Section Perspective

DATE	17 FEBRUARY 2020	PROJECT	DADU 206	ARCHITECTS, TYP.		SHEET	COVER
STATUS	PROPOSAL	ADDRESS	SEATTLE, WA	HELLO@TYP.WORKS			

A000

ABBREVIATIONS

@	AT
&	AND
CL	CENTERLINE
PL	PROPERTY LINE
ø	DIAMETER
°	DEGREES
'	FEET
"	INCHES
A.F.F.	ABOVE FINISHED FLOOR
ALUM.	ALUMINUM
ARCH.	ARCHITECTURAL
B.O.	BOTTOM OF
C.I.P.	CAST-IN-PLACE
CLG.	CEILING
CONC.	CONCRETE
CONT.	CONTINUOUS
CNTR	COUNTERTOP
C.S.	CENTER OF STUD
CT	COOKTOP
DIM.	DIMENSION
DN	DOWN
DW	DISHWASHER
E	EAST
EA.	EACH
ELEC.	ELECTRICAL
EQ	EQUAL
EX.	EXISTING
EXT.	EXTERIOR
F	FREEZER
F.F.	FINISHED FLOOR
FIN.	FINISH
F.O.	FACE OF
F.O.S.	FACE OF STUD
F.O.W.	FACE OF WALL
G.C.	GENERAL CONTRACTOR
G.L.	GRID LINE
H.	HORIZONTAL
I.D.	INSIDE DIAMETER
INT.	INTERIOR
MANUF.	MANUFACTURER
MAX.	MAXIMUM
MECH.	MECHANICAL
MIN.	MINIMUM
MTL.	METAL
M.W.	MINERAL WOOL INSULATION
N	NORTH
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
O	OVEN
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
PLUMB.	PLUMBING
R	REFRIGERATOR
R.C.P.	REFLECTED CEILING PLAN
REQ.	REQUIRED
REV.	REVISION
S	SOUTH
S.A.F.	SELF-ADHERED FLASHING
S.A.M.	SELF-ADHERED MEMBRANE
SIM.	SIMILAR
S.O.G.	SLAB ON GRADE
SF	SQUARE FEET
STRUCT.	STRUCTURAL
T&G	TONGUE AND GROOVE
TH.	THICK
T.O.	TOP OF
TR	TRASH
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
V.	VERTICAL
V.I.F.	VERIFY IN FIELD
W	WEST
W.C.	WATER CLOSET
W/D	WASHER AND DRYER
W.W.	ARCHITECTURAL WOODWORK
W.W.M.	WELDED WIRE MESH

SYMBOLS LEGEND

GRID LINE — 0

ROOM REFERENCE — ROOM NAME / 01

WALL REFERENCE — 1

DOOR REFERENCE — 011

WINDOW REFERENCE — A

SECTION — A101 / 1

ELEVATION — 1 / 1 A101 1 / 1

DETAIL REFERENCE — A101 / 1

DATUM REFERENCE — SECONDARY LEVEL 0'-0" / FLOOR LEVEL 0'-0"

GENERAL INFORMATION

CONTACT:
MARK KELLER
MARK@TYP.WORKS
206 319 6915

COST TO LICENSE PLAN: **FREE TO USE**
$145 / HOUR ADDITIONAL SERVICES

REFERENCES:
1. ESTIMATE BASED ON COMPARABLE SEATTLE CONSTRUCTION AND HISTORICAL AS-BUILT DATA. BASE COST DOEST NOT INCLUDE SITE WORK, OWNER-SELECTED APPLIANCES, OR FURNISHINGS.
2. JOSEPH LSTIBUREK, BUILDING SCIENCE CORPORATION, *BSI-001: THE PERFECT WALL.* LIFESPAN REFLECTS PRIMARY STRUCTURE AND ASSEMBLY COMPONENTS OF THE BUILDING.
3. CHRIS MAKEPEACE AND BARRIE DENNIS, THERMAL ENVELOPES VII, *PERSIST—PRESSURE EQUALIZED RAIN SCREEN INSULATED STRUCTURE TECHNIQUE—DESIGN APPROACH.*

APPLICABLE CODES:
2018 SEATTLE RESIDENTIAL CODE
2018 WASHINGTON STATE ENERGY CODE

SEISMIC DESIGN CATEGORY:	D_2
WIND SPEED:	85 MPH
GROUND SNOW LOAD:	25 PSF
FROST DEPTH:	12 IN

FLOOR AREAS

GROUND FLOOR	300 SF
LOFT	300 SF

SHEETS

PROJECT DESCRIPTION

300 sf footprint DADU with open upstairs living space.

$97,000 estimated construction cost.[1]

Highly performing envelope with low-VOC materials inside and out. Energy modeling and life-cycle analysis implemented to meet aggressive sustainability targets:

Zero Energy (ILFI),
Zero Carbon (ILFI),
Zero Energy Ready Home (DOE),
Indoor AirPlus (EPA), and others.

Exposed panelized Tight Post kit framing.
Slab-on-grade with optional basement wall and strip footing.

Materials, massing, proportions, and roof pitch composed to echo Seattle's diverse social and neighborhood fabric.

Design Option allows for the varied slopes, grade conditions, and height limitations of Seattle's back yards.

01 GENERAL REQUIREMENTS

01 4000 QUALITY REQUIREMENTS
Perform the activities and procedures before and during the execution of the Work necessary to guard against defects and deficiencies and to substantiate that the proposed construction will comply with requirements.
Comply with codes and regulations of authorities having jurisdiction and those indicated. Comply with the most recent version of referenced industry and regulatory standards.

01 6000 PRODUCT REQUIREMENTS
Follow all applicable manufacturer's instructions, details, and specifications; use required manufacturer's accessories, U.N.O.
Delegated Design: Where indicated, engage qualified professionals and provide complete systems, both outside and under the building, meeting project requirements and coordinated with other aspects of the work.
Comply with the CDPH Standard Method v1.2-2017 for all interior building products that have the potential to emit volatile organic compounds (VOCs).
No products to include chemicals listed on the Living Building Challenge 4.0 Red List.
Wood products shall be certified by FSC.
Protect dissimilar metals from galvanic corrosion by pressure tapes, coating, or isolators.

01 8316 EXTERIOR ENCLOSURE PERFORMANCE REQUIREMENTS
Weather-Tightness: Construct exterior assemblies so as to provide long-term resistance to water and weather. Construct exterior enclosure assemblies that are continuously airtight, continuously insulated, and free from leakage of moisture into or through the enclosure.
Air Leakage: Provide building enclosure testing to demonstrate air leakage not greater than 1.0 air changes per hour, at a pressure differential of not less than 50 pascals. Comply with ASTM E779.

03 CONCRETE

03 3000 CAST-IN-PLACE CONCRETE
Related Requirements: Comply with ACI 301. Comply with APA V345V.
Sheet Vapor Barrier under Slabs on Grade: Stego Wrap 15 mil Vapor Barrier. Comply with ASTM E1643.
Bentonite waterstops: per Section 07 0515 Foundation Penetration Waterproofing. Install in all construction joints in concrete part of exterior assemblies, below grade perimeter foundation walls, interior slabs on grade, and sleeves exposed to soil or weather.
Sleeves: Size sleeves as required for mechanical seals specified in Section 07 0515 Foundation Penetration Waterproofing.
Install termite protection flange per Section 31 3116 Termite Control.
- Galvanized Steel Pipe, ASTM A 53, Type E, Grade B, Schedule 40, with plain ends.
- Oversized sleeves: Galvanized steel sheet; 0.035" minimum thickness; round tube closed with welded longitudinal joint.

C.I.P. Anchors: Wedge type; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.
Slab Depressions: Depression depth to accommodate flush finished assembly per Section 09 3000 Tiling. Contractor to verify basis of design of 3 1/2" depth.
Slab Blockouts: Depression depth to accommodate exterior doors per Section 08 1000 Doors and Frames, coordinate with door head R.O. location. Contractor to verify basis of design of 1 1/2" depth.
Slab Joints:
- Expansion Joints: install joint-filler strips, use manufacturer's prefabricated strip-off edge to form 1/2" deep void. Seal per Section 07 9200 Joint Sealants.
  - Interior Joint Filler, where not otherwise indicated: Polyethylene foam strip, closed-cell, pre-expanded and waterproof. Available Product: Polyethylene Expansion Joint Filler by Harris Construction Specialities.
  - Exterior Joint Filler: Asphaltic Strip, asphalt-saturated cellulosic fiber.
- Contraction Joints: Saw-cut 1/8" wide. Do not fill at interior.

Formwork: HDO Plyform.
Ties:
- Exterior: Integrated waterseal washers. Flush finish.
- Interior: Unfilled tie holes with stainless steel form ties. Plastic cone tie hole, 1" diameter.

Finishes:
- Exterior slabs, steps, and ramps: broom finish to match accepted samples and mockups.
- Interior slabs, steps, and ramps: float finish and sealant per Section 07 1900 Water Repellents to match accepted samples and mockups.
- Walls: As-cast, surface finish 1.0. At interior, finish with sealant per Section 07 1900 Water Repellents to match accepted samples and mockups. Paint per Section 09 9100 Painting as requested by Owner.

05 METALS

05 5000 METAL FABRICATIONS
Provide steel framing, supports, and other items as needed to complete the Work.
Exterior Metalwork: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
Ferrous Metals, U.N.O.:
- Steel Plates, Tees, Angles, Channels, Bars, and other Shapes: ASTM A 36/A 36M.
- Steel Tubing: ASTM A 500/A 500M, cold-formed steel tubing.
- Steel Pipe: ASTM A 53/A 53M, Schedule 40.
- Stainless-Steel Bars and Shapes: ASTM A 276, Type 316.

Concealed Interior Metal Finishing: As Fabricated. Remove loose rust, slag, flux deposits, oil, and grease. Do not remove mill and fabricator markings without prior written instruction from Owner.
Exposed or Exterior Metal Finishing:
- Hot-dip Galvanized Steel: Comply with ASTM A123. Galvanize items after fabrication. Verify compatibility with indicated overcoats. Galvanized surfaces not to be passivated where field painted.
- Fasteners: Hot-dip galvanized steel, ASTM A153, or mechanically galvanized steel, ASTM B695 Class 55. Verify compatibility with indicated overcoats. Galvanized surfaces not to be passivated where field painted. Threaded fasteners only. Square drive, flat head. Lay out fasteners in a straight and regular pattern and set flush with surface of exposed finish metal, countersink as necessary.
- Finish per Section 09 9100 Painting.

06 WOODS, PLASTICS, AND COMPOSITES

06 1000 ROUGH CARPENTRY
Related Requirements: Comply with APA M400A "Advanced Framing Guide" where not otherwise noted.
Exposed Framing: Provide material hand-selected for uniformity of appearance. Mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency. Install flush without gap using a regularly spaced fastener layout centered on substrate where possible. Finish: Interior Wood for Semi-Transparent Whitewash per Section 09 9100 Painting, U.N.O.
Decay Resistant Wood: Accoya or Western Red Cedar. No preservative-treated wood products unless authorized by Owner in writing. Use for exterior members, as indicated on Drawings, and as required by codes in effect.
Dimensional Lumber:
- Comply with DOC PS 20 and grading rules of lumber grading agencies certified by ALSC's Board of Review. Dressed lumber, S4S, U.N.O.
- Where lumber grades are not otherwise indicated, provide the following:
  - Interior exposed members: douglas fir, select grade.
  - Interior concealed members: douglas fir, no. 2.
  - Exterior exposed members: Accoya, A1 grade.
  - Exterior concealed members: Accoya, rough or lumber grade.

Connectors and Accessories:
- Materials: Fabricate from the following materials, U.N.O.:
  - Structural-steel shapes, plates, and flat bars: ASTM A 36/A 36M.
  - Round steel bars: ASTM A 575, Grade M 1020.
  - Hot-rolled steel sheet: ASTM A 1011, Structural Steel, Type SS, Grade 33.
- Interior connectors: Clear Zinc Plated.
- Exterior, Decay Resistant Wood, and High Moisture connectors: Stainless Steel Type 316.
- Screws: Square drive, flat head. Provide in sufficient length to penetrate not less than 1-1/2" into wood substrate. Set flush with surface of exposed framing, countersink slightly as necessary to prevent raised fastener heads due to seasonal changes in wood thickness.
- Bolts: Steel bolts complying with ASTM A 307 Grade A with ASTM A 563 hex nuts and flat washers. Retighten as necessary to accommodate lumber shrinkage and structural settling during construction period.
- Sill plate: 5/8"Ø x 8" stainless steel Simpson Titen HD w/ 1/4" x 3" x 3" stainless steel washer.

Sill Sealer: EPDM gasket, black. Use beneath all sill plates. Hold in 1/2" from both edges of wood. Liquid air seal exterior sill plates per Section 07 9200 Joints Sealants. Install so that the joint is airtight, with no daylight visible.
Interior Wall Framing: Advanced framing. Coordinate door heads (where indicated) to match height of exterior door heads. Coordinate sill plates to match heights of exterior sill plate and girt.
Acoustic Assemblies: At framing indicated to receive acoustic insulation, install acoustic sealants specified in Section 07 9200 Joint Sealants to comply with ASTM C 919.
Protect framing from extended exposure to rain and moisture. Install sheathing products and moisture control layers as early as possible. Remove mold and mildew from installed rough carpentry.
Layout: Add additional framing members and adjust layout as necessary to maintain locations indicated on drawings for light fixtures, grills, ductwork, fire sprinklers and other elements. Locate furring, nailers, blocking, grounds, support curbs, and similar supports to comply with requirements for attaching other construction.
Tolerances: Construct rough carpentry within the tolerances required for follow-on materials, and to not less than the following tolerances: Wood subfloors, flat: maximum 3/16" ridge or depression in 32". Wood platforms, square: maximum 3/8" variation in 20' diagonal of a 12' x 16' right triangle. Wood platforms, level: maximum 3/16" variation in 6 feet, 1/4" in 10 feet, 3/8" in 20 feet, and 1/2" overall. Walls, plumb: 3/8" variation in full height of wall, 3/16" over any 32" vertical measurement. Walls, flat: 3/8" variation in full height of wall, 3/8" in any 8' horizontal measurement, 3/16" in any 4' horizontal measurement.

06 1633 WOOD BOARD SHEATHING
Related Requirements: Comply with APA E30 "Engineered Wood Construction Guide."
Sheathing: Comply with DOC PS 1. Exterior or Exposure 1 rating at exterior and wet space conditions.
Subflooring: Comply with DOC PS 1.
Exposed Panel Faces: Sanded rotary whole piece C veneer. Exposed ply at end condition. Sand flush joints smooth prior to applying finish. Remove manufacturer's stamps from finished surface prior to finish. Finish: Interior Wood for Semi-Transparent Whitewash per Section 09 9100 Painting, U.N.O.
Connectors: per Section 06 1000 Rough Carpentry.
Support at edges. Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through the completed assembly. Remove mold and mildew from installed sheathing.

06 2000 FINISH CARPENTRY
Related Requirements: Comply with Architectural Woodwork Institute's "Architectural Woodwork Quality Standards Illustrated." Comply with DOC PS 20 for softwood and ANSI A135.4 for hardwood.
Wood-Preservative-Treated Materials: Per Section 06 1000 Rough Carpentry.
Interior Finish Carpentry:
- Finish: Interior Wood for Semi-Transparent Whitewash per Section 09 9100 Painting.
- Frames and Jambs: Match to door veneer faces with solid stock, No. 1 common.
- Paneling and shelving: 3/4" plywood per Section 06 4000 Architectural Woodwork.
- Handrail: Clear railing stock to match framing per Section 06 1000 Rough Carpentry.
- Rail Cable: stainless steel, 3/16" diameter, with manuf. components for fastening and tensioning.

Connectors: Per Section 06 1000 Rough Carpentry.

06 4000 ARCHITECTURAL WOODWORK
Related Requirements: Comply with Architectural Woodwork Institute's "Architectural Woodwork Quality Standards Illustrated."
Sheet Wood: Columbia Forest Products Pure Bond.
- Where not otherwise noted: rotary whole piece C veneer, veneer core plywood.
- Cabinet Face & Gable: rotary whole piece C veneer, Combi-Core.
- Square panel edge with thick applied edgeband.
- Finish: Factory pre-finish UV-cured, satin, clear top coat as accepted through submittals.

Cabinets: Custom grade.
- Type A frameless; overlay doors and drawers with uniform 1/4" reveal, U.N.O.
- Adjustable shelves at every cabinet, U.N.O. Extent and type of drawer inserts and built-in dividers as indicated on drawings and as determined through submittals.
- Appliances: Apply face panel to match cabinet door faces. Comply with manufacturer dimensions and clearances to result in flush face panel that matches adjacent panels. Match cabinet kick with an applied kick of same material and appearance.
- Kick: 3" high by 3-1/2" deep, U.N.O.

Hardware and Accessories:
- Standards: BHMA A156 series. Quality: ANSI/BHMA Grade 1.
- Typical Pulls: Richelieu Hardware Contemporary Edge Pull 9898 5 1/32" chrome. Flush to panel edge.
- Surface Pulls: Richelieu Hardware Contemporary Metal Pull 2288 12-7/8" chrome where noted on drawings.
- Door Hinges: Blum Clip top concealed hinges. 110° of opening, with integrated self/soft close. Provide lesser opening range for doors opening towards adjacent walls or obstructions.
- Awning Hinges: Blum Aventos HK series. 75° of opening, with integrated self/soft close.
- Drawer Slides: Provide slides with load ratings suitable to application requirements:
  - Box Drawers: Concealed slides, full-extension, silent self-closing. Not less than 100 lbf rating. Basis of Design: Blum Tandem series.
  - Silencer/Bumpers: 3/8" diameter, clear plastic, self-adhesive.

Connectors: Per Section 06 1000 Rough Carpentry.
To the greatest extent possible, finish W.W. at fabrication shop. Defer only final touch up, cleaning, and polishing until after installation. Edge chamfer: 1/16". Scribe to adjacent surfaces.

07 THERMAL AND MOISTURE PROTECTION

07 0515 FOUNDATION PENETRATION WATERPROOFING
Modular Seals: Thunderline/Link-Seal; Model Types C (standard) or L (low-durometer for thin-walled or fragile piping) with EPDM seals. Where mechanical seals are required for unsleeved openings, apply foam pipe insulation around pipe or service for removal after concrete hardening. Do not cast seals directly into concrete.
Bentonite Waterstop: CETCO Waterstop-RX.
Non-Swelling Waterstop: SF302 Synko-Flex Waterstop by Henry Company. For use with less than 2" of concrete cover.
Foam Pipe Insulation: Flexible, closed-cell, elastomeric or polyolefin, preformed foam pipe insulation, sized to fit penetrating item. Prior to pouring concrete slabs on grade, apply foam pipe insulation around penetrating items. 1/2- to 1" thick.
Interior Joints: Install backer rod and sealant at interior sides of penetrations, using sealant for general exterior use specified in Section 07 9200 Joint Sealants. Where mechanical seals are present, delay installation of sealant until after re-tightening of mechanical seals.

07 1700 BENTONITE WATERPROOFING
Manufacturer's Warranty: Five years from the date of Substantial Completion.
Waterproofing: CETCO Voltex DS.
Waterproofing system shall be flashed and sealed to form a continuous barrier plane throughout the building exterior in conjunction with air / weather barrier per Section 07 2713 Modified Bituminous Sheet Air Barriers, including at penetrations, joints, doors, windows, and other exterior wall openings and transitions to other systems. Waterproofing system shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, substrate material changes, penetrations, and transitions at perimeter conditions without deterioration. At changes in substrate plane and joints in materials, follow manufacturer's recommendations to form a smooth transition from one plane to another in a shingle-lap fashion.

07 1900 WATER REPELLENTS
Verify compatibility with indicated overcoats.
Concrete Sealer: Concrete Sealers USA PS101 Siliconate Multi-Surface (Smooth) WB Penetrating Sealer.

07 2100 THERMAL INSULATION
Meet thickness and R-values indicated on drawings. Exterior insulation only.
Gap-filling Foam Insulation: Spray-applied, polyurethane foam/sealant, of types recommended by foam manufacturer for conditions. For shim space around windows and doors: minimally-expanding foam that will not distort window or door frames.
M.W.: Rockwool ComfortBoard 80. Fit tight to weather barrier and waterproofing.
Thermal Spacers: Cascadia Clip fiberglass thermal spacer.
Hat Channel: 7/8" with 1/8" shim for venting and drainage. Aluminum, stainless steel, or galvanized steel. If galvanized steel, provide separation from wood siding suitable to manufacturer to prevent galvanic corrosion. Verify continuous vertical ventilation of finished assembly. Available products: Clark Dietrich hat channel.

07 2713 MODIFIED BITUMINOUS SHEET AIR BARRIERS
Related Requirements: Comply with AAMA 711-13 Voluntary Specification for Self-Adhering Flashing Used for Installation of Exterior Wall Fenestration Products.
Manufacturer's Warranty: Five years from the date of Substantial Completion.
Air / Weather Barrier: GCP Ice and Water Shield. Use high-temperature variant under metal roofing or siding.
Air / Weather Barrier system shall be flashed and sealed to form a continuous barrier plane throughout the building exterior in conjunction with foundation waterproofing per Section 07 1700 Bentonite Waterproofing, including at penetrations, joints, doors, windows, and other exterior wall openings and transitions to other systems. Air/weather barrier system shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, substrate material changes, penetrations, and transitions at perimeter conditions without deterioration. At changes in substrate plane and joints in materials, follow manufacturer's recommendations to form a smooth transition from one plane to another in a shingle-lap fashion.

07 4113 METAL ROOF PANELS
Warranties: Manufacturer's written ten-year finish warranty.
Metal Roof Panels: Hot-dip Galvanized Steel: Comply with ASTM A123. 2.67 x 7/8" sine wave profile, 24 gauge minimum thickness.
Accessories: Provide components approved by roof panel manufacturer and as required for a complete metal roof panel assembly including trim, copings, fasciae, corner units, ridge closures, clips, curbs, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels U.N.O.
Fasteners: Hot-dip galvanized steel, ASTM A153, or mechanically galvanized steel, ASTM B695 Class 55. Gasketed threaded fasteners only. Lay out fasteners in a straight and regular pattern.

07 4623 WOOD SIDING
Warranties: Manufacturer's written 50-year finish warranty.
Wood Siding: Kiln-dried, planed, Accoya or Western Red Cedar, A1 grade. Reverse batten, orient vertically.
Wood Trim: Match wood siding.
Fasteners: Per Section 06 1000 Rough Carpentry.

07 6200 SHEET METAL FLASHING AND TRIM
Related Requirements: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual."
Flashing and Trim:
- Adjacent to aluminum and where not otherwise indicated: Aluminum Sheet, ASTM B 209, alloy per manufacturer for finish required with temper as required to suit forming operations and performance required; finish to match adjacent; not less than 0.040" thick. Gasketed aluminum fasteners. Lay out fasteners in a straight and regular pattern.
- Adjacent to galvanized steel: Galvanized steel for field prime and finish to match adjacent, not less than 0.031" (~22 gauge) nominal thickness. Gasketed galvanized steel fasteners. Lay out fasteners in a straight and regular pattern.
- Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
- Slip Sheet: Building paper, 3-lb/100 sq. ft. minimum, rosin sized.

07 6526 SELF-ADHERING SHEET FLASHING
S.A.F. for wall opening flashings and where indicated: Self-adhering, self-sealing flexible flashing, recommended by manufacturer for general-purpose wall flashing applications.
- Minimum thickness and composition: 25-mil, rubberized asphalt bonded to polyethylene film
- Available Products: GCP Vycor Plus.

Hi-Temp SAF, where required: Self-adhering, self-sealing flexible flashing.
- Rated resistant to in-service temperatures of not less than 240 deg F.
- Available Products: GCP Ultra.

Metal-Clad SAF, Foil-Faced SAF (FF SAF), where required: Self-adhering rubberized asphalt bonded to polyethylene film and aluminum sheet.
- Minimum 40 mils thickness.
- Available Products: GCP Perm-A-Barrier Aluminum Flashing.

Butyl SAF, where required, for direct contact with thermoset and thermoplastic membrane materials: Self-adhering butyl adhesive bonded to polyethylene film. Verify material compatibility between SAF and other materials in contact.
- Minimum 25 mils thickness.
- Available Products: Protecto Wrap Protecto SafSeal 45 Butyl.

Verify compatibility of adjacent products and substrates. Do not apply flexible flashings over unsupported gaps greater than 1/4" in width. Shingle with other drainage materials to shed water to the exterior of the assembly.

07 9200 JOINT SEALANTS
Related Requirements: Comply with ASTM C 920.
Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates. Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1.1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
Sealants for Window and Door Frame / Flashing: Dow Corning 758 Silicone Weather Barrier Sealant.
Sealants for Exterior Joints and Interior Moving Joints:
- For Sealing Porous Materials to Porous Materials, Non-Paintable: Dow Corning 790.
- For Sealing Non-Porous Materials to both Porous and Non-Porous Materials, Non-Paintable: Dow Corning 795.
- For Use Where Drawings Indicate Special Color Sealant: Sikaflex -2c NS EZ Mix.

Sealant for Interior Non-Moving Joints: Pecora AC-20 + Silicone Acrylic Latex.
Sanitary Sealants: Pecora 898NST Silicone.
Acoustical Joint Sealants: Sashco Big Stretch caulk.
Seal around all four sides of door frames, window frames, louver frames, and other devices installed within exterior enclosure assemblies. Do not block or seal weeps, openings, or gaps in assemblies intended to provide drainage. Seal exterior exposed joints where required to control water penetration. Seal all post bases. Seal kitchens, toilet rooms, other wet or damp areas, seal in and around hard surfaces, using sanitary sealant. Seal all joints, seams, and openings at acoustic assemblies. Install sealant backings as needed.

08 OPENINGS

08 1000 DOORS AND FRAMES
Related Requirements: Comply with AAMA/WDMA/CSA 101/I.S.2/A440.
Exterior Door Warranty: Manufacturer agrees to repair or replace components that fail in materials or workmanship within the following warranty periods, starting from the date of purchase:
- Wood Components: Five years.
- Fiberglass Cladding: Ten years.

Exterior Doors:
- Marvin Signature Ultimate wood-fiberglass doors.
- LowE double-glazed lite. Not divided. Square glazing stop. Comply with Section 08 8000 Glazing.
- Factory Finish: As approved through submittals.
- Flashing: Flexible sill self-adhering sheet flashing per Section 07 6526 Self-adhering Sheet Flashing. Apply to jambs and head as well.

Interior Solid-Core Doors:.
- TruStile TM series prehung. 1 3/4" thick, U.N.O. 1/8" radius reveal. Compression fit glass where noted.
- Species and Cut: rotary whole piece.
- Factory Finish: Whitewash and wood sealer to match accepted samples.
- Core: Glued wood stave or structural composite lumber.

Verify actual opening sizes and related dimensions by field measurement before fabrication. Coordinate opening dimensions with girt spacing per drawings. Verify interior door heights to match exterior heights. Factory machine doors for hardware that is not surface applied. Factory-cut and trim openings through doors. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing. Finish faces, all four edges, edges of cutouts, and mortises. Include finish stains and fillers on bottom edges, edges of cutouts, and mortises.
Maximum Air Leakage for exterior doors: Not greater than 0.5 cfm per square foot. Provide a complete system of membrane materials, joint fillers, flashings and accessory products that, together, control air and water leakage. Use gap-filling foam insulation for filling shim spaces per Section 07 2100 Thermal Insulation.

08 5000 WINDOWS
Related Requirements: Comply with AAMA/WDMA/CSA 101/I.S.2/A440.
Warranty: Manufacturer agrees to repair or replace components that fail in materials or workmanship within the following warranty periods, starting from the date of purchase:
- Wood Components: Five years.
- Fiberglass Cladding: Ten years.

Windows:
- Marvin Signature Ultimate wood-fiberglass windows. Include screen.
- LowE double-glazed lite. Not divided. Square glazing stop. Comply with Section 08 8000 Glazing.
- Factory Finish: As approved through submittals.
- Flashing: Flexible sill self-adhering sheet flashing per Section 07 6526 Self-adhering Sheet Flashing. Apply to jambs and head as well.

Verify actual opening sizes and related dimensions by field measurement before fabrication. Coordinate opening dimensions with girt spacing per drawings.
Maximum Air Leakage: Not greater than 0.30 cfm per square foot. Provide a complete system of membrane materials, joint fillers, flashings and accessory products that, together, control air and water leakage. Use gap-filling foam insulation for filling shim spaces per Section 07 2100 Thermal Insulation.

08 7100 DOOR HARDWARE
Related Requirements: Comply with ANSI/BHMA A156 Grade 1 and subsections applicable to particular products specified.
Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within five years from the date of Substantial Completion.
Hardware:
- Finishes: Stainless steel, No. 6 dull satin finish.
- Hinges: Full-mortise type, non-removable hinges for exterior doors.
- Interior Swing Doors: Emtek Assa Abloy Kiel lever handle, disk rosette, and privacy pin where required.
- Interior Barn Doors: Pemko DSG-FT-05 stainless steel flat track system, Sugatsune DSI-4251 pull.
- Exterior Doors: Marvin Northfield handle with deadbolt. Concealed single-lever multi-point locking hardware.
- Keying: Owner's requirements, including Master and Construction keying. Provide cylinders for locking door hardware specified in other sections, including but not limited to curtain wall doors.
- Stops: Provide wall stops or floor stops for doors without closers.
- Means of Egress Doors: Latches do not require more than 15 lbf to release the latch. Locks do not require the use of a key, tool, or special knowledge for operation.

08 8000 GLAZING
Related Requirements: Comply with IGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial & Residential Use." Ensure capability to withstand thermal movements, structural movements, and seismic loads and displacements without failure or glass breakage.
Warranty:
- Coated Glass Special Warranty: 10 years from the date of Substantial Completion.
- Laminated Glass Special Warranty: 5 years from the date of Substantial Completion.
- Insulating Glass Special Warranty: 10 years from the date of Substantial Completion.

08 OPENINGS CONT'D

Glass: Where glass thickness is indicated, it is a minimum.
- Safety Glazing: Provide safety glazing where indicated on drawings, and in addition, where required by applicable codes. Comply with 16 CFR 1201, Category II.
- Annealed Float Glass: Comply with ASTM C 1036, Type I, Quality-Q3, Class 1 (clear) U.N.O.
- Heat-Treated Float Glass: Comply with ASTM C 1048; Type I; Quality-Q3; Class 1 (clear); Condition A (uncoated) U.N.O. Kind HS (heat-strengthened) and Kind FT (fully tempered) as indicated and as required to meet performance requirements.
- Laminated Glass: Comply with ASTM C 1172. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation. Clear interlayer color, U.N.O.
- Insulating-Glass Units: Comply with ASTM E 2190. Argon-filled, dual seal. Black spacer with butted corners (no radiused corners). Size and install insulated glazing units so spacers are fully concealed within glazing pocket.

Glazing Sealants: Compatible with one another and with other materials they contact as demonstrated by sealant manufacturer based on testing and field experience. Where not otherwise required: neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Use NT.
Glazing Tapes: Preformed, butyl-based, 100% solids. Comply with ASTM C 1281 and AAMA 800.

08 9000 LOUVERS AND VENTS
Related Requirements: Comply with air-performance, water-penetration, and wind-driven rain ratings indicated, as demonstrated by testing according to AMCA 500-L.
Louvers: Aluminum, ASTM B 221, Alloy 6063-T5 or T-52 for extrusions; ASTM B 209, Alloy 3003 or 5005 for sheet. Color anodic finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm. Color as accepted through submittals.

09 FINISHES

09 3000 TILING
Related Requirements: Comply with standards in ANSI's "Specifications for the Installation of Ceramic Tile."
Porcelain Tile:
- Large format rectified edge tile, 24 x 48". Thinset with 1/16" grout joint. Layout as described in drawings. White glazed finish as approved by Owner. Basis of design: Emser Style Pure White Polished.
- Floors: thickness per manufacturer's recommendation; minimum 3/8". Dynamic Coefficient of Friction not less than 0.42 measured according to AcuTest method. Integrate with drain per Section 22 0000 Plumbing. Minimum 1/4" per foot slope.
- Ceilings: thickness per manufacturer's recommendation. Fasten sloped ceiling assembly to B.O. joists.

Mechanical Lippage Tuning System: As required to achieve minimum lippage.
Adhesive: Tile manufacturer's standard product for adhering that is compatible with substrate.
Sheet Membrane Waterproofing: Comply with ANSI A118.10. Provide in all shower assemblies. Schluter Kerdi system with Schluter Ditra uncoupling layer.
Epoxy Grout: Laticrete Spectralock Pro Premium grout. Comply with ANSI A118.3.
Extend work into recesses and under or behind equipment and fixtures to form complete covering without interruptions U.N.O. Terminate neatly at obstructions, edges, and corners without disrupting pattern or joint alignments. Finish edges. Do not cove corners.
Testing: Prior to setting tile, wait 24 hours to allow for final set of the mortar before testing to ensure waterproof performance of the assembly at seams and connections.

09 8116 ACOUSTIC BLANKET INSULATION
Related Requirements: Comply with ASTM E 84: flame-spread index of 25 or less; smoked-developed index of 450 or less.
Acoustic Batt Insulation: Rockwool AFB Evo mineral fiber batt insulation. Thickness to fill cavity.
Install acoustic batt insulation where indicated, placed between framing members using widths to produce a friction fit between edges of insulation and adjoining framing members. If more than one length is required, provide lengths that will produce a snug fit between ends.

09 9100 PAINTING
Colors: As selected by Owner from manufacturer's full range.
Primers: Use primers recommended by finish coating manufacturer for substrates and follow-on coatings indicated.
Finish Schedule:
- Interior Wood for Semi-Transparent Whitewash Finish: as accepted through submittals; Benjamin Moore Regal Select, pearl.
- Ferrous Metal Galvanized: if galvanized finish is shiny, brush-off abrasive blasting (SSPC-SP 7); factory prime or 1 coat Benjamin Moore Ultra Spec HP Acrylic Metal Primer HP04; finish with 2 coats Benjamin Moore Ultra Spec HP D.T.M. Acrylic Gloss HP28.
- Ferrous Metal: factory prime or 1 coat Benjamin Moore Ultra Spec HP Acrylic Metal Primer HP04; finish with 2 coats Benjamin Moore Ultra Spec HP D.T.M. Acrylic Gloss HP28.
- Non-Ferrous Metal: clean with an oil & grease emulsifier to remove contaminants; factory prime or 1 coat Benjamin Moore Ultra Spec HP Acrylic Metal Primer HP04; finish with 2 coats Benjamin Moore Ultra Spec HP D.T.M. Acrylic Gloss HP28.
- Concrete for Opaque Paint Finish: as accepted by Owner.

Substrates to receive transparent finishes: remove grade stamps and pencil marks by sanding lightly.
Remove loose wood fibers by brushing. Remove mildew by scrubbing with a commercial wash formulated for mildew removal and as recommended by stain manufacturer. Remove incompatible primers and re-prime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
Finish all surfaces fully or partially visible in the final construction, including surfaces factory-finished. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only. Paint back sides of access panels and removable or hinged covers to match exposed surfaces. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces. Do not paint the following U.N.O.: glass, stainless steel, architectural concrete, exposed conduit and junction boxes, exposed ducting, devices or labels not permitted to be painted by code or manufacturer, and other surfaces noted not to be finished or to receive field finishes.
Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Paint: 5%, but not less than 1 gal. of each material, color, and sheen applied.

10 SPECIALTIES

10 2800 TOILET, BATH, AND LAUNDRY ACCESSORIES
Warranty: For Tub and Shower Doors and Enclosures: Two years from the date of Substantial Completion.
Shower Enclosures and Accessories: Frameless glass panels with mounting and operating hardware of types and sizes required to support imposed loads.
- Handle: Richelieu 87D2R2512316170. Stainless Steel, no. 6 dull satin finish.
- Swinging Doors: Hinged for degrees of swing as accepted through submittals. Self-centering when doors are within 15° of closed position. Soft bulb seal or wipes; affixed to door to direct water back into enclosure and provide a tight water seal. Pivot hinges.
- Glazing: Safety heat-treated float glass per Section 08 8000 Glazing. Not less than 3/8" thick, or greater where required for panel size and application.
- Fasteners: Manufacturer's standard stainless-steel fasteners.

Lighted Mirror: Duravit L-Cube Mirror Cabinet, recessed 47-1/4" x 27-1/4" or approved equal.
Towel Bars: Assa Abloy Rockwood 47-PB, stainless steel finish, mounting type 8 concealed, 48" center-to-center (CTC). Mount CL A.F.F. U.N.O.: 5'-0".
Grab Bars: Match Towel Bars. Quantity and location as confirmed by Owner.
Hooks: Richelieu Hardware Contemporary Metal Hook 1223. Verify count and location with Owner. Mount CL A.F.F. U.N.O.: 5'-0".
Shower Shelves: Kohler Choreograph 21" K-97623-SHP and 14" K-97622-SHP, bright polished silver.
Toilet Paper Holders: Kohler Loure vertical toilet tissue holder, K-11583 chrome. Mount CL A.F.F. U.N.O.: 2'-0".
Install with concealed fasteners U.N.O. Install components to drain and return water to tub or shower. Install doors to produce smooth operation and tight fit at the contact points.

11 EQUIPMENT

11 3013 RESIDENTIAL APPLIANCES
Test each item of residential appliances to verify proper operation. Make necessary adjustments.
Built-in Appliances: Securely anchor to supporting cabinetry or countertops with concealed fasteners. Verify that clearances are adequate for proper functioning and that rough openings are completely concealed. Where noted as integrated, apply face panel per Section 06 4000 Architectural Woodwork.
Freestanding Appliances: Place in final locations after finishes have been completed in each area. Verify that clearances are adequate to properly operate equipment. Provide seismic restraint for otherwise freestanding equipment connected to fuel, water, or waste utilities.
Kitchen Appliances (basis of design):
- Integrated Refrigerator / Freezer: 36" Fisher & Paykel Series 7, RS36W80RJ1 N.
- Built-in Wall Oven: 30" Fisher & Paykel Series 9, OB30SDPTB1.
- Induction Electric Cooktop: 30" Fisher & Paykel Series 9, CI304DTB2 N.
- Integrated Dishwasher: 24" Fisher & Paykel Series 9, DD24DI9 N.

Laundry Appliances (basis of design):
- Washer: Miele WWF060 WCS W1 front-loading washing machine.
- Dryer: Miele TWF160 WP T1 ventless heat-pump tumble dryer.

12 FURNISHINGS

12 2413 ROLLER WINDOW SHADES
Related Requirements: Comply with WCMA A 100.1.
Roller Shades (basis of design): Kvadrat System 2 roller blinds.
- Shade Band: As selected by Owner from manufacturer's full range.
- Shade Operation: Manual; with continuous-loop bead-chain, clutch, and cord tensioner and bracket lift operator.

Verify field dimensions before fabrication.
Shadeband: Fabricate shadebands without battens or seams to extent possible. Where required, provide battens and seams at uniform spacings along shadeband length. Configure battens and seams to ensure shadeband tracking and alignment through its full range of movement without distortion of the material.
Install with clearances that prevent interference with adjacent blinds, adjacent construction, and window treatments, and other building components and furnishings. Install adjacent units so that shade band seams, if any, align horizontally when shades are in fully deployed position. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.

22 PLUMBING

22 0000 PLUMBING
Delegated Design: Provide design for a complete, integrated system per Section 01 6000 Product Requirements. System arrangements shown on drawings are diagrammatic, and indicate minimum requirements only. Base submittals on actual site conditions.
Record Documents: Diagram the locations of all system components and pipe runs and present to Owner.
Related Requirements: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components - Health Effects," for faucet materials that will be in contact with potable water.
Whole House Filter: Aquasana 1,000,000 Gallon Rhino with Salt-free Water Conditioner and UV Filter.
Domestic Water Heaters: Sanden SANCO2 Heat Pump Water Heater. Full recirculating pump system, dedicated loop.
Domestic Water Distribution Piping: PEX B with Viega crimp fittings. Service water pipes in unheated spaces to be insulated.
Conceal exposed piping from UV exposure and from view with wood paneling.
Sanitary Waste and Vent Piping: ABS. Hot-dip galvanized steel where exposed.
Storm Drain Piping: ABS.
Kitchen Fixtures and Basins (basis of design):
- Undermount Sink Basin: 27" Kraus Kore KWU110-27. Accessories as approved by Owner.
- Garbage Disposal: InSinkErator Evolution Excel 1 HP.
- Kitchen Faucet: Moen Align Chrome One-Handle High Arc MotionSense pulldown faucet 7565EC.
- Instant Hot Water Heater: InSinkErator HWT300 digital instant hot water tank.
- Hot Water Faucet: InSinkErator Indulge Modern hot only FH3300, chrome.

Toilet Fixtures and Basins (basis of design):
- Toilet: Duravit Durastyle one-piece for SensoWash Slim 215751, white.
- Sink Basins: 19-5/8" Duravit Vero Air washbowl 235150.
- Faucets: 9" Kohler Purist wall-mount K-T14414-3, chrome.
- Showerheads: Kohler Awaken B90 K-72422, chrome with Kohler shower arm K-7395, chrome.
- Shower Controls: Kohler Purist lever handles for stacked valve K-T14489-4, chrome. Provide stacked thermostatic valves.
- Floor drain: 45-5/16" Schluter Kerdi Line Frameless Tileable with inlay to match adjacent finish. Center outlet, KL1V 60 E 110.

Exposed Pipe, Traps, and Fittings: Stainless steel or chrome finish.
Hose Bibbs: Aquor House Hydrant V2 grey.
Shutoff Valves: 1/4 Turn Brass Ball Stop, BrassCraft KT Series chrome.
Sleeves: Provide sleeves where not provided by others. Galvanized Steel Pipe; ASTM A 53, Type E, Grade B, Schedule 40, galvanized, plain ends, or, galvanized-steel sheet, 0.035" minimum thickness, round tube, closed with welded longitudinal joint or 2" lap joint.
Cleanouts:
- At interior concrete finish: Zurn Z1400-BZ-ZS.
- At exterior landscape: T.O. cleanout located 4" above finished grade or flush with finished paving. Sioux Chief 851 Series.

Locate piping to avoid interference with building structural members, equipment, building openings, light fixtures, ductwork, electrical work, and other systems. Support and seismically restrain equipment, without compromising vibration isolation. Clean and disinfect water distribution piping. Inspect and test piping systems. Test installed fixtures and equipment after systems are pressurized for proper operation.

23 HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

23 0000 HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)
Delegated Design: Provide design for a complete, integrated system per Section 01 6000 Product Requirements. System arrangements shown on drawings are diagrammatic, and indicate minimum requirements only. Base submittals on actual site conditions.
Record Documents: Diagram the locations of all mechanical system components and pipe runs and present to Owner.
Related Requirements: Comply with SMACNA's "HVAC Duct Construction Standard."
Heating and Cooling System: Mitsubishi M series ductless multi-split.
- Outdoor unit: Mitsubishi inverter heat pump with Hyper-Heating and pan heater, minimum 18 SEER.
- Indoor wall unit: Mitsubishi EF series wall-mounted.
- Minimize penetrations of exterior sheathing. Provide rigid metal raceway for all exposed interior and exterior lines. Wall-mounted wired controls. Provide steel heat pump stand minimum 1'-6" tall. Provide outside air sensor.

Energy recovery ventilator (ERV): Zehnder ComfoAir 200 with MERV 13 filter at main house. Through-wall intake and exhaust. Single duct trunk line.
Ducts:
- Galvanized steel sheet, minimum G60 hot-dip galvanized coating. Exposed ductwork: Spiral wound, appearance grade.
- Duct Liner: Knauf Atmosphere Duct Liner with an airstream surface coated with a high-temperature-resistant coating; minimum 1" thick, R-4.
- Joint and Seam Sealant: Comply with UL 181A; use only duct mastic, duct tape is not permitted.

Diffusers, Registers and Grilles: Titus, as accepted through submittals. Galvanized finish to match duct, U.N.O.
Exhaust fans to exterior locations accepted by Owner. Where allowed, exhaust with ERV boost mode.
- Kitchen cooktop exhaust: Concealed inline 600CFM exhaust fan with exposed ducting above casework. Coordinate return air register above cooktop within casework.

Perform testing and balancing according to ASHRAE Standard 111 "Practices for Measurement, Testing, Adjusting, and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems".

26 ELECTRICAL

26 0000 ELECTRICAL
Delegated Design: Provide design for a complete, integrated system per Section 01 6000 Product Requirements. System arrangements shown on drawings are diagrammatic, and indicate minimum requirements only. Base submittals on actual site conditions.
Record Documents: Present wiring and control diagrams to Owner.
Radon Control Systems. Provide electrical junction boxes located adjacent to anticipated locations of vent pipe fans and system failure alarms for radon mitigation systems specified in Section 31 2113 Radon Mitigation.
Lighting Control System: Per Section 26 5000 Lighting.
Mechanical Systems: Provide electrical services to anticipate mechanical systems.
Conduit:
- Rigid metal conduit, electrical metallic tubing (EMT). Use in all above-ground locations.
- One hole steel straps for conduit smaller than 2" diameter. Two hole steel straps for conduit larger than 2" diameter. Channel type supports for two or more conduits at 8 feet O.C. Threaded rods, 1/4" diameter, to support suspended channels.
- Fittings to match conduit material and finish.
- Run parallel or perpendicular to building lines. Group wherever possible. Do not locate less than 3" parallel to hot water lines with minimum 1" at crossovers. Bond to ground. Install fish cord in empty conduits.

Wall receptacles:
- Typical: One-piece galvanized boxes with matching finish cover plates and black receptacles sourced from single manufacturer as approved by Owner; use smallest box size appropriate for receptacle. Lutron New Architectural wallplates.
- CL height A.F.F. U.N.O.: 0'-6". Do not install back-to-back in wall. Gang boxes where wiring devices are grouped. Support boxes independently of connecting conduits. Fill boxes with paper, sponges, or foam to prevent entry of debris during construction; remove upon completion of the Work.
- Weatherproof GFCI cover box: die-cast metal horizontal mount flip lid type, black powdercoat finish.

Controls:
- One-piece galvanized boxes with matching finish cover plates sourced from single manufacturer as approved by Owner; use smallest box size appropriate for control. Lutron New Architectural Palladiom faceplates.
- CL height A.F.F. U.N.O.: 4'-0". Install at the latch side of doors.

Fire Detection: Not less than one smoke alarm in each sleeping room, outside each separate sleeping area in the immediate vicinity of the sleeping rooms, and on each habitable level of the building. Comply fully with the requirements of codes in effect for project. Where detection device locations are not indicated on drawings, review and determine proposed locations with Owner prior to systems installation.
Carbon Monoxide (CO) Detection: At least one carbon monoxide detection on each habitable level and in each sleeping area.
Test system controls. Correct defects and retest until satisfactory performance is achieved.

26 3000 FACILITY ELECTRICAL POWER GENERATING AND STORING EQUIPMENT
Delegated Design: Provide design for a complete, integrated system per Section 01 6000 Product Requirements.
Photovoltaic Array: LG MC4 High Efficiency LG NeON R, LG365Q1C-A5.
Batteries: Tesla Powerwall 2.
Test system controls. Correct defects and retest until satisfactory performance is achieved.
Instruct Owner in proper operation and maintenance of systems.

26 5000 LIGHTING
Delegated Design: Provide design for a complete, integrated system per Section 01 6000 Product Requirements.
Lighting:
- Provide hangers, wiring, and other fixture support components.
- Provide ballasts, sensors, transformers, and other required accessory devices. Provide dimmable ballasts where indicated. Provide exterior ballasts suitable for low-temperature environments at exterior lighting.
- Finishes: stainless steel, chrome, U.N.O.

Test system controls. Correct defects and retest until satisfactory performance is achieved.

31 EARTHWORK

31 1000 SITE CLEARING
Remove obstructions and vegetation, strip topsoil, and fill depressions.
Sort and stockpile usable material on-site; transport and legally dispose of waste materials.
Minimize interference with adjoining roads and walks.

31 2000 EARTH MOVING
Maintain stability of excavations. Prevent accumulation of surface and subsurface water. Comply with recommendations of geotechnical and soils engineering reports.
Structural Fill, Engineered Fill: use for raising of subgrade under footings, foundations, slabs on grade, steps, and ramps.
- Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand suitable for supporting indicated structures.
- As specified by geotechnical engineer.

Drainage Course (Capillary Break): use under slabs on grade.
- Narrowly graded mixture of washed, crushed stone or crushed or uncrushed gravel suitable for supporting indicated structures and functioning as a capillary break/drainage layer.
- Reference Aggregate Type: ASTM D 448; coarse-aggregate grading Size 57; with 100% passing a 1½" sieve and 0 to 5% passing a No. 8 sieve. Where radon mitigation is indicated, provide drainage course materials under slabs on grade also complying with the requirements of Section 31 2113 Radon Mitigation.

Drainage Fill: use for backfilling foundations, walls, and trenches, and for other general-purpose free-draining fill.
- Free-draining, clean, granular, controlled fill consisting of gravels or gravel-sand mixtures with little or no fines (ASTM D 2487 GW or GP).
- Reference Aggregate Type: 100% passing ¾" sieve, 30-80% passing No. 4 sieve, and 0-5% passing No. 200 sieve.

Drain Rock: use for fill around perforated drainage piping.
- Washed, crushed stone, narrowly graded, no fines.
- Reference Aggregate Type: 100% passing a 1½" sieve and 0 to 5% passing a ¾" sieve.

Bedding Course: use for placement over the excavated subgrade in trenches before laying pipe.
- Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand, suitable to type of piping.
- Reference Aggregate Type: ASTM D 2940; except with 100% passing a 1" sieve and not more than 8% passing a No. 200 sieve.

Satisfactory Soils, Common Fill: use for raising of grade at other locations, not designated above.
- Slope to drain in a similar manner as surface finish grading. Granular material, naturally occurring or processed, of particle size and gradation such that specified compaction can be readily attained.
- Reference Aggregate Type: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM, or a combination of these groups; with maximum 10% passing a No. 200 sieve, and maximum particle size 3".

Unsatisfactory Soils, not to be used:
- ASTM D 2487 soil classification groups GC, SC, CL, ML, OL, CH, MH, OH, and PT, or any combination of these groups.
- Include soils not maintained within 2% of optimum moisture content at time of compaction.
- Include soils with debris, waste, frozen materials, vegetation, organic material, and other deleterious matter.

Geotextile Filter Fabric: Mirafi 140N.

31 2113 RADON MITIGATION
Gas-Permeable Base Material: A uniform layer of clean aggregate, a minimum of 4" thick, consisting of material that will pass through a 2" sieve and be retained by a 1/4" sieve. Not less than 4" thick. Sand is not acceptable.
Molded-Sheet Drainage Panels: Carlisle CCW MiraDrain 9000.
Vent piping: Solid and perforated, nominal size not less than 3". ABS Sewer Pipe and Fittings, ASTM D2751.
Elastomeric Joint Sealant: Sealants for Exterior and Interior Joints per Section 07 9200 Joint Sealants.
Soil-Gas Retarder Sheeting: Sheet Vapor Retarder per Section 03 3000 Cast-In-Place Concrete.

31 3116 TERMITE CONTROL
Provide termite control systems as suitable to project conditions and acceptable to authorities having jurisdiction.
Slab Penetration Sleeve: Termimesh Termiflange.
Framing Treatment: Nisus Bora-care with Mold-care. Apply when building is enclosed and dry. Apply to all interior framing and sheathing up to 2 feet above slab. At wet spaces including showers, apply to entire height of framing and sheathing. Apply to adjacent slab. Coat all penetrations and recesses. Test compatibility with noted finishes prior to application.

33 UTILITIES

33 0000 UTILITIES
Record Documents: Diagram all utility locations and present to Owner.
Water Systems:
- Sufficient capacity for fixtures, at required rates and pressures.
- Separate from sewer piping and other potential sources of pollution.
- Provide permanent methods for protection from freezing.

Buried Piping:
- Support buried piping throughout its length.
- Test for leakage and infiltrations prior to covering.
- Bury piping with depth of cover at least 30", with top at least 12" below level of maximum frost penetration.

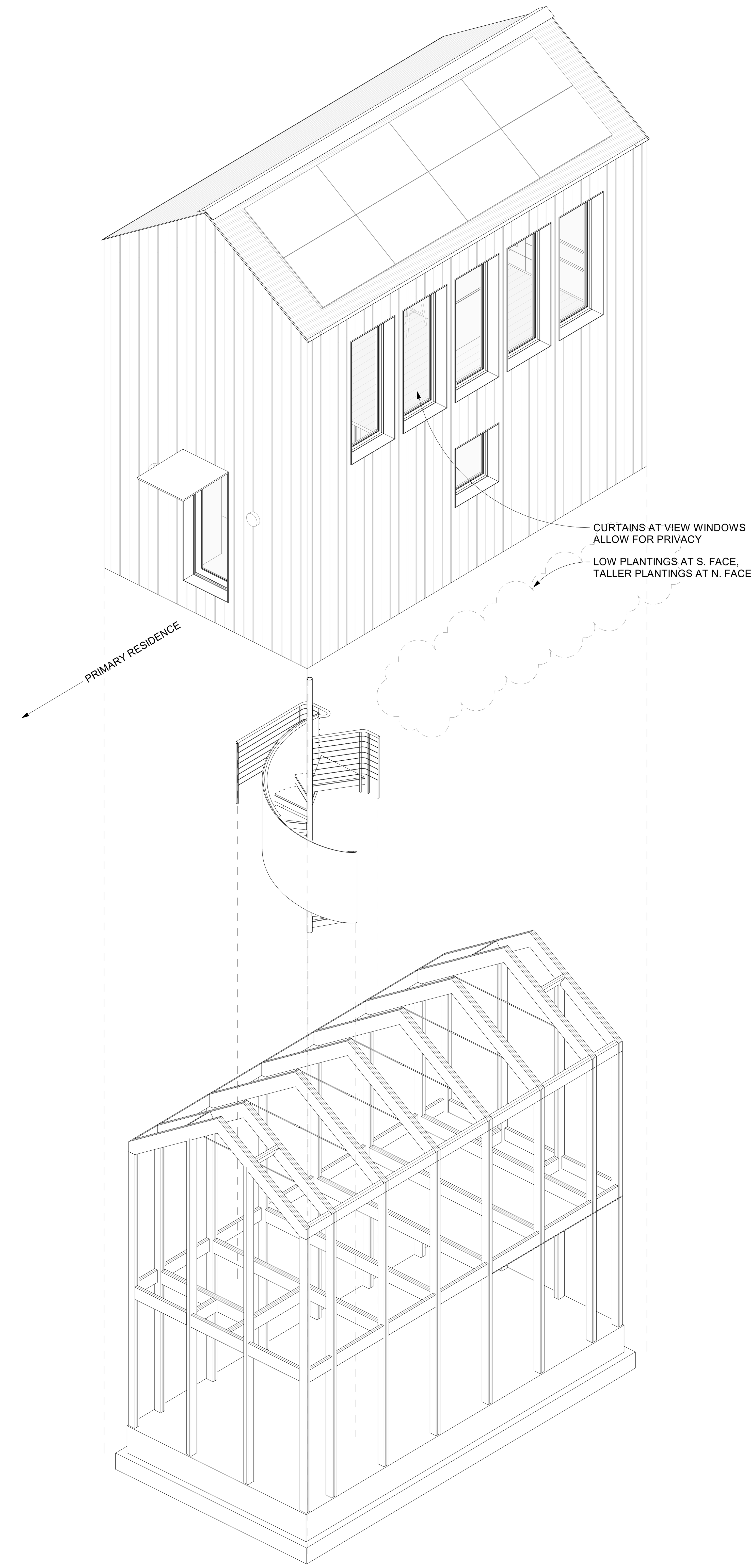
Verify location of all existing utilities and sleeving. Cap, mark, and protect as necessary to complete the work. Clean and disinfect water supply and distribution systems. Test completed systems.

33 4100 SUBDRAINAGE
Record Documents: Present piping diagrams to Owner.
Drainage Piping, General:
- Install piping at a minimum slope of 1%. Perforated piping may be level where sloping is not practical. Tight line.
- Lay perforated piping with perforations facing downward.
- Maintain swab or drag in piping and pull past each joint as it is completed.
- Test to ensure free flow prior to placing fill over piping. Remove obstructions, replaced damaged components, and repeat the test until results are satisfactory.

Perimeter Drainage Piping: Install perimeter piping so that the T.O. piping is no less than 6" below B.O. concrete slab.
- Bed piping with full bearing, in a minimum 6" deep layer of bedding course materials per Section 31 2000 Earth Moving.
- Place at least 6" of drain rock each side of pipe, to T.O. pipe to perform tests.
- After successful testing, add drain rock to a depth of not less than 12" above T.O. piping.
- Fully encase drain rock in geotextile filter fabric. Provide cleanouts.

Underslab Drainage Piping, as required: Excavate underslab drainage in trenches, 12" wide, at 15' to 20' spacings and around elevator pits and other depressed areas. Slope subgrade between trenches 1/4" per foot toward trenches.
- Install filter fabric over subgrade continuously, both in the trenches and across in-between subgrade areas.
- Bed piping with full bearing, in a minimum 6" deep layer of bedding course materials per Section 31 2000 Earth Moving.
- Where drainage piping passes through or under foundations or footings, sleeve or otherwise protect piping from foundation pressures or differential settlement.
- Where underslab drainage piping shares outfall with foundation perimeter drains or other storm drainage piping, make connection not less than 12" below the low point of the underslab drainage system.
- Place at least 6" of drainage course materials each side of pipe, to T.O. pipe to perform tests. Provide cleanouts.
- After successful testing, install drainage course materials up to indicated below-slab elevations.

Perforated Piping: Perforated Polyethylene Pipe and Fittings: ASTM F 405 or AASHTO M 252, Type CP; corrugated, for coupled joints; pipe size NPS 4 U.N.O.
Solid Piping: Polyethylene Drainage Tubing and Fittings: AASHTO M 252, Interim, Type S, corrugated, with smooth waterway, and AASHTO M 252 corrugated, band-type fittings; pipe size NPS 4 U.N.O.
Riser Extensions and Branch Fittings: Use same material as cleanouts to which riser extensions fittings are connected.
Molded-Sheet Drainage Panels: Carlisle CCW MiraDrain 6000/6200 for vertical applications; Carlisle CCW MiraDrain 9000 for horizontal applications.
Geotextile Filter Fabric: Mirafi 140N. Install filter fabric over prepared subgrade in drainage trenches. Lap 12" over adjacent sections of drainage panels or filter fabric.



DATE 17 FEBRUARY 2020
STATUS PROPOSAL
PROJECT DADU 206
ADDRESS SEATTLE, WA
ARCHITECTS, TYP.
HELLO@TYP.WORKS
SHEET SPECIFICATIONS
A002

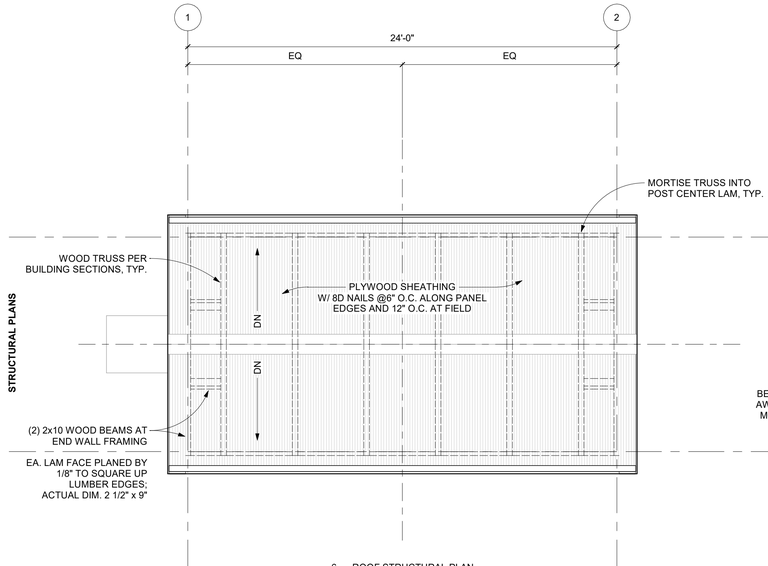
WINDOWS

TYPE	COUNT	OPERATION	R.O. WIDTH	R.O. HEIGHT	SILL HEIGHT	REMARKS
A	10	VENTING PICTURE	3'-5"	7'-7 5/8"	4 3/8"	COORDINATE HEAD R.O. WITH B.O. BEAM
B	2	CASEMENT	3'-5"	3'-7 5/8"	2'-10"	EGRESS WINDOW; SILL HEIGHT MAY VARY WITH GRADE

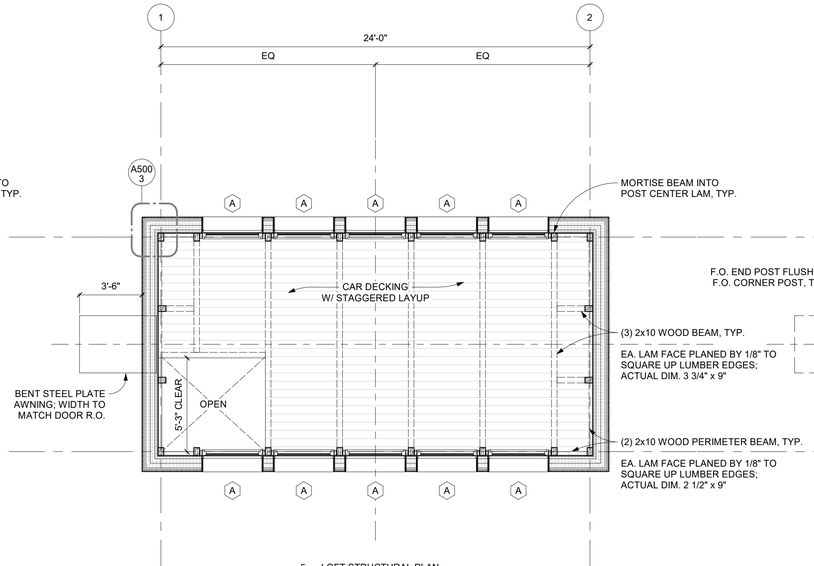
DOORS

MARK	OPERATION	R.O. WIDTH	R.O. HEIGHT	THICKNESS	REMARKS
01A	SWINGING	3'-2 7/16"	8'-0"	1 3/4"	
02A	SWINGING	2'-4"	8'-0"	1 3/4"	
03A	GLASS PIVOT	2'-7"	8'-0"	1/2"	
04A	POCKET	3'-7 1/2"	8'-0"	1 3/4"	

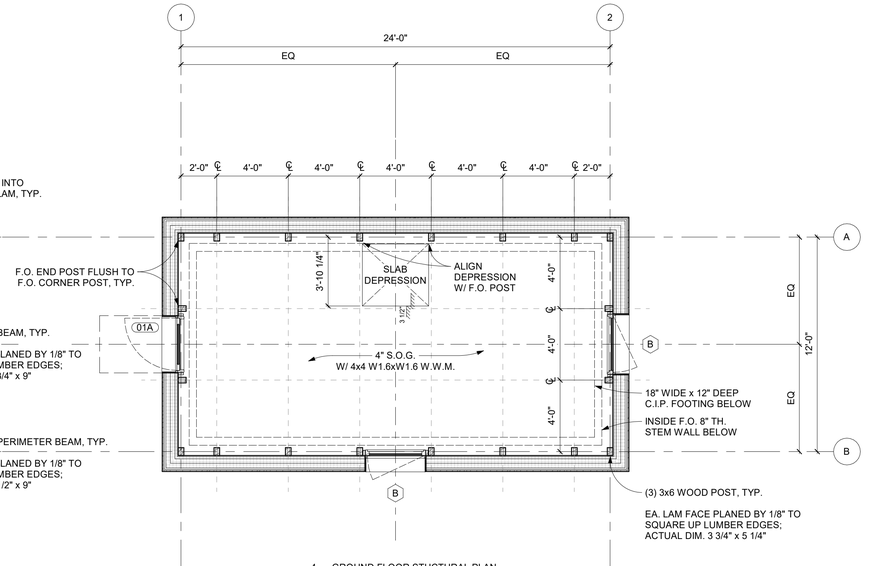
STRUCTURAL PLANS



6 ROOF STRUCTURAL PLAN

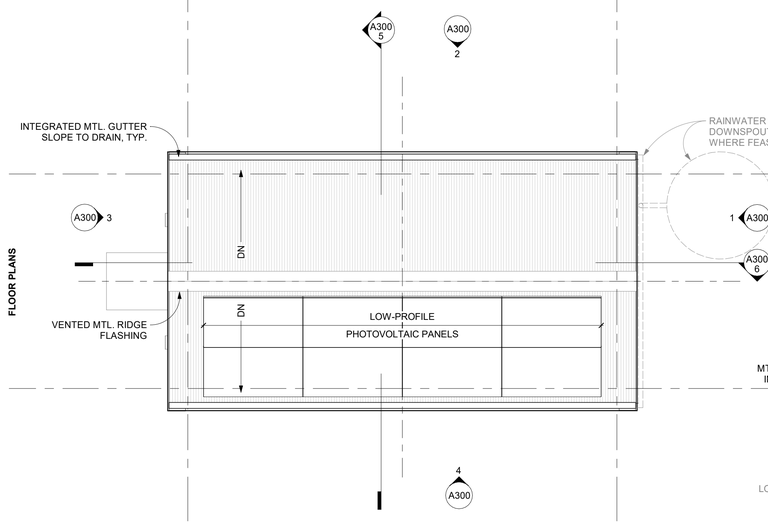


5 LOFT STRUCTURAL PLAN

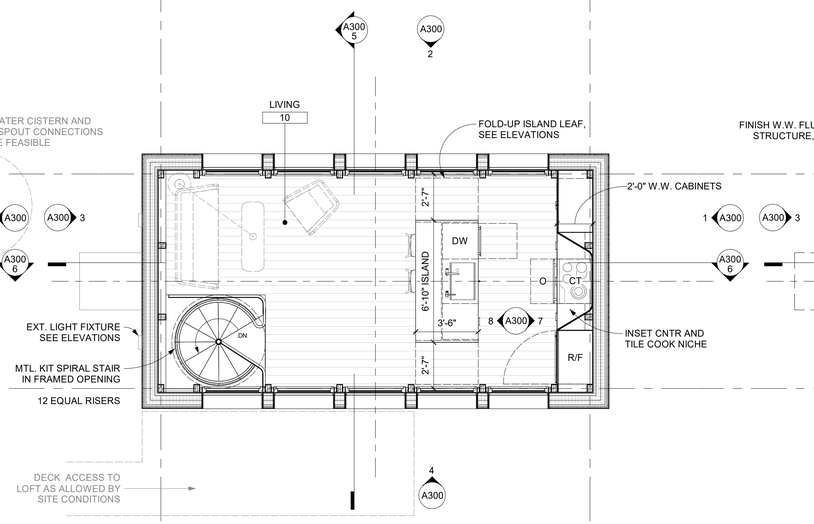


4 GROUND FLOOR STUCTURAL PLAN

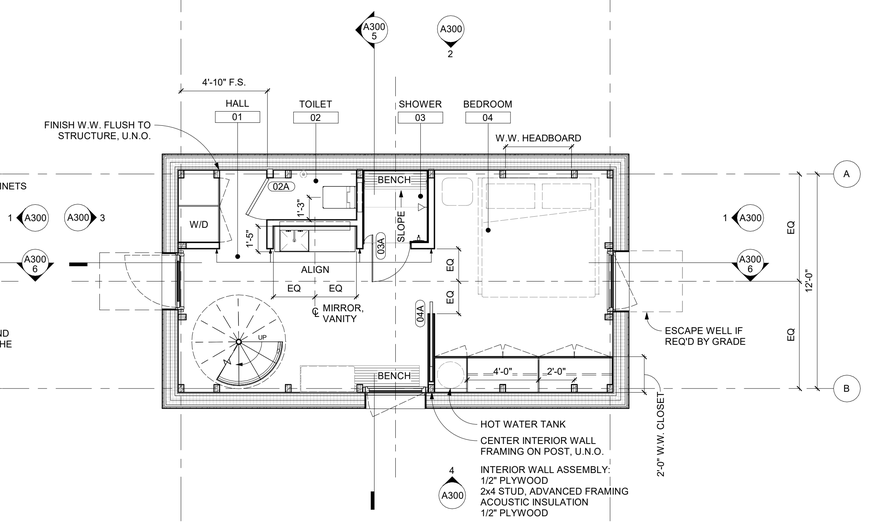
FLOOR PLANS



3 ROOF PLAN



2 LOFT FLOOR PLAN



1 GROUND FLOOR PLAN

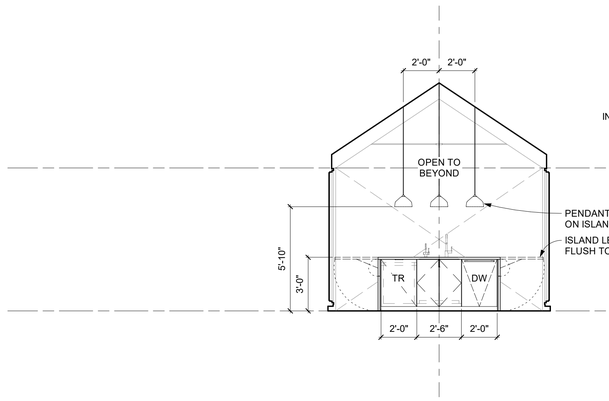
0 1 2 3 4 5 10 20 50 100 FEET

DATE	17 FEBRUARY 2020	PROJECT	DADU 206	ARCHITECTS, TYP.	
STATUS	PROPOSAL	ADDRESS	SEATTLE, WA	HELLO@TYP.WORKS	

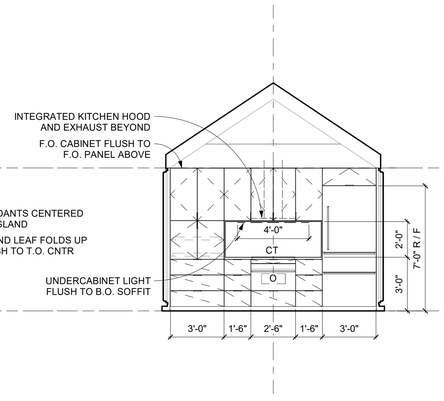
N
ASSUMED

SHEET	PLANS
SCALE	1/4" = 1'-0"

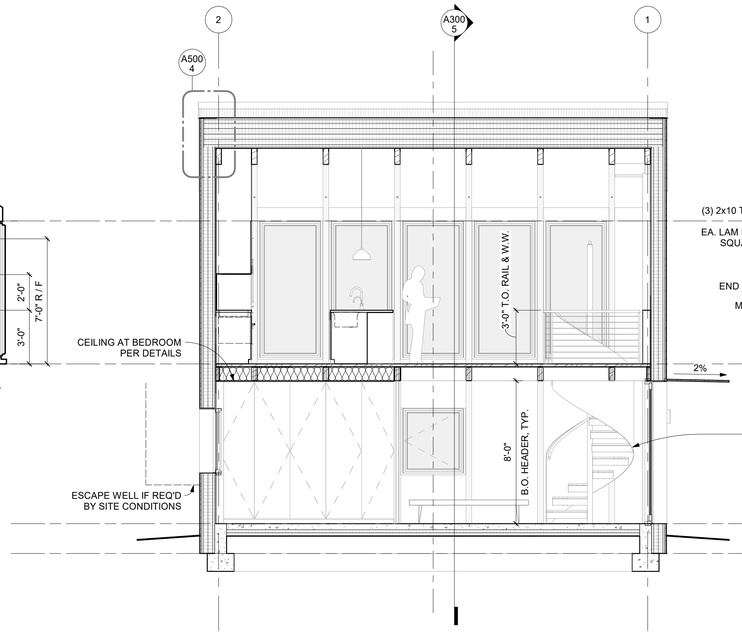
A100



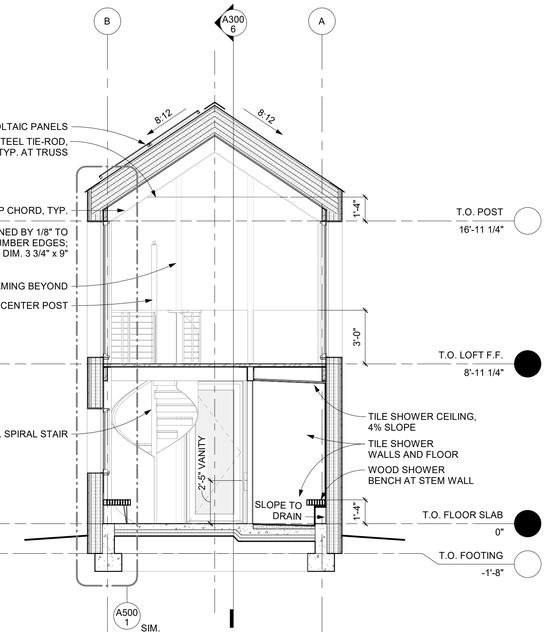
8 ISLAND ELEVATION



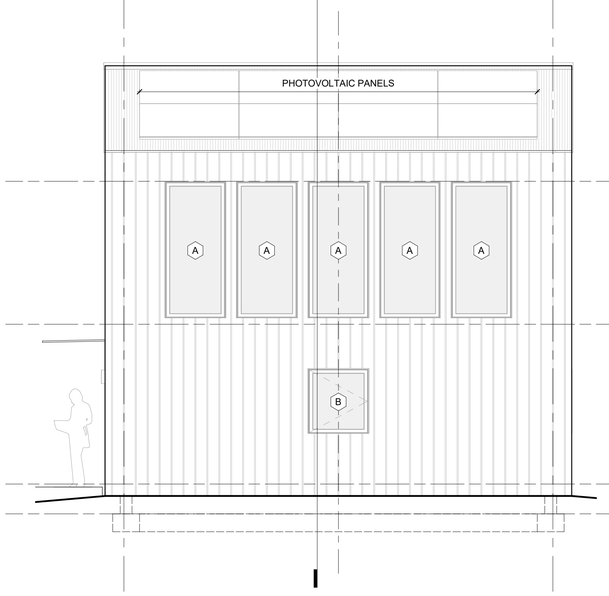
7 KITCHEN ELEVATION



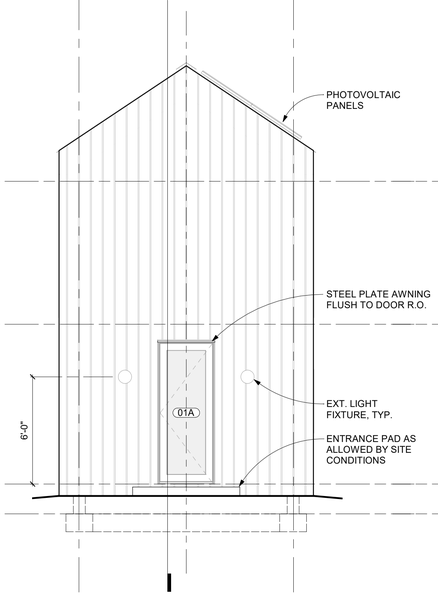
6 N-S SECTION



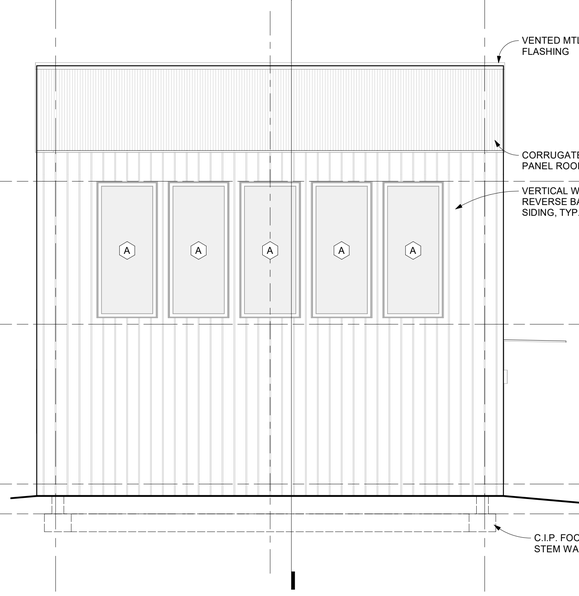
5 E-W SECTION



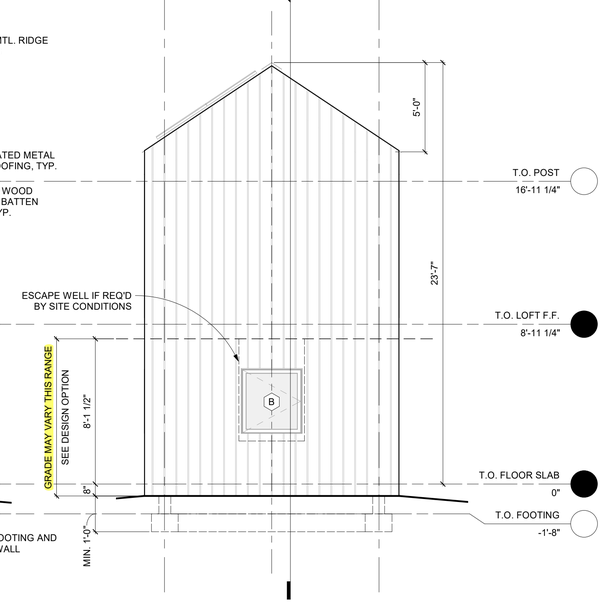
4 SOUTH



3 WEST



2 NORTH

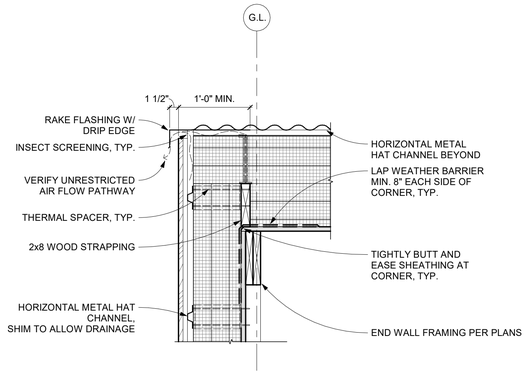


1 EAST

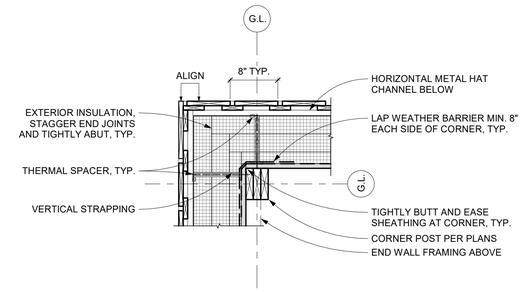
0 1 2 3 4 5 10 20 50 100 FEET

DATE	17 FEBRUARY 2020	PROJECT	DADU 206	ARCHITECTS, TYP.	
STATUS	PROPOSAL	ADDRESS	SEATTLE, WA	HELLO@TYP.WORKS	
				SHEET	ELEVATIONS & SECTIONS
				SCALE	1/4" = 1'-0"

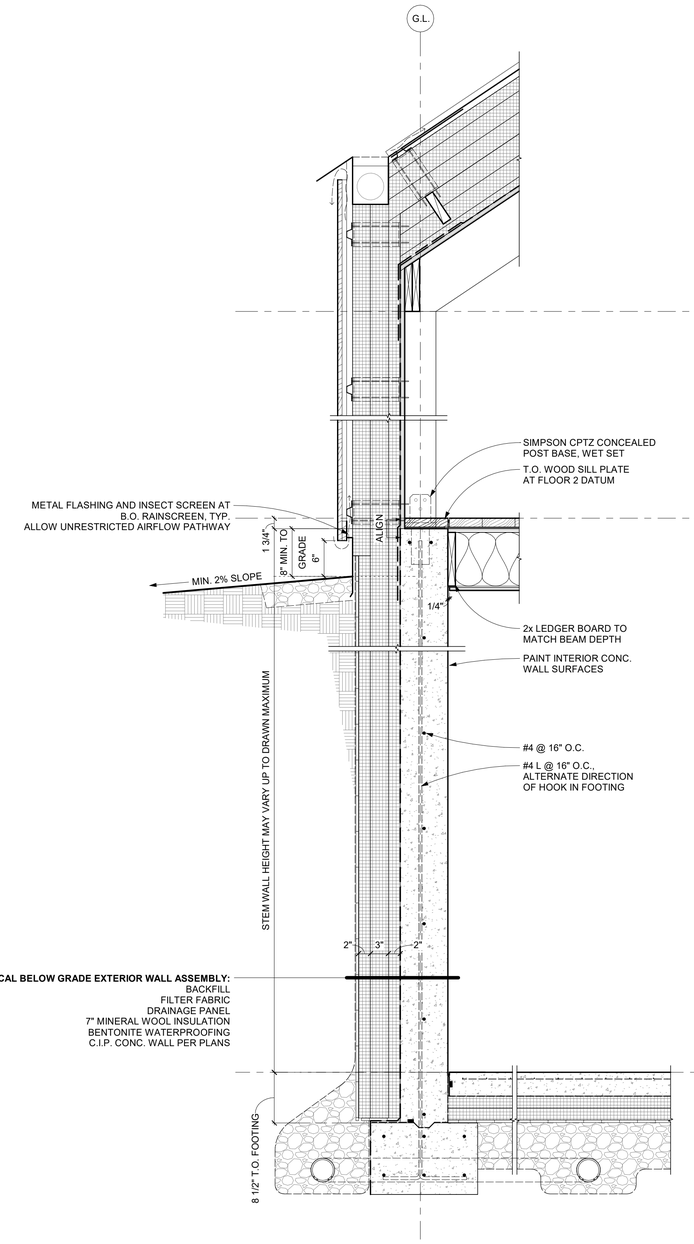
A300



4 RAKE

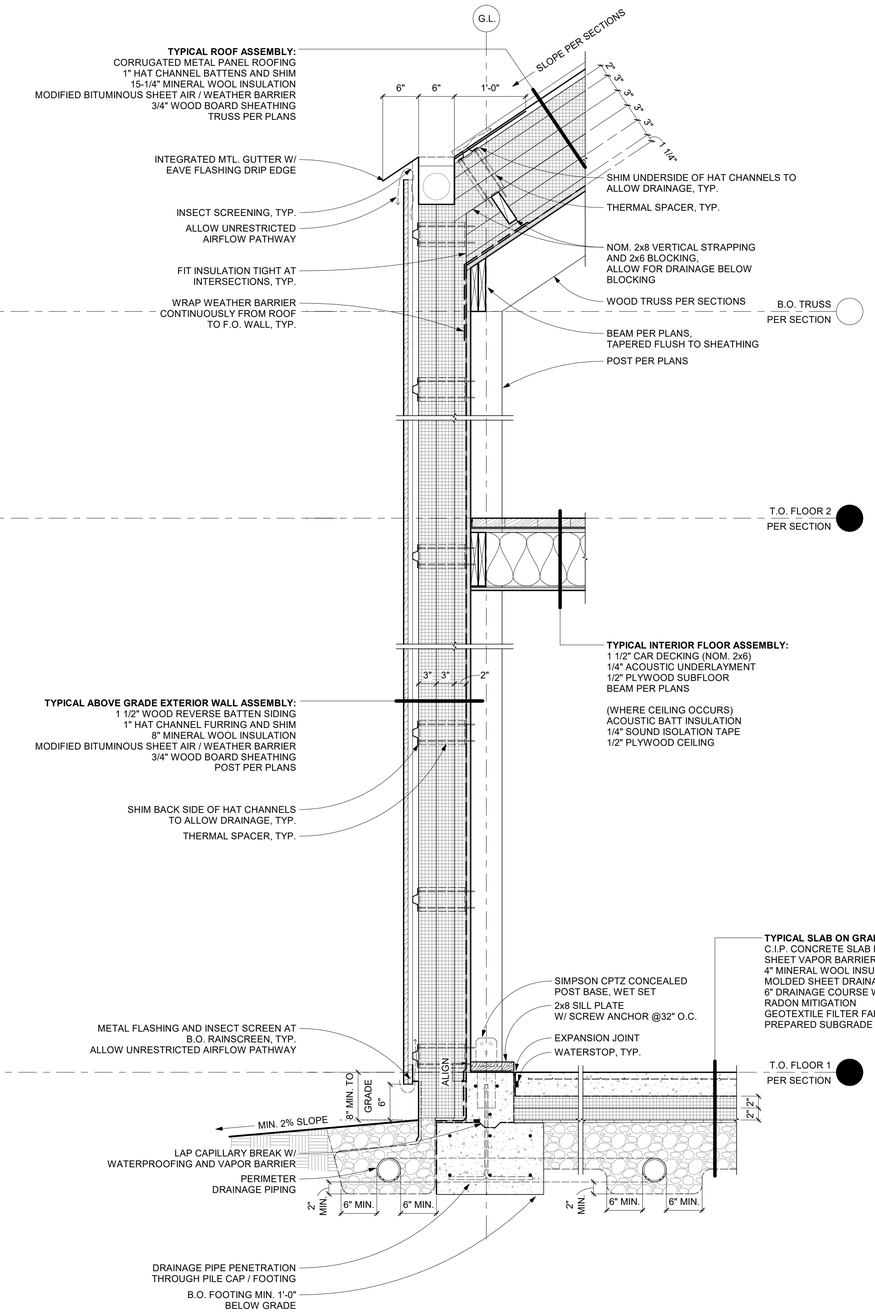


3 CORNER (PLAN)



SIM. TO DETAIL A500 / 1
EXCEPT WHERE NOTED

2 WALL SECTION DESIGN OPTION



1 WALL SECTION

0 1 2 3 4 5 10 20 FEET

DATE	17 FEBRUARY 2020	PROJECT	DADU 206	ARCHITECTS, TYP.	
STATUS	PROPOSAL	ADDRESS	SEATTLE, WA	HELLO@TYP.WORKS	
				SHEET	DETAILS
				SCALE	1" = 1'-0"

A500

Overachieving Performance

No thermal bridging. Thick exterior insulation. Detail-driven.

How does thermal performance stack up to the 2018 WSEC?

Roof (U 0.016):	1.6 times better
Walls Above Grade (U 0.028):	2.0 times better
Walls Below Grade (U 0.032):	1.3 times better
Slab (F 0.300):	1.8 times better

Modeled EUI of 10.6 kBtu/sf/year: **4.2 times better** than national average

Solar Passive: Abundant winter solar heating from south glazing.
Solar Active: 8:12 roof pitch for ideal exposure. Expected 3,544 kWh/Year.
Passive Ventilation: Just 12′ wide with 290sf of all-operable windows.

Beyond "Best Practice"

200+ year lifespan.[2]

P.E.R.S.I.S.T.[3] Envelope System: Structure and weather barrier thermally protected by thick mineral wool insulation.
Robust peel-and-stick weather barrier totally air-seals envelope.
Walls breathe to exterior through rainscreen.

Healthy: Materials meet LBC 4.0 Red List.
No pressure-treated wood.
Accoya or Western Red Cedar at exposed conditions.

Deconstructable and reusable. Screws, not nails wherever possible.
Cradle-to-cradle life-cycle analysis.

Less Material, Less Labor

Panelized building, reconceived from the bottom-up.

Tight Post framing kit designed for the weekend warrior to put it together.
Standard dimensional lumber with simple connections.

How does Tight Post framing compare? In a 4′ bay:
~~Standard framing requires 30 members, with a 25% framing factor.~~
~~Advanced framing requires 20 members, with a 22% framing factor.~~
Tight Post framing uses only 7 members, with a 15% framing factor.
77% fewer pieces

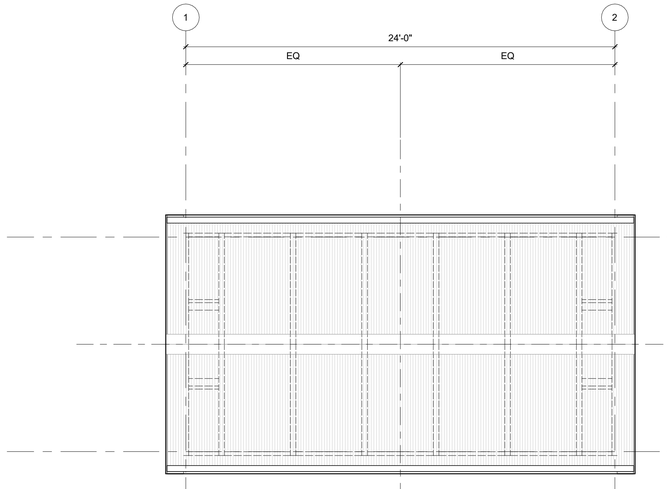
No drywall.
Finish is the inside face of sheathing. 1.9 tons drywall (360kg CO_2e) saved.

WINDOWS

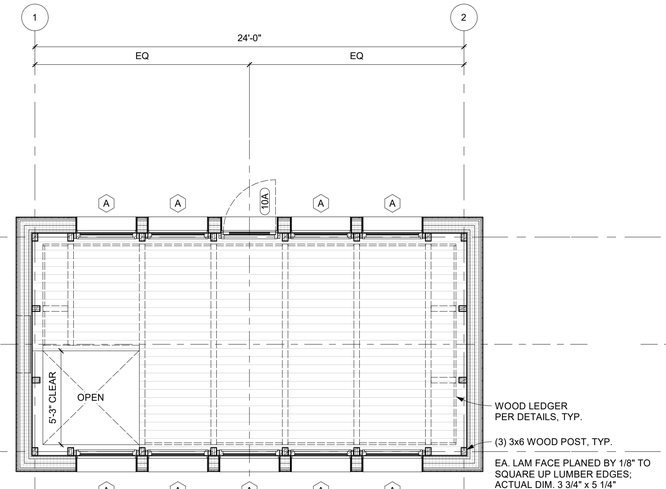
TYPE	COUNT	OPERATION	R.O. WIDTH	R.O. HEIGHT	SILL HEIGHT	REMARKS
A	9	VENTING PICTURE	3'-5"	7'-7 5/8"	4 3/8"	COORDINATE HEAD R.O. WITH B.O. BEAM
B	3	CASEMENT	3'-5"	3'-7 5/8"	2'-10"	EGRESS WINDOW; SILL HEIGHT MAY VARY WITH GRADE

DOORS

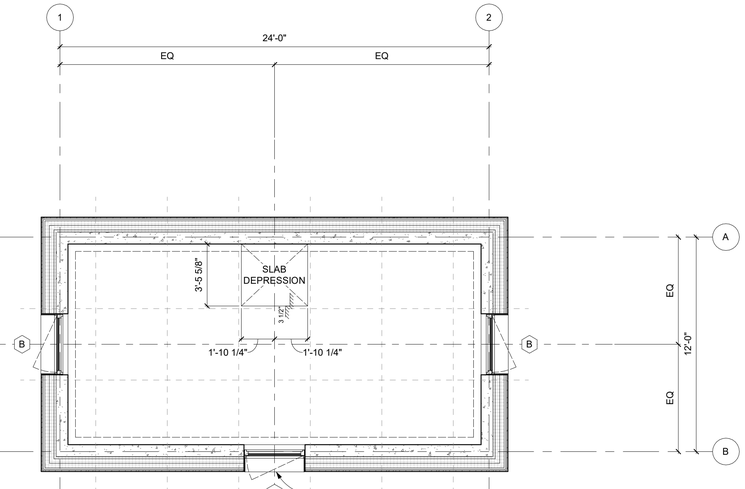
MARK	OPERATION	R.O. WIDTH	R.O. HEIGHT	THICKNESS	REMARKS
02A	GLASS PIVOT	2'-7"	8'-0"	1/2"	
03A	GLASS PIVOT	2'-7"	8'-0"	1/2"	
04A	POCKET	3'-7 1/2"	8'-0"	1 3/4"	
10A	SWINGING	3'-2 7/16"	8'-0"	1 3/4"	



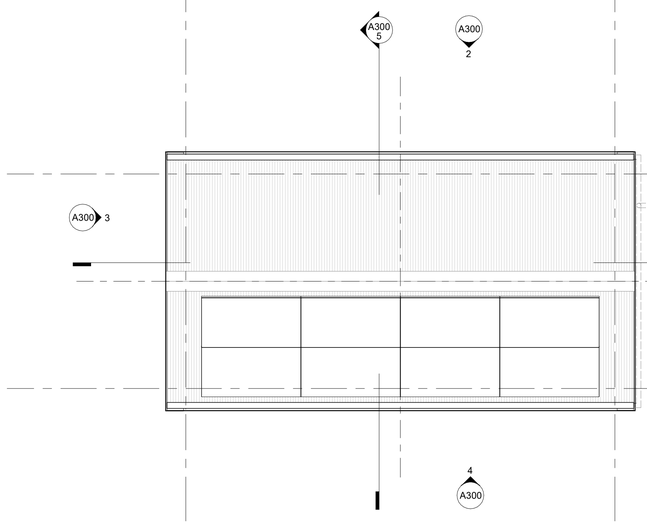
6 ROOF STRUCTURAL PLAN



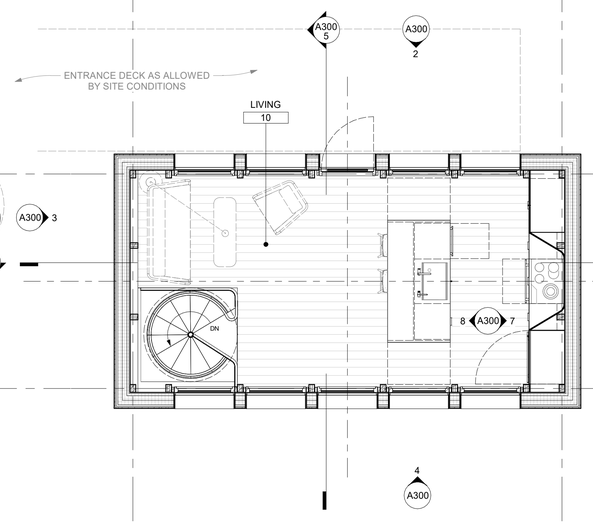
5 LOFT STRUCTURAL PLAN



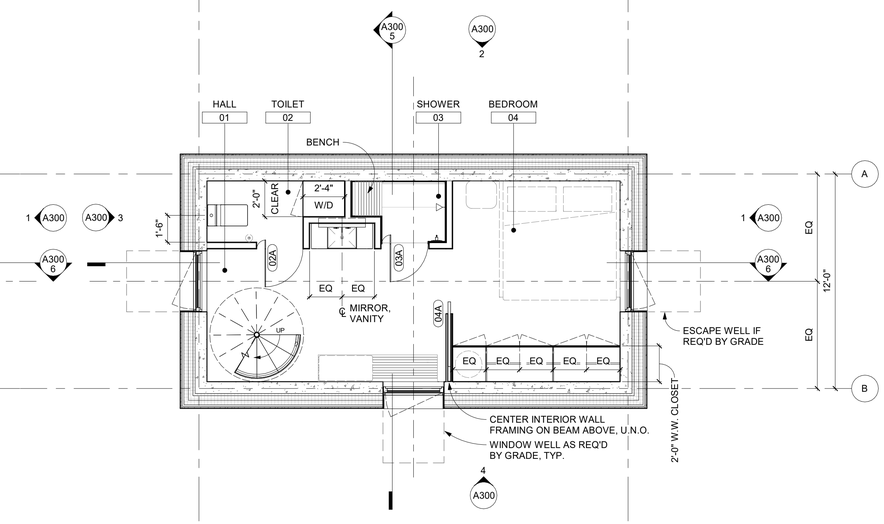
4 GROUND FLOOR STUCTURAL PLAN



3 ROOF PLAN



2 LOFT FLOOR PLAN



1 GROUND FLOOR PLAN

0 1 2 3 4 5 10 20 50 100 FEET

DESIGN OPTION
DIFFERS ONLY WHERE NOTED

N
ASSUMED

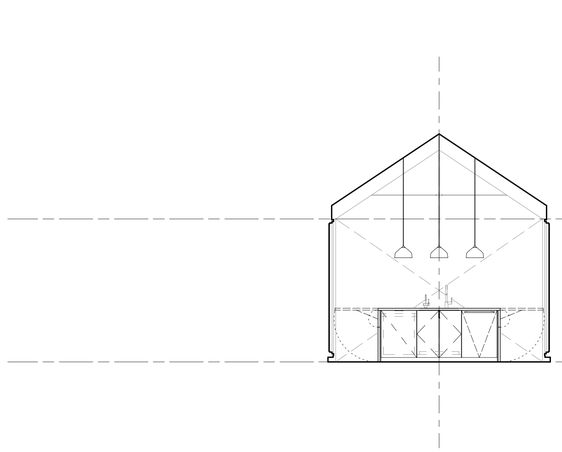
DATE 17 FEBRUARY 2020
STATUS PROPOSAL

PROJECT DADU 206
ADDRESS SEATTLE, WA

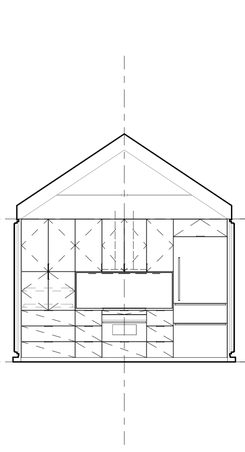
ARCHITECTS, TYP.
HELLO@TYP.WORKS

SHEET PLANS
SCALE 1/4" = 1'-0"

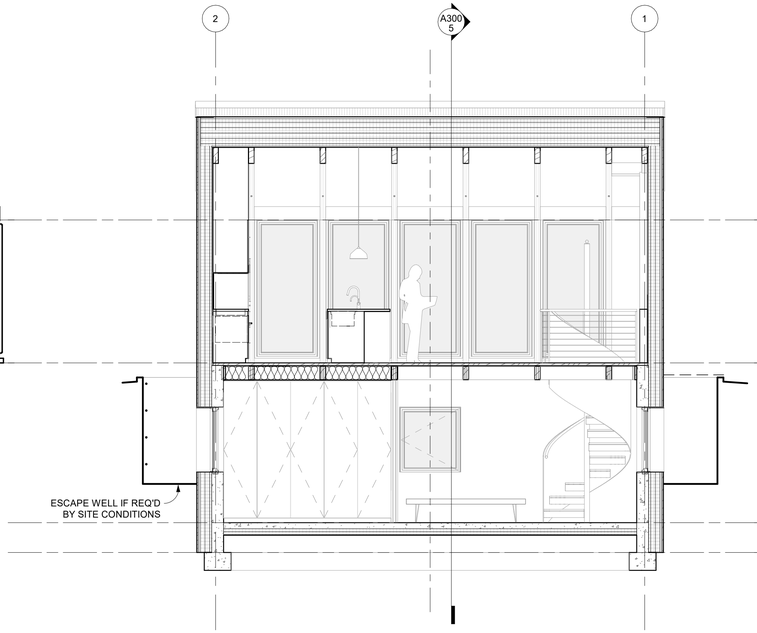
A100
OPTION



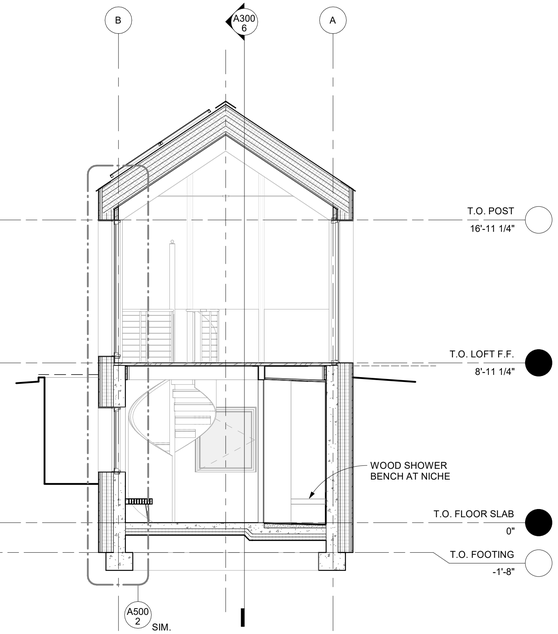
8 ISLAND ELEVATION



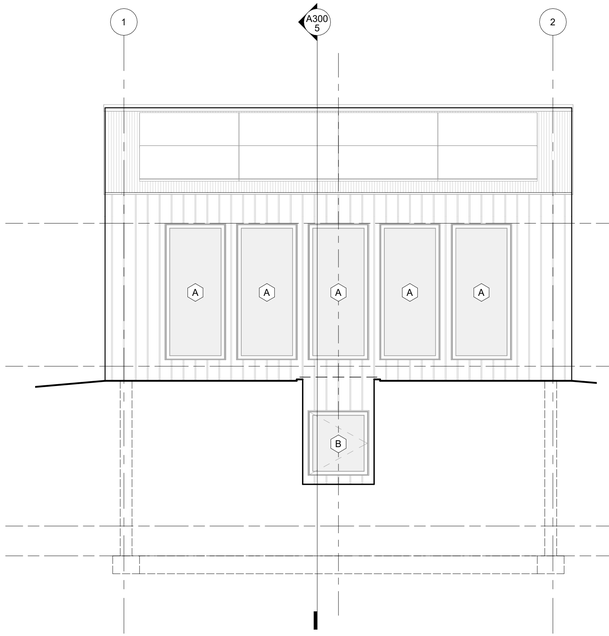
7 KITCHEN ELEVATION



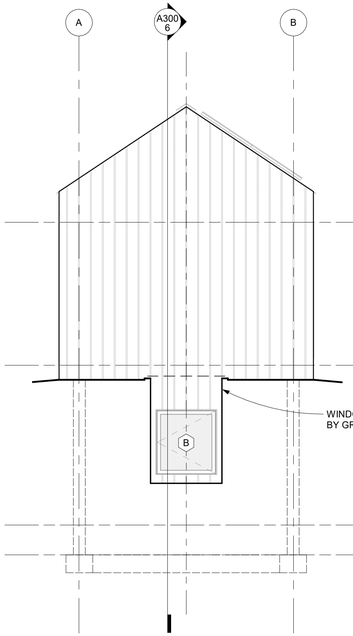
6 N-S SECTION



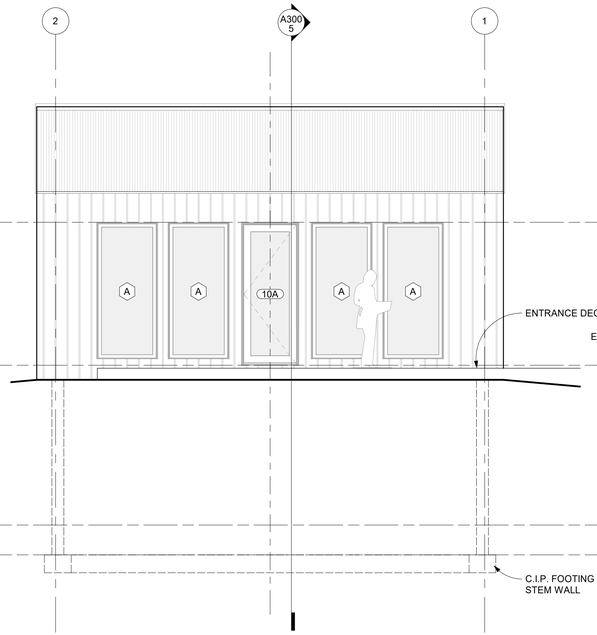
5 E-W SECTION



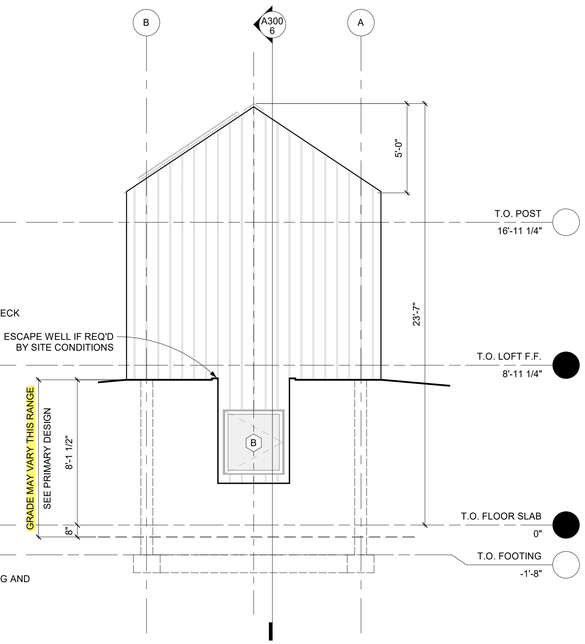
4 SOUTH



3 WEST



2 NORTH



1 EAST

0 1 2 3 4 5 10 20 50 100 FEET

DESIGN OPTION
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HELLO@TYP.WORKS

SHEET ELEVATIONS & SECTIONS
SCALE 1/4" = 1'-0"

A300
OPTION