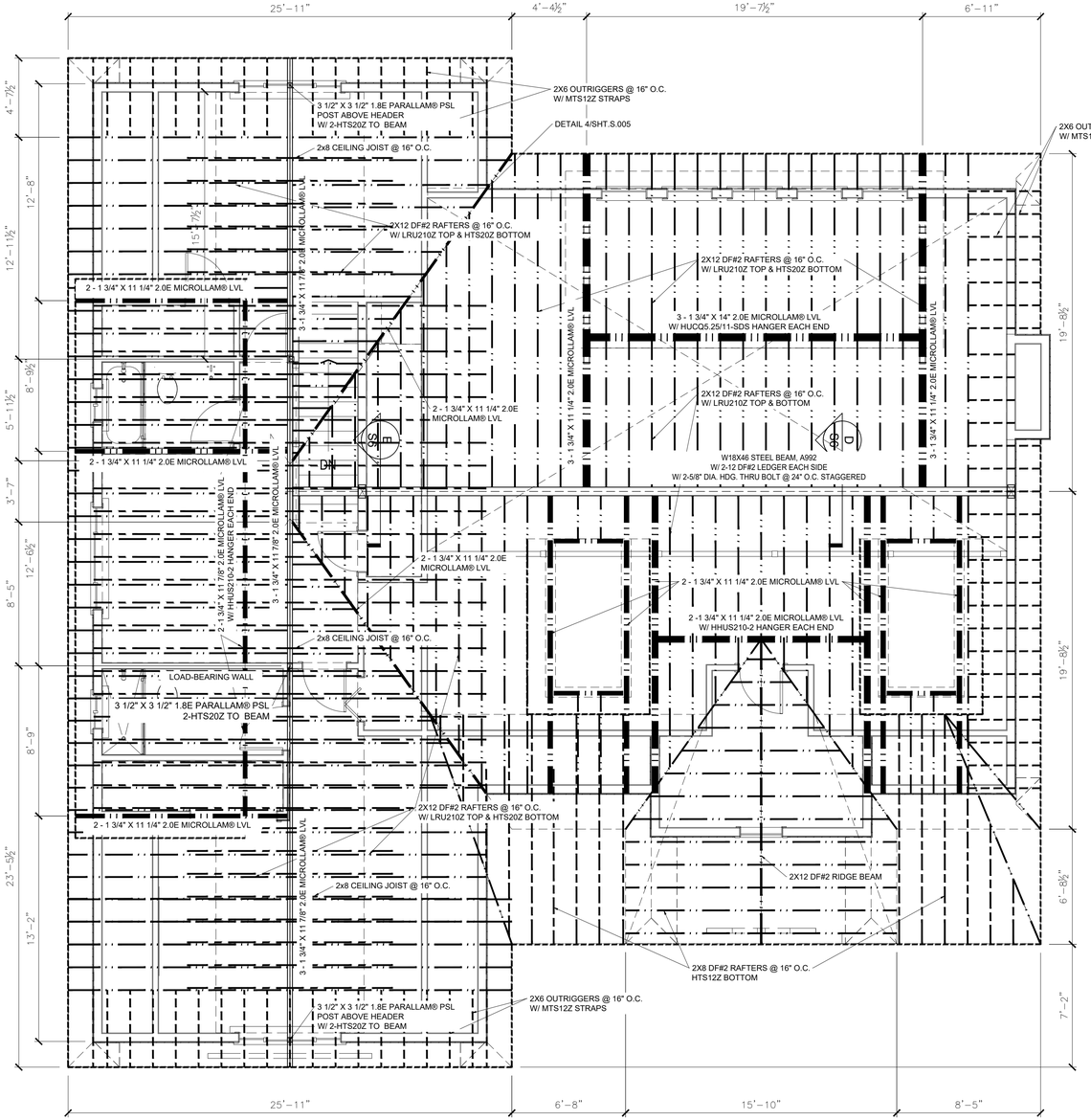
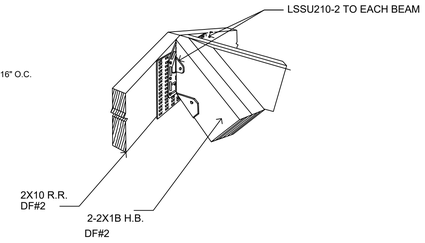
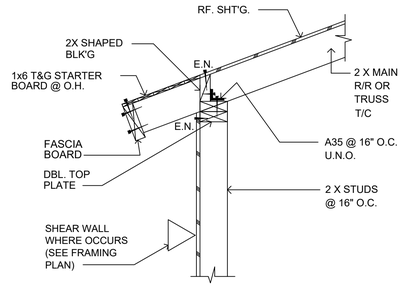


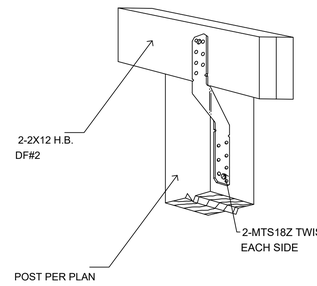
1 ROOF FRAMING PLAN
SCALE: 1/4"=1'-0"



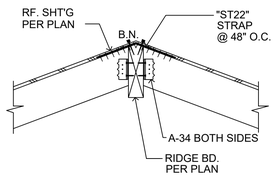
2 HIP BEAM CONNECTION DETAILS
SCALE: 1"=1'-0"



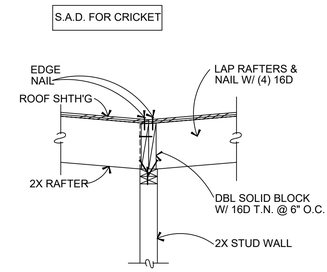
3 SHEAR TRANSFER
SCALE: 1"=1'-0"



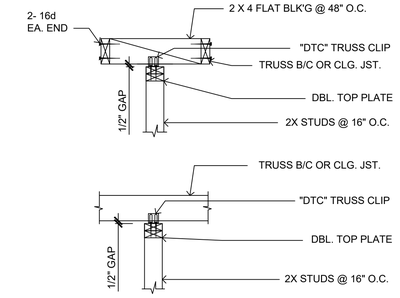
4 COLUMN TO HIP BEAM CONNECTION
SCALE: 1"=1'-0"



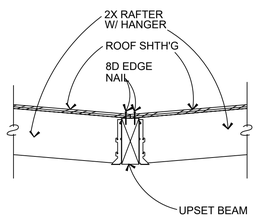
5 TYP. RIDGE CONNECTION
SCALE: 1"=1'-0"



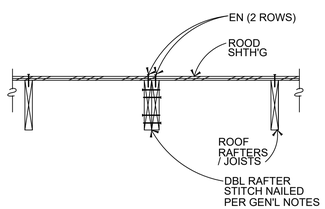
6 ROOF FRAMING @ INTERIOR WALL
SCALE: 1"=1'-0"



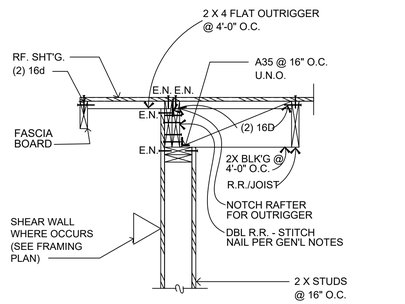
7 TYP. DET. @ NON BEARING WALLS
SCALE: 1"=1'-0"



8 ROOF RAFTERS @ BEAM
SCALE: 1"=1'-0"



9 ROOF DIAPHRAGM NAILING
SCALE: 1"=1'-0"



10 ROOF FRAMING @ RAKE WALL
SCALE: 1"=1'-0"

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Canada Office
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+1 909 939 2585 info@pixelarchltd.com
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REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: APRIL 25, 2019
Scale: 1/4"=1'-00"

DRAWING TITLE: ROOF FRAMING PLAN

Sheet : 1 OF
Page No. : S.005

No.	Revision/Issue	Date
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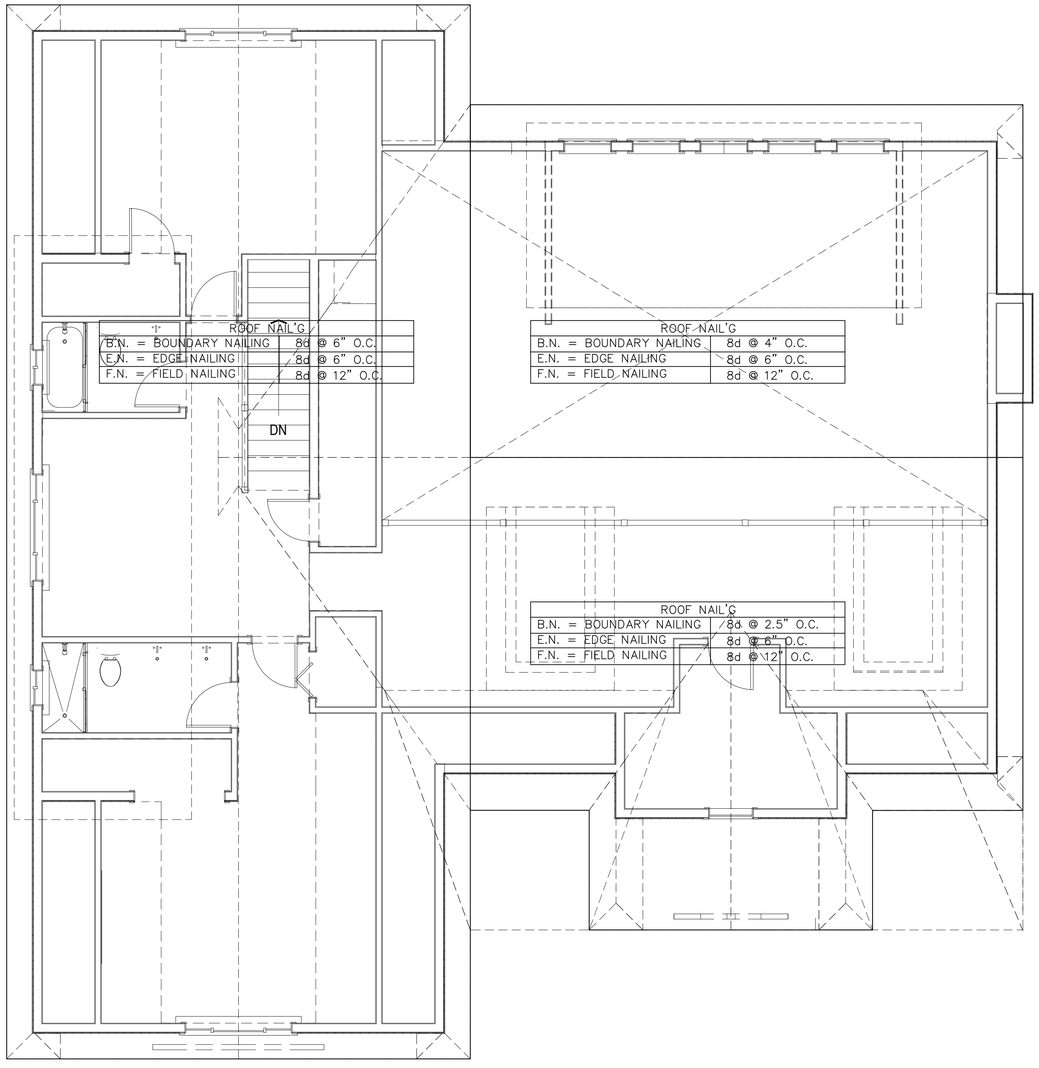
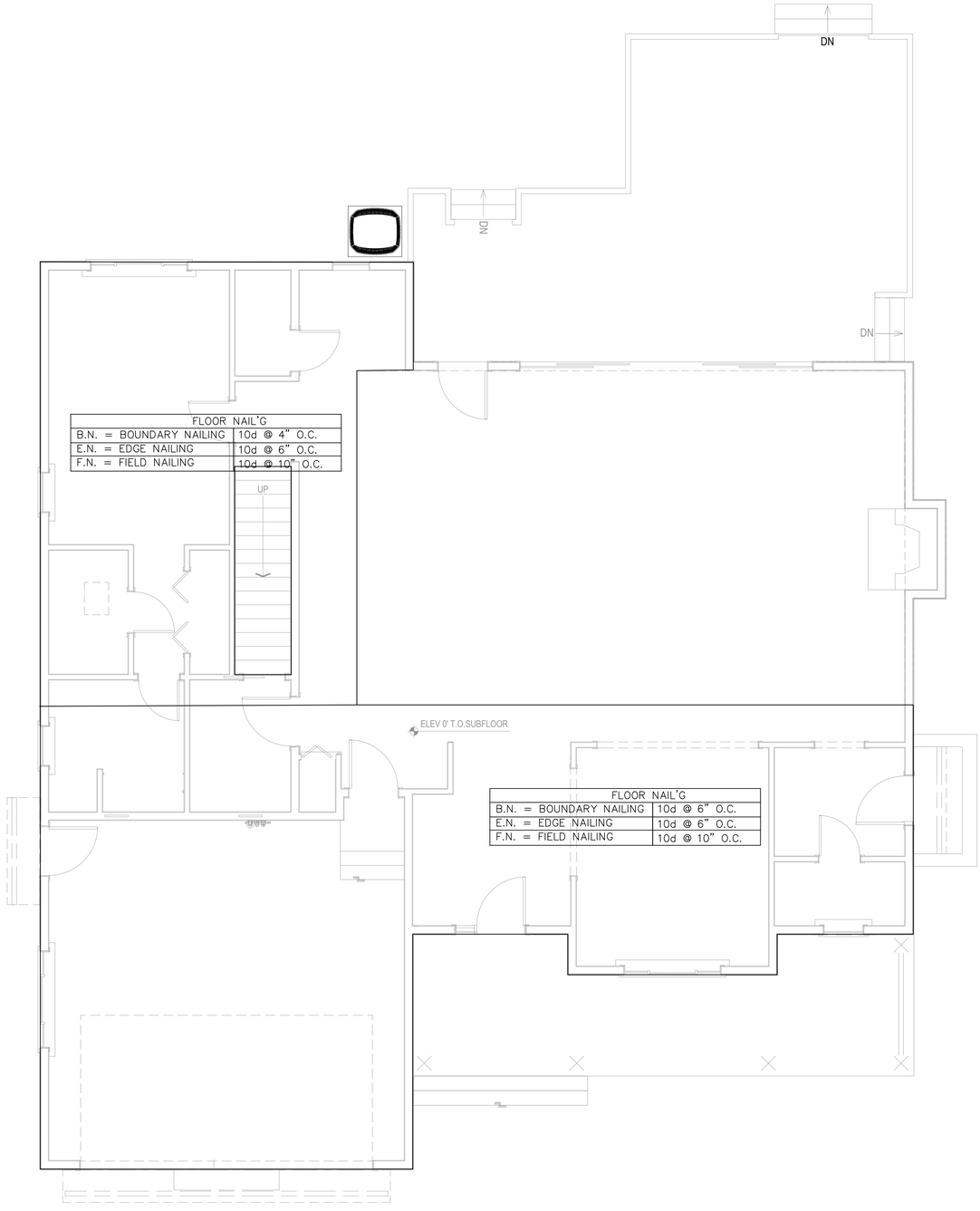


1 ROOF NAILING PLAN

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



2 1ST FLOOR NAILING PLAN

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

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Project Name and Address:

REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: APRIL 25, 2019

Scale: 1/4"=1'-00"

DRAWING TITLE: ROOF FRAMING PLAN

Sheet : 1 OF

Page No. : S.005

No.	Revision/Issue	Date
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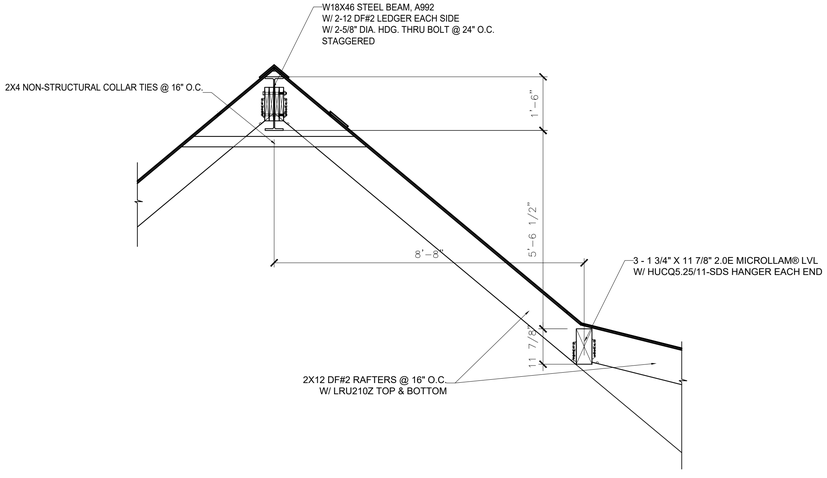
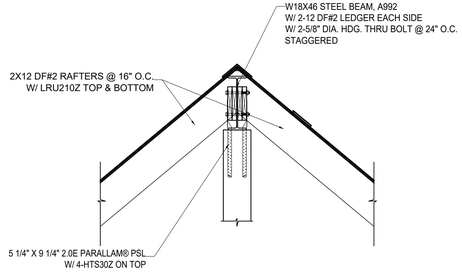


1 SECTION D

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



2 SECTION E

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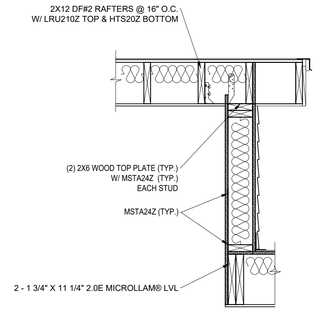
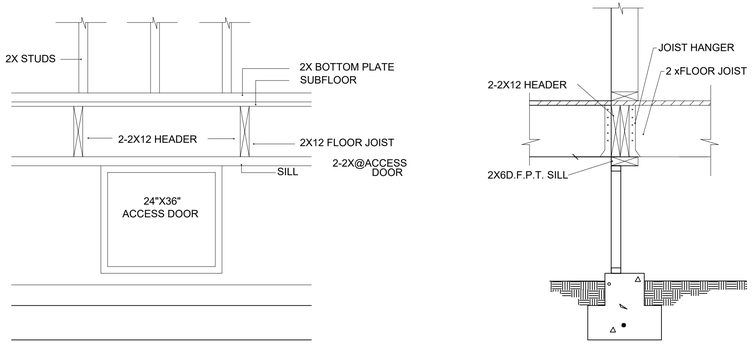


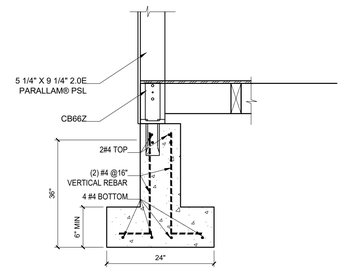
3 DORMER WALL SECTION

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



4 STEM WALL OPENING DETAIL

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



5 SECTION C-C

SCALE: 3/4"=1'-0"

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Canada Office
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REMODEL AND ADU ADDITION FOR

1651 PARKSIDE AVE. SAN JOSE, CA 95125

Date: APRIL 25, 2019

Scale: 1/4"=1'-00"

DRAWING TITLE: SECTIONS

Sheet : 1 OF

Page No. : S.006

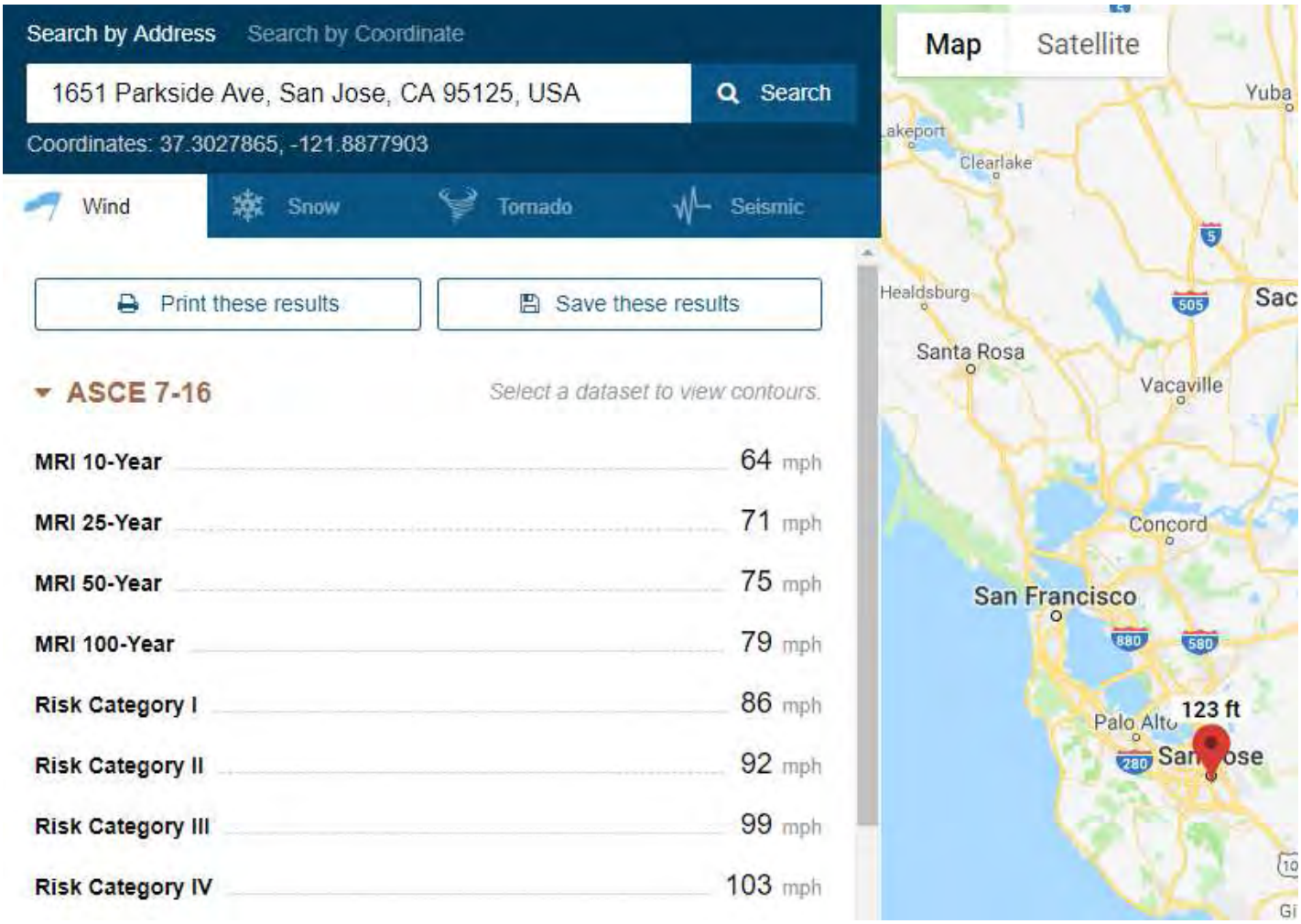
No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

DESIGN CODE:

1. 2016 CBC

DESIGN LOADS:

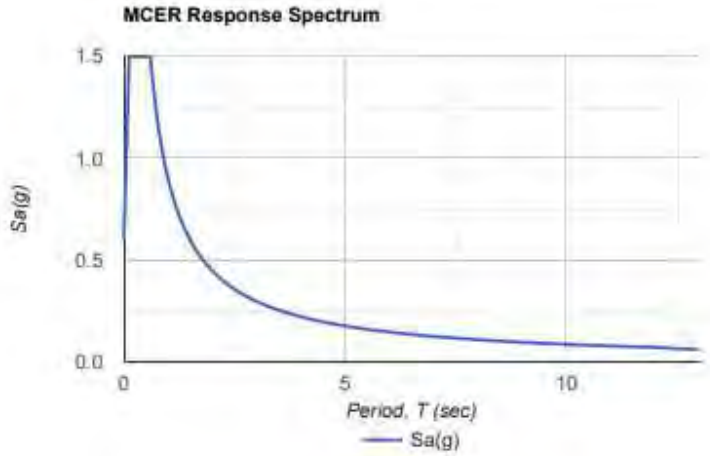
1. Floor live load: 40 psf
2. Floor dead load: 15 psf
3. Roof dead load: 12 psf
4. Roof live load: 20 psf
5. Wind load : 10 psf roof 24psf wall
6. Ceiling dead load: 5 psf
6. Ex Wall DD = 12psf
7. In. Wall DD = 8psf
8. Concrete 145pcf

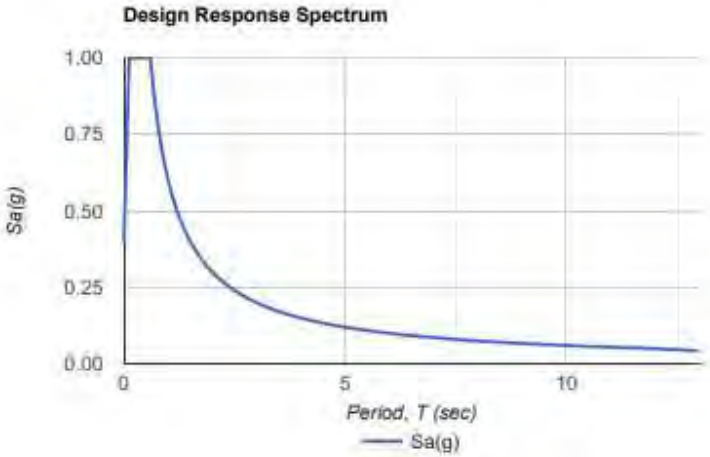


Date	5/9/2019, 6:40:53 PM
Design Code Reference Document	ASCE7-10
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.5	MCE_R ground motion. (for 0.2 second period)
S_1	0.6	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.5	Site-modified spectral acceleration value
S_{M1}	0.9	Site-modified spectral acceleration value
S_{DS}	1	Numeric seismic design value at 0.2 second SA
S_{D1}	0.6	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	1.5	Site amplification factor at 1.0 second
PGA	0.5	MCE_G peak ground acceleration
F_{PGA}	1	Site amplification factor at PGA
PGA_M	0.5	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	2.129	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.887	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.747	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.7	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.5	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	1.126	Mapped value of the risk coefficient at short periods
C_{R1}	1.068	Mapped value of the risk coefficient at a period of 1 s

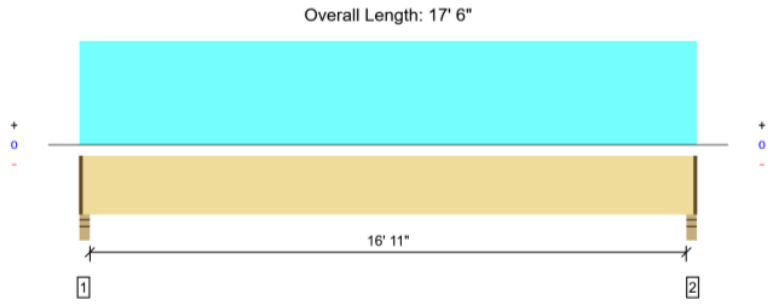




DETERMINATION OFF HOUSE FLOOR JOIST

FORTE® MEMBER REPORT *Level, Floor: Joist* **PASSED**

1 piece(s) 2 x 12 Douglas Fir-Larch No. 2 @16" OC



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

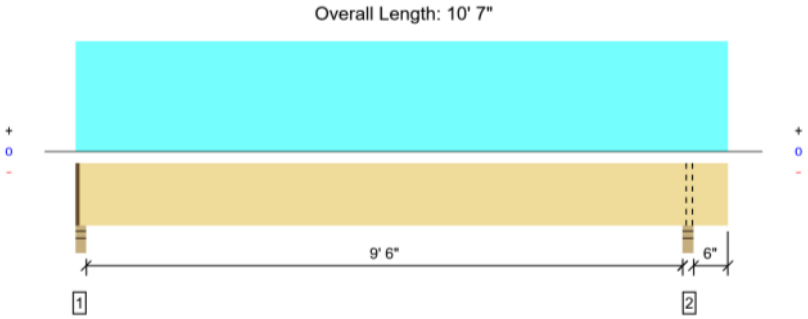
Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	634 @ 2 1/2"	2109 (2,25")	Passed (30%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	552 @ 1' 2 3/4"	2025	Passed (27%)	1,00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	2675 @ 8' 9"	2729	Passed (98%)	1,00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0,359 @ 8' 9"	0,427	Passed (L/571)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0,493 @ 8' 9"	0,854	Passed (L/415)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	N/A	N/A	--	--	--

System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

DETERMINATION OFF DECK FLOOR JOIST

FORTE® MEMBER REPORT *Level, Floor: Joist* **PASSED**

1 piece(s) 2 x 8 Douglas Fir-Larch No. 2 @16" OC



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	364 @ 2 1/2"	1907 (2,25")	Passed (19%)	--	1.0 D + 1.0 L (Alt Spans)
Shear (lbs)	306 @ 10 3/4"	1305	Passed (23%)	1,00	1.0 D + 1.0 L (Alt Spans)
Moment (Ft-lbs)	866 @ 5' 13/16"	1360	Passed (64%)	1,00	1.0 D + 1.0 L (Alt Spans)
Live Load Defl. (in)	0,141 @ 5' 7/8"	0,243	Passed (L/828)	--	1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0,193 @ 5' 7/8"	0,486	Passed (L/604)	--	1.0 D + 1.0 L (Alt Spans)
TJ-Pro™ Rating	N/A	N/A	--	--	--

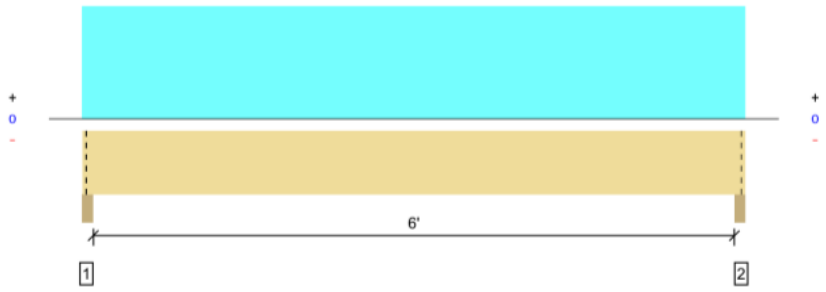
System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

DETERMINATION OFF HOUSE FLOOR BEAM

FORTE MEMBER REPORT *Level, Floor: Drop Beam* **PASSED**

2 piece(s) 2 x 12 Douglas Fir-Larch No. 2

Overall Length: 6' 7"



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	3188 @ 2"	6563 (3,50")	Passed (49%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1998 @ 1' 2 3/4"	4050	Passed (49%)	1,00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	4729 @ 3' 3 1/2"	4746	Passed (100%)	1,00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0,039 @ 3' 3 1/2"	0,208	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0,058 @ 3' 3 1/2"	0,313	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

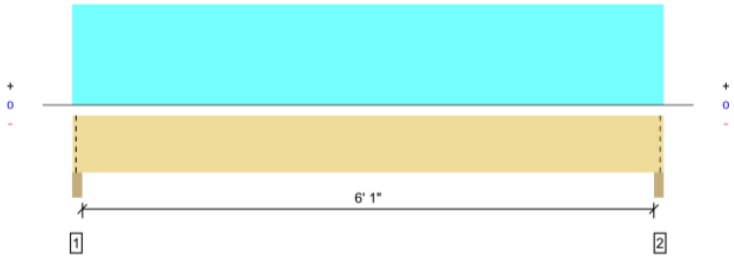
System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

DETERMINATION OFF DECK FLOOR BEAM

FORTE MEMBER REPORT *Level, Drop Beam porch* **PASSED**

1 piece(s) 4 x 8 Douglas Fir-Larch No. 2

Overall Length: 6' 8"



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1809 @ 2"	7656 (3,50")	Passed (24%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1323 @ 10 3/4"	3045	Passed (43%)	1,00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	2721 @ 3' 4"	2989	Passed (91%)	1,00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0,079 @ 3' 4"	0,211	Passed (L/957)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0,110 @ 3' 4"	0,317	Passed (L/688)	--	1.0 D + 1.0 L (All Spans)

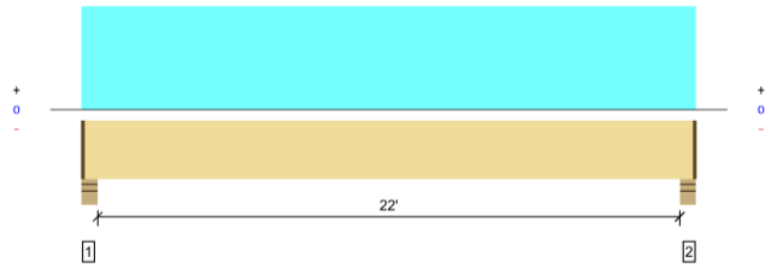
System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

DETERMINATION OFF FLOOR JOIST ABOVE GARAGE

FORTE MEMBER REPORT *Level, Floor: Joist* **PASSED**

1 piece(s) 2 x 12 Douglas Fir-Larch No. 1 @12" OC

Overall Length: 22' 11"



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	511 @ 4 1/2"	3984 (4,25")	Passed (13%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	453 @ 1' 4 3/4"	2025	Passed (22%)	1,00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	2764 @ 11' 5 1/2"	3032	Passed (91%)	1,00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0,539 @ 11' 5 1/2"	0,554	Passed (L/494)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0,808 @ 11' 5 1/2"	1,108	Passed (L/329)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	N/A	N/A	--	--	--

System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

DETERMINATION OFF FLOOR JOIST ON 2ND FLOOR

FORTE MEMBER REPORT *Level, Floor: Joist* **PASSED**

1 piece(s) 2 x 12 Douglas Fir-Larch No. 2 @16" OC

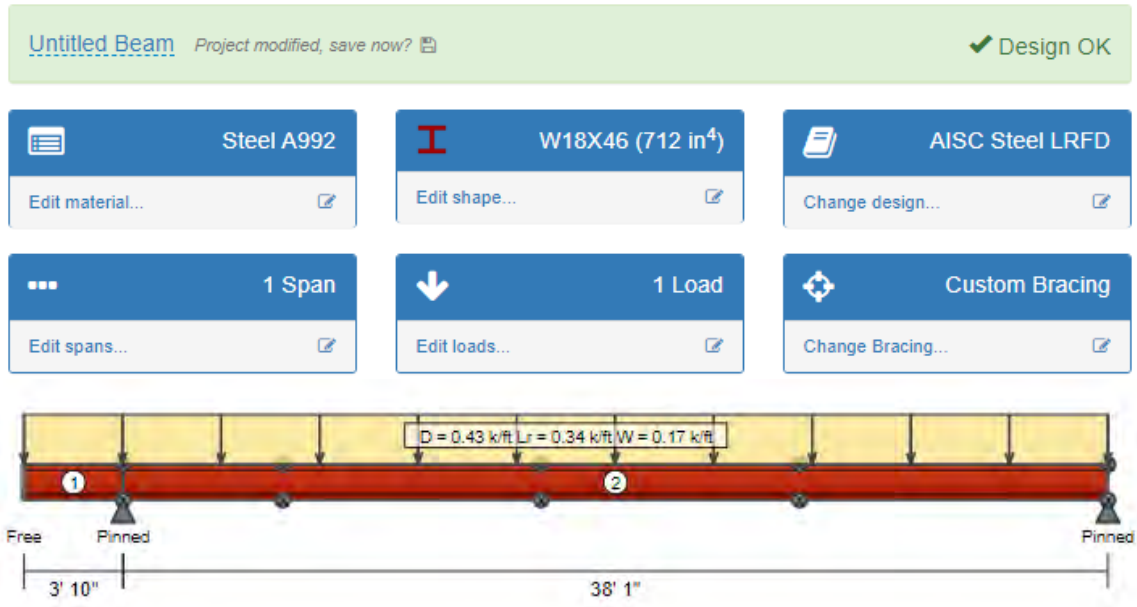
Overall Length: 14' 3"

All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	464 @ 2 1/2"	2109 (2,25")	Passed (22%)	--	1.0 D + 1.0 L (Alt Spans)
Shear (lbs)	397 @ 10' 8 1/4"	2025	Passed (20%)	1,00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	1296 @ 5' 10 13/16"	2729	Passed (47%)	1,00	1.0 D + 1.0 L (Alt Spans)
Live Load Defl. (in)	0,075 @ 5' 11 7/8"	0,289	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0,109 @ 5' 11 1/2"	0,578	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)
TJ-Pro™ Rating	N/A	N/A	--	--	--

System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

DETERMINATION OF RIDGE BEAM


Untitled Beam
Project modified, save now?
Design OK
Steel A992
Edit material...
W18X46 (712 in4)
Edit shape...
AISC Steel LRFD
Change design...
1 Span
Edit spans...
1 Load
Edit loads...
Custom Bracing
Change Bracing...
D = 0.43 k/ft Lr = 0.34 k/ft W = 0.17 k/ft
1
2
Free
Pinned
Pinned
3' 10"
38' 1"

✔ Design OK — AISC Steel LRFD - W18X46 A992

✔ Bending	0.85
Mu (Demand)	222.23 kip-ft
Φ Mn (Capacity)	260.75 kip-ft
Controlling Equation	F2.2.b: Lateral-Torsional Buckling
Location	22' 10"
Load Combo	1.2D + 1.6Lr + 0.8W
Lb	10' 0"

✔ Shear	0.12
Vu (Demand)	24.07 kips
ΦVn (Capacity)	195.48 kips
Controlling Equation	G2.1: Nominal Shear Strength
Location	3' 10"
Load Combo	1.2D + 1.6Lr + 0.8W

✔ Deflection	0.76
Based On	Service Cases
Max Service Case	Wind Limit
Max Dy	-1.06 in = L/480
Live Load Limit	L/360
Dead + Live Limit	L/360
Snow or Wind Limit	L/360
Total Load Limit	L/240

Design Info	
Shape Type	W18X46
Weight	46.00 lbs/ft
Self Weight	Included
Ix	712.00 in 4
Bracing	Custom Bracing
At Inflection Points	No

Reactions

Fy Reactions (lbs)

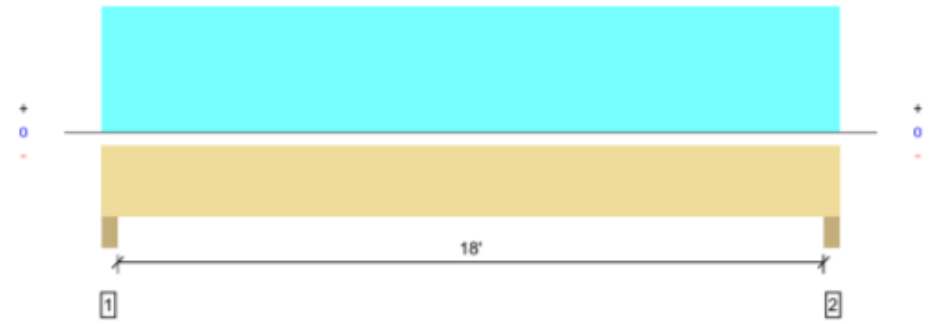
Support	D	L	Lr	S	W	E	H	R
1	0	0	0	0	0	0	0	0
2	10980	0	7843	0	0	3922	0	0
3	8972	0	6409	0	0	3204	0	0

DETERMINATION OF REAR DORMER BEAM

FORTE MEMBER REPORT *Level, Wall: Header* **PASSED**

3 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL

Overall Length: 18' 9"



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	4881 @ 3"	17719 (4,50")	Passed (28%)	--	1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	4171 @ 1' 4 3/8"	14807	Passed (28%)	1,25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	21678 @ 9' 4 1/2"	33465	Passed (65%)	1,25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0,303 @ 9' 4 1/2"	0,608	Passed (L/724)	--	1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0,927 @ 9' 4 1/2"	0,913	Passed (L/236)	--	1.0 D + 1.0 Lr (All Spans)

System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 12' 9" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 18' 9" o/c unless detailed otherwise.

DETERMINATION OF FRONT AND SIDE DORMER BEAM

FORTE MEMBER REPORT *Level, Copy of Rear Dormer Beam* **PASSED**

2 piece(s) 1 3/4" x 11 1/4" 2.0E Microllam® LVL

Overall Length: 12' 11"

All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

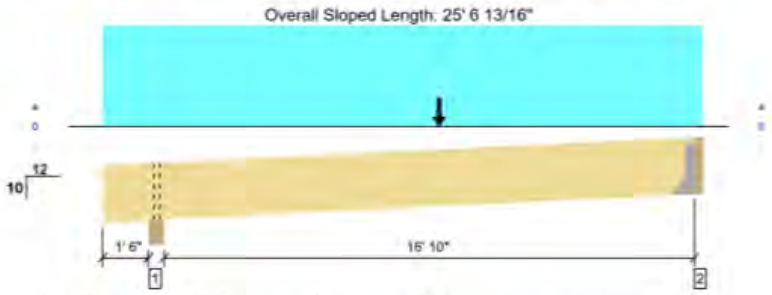
Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2368 @ 3"	3938 (1,50")	Passed (60%)	--	1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	2011 @ 1' 2 1/4"	9352	Passed (22%)	1,25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	7352 @ 6' 5 1/2"	20171	Passed (36%)	1,25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0,130 @ 6' 5 1/2"	0,414	Passed (L/999+)	--	1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0,267 @ 6' 5 1/2"	0,621	Passed (L/558)	--	1.0 D + 1.0 Lr (All Spans)

System : Roof
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch: 0/12

DETERMINATION OF REAR DORMER SIDE BEAMS

FORTE MEMBER REPORT *Level, Copy of Roof: Joist* **PASSED**

3 piece(s) 1 3/4" x 11 1/4" 2.0E Microllam® LVL @ 12" OC



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

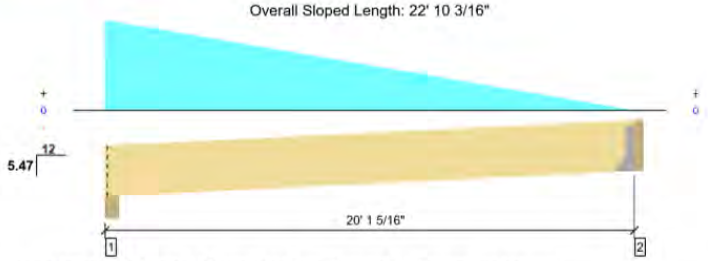
Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2450 @ 18' 9 1/2"	5906 (1.50")	Passed (41%)	--	1.0 D + 1.0 Lr (Alt Spans)
Shear (lbs)	2412 @ 18' 7/8"	14027	Passed (17%)	1.25	1.0 D + 1.0 Lr (Alt Spans)
Moment (Ft-lbs)	18174 @ 10' 8"	31467	Passed (58%)	1.25	1.0 D + 1.0 Lr (Alt Spans)
Live Load Defl. (in)	0.510 @ 10' 4 3/8"	0.740	Passed (L/522)	--	1.0 D + 1.0 Lr (Alt Spans)
Total Load Defl. (in)	1.096 @ 10' 4 3/8"	1.111	Passed (L/243)	--	1.0 D + 1.0 Lr (Alt Spans)

System : Roof
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch: 10/12

DETERMINATION OF VALLEY BEAM

FORTE MEMBER REPORT *Level, Roof: Hip/Valley Beam* **PASSED**

1 piece(s) 3 1/2" x 11 1/4" 2.0E Parallam® PSL



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

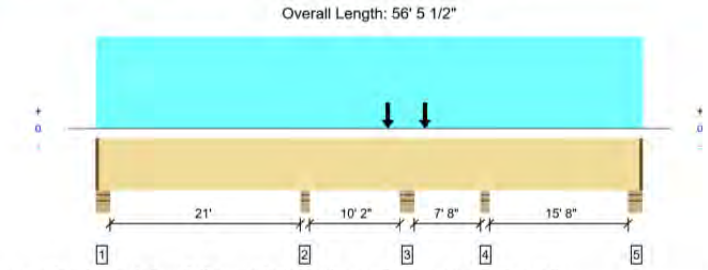
Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1426 @ 20' 1 5/16"	3281 (1.50")	Passed (43%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	2331 @ 1' 3 3/4"	8754	Passed (27%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	10483 @ 8' 9 5/16"	20666	Passed (51%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.584 @ 9' 10 1/8"	0.724	Passed (L/447)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	1.081 @ 9' 10 7/16"	1.087	Passed (L/241)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch: 5.47/12

DETERMINATION OF WOOD RIDGE BEAM

FORTE MEMBER REPORT *Level, Roof: Flush Beam* **PASSED**

3 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	10481 @ 21' 7 1/4"	11484 (3.50")	Passed (91%)	--	1.0 D + 1.0 Lr (Adj Spans)
Shear (lbs)	5295 @ 20' 5 5/8"	14807	Passed (36%)	1.25	1.0 D + 1.0 Lr (Adj Spans)
Moment (Ft-lbs)	-20039 @ 21' 7 1/4"	33465	Passed (60%)	1.25	1.0 D + 1.0 Lr (Adj Spans)
Live Load Defl. (in)	0.416 @ 9' 11 3/4"	0.709	Passed (L/614)	--	1.0 D + 1.0 Lr (Alt Spans)
Total Load Defl. (in)	0.848 @ 9' 11 3/16"	1.064	Passed (L/301)	--	1.0 D + 1.0 Lr (Alt Spans)

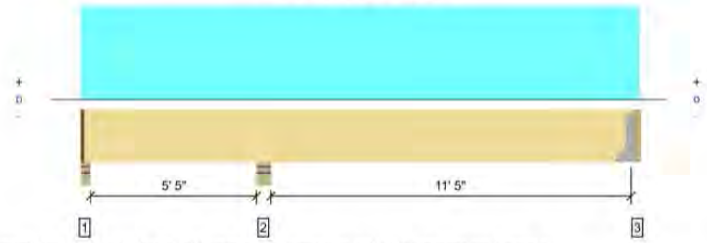
System : Roof
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch: 0/12

DETERMINATION OF FRONT ROOF WOOD RIDGE BEAM

FORTE MEMBER REPORT *Level, Roof: Flush Beam* **PASSED**

1 piece(s) 2 x 12 Douglas Fir-Larch No. 2

Overall Length: 17' 10 1/2"



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1104 @ 17' 7"	1406 (1,50")	Passed (79%)	--	1.0 D + 1.0 Lr (Alt Spans)
Shear (lbs)	1332 @ 7' 1 1/4"	2531	Passed (53%)	1,25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	-2947 @ 5' 11 1/4"	2966	Passed (99%)	1,25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0,110 @ 12' 3 3/16"	0,388	Passed (L/999+)	--	1.0 D + 1.0 Lr (Alt Spans)
Total Load Defl. (in)	0,192 @ 12' 3 7/16"	0,582	Passed (L/727)	--	1.0 D + 1.0 Lr (Alt Spans)

System : Roof
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch: 0/12

DETERMINATION OF WOOD POST

FORTE MEMBER REPORT *Level, Copy of Free Standing Post* **PASSED**

1 piece(s) 5 1/4" x 9 1/4" 2.0E Parallam® PSL

Post Height: 15'

Design Results	Actual	Allowed	Result	LDF	Load: Combination
Slenderness	34	50	Passed (69%)	--	--
Compression (lbs)	18823	24433	Passed (77%)	1,25	1.0 D + 1.0 Lr
Base Bearing (lbs)	18823	30352	Passed (62%)	--	1.0 D + 1.0 Lr
Bending/Compression	0,86	1	Passed (86%)	1,25	1.0 D + 1.0 Lr

- Axial load eccentricity for this design is 1/6 of applicable member side dimension.
- Applicable calculations are based on NDS.

Supports	Type	Material
Base	Plate	Douglas Fir-Larch

Max Unbraced Length	Comments
Full Member Length	No bracing assumed.

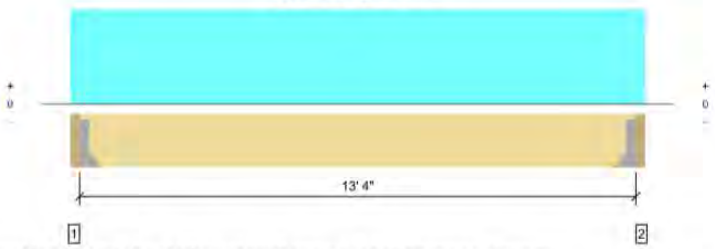
Member Type : Free Standing Post
Building Code : IBC 2015
Design Methodology : ASD

DETERMINATION OF 1ST FLOOR BEAMS

FORTE MEMBER REPORT *Level, Floor: Drop Beam* **PASSED**

3 piece(s) 2 x 12 Douglas Fir-Larch No. 2

Overall Length: 13' 11"



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

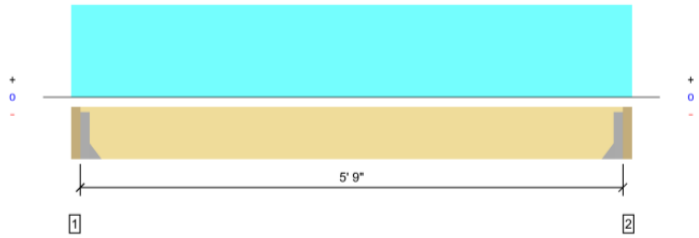
Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2039 @ 3 1/2"	4219 (1,50")	Passed (48%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1752 @ 1' 2 3/4"	6075	Passed (29%)	1,00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	6796 @ 6' 11 1/2"	7119	Passed (95%)	1,00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0,069 @ 6' 11 1/2"	0,444	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0,255 @ 6' 11 1/2"	0,667	Passed (L/629)	--	1.0 D + 1.0 L (All Spans)

System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

FORTE MEMBER REPORT *Level, Drop Beam 5-9 SP* **PASSED**

2 piece(s) 2 x 12 Douglas Fir-Larch No. 2

Overall Length: 6' 4"



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

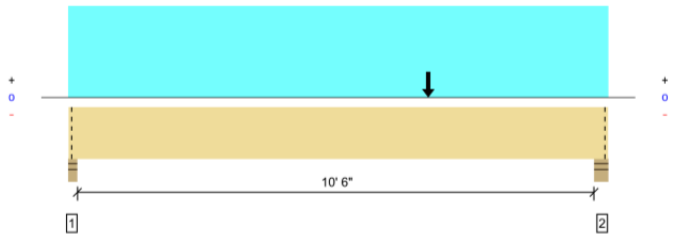
Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1198 @ 3 1/2"	2813 (1,50")	Passed (43%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	807 @ 1' 2 3/4"	4050	Passed (20%)	1,00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	1722 @ 3' 2"	4746	Passed (36%)	1,00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0,007 @ 3' 2"	0,192	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0,018 @ 3' 2"	0,287	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

FORTE MEMBER REPORT *Level, Floor: Drop Beam* **PASSED**

2 piece(s) 2 x 12 Douglas Fir-Larch No. 2

Overall Length: 11' 3"



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1131 @ 2"	6563 (3,50")	Passed (17%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1453 @ 9' 10 1/4"	4050	Passed (36%)	1,00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	4680 @ 7' 6"	4746	Passed (99%)	1,00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0,033 @ 6' 9/16"	0,358	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0,154 @ 5' 9 13/16"	0,538	Passed (L/839)	--	1.0 D + 1.0 L (All Spans)

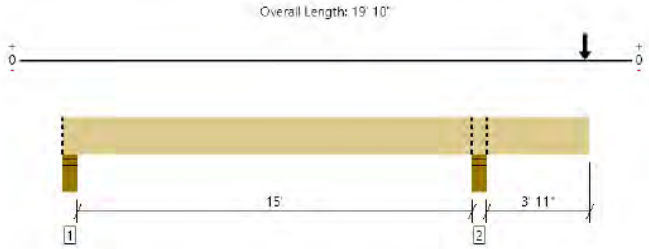
System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

FORTE WEB MEMBER REPORT **PASSED**

Level, 09/30 Floor: Drop Beam

4 piece(s) 1 3/4" x 11 1/4" 2.0E Microllam® LVL

Overall Length: 19' 10"



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

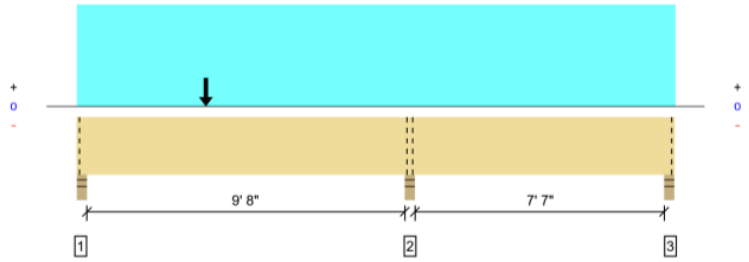
Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	4854 @ 15' 8 1/4"	24063 (5.50")	Passed (20%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	3697 @ 16' 10 1/4"	14963	Passed (25%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	-14638 @ 15' 8 1/4"	32274	Passed (45%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.143 @ 19' 10"	0.276	Passed (2L/698)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.415 @ 19' 10"	0.415	Passed (2L/240)	--	1.0 D + 1.0 L (All Spans)

System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

FORTE MEMBER REPORT *Level, Floor: Drop Beam* **PASSED**

3 piece(s) 2 x 12 Douglas Fir-Larch No. 2

Overall Length: 18' 1 1/2"



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	6645 @ 10' 1 1/4"	9844 (3,50")	Passed (68%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	3189 @ 9' 1/4"	6075	Passed (52%)	1,00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	7099 @ 3' 11"	7119	Passed (100%)	1,00	1.0 D + 1.0 L (Alt Spans)
Live Load Defl. (in)	0,072 @ 4' 9 1/4"	0,331	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0,118 @ 4' 8 1/4"	0,497	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)

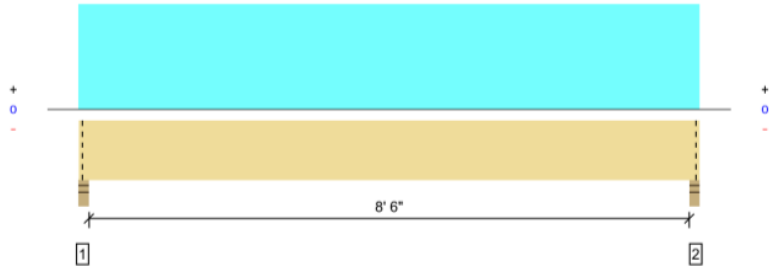
System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 8" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 9' 5" o/c unless detailed otherwise.
- Applicable calculations are based on NDS.

FORTE MEMBER REPORT *Level, Floor: Drop Beam* **PASSED**

3 piece(s) 2 x 12 Douglas Fir-Larch No. 2

Overall Length: 9' 1"



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2761 @ 2"	9844 (3,50")	Passed (28%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	2013 @ 1' 2 3/4"	6075	Passed (33%)	1,00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	5817 @ 4' 6 1/2"	7119	Passed (82%)	1,00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0,061 @ 4' 6 1/2"	0,292	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0,094 @ 4' 6 1/2"	0,438	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 9' 1" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 9' 1" o/c unless detailed otherwise.
- Applicable calculations are based on NDS.

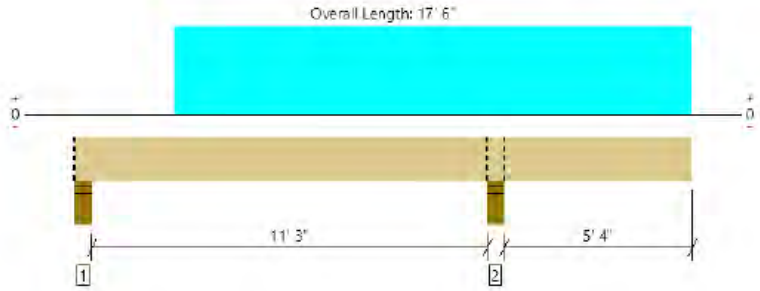
FORTE WEB

MEMBER REPORT

PASSED

Level, Floor: Drop Beam

2 piece(s) 1 3/4" x 11 1/4" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	3937 @ 11' 11 1/4"	12031 (5.50")	Passed (33%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1807 @ 10' 9 1/4"	7481	Passed (24%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	-4896 @ 11' 11 1/4"	16137	Passed (30%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.201 @ 17' 6"	0.371	Passed (2L/666)	--	1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0.234 @ 17' 6"	0.556	Passed (2L/570)	--	1.0 D + 1.0 L (Alt Spans)

System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

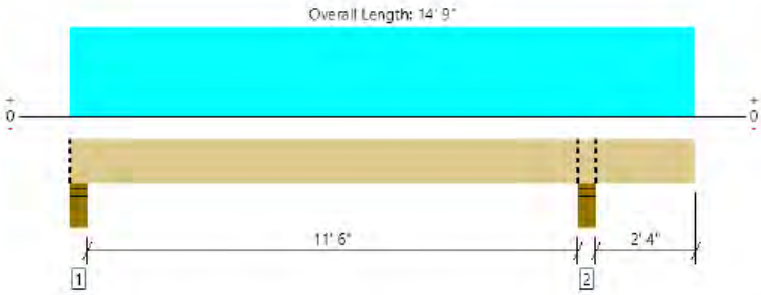
FORTE WEB

MEMBER REPORT

PASSED

Level, Copy of Floor: Drop Beam

1 piece(s) 4 x 12 Douglas Fir-Larch No. 2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2761 @ 12' 2 1/4"	12031 (5.50")	Passed (23%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1587 @ 11' 1/4"	4725	Passed (34%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	5351 @ 6' 1 15/16"	6091	Passed (88%)	1.00	1.0 D + 1.0 L (Alt Spans)
Live Load Defl. (in)	0.136 @ 6' 3 1/8"	0.395	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0.202 @ 6' 2 3/4"	0.593	Passed (L/703)	--	1.0 D + 1.0 L (Alt Spans)

System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

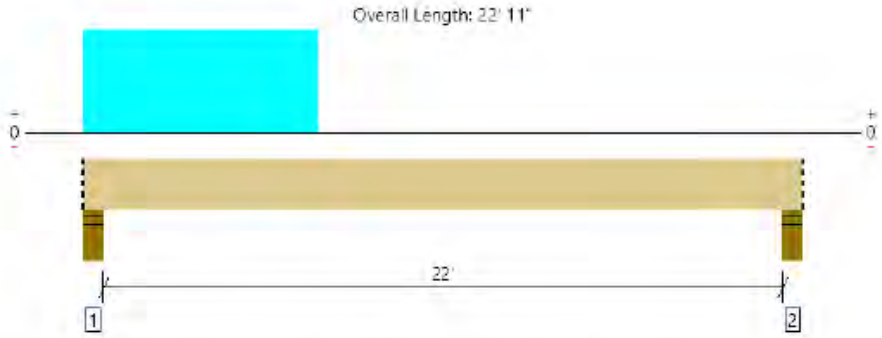
FORTE WEB

MEMBER REPORT

PASSED

Level, Floor: Drop Beam

3 piece(s) 1 3/4" x 11 1/4" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2004 @ 4"	18047 (5.50")	Passed (11%)	--	1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	1145 @ 1' 4 3/4"	10100	Passed (11%)	0.90	1.0 D (All Spans)
Moment (Ft-lbs)	4408 @ 6' 9 1/8"	21785	Passed (20%)	0.90	1.0 D (All Spans)
Live Load Defl. (in)	0.095 @ 10' 1 1/4"	0.742	Passed (L/999+)	--	1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.382 @ 10' 4 9/16"	1.112	Passed (L/698)	--	1.0 D + 1.0 Lr (All Spans)

System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

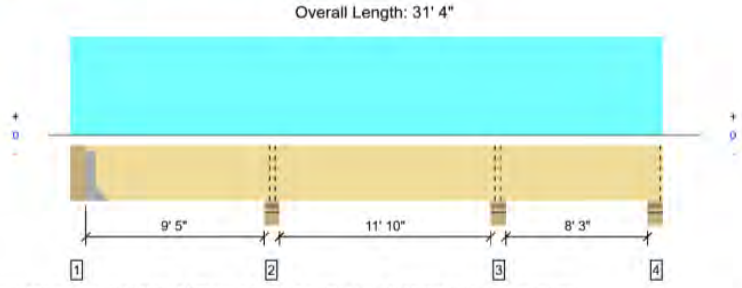
DETERMINATION OF PORCH BEAM

FORTE

MEMBER REPORT *Level, Roof: Drop Beam*

PASSED

2 piece(s) 2 x 10 Douglas Fir-Larch No. 2



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1033 @ 5 1/2"	2813 (1,50")	Passed (37%)	--	1.0 D + 1.0 Lr (Alt Spans)
Shear (lbs)	1485 @ 11' 1 1/4"	4163	Passed (36%)	1,25	1.0 D + 1.0 Lr (Adj Spans)
Moment (Ft-lbs)	-3555 @ 10' 1 1/4"	4412	Passed (81%)	1,25	1.0 D + 1.0 Lr (Adj Spans)
Live Load Defl. (in)	0,081 @ 16' 3 1/8"	0,410	Passed (L/999+)	--	1.0 D + 0.45 W + 0.75 L + 0.75 Lr (Alt Spans)
Total Load Defl. (in)	0,137 @ 16' 3 9/16"	0,615	Passed (L/999+)	--	1.0 D + 0.45 W + 0.75 L + 0.75 Lr (Alt Spans)

System : Roof
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch: 0/12

DETERMINATION OF FOOTING BELLOW COLUMN

COLUMN REACTION - 22,745

22745/1500=15.16 SF < 16 SF

We use footing 4x4x24"H.

DETERMINATION OF FOOTING BELLOW FLOOR 1ST

Reaction under post = 3188x2=6376

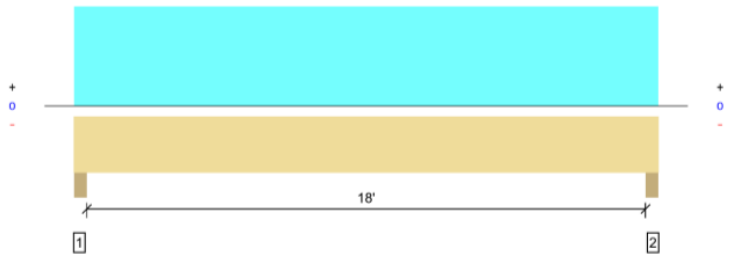
6376/1500=4.25 <6.25

We use footing 30x30x24"H.

FORTE MEMBER REPORT *Level, Wall: Header* **PASSED**

3 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL

Overall Length: 18' 9"



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

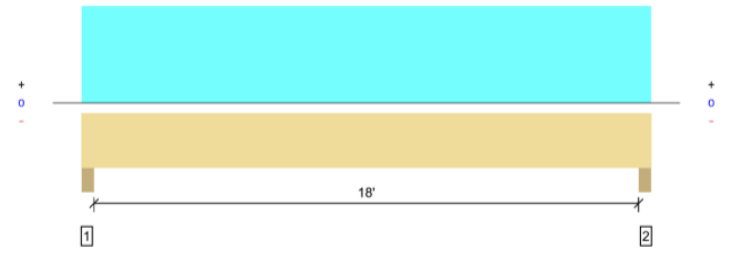
Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	4881 @ 3"	17719 (4,50")	Passed (28%)	--	1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	4171 @ 1' 4 3/8"	14807	Passed (28%)	1,25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	21678 @ 9' 4 1/2"	33465	Passed (65%)	1,25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0,303 @ 9' 4 1/2"	0,608	Passed (L/724)	--	1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0,927 @ 9' 4 1/2"	0,913	Passed (L/236)	--	1.0 D + 1.0 Lr (All Spans)

System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

FORTE MEMBER REPORT *Level, GARAGE Wall: Header* **PASSED**

1 piece(s) 6 x 12 Douglas Fir-Larch No. 2

Overall Length: 18' 9"



All locations are measured from the outside face of left support (or left cantilever end).All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1662 @ 3"	15469 (4,50")	Passed (11%)	--	1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	1064 @ 1' 4"	6452	Passed (16%)	0,90	1.0 D (All Spans)
Moment (Ft-lbs)	5507 @ 9' 4 1/2"	7956	Passed (69%)	0,90	1.0 D (All Spans)
Live Load Defl. (in)	0,124 @ 9' 4 1/2"	0,608	Passed (L/999+)	--	1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0,488 @ 9' 4 1/2"	0,913	Passed (L/449)	--	1.0 D + 1.0 Lr (All Spans)

System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

DETERMINATION OF FOOTING BELLOW WALL

Vertical wall

TYPE OF LOAD	TRIBUTARY WIDTH		LOAD		TOTAL
1ST DD=	5,50	x	20	=	110,00
1ST LL=	5,50	x	40	=	220,00
GR DD	5,50		15		82,50
GD LL	5,50		40		220,00
ROOF DD=	6,50	x	17	=	110,50

RL=	6,50	x	20	=	130,00
W=	6,50	x	10	=	65,00
W wall=	20	x	12	=	240,00
C wall=	2	x	126,2	=	252,30
FOOTING	1X2	X	145	=	290,00

TOTAL DD 1085,30 LBS

F=	1.2XDD+1.6XLL+0.5LR	**2071,36**	**LBS**
F=	1.2XDD+1.6XLR+1XLL	1950,36	LBS
F=	1.2XDD+1.6XLR+0.8XW	1562,36	LBS
F=	1.2XDD+1.6XW+1XL+0.5LR	1911,36	LBS

Fmax/1500

= **1,38 sf**

We use 1'-0" x 24"D footing

Horizontal wall

TYPE OF LOAD	TRIBUTARY WIDTH		LOAD		TOTAL
1ST DD=	8,50	x	20	=	170,00
1ST LL=	8,50	x	40	=	340,00
GR DD	10,50		15		157,50
GD LL	10,50		40		420,00
ROOF DD=	12,30	x	17	=	209,10
RL=	12,30	x	20	=	246,00
W=	12,30	x	10	=	123,00
W wall=	10	x	12	=	120,00
C wall=	2	x	126,2	=	252,30
FOOTING	1X2	X	145	=	290,00

TOTAL DD 1198,90 LBS

F=	1.2XDD+1.6XLL+0.5LR	**2777,68**	**LBS**
F=	1.2XDD+1.6XLR+1XLL	2592,28	LBS
F=	1.2XDD+1.6XLR+0.8XW	1930,68	LBS
F=	1.2XDD+1.6XW+1XL+0.5LR	2518,48	LBS

Fmax/1500

= **1,85 sf**

We use 1'-0" x 24"D footing

Lateral Analysis

Wind loads analysis

	Type of plywood Table 4.3A						Anchor capacity					
	6.0		4.0		3.0		HDU2 SDS2.5	HDU4 SDS2.5	HDU5 SDS2.5	HDU8 SDS2.5	HDU11 SDS2.5	HDU14 SDS2.5
15/32 8d 1-3/8	730		1065		1370		3075.0	4565.0	5645.0	6765.0	9535.0	10770
	365.0		532.5		685.0					6970.0	11175.0	14390
15/32 10d 1-1/2	870		1290		1680					7870.0		14445
	435		645		840							
19/32 10d 1-1/2	950		1430		1860							
	475		715		930							

Axe 1

Wall wind Load	24.0	PSF															
Roof wind load	16.7	PSF															
	b		h														
Wall area	20.8	x	11.0	/	2.0	=	114.4	SQ.FT.									
Roof area	20.8	x	16.0	/	1.0	=	332.8	SQ.FT.									
Shear wall length	23.0	ft															

Wind pressure per line foot =	(	114.4	x	24.0	+	332.8	x	16.7	)/	23.0	=	**361.0**	<	**520**			

Anchor bolt calculation																	
Wall height	11.0																
Roof height/2	8.0																
Uplift F=(	114.4	x	24.0	x	11.0	+	332.8	x	16.7	x(	11.0	+	8.0	))/	23.0	=	**5904**

we use HDU5

Axe 2

Wall wind Load	24.0	PSF															
Roof wind load	16.7	PSF															
	b		h														
Wall area	28.0	x	11.0	/	2.0	=	154.0	SQ.FT.									
Roof area	28.0	x	16.0	/	1.0	=	448.0	SQ.FT.									
Shear wall length	34.0	ft															

Wind pressure per line foot =	(	154.0	x	24.0	+	448.0	x	16.7	)/	34.0	=	**328.8**	<	**520**	TWO SIDES		

Anchor bolt calculation

Wall height	13.0																	
Roof height/2	0.0																	
Uplift F=(	154.0	x	24.0	x	13.0	+	448.0	x	16.7	x(	13.0	+	0.0	))/	34.0	=		**4274**

we use HDU4

Axe 3

Wall wind Load	24.0		PSF													
Roof wind load	16.7		PSF													
	b		h													
Wall area	7.4	x	11.0	/	2.0	=	40.7	SQ.FT.								
Roof area	7.4	x	16.0	/	1.0	=	118.4	SQ.FT.								
Shear wall length	5.0	ft														
Wind pressure per line foot =		(	40.7	x	24.0	+	118.4	x	16.7	)/	5.0	=	**590.8**	<	**1020**	TWO SIDES

Anchor bolt calculation

Wall height	13.0																	
Roof height/2	0.0																	
Uplift F=(	40.7	x	24.0	x	13.0	+	118.4	x	16.7	x(	13.0	+	0.0	))/	5.0	=		**7681**

we use HDU11

Axe A

Wall wind Load	24.0		PSF												
Roof wind load	16.7		PSF												
	b		h												
Wall area	11.6	x	26.0	/	2.0	=	150.8	SQ.FT.							
Roof area	11.6	x	0.0	/	1.0	=	0.0	SQ.FT.							
Shear wall length	40.0	ft													
Wind pressure per line foot =		(	150.8	x	24.0	+	0.0	x	16.7	)/	40.0	=	**90.5**	<	**520**

Anchor bolt calculation

Wall height	11.0																
Roof height/2	0.0																
Uplift F=(	150.8	x	24.0	x	11.0	+	0.0	x	16.7	x(	11.0	+	0.0	)/	40.0	=	**995**

we use HDU2 ANCHOR

Axe B

Wall wind Load	24.0	PSF															
Roof wind load	16.7	PSF															
	b		h														
Wall area	27.0	x	11.0	/	2.0	=	148.5	SQ.FT.									
Roof area	27.0	x	16.0	/	1.0	=	432.0	SQ.FT.									
Shear wall length	30.0	ft															

Wind pressure per line foot =		(	148.5	x	24.0	+	432.0	x	16.7	)/	30.0	=	**359.3**	<	**520**		

Anchor bolt calculation																	
Wall height	11.0																
Roof height/2	1.5																
Uplift F=(	148.5	x	24.0	x	11.0	+	432.0	x	16.7	x(	11.0	+	1.5	)/	30.0	=	**4313**

we use HDU4 ANCHOR

Axe C

Wall wind Load	24.0	PSF															
Roof wind load	16.7	PSF															
	b		h														
Wall area	15.0	x	11.0	/	2.0	=	82.5	SQ.FT.									
Roof area	15.0	x	16.0	/	1.0	=	240.0	SQ.FT.									
Shear wall length	25.0	ft															

Wind pressure per line foot =		(	82.5	x	24.0	+	240.0	x	16.7	)/	25.0	=	**239.5**	<	**520**		

Anchor bolt calculation																	
Wall height	11.0																
Roof height/2	1.5																
Uplift F=(	82.5	x	24.0	x	11.0	+	240.0	x	16.7	x(	11.0	+	1.5	)/	25.0	=	**2875**

we use HDU2 ANCHOR

SEISMIC ANALYSIS
FORCE DISTRIBUTION

ROOF				
	ROOF WEIGHT	20	PSF	
	PARTITION WEIGHT	5	PSF	
	W TOTAL	25	PSF	
2ND	FLOOR WEIGHT	15	PSF	
	PARTITION WEIGHT	5	PSF	
	W TOTAL	25	PSF	WT
	HEIGHT:	15	FT	

2016 CBC / 2015 IBC, SEC. 1613; ASCE 7-10, SEC. 12.8

V = 0.7 x (C s x W) x ρ	R:	6.5	I:	1	SDC:	D	
Cs = Sds/(R/I)	S1:	0.6	Sds:	1	Sd1:	0.6	
			Occ.		Site		
Cs= **0.1923**			Cat:	II	Class:	D	

Check Constraints

Cs min = 0.044 * I * S_{DS}

Cs max = S_{D1} / T (R / I)

Cs min = 0.055

For S_{D1}: S_{D1} = 2/3 * S_{M1}

ASCE 7-02 Eq. 9.4.1.2.5-2

S_{M1} = Fv * S_1 S_1 [a] = 0.6 S_{M1} = 0.90

ASCE 7-02 Eq. 9.4.1.2.4-2 Fv [a] = 1

S_{D1} = 0.600

For T: T = Cu * Ta

Ta = C_T * $hn^{3/4}$

Cu = 1.4 [a]

C_T = 0.02 [a]

hn = 11

Ta = 0.121

T = 0.169

Cs max = 0.6823

Cs FINAL = 0.1923

V = 0.7 x (Cs x W) x ρ = 0.175 V= 8.75

wt ht wt*ht % F	W TOTAL	H TOTAL	WT*HT	%	F	V TOTAL

	ROOF		25	16	400	0.62	5.38	5.38
	2ND FLOOR		25	10	250	0	3.37	8.75
					650			

HOLD DOWN CAPACITIES SHEAR WALL CAPACITIES

HDU2	HDU4	HDU5	HDU8	HDU11	HDU14	
2307	3425	4254	5904	7152	10835	lbs

SHEAR WALL DESIGN

TYPE 2	TYPE 3	TYPE 4	TYPE 5	
280	430	550	730	lbs/ft
560*	860*	1100	1460	

SHEAR WALL DESIGN

Shear Line Level

	LENGTH	TRIBUTARY AREA	F FLR	F ADD	F TOTAL	V/FT	WALL	T/C	DL/FLR	T NET WALL DL	HDU
Line A	FT	SQ.FT	LBS	LBS	LBS	PLF	TYPE	LBS			
1ST	40.0	648.0	9159.2		9159.2	229.0	1.0	3434.7	80.0	1834.7	HDU2
										995.3	
Line B											
1ST	30.0	1220.0	17244.2		17244.2	574.8	3*	8622.1	80.0	7422.1	HDU14
										4312.8	
Line C											
1ST	25.0	572.0	8085.0		8085.0	323.4	3.0	4851.0	80.0	3851.0	HDU5
										2875.2	
Line 1											
1ST	23.0	933.0	13187.6		13187.6	573.4	5.0	8600.6	80.0	7680.6	HDU11
										5904.3	
Line 2											
1ST	34.0	1230.0	17385.6		17385.6	511.3	4.0	7670.1	80.0	6310.1	HDU11
										4273.8	
Line 3											
1ST	5.0	251.0	3547.8		3547.8	709.6	5.0	10643.4	80.0	10443.4	HDU14
										7680.6	

DIAPHRAGM VERIFICATION

DIAPHRAGM DESIGN

TYPE 1	TYPE 2	TYPE 3
8d 6" NAILING	8d 4" NAILING	8d 2.5" NAILING
540	720	115 0

lbs/ft	

	LENGTH	TRIBUTARY AREA	F FLR	F ADD	F TOTAL	V/FT	NAILING SPACING				
Line 1	FT	SQ.FT	LBS	LBS	LBS	PLF	TYPE				
ROOF	7.00	597.00	4169.10		4169.10	595.59	2				
Line 2											
ROOF	4.20	597.00	4169.10		4169.10	992.64	3				
Line A,B											
ROOF	25.00	763.00	5328.34		5328.34	213.13	1				

FLOOR DIAFRAGM DESIGN

TYPE 1	TYPE 2	TYPE 3
10d 6" NAILING	10d 4" NAILING	10d 2.5" NAILING
540	770	1150

lbs/ft

SHEAR WALL DESIGN

Shear Line Level

	LENGTH	TRIBUTARY AREA	F FLR	F ADD	F TOTAL	V/FT	NAILING SPACING				
Line 1	FT	SQ.FT	LBS	LBS	LBS	PLF	TYPE				
2nd Floor	16.00	1282.00	8974.00		8974.00	560.88	2				
Line 2											
2nd Floor	53.00	1118.00	7826.00		7826.00	147.66	1				
Line A,B											
2nd Floor	55.00	2425.00	16975.00		16975.00	308.64	1				