



DEVELOPMENT SERVICES

435 RYMAN • MISSOULA, MT 59802 - 4297 • (406) 552-6630 • FAX:

**MISSOULA CITY BOARD OF ADJUSTMENT
APPLICATION**

Date: 12/29/2024

Meeting Date: N/A

Applicant Name: West End Farms Land Holdings, LLC

Address: 131 South Higgins, Suite P-1, Missoula, MT 59802 Phone: 406-550-1244

Agent Name: _____

Address: _____ Phone: _____

Project Address/Location: Flynn Land and England Boulevard (General Location)

Request Type: _____ Variance _____

The following items must be submitted as part of the application:

Legal Description

Lot(s): ____ E1 ____ ; Block(s): _____ ; Subdivision: _____ West End Farms _____

Section: ____ 7 & 12 ____ ; Township: ____ 13N ____ ; Range: ____ 19W & 20W _____

COS# ____ 6889 _____

Zoning: ____ FBC T4 & T3 _____

11 PACKETS CONTAINING THE FOLLOWING ITEMS:

- a. Application
- b. Cover Letter
- c. Site Plan/ Landscaping Plan – 11" x 14" or smaller (to scale)
- d. Elevation Drawings – 11" x 14" or smaller (to scale)
- e. Topography Map, if applicable – 11" x 14" or smaller (to scale)
- f. Floor Plan

MISSOULA CITY BOARD OF ADJUSTMENT APPLICATION

APPLICANT'S RESPONSIBILITY

The burden of proof for an applicable hardship and justification of proposal lies with the applicant. The applicant or the applicant's agent must be present at the meeting. Failure to appear at the meeting is grounds for denial of the variance request.

CHAPTER 20.90.010, BOARD OF ADJUSTMENT, AUTHORITY

A board of adjustment is established as authorized by §76-2-321 through §76-2-328, MCA. The board of adjustment is responsible for conducting public hearings and making decisions in accordance with the procedures of this zoning ordinance and state law.

BOARD OF ADJUSTMENT HAS THE AUTHORITY TO REVIEW:

1. Variance Requests (Section 20.85.090)
2. Appeals of Administrative Decisions (Section 20.85.100)
3. Special Exceptions (Section 20.75.090) and Sign Variances (Section 20.75.130)

VARIANCE APPROVAL

An approved zoning variance will lapse and have no further effect **2 years** after it is granted by the board of adjustment or 2 years after a final court order is issued (if the variance is the subject of litigation), unless **all** of the following occur:

- a) a building permit has been issued (if required);
- b) a zoning compliance permit has been issued; and
- c) a final certificate of zoning compliance has been issued.

I hereby attest that the information on this application form is accurate and complete.

Property Owner's Signature

Date

I, _____, owner of the said property authorize _____ to act as my agent in this application.

West End Farms Variance Request

Project

West End Farms (“WEF”, or the “Project”) is a 72-acre master planned community and public park that is adjacent to Hellgate Elementary and located within the newly created Sx^wtpqyen Area Neighborhoods Master Plan, which is governed by a “new to Missoula” Form Based Code (“FBC”). Entitlements have been secured for 292 homes, as well as the establishment of a 28-acre adjacent public park, which is established in part by a 16-acre donation by the developer. WEF has a wide range of support from Missoula city staff and elected officials.

Variance Request

WEF is seeking a variance to reduce the Interior Side Property Line Setback within Transect Zone T3 from 8'0" to 3'0" (Page 3-3 in FBC), for specific lots within the first three phases, for Residential Building Types defined as House (Page 5-4 in FBC), further defined as follows.

1. The request is for the Interior Property Line Setback between a pair of homes, so that each home is placed 3'0" off the interior property line, creating a total of 6'0" of space between the two homes. As such, the variance would be conditioned on 1) a pair of lots (see PDF titled, “Pair of 3' Variance Lots”), 2) each lot having a home specifically designed for the reduced setback that demonstrates architectural merit in accordance with the intent of the FBC (see PDFs titled, “House Plans Designed for 3' Setback” & “Variance Home Renderings”), and 3) is specific to lots 6 & 7, 10 & 11, 32 & 33, 57 & 58, 66 & 67, 78 & 79, 82 & 83, and 89 & 90, which constitute 8 pairs of lots within the first three-phases, or 16 out of 115 homes (see PDF titled, “Site Plan”).

The Project is seeking a modification of a set-back requirement by “demonstrating that it has excellent urban design or architectural merit in accordance with the intent of this Code and the vision of the Mullan Area Master Plan.” The following is a summary of how WEF meets this criteria.

SPECIFIC TO HOMES SEEKING VARIANCE: Demonstration of Excellent Urban Design & Architectural Merit in Accordance with the Intent of this Code and the Vision of the Mullan Area Master Plan.

1. The FBC allows for a Side Yard House Residential Building Type (page 5-4 in FBC) in all Transect Zones, which is defined as: “A dwelling that is zero lot line on one side and occupies on side of the lot with a setback on the other. This type can be a single or attached, depending on whether it abuts to the neighboring house.” Therefore, the variance request to reduce the interior property line setback, specific to a certain home type that functions like a Side Yard House, meets the intent of the FBC.
2. While the FBC states that Side Yard House shall reside on the lot line, there is no further specific design guidance regarding how to create an aesthetically appealing structure, or how they should be oriented on lots and/or relate to each other. Given the current fire code, the only legal way to construct a dwelling on the lot line is to have no windows and no roof overhang on the side of the structure that resides on the lot line. This could result in a row of two-story homes, each with a blank façade on the lot line, and resulting in what can only be described as very poor neighborhood design aesthetics (see Image 1 below). The variance will allow the developer to meet the FBC’s intent of the Side Yard House, which is to maximize the side yard of

the home for the owner, while also maximizing the aesthetics of the exterior of the home (see Image 2 below).

Image 1: Blank Building Facades Along Side Yard Resulting in Poor Neighborhood Aesthetics

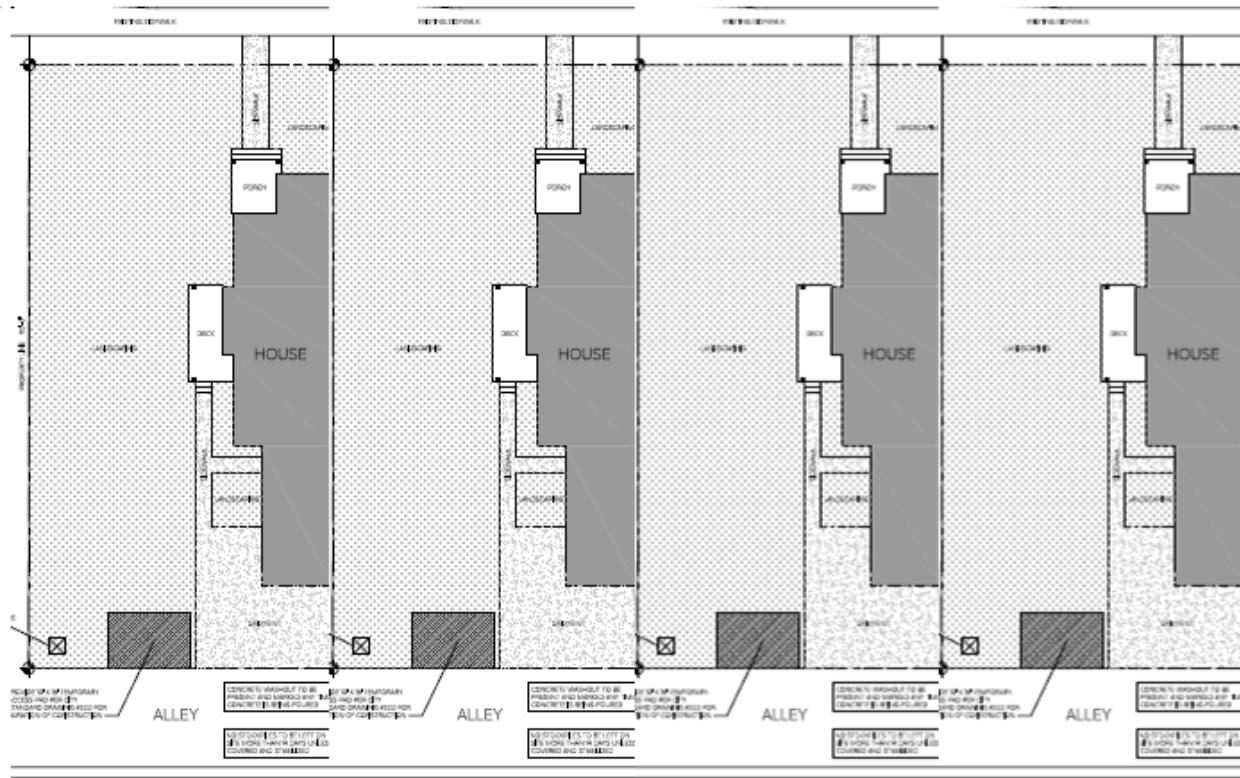
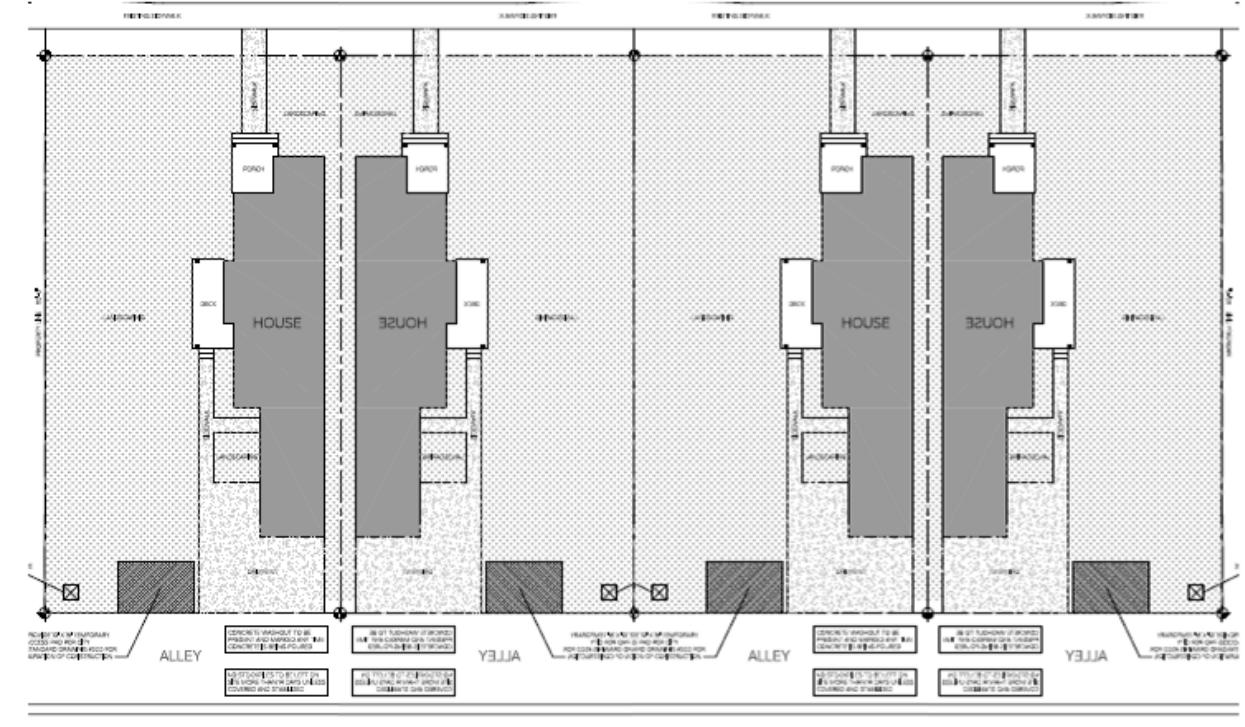


Image 2: Meeting Intent of the Side Yard House Through Proposed Variance



3. The home plan that will reside on the lots seeking the variance has been designed specifically to reside 3' off the property line (see PDFs titled, "House Plans Designed for 3' Setback" & "Variance Home Renderings"). Specific design attributes are as follows:

- a. The homes are “narrow and long”, thus increasing the available yard space along the side of the house to 35’ (+/-).
- b. A stacked garage concept allows for a longer single stall garage, with another two off-street exterior parking spaces directly behind it. This enables the larger side yard to continue from the front property line, all the way to the rear, thus allowing the homeowner maximum flexibility in use and layout.
- c. No saving in windows is made, instead all of the windows are located on the side yard side of the home, thus maximizing light transfer into the home.
- d. A large private entrance into the kitchen from the side yard has been incorporated into the design.
- e. By maintaining 3’ off the property line the home can have fire-rated non-operable windows and roof overhangs, both of which have been incorporated into the design.
- f. The 6’ of space between each home has a maintenance easement for the benefit of each homeowner to access in the course of maintaining their home (painting, etc.).
- g. While floor plans are identical, there are multiple exterior facades to provide the impression of separate types of structures (different rooflines, siding types, etc.).

Without the variance the developer will be unable to utilize the design concepts put forth in the FBC for a Side Yard Home. This would be disappointing, as the concept to “maximize the effective use of the yard for the homeowner” is a modern design concept that the FBC is trying to accommodate. Beyond the FBC, many communities are using the same concept with great effect to retain neighborhood aesthetics while increasing the livability of homes on smaller urban lots.

PROJECT LEVEL: Demonstration of Excellent Urban Design & Architectural Merit in Accordance with the Intent of this Code and the Vision of the Mullan Area Master Plan.

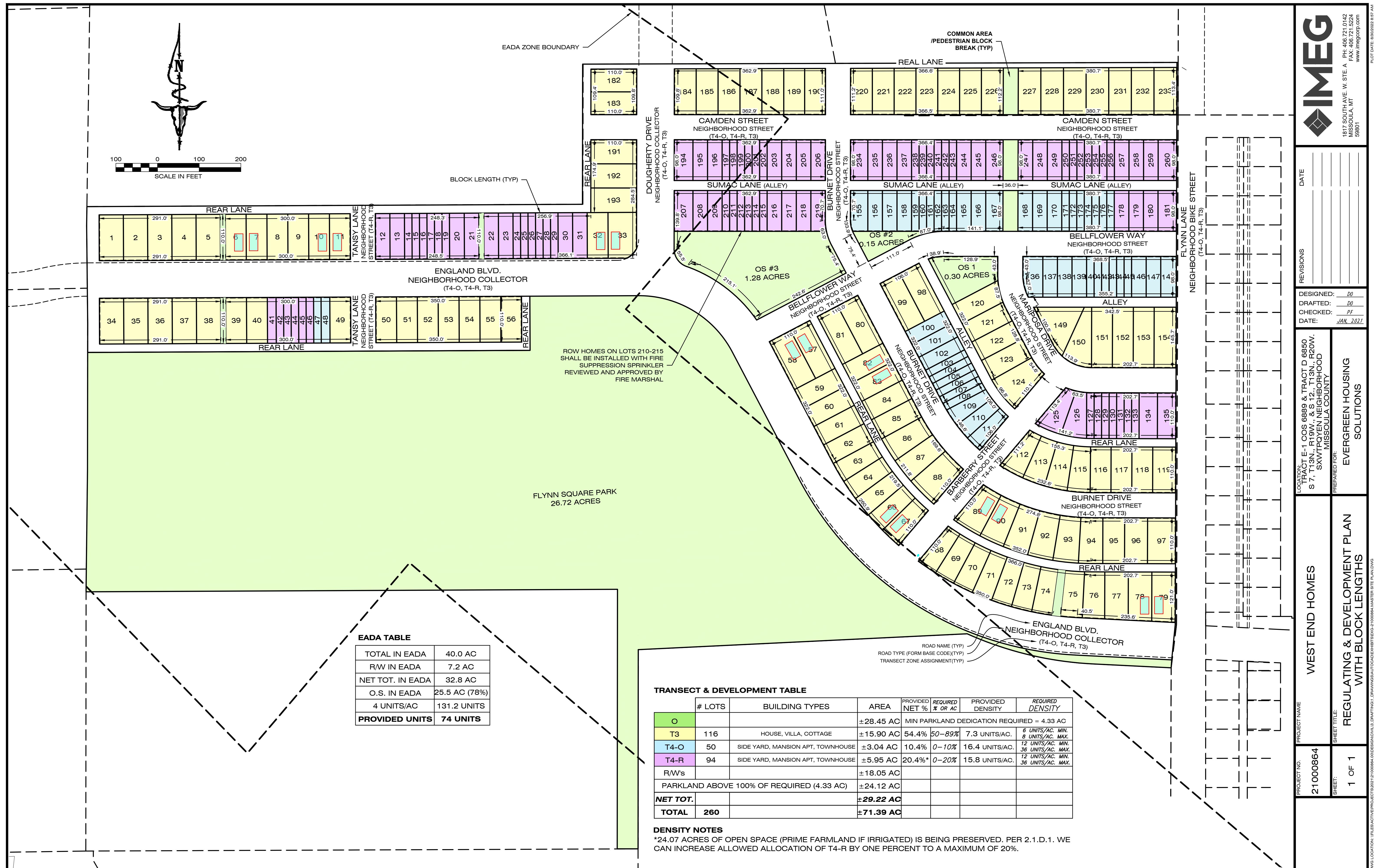
URBAN DESIGN: The site plan and home designs of WEF include modern urban design and planning features such as 1) creating a visually dynamic streetscape by strategically locating 6 different housing types, each with multiple facades and floorplans, within the 292 homes (typical detached homes, side yard homes, townhomes, mansion apartments, cottages, and ADUs), 2) sustainable storm water management (bioswales), 3) 100% off-street alley-accessed rear parking, 4) minimum 80sf front porches connecting to 6’ wide sidewalks and 8’ wide treed boulevards, 5) all homes with minimum 9’ ceiling heights, main floor at least 2’ above elevation of sidewalks, and over 30% façade transparency (“windows vs. walls”), and 6) leveraging the principles of Universal Design which is “an approach to design that honors human diversity. It addresses the right for everyone — from childhood into their oldest years — to use all spaces, products, and information in an independent, inclusive, and equal way. It is a process that invites designers to go beyond compliance with access codes — to create excellent, people centered design.”

COMMUNITY IMPACT: The neighborhoods west of Reserve Street lack a franchise community park and the creation of one is included in the master plan, though the location and means of creation were not specified. The developer of WEF has donated 18-acres to the City of Missoula to expand the public park to 28-acres and has strategically located it between the 260-homes and Hellgate Elementary. Further, the developer engaged a renowned Denver-based design firm (Design Workshop) to work with Missoula Parks and Recreation to facilitate a design process inclusive of large public input process (see www.engagemissoula.com/west-end-park). The result was the project became the first “agrihood” in Montana, setting aside 5-acres within the park for a working farm that is owned by the City of Missoula,

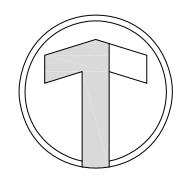
and operated by Community Food & Agriculture Coalition (who works to establish young farmers). The remaining acreage includes a 5-acre sledding and observation hill, flexible open green, over 2-miles of active pathways and passive nature trails, dog park, children's adventure play (modern playground), pickleball courts, volley ball courts, pump track, and shade structures with restrooms.

AFFORDABILITY: The most frequent public comment during the design of the master plan was centered around the desire for affordable homes. All the homes at WEF are designed and priced (\$375K-\$450K) to target first-time home buyers and working Missoulians who have been priced out of the local market (sale price points correspond to 150% +/- AMI). However, the nature of the real estate market is that housing opportunities often do not reach who they are intended to serve, instead being snapped up by cash buyers, or investors expanding their single-family rental holdings. The homes at West End Farms will be marketed directly to local Missoulians using direct outreach to the branches of city service, hospitals, schools, major employers, etc. This will populate a wait list that is broken into two categories: first time homeowner (as per Federal definition), followed by those who intend to owner occupy. A deed restriction will require all buyer's owner-occupy their home for 2-years prior to moving out and renting it as a longer-term rental (short term rentals will be prohibited by the HOA). If the home is sold, the two-year restriction restarts, thereby ensuring for the foreseeable future that homes in WEF are only purchased by those who intend to live in them.

ALIGNMENT: The owners started their development company 25+ years ago in Missoula after graduating college at the University of Montana. They are vertically integrated in that they acquired the land, designed the site, obtained entitlements, and will build out all the homes (utilizing local subcontractors). By controlling all aspects of the project, from beginning to end, they are able to save costs and ensure the project adheres to the aspirational and mandatory goals set forth in the project, thereby maximizing the benefits to the community.



WEST END HOMES



VICINITY MAP

NOT TO SCALE

INDEX OF DRAWINGS

A0.0	COVER SHEET	S0.1	GENERAL STRUCTURAL NOTES
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A1.0	SPECIFICATION SHEET	S2.1	MAIN FLOOR FRAMING PLAN
A2.0	FLOOR PLANS	S2.2	UPPER FLOOR & LOWER ROOF FRAMING PLAN
A2.1	ROOF PLAN & WINDOW SCHEDULE	S2.3	UPPER ROOF FRAMING PLAN
A3.0	EXTERIOR ELEVATIONS	S3.1	LATERAL PLANS
A3.1	EXTERIOR ELEVATIONS	S4.1	FOUNDATION DETAILS
A3.2	ALTERNATE EXTERIOR ELEVATIONS	S5.1	FRAMING DETAILS
A3.3	ALTERNATE EXTERIOR ELEVATIONS		
A4.0	BUILDING SECTIONS & TRUSS PROFILES		
A4.1	BUILDING SECTIONS		
A4.2	BUILDING SECTIONS		
A5.0	INTERIOR ELEVATIONS		

PROPERTY INFORMATION

PROPERTY ADDRESS:	?????????
LEGAL DESCRIPTION:	?????????
GEOCODE:	?????????
LOT SIZE:	6,403 SQUARE FEET
ZONING DISTRICT:	T3 (TRANSECT - DIVISION 3)
SETBACKS:	REAR: 12'-0" SIDE: 8'-0" SIDE STREET: 12'-0"
FRONT BUILD TO ZONE	20'-0" MIN / 48'-0" MAX
MAX BLDG. HEIGHT:	1 STORY MIN / 2 STORY MAX

ZONING INFORMATION

ABBREVIATIONS

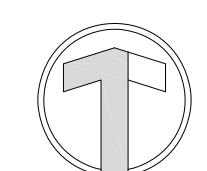
AFF	ABOVE FINISH FLOOR	FOC	FACE OF CONCRETE	MFR	MANUFACTURER	SHTG	SEATHING
ADJ	ADJUSTABLE	FOM	FACE OF MASONRY	MO	MASONRY OPENING	SIM	SIMILAR
AB	ANCHOR BOLT	FOS	FACE OF STUDS	MATL	MATERIAL	S	SOUTH
ALUM	ALUMINUM	FIN	FINISH	MAX	MAXIMUM	SPEC(S)	SPECIFICATION
ANOD	ANODIZED	FLG	FLASHING	MECH	MECHANICAL	SQ	SQUARE
ARCH	ARCHITECT	FD	FLOOR DRAIN	MTL	METAL	STD	STANDARD
		FT	FOOT	MIN	MINIMUM	STL	STEEL
BM	BEAM	FTG	FOOTING	MISC	MISCELLANEOUS	STG	STORAGE
		FND	FOUNDATION			STRUCT	STRUCTURAL
CLG	CEILING	GA	GAUGE	NOM	NOMINAL	SUSP	SUSPENDED
CT	CERAMIC TILE	GALV	GALVANIZED	N	NORTH		
CLR	CLEAR	GEN	GENERAL	NIC	NOT IN CONTRACT	TEL	TELEPHONE
COL	COLUMN	GW	GYPSUM WALL	NTS	NOT TO SCALE	TV	TELEVISION
CONC	CONCRETE	BOARD		NO	NUMBER	T&G	TONGUE & GROOVE
CMU	CONCRETE MASONRY					TOB	TOP OF BEARING
CONT	CONTINUOUS	HDWD	HARDWOOD	OC	ON CENTER	TOS	TOP OF SLAB
CONTR	CONTRACT,	HVAC	HEAT-VENTILATION-AIR-CONDITIONING	OPG	OPENING	TOP	TOP OF PLATE
	CONTRACTOR			OPP	OPPOSITE	TOW	TOP OF WALL
CPT	CARPET	HT	HEIGHT	OD	OUTSIDE DIAMETER	TOM	TOP OF MASONRY
CUT	CONTROL JOINT	HM	HOLLOW METAL	O/O	OUT TO OUT	T	TREAD
CG	CORNER GUARD	HORIZ	HORIZONTAL	OSCI	OWNER SUPPLIED	TYP	TYPICAL
		HW	HOT WATER TANK		CONTRACTOR INSTALLED		
DL	DEAD LOAD	INCL	INCLUDE, INCLUDED,	OSSI	OWNER SUPPLIED OWNER	UBC	UNIFORM BUILDING
DEMO	DEMOLISH,		INCLUDING		INSTALLED		CODE
	DEMOLITION	ID	INSIDE DIAMETER				UNLESS NOTED
DIA	DIAMETER	INSUL	INSULATE, INSULATION	PNT	PAINT, PAINTED		OTHERWISE
DIM	DIMENSION	INT	INTERIOR	P.I.P.	POURED IN PLACE		
DISP	DISPENSER			P-LAM	PLASTIC LAMINATE	VR	VAPOR RETARDER
DIV	DIVISION			PL	PLATE	VERT	VERTICAL
DWG	DRAWING	JAN	JANITOR	PTD	PAPER TOWEL	VG	VERTICAL GRAIN
		JC	JANITOR CLOSET		DISPENSER	VCT	VINYL COMPOSITION
		JT	JOINT	PVC	POLYVINYL CHLORIDE		TILE
EA	EACH			RAD	RADIUS	WC	WATER CLOSET
E	EAST	KO	KNOCK OUT	RWL	RAIN WATER LEADER	WD	WOOD
ELEC	ELECTRIC			REINF	REINFORCE,	WP	WATERPROOF(ING)
ELEV	ELEVATION				REINFORCEMENT	WWF	WELDED WIRE FABRIC
EQUIP	EQUIPMENT	LAM	LAMINATED	REQD	REQUIRED	WWM	WELDED WIRE MESH
EX	EXISTING	LAV	LAVATORY	REV	REVISION	WT	WEIGHT
EXP	EXPANSION	LL	LIVE LOAD	R	RISER	W	WEST
EXT	EXTERIOR			RD	ROOF DRAIN	W/	WITH
				RO	ROUGH OPENING		

GOVERNING CODES

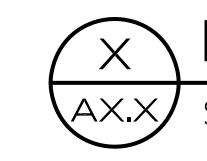
WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL CONFORM TO THE LATEST EDITION OR ISSUE OF ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES INCLUDING BUT NOT LIMITED TO:

INTERNATIONAL BUILDING CODE / INTERNATIONAL RESIDENTIAL CODE
NATIONAL ELECTRICAL CODE (WITH STATE AMENDMENTS ATTACHED)
UNIFORM MECHANICAL CODE
UNIFORM ELECTRICAL CODE
INTERNATIONAL FUEL GAS CODE
UNIFORM PLUMBING CODE
INTERNATIONAL ENERGY CONSERVATION CODE
AMERICANS WITH DISABILITIES ACT (A.D.A.)

PROJECT SYMBOLS



NORTH ARROW



DRAWING TITLE

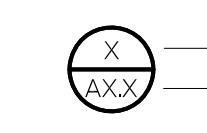
SCALE



DOOR # - SEE DOOR SCHEDULE

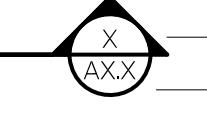


WINDOW TAG - SEE WINDOW SCHEDULE



DETAIL NUMBER

SHEET NUMBER



BUILDING SECTION NUMBER

SHEET NUMBER

SQUARE FOOTAGES

FIRST FLOOR:	612 SQ. FT. (LIVING) 378 SQ. FT. (GARAGE)
SECOND FLOOR:	468 SQ. FT. (LIVING)
TOTAL:	1,458 SQ. FT.

GENERAL NOTES

- ALL WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL INCLUDE THE FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, AND SUPERVISION TO PERFORM THE WORK AND CONSTRUCTION FOR THE PROJECT AS INDICATED IN THESE DOCUMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ANY TEMPORARY BUILDINGS, ELECTRICAL POWER, LIGHTING, TELEPHONE SERVICE, WATER SERVICE, HEAT AND OTHER ASSOCIATED UTILITIES REQUIRED FOR STAGING AND/OR CONSTRUCTION.
- ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF THE 2009 INTERNATIONAL BUILDING CODE.
- THESE DOCUMENTS REPRESENT THE DESIRED RESULT OF CONSTRUCTION. THE METHODS OF SUCH CONSTRUCTION AND THE ASSOCIATED RISKS INVOLVED SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL MAINTAIN THE STRUCTURAL INTEGRITY OF THE BUILDING DURING ALL STAGES OF CONSTRUCTION.
- PRIOR TO BEGINNING ANY WORK, THE CONTRACTOR SHALL VERIFY THAT ALL REQUIRED PERMITS AND/OR APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION AND/OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PLANS AND OTHER DOCUMENTATION FROM ALL OF THE PERMITTING / REGULATORY AGENCIES. FAILURE TO FOLLOW THIS PROCEDURE SHALL CAUSE THE CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ANY SUBSEQUENT MODIFICATION OF WORK AS MANDATED BY SUCH REGULATORY AUTHORITY.
- THE CONTRACTOR SHALL VERIFY ALL SIZES, DIMENSIONS AND ELEVATIONS PRIOR TO PROCEEDING WITH ANY WORK. ANY DISCREPANCIES FOUND SHALL BE REPORTED TO THE ARCHITECT PRIOR TO PROCEEDING WITH ANY AFFECTED WORK.
- THE CONTRACTOR SHALL FOLLOW SIZES AS INDICATED IN THE CONSTRUCTION DOCUMENTS AND SHALL FOLLOW DETAIL DRAWINGS IN PREFERENCE TO GENERAL DRAWINGS. DO NOT SCALE THE DRAWINGS.
- WHERE IT IS OBVIOUS THAT A DRAWING ILLUSTRATES ONLY A PART OF A GIVEN WORK OR OF A NUMBER OF ITEMS, THE REMAINDER SHALL BE DEEMED REPETITIVE AND SO CONSTRUCTED.
- ANY PROPOSED SUBSTITUTIONS SHALL BE APPROVED BY THE ARCHITECT / OWNER PRIOR TO COMMENCING WITH THE PERTINENT WORK.
- ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION OF OTHER TRADES, INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING AND STRUCTURAL COMPONENTS AS WELL AS THOSE ITEMS SUPPLIED BY THE OWNER.
- UNLESS NOTED OTHERWISE, ALL DIMENSIONS ON THE PLANS ARE TO THE FACE OF FRAMING MEMBERS OR STUDS AND TO THE CENTER OF COLUMNS.
- ANY OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS WITHIN THESE DOCUMENTS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH ANY AFFECTED WORK.
- THE USE OF THESE DOCUMENTS SHALL BE RESTRICTED TO THE ORIGINAL PROJECT SITE FOR WHICH THEY WERE PREPARED. PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE. ANY PUBLICATION, REUSE OR REPRODUCTION BY ANY METHOD IN WHOLE OR IN PART IS PROHIBITED. OWNERSHIP AND TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF SQUARE 1 ARCHITECTURE, PLLC. VISUAL CONTACT WITH THESE PLANS SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF THE ACCEPTANCE OF THESE RESTRICTIONS.
- SIGNAGE REQUIRES SEPARATE APPROVALS AND PERMIT.

A.O.O

WEST END HOMES - PHASE 1 LOT 1
MISSOULA, MONTANA

PROJECT NUMBER 24-024
DATE 4/29/2024

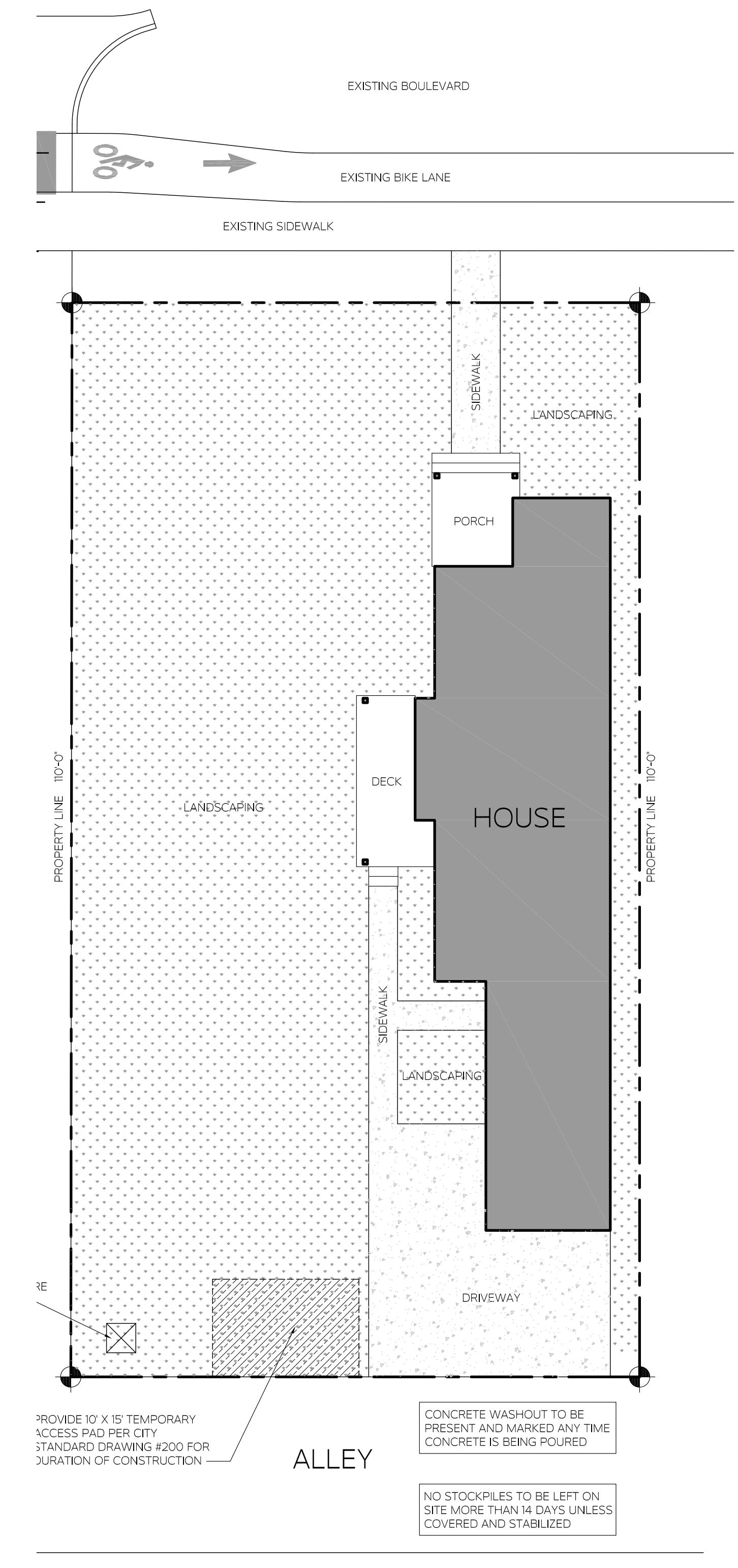
REV DATE DESCRIPTION

COVER SHEET

SQUARE 1
ARCHITECTURE

2315 MCDONALD AVENUE
MISSOULA, MONTANA
406. 529. 3210
SUITE 103
59801

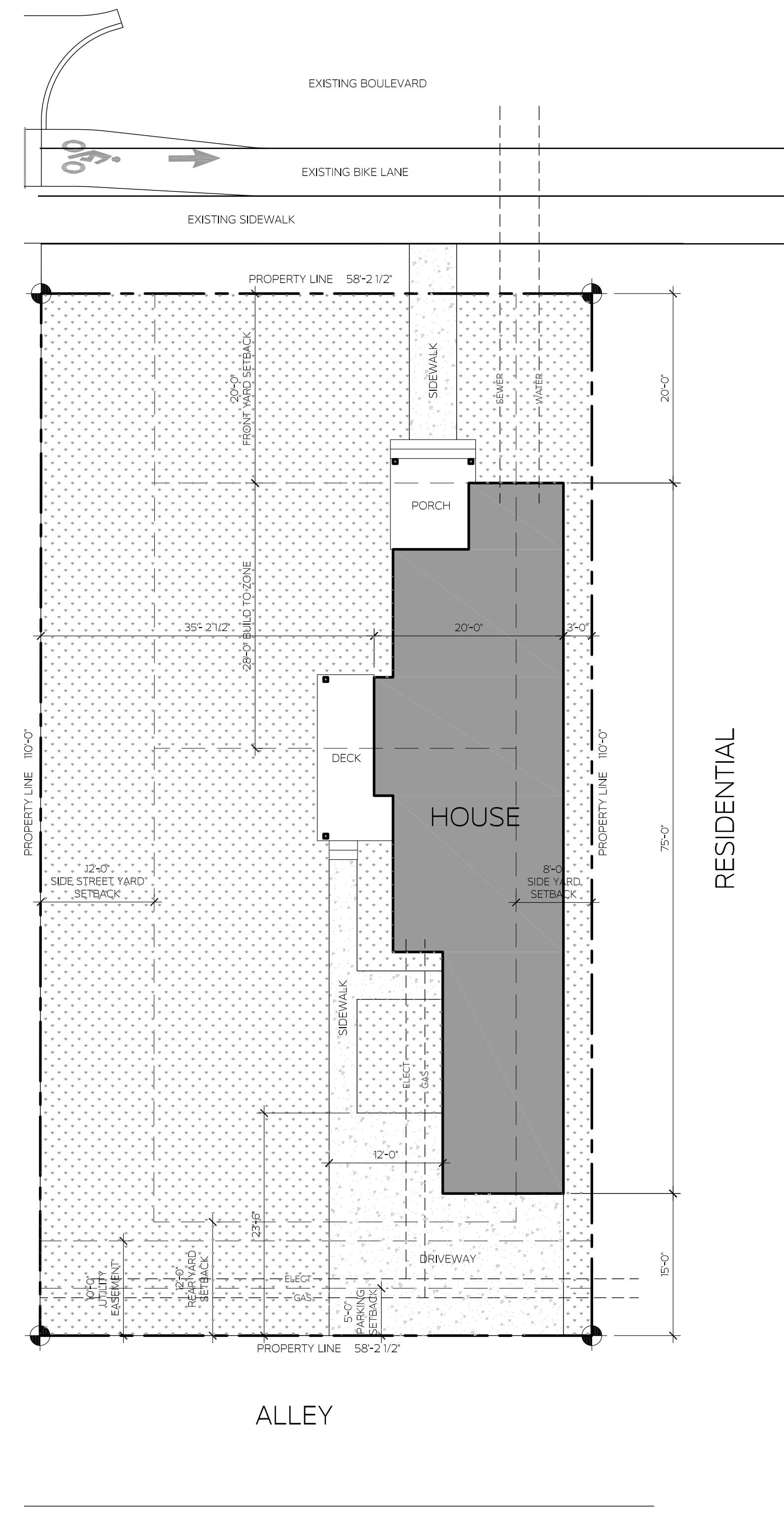
ENGLAND BOULEVARD



SWPP PLAN

SCALE: 1" = 10'-0"

ENGLAND BOULEVARD



SITE PLAN

SCALE: 1" = 10'-0"

GENERAL NOTES & CONDITIONS

1. GENERAL REQUIREMENTS

2. USE WRITTEN DIMENSIONS. DO NOT USE SCALED DIMENSIONS, WHERE NO DIMENSION IS PROVIDED, CONSULT THE ARCHITECT OR ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.

3. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS AND LAYOUT OF THE EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE THE ERECTION OF THE WORK SPECIFIED IN THESE DRAWINGS. EXISTING BUILDING ELEMENTS ARE IDENTIFIED FOR REFERENCE WITH THE PREFIX (E).

4. DETAILS IN THE DRAWINGS PREFACED WITH THE TITLE "TYPICAL" MAY NOT NECESSARILY BE REFERENCED ON THE PLANS, BUT SHALL STILL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS, WHERE NO DETAIL IS REFERENCED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE RELEVANT TYPICAL DETAIL FROM THOSE PROVIDED.

5. THE DESIGN ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, SHORING OF EXISTING BUILDING ELEMENTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE PRIOR TO THE ERECTION OF THE FRAMING AND OF THE LATERAL-LOAD-RESISTING SYSTEM IS COMPLETE.

6. THE ENGINEER HOLDS NO LIABILITY FOR UNAUTHORIZED CHANGES TO THE CONSTRUCTION DOCUMENTS MADE BY THE OWNER, CONTRACTOR, BUILDING OFFICIAL, OR OTHER INVOLVED PARTY.

7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING A SAFE PLACE TO WORK AND FOR MEETING THE REQUIREMENTS OF ALL APPLICABLE JURISDICTIONS, INCLUDING OSHA. THE CONTRACTOR SHALL EXECUTE THEIR WORK TO ENSURE THE SAFETY OF PERSONS AND ADJACENT PROPERTY AGAINST DAMAGE BY FALLING DEBRIS AND OTHER HAZARDS ASSOCIATED WITH THE WORK.

8. THE LATERAL FORCE RESISTANCE AND STABILITY OF THE BUILDING IN THE CONCRETE FRAME IS PROVIDED BY THE WOOD-FRAMED SHEAR WALLS IN EACH ORTHOGONAL DIRECTION. THE WOOD SHEATHED FLOORS AT LEVELS 2, 3 AND THE WOOD SHEATHED ROOF SEEM AS HORIZONTAL DIAPHRAGMS TO DISTRIBUTE WIND AND SEISMIC FORCES TO THE WOOD-FRAMED SHEAR WALLS.

9. UNLESS NOTED OTHERWISE IN THE PROJECT SPECIFICATIONS, SHOP DRAWINGS AND/OR SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION OR CONSTRUCTION RELATED TO THE FOLLOWING STRUCTURAL ITEMS:

A. CONCRETE MIX DESIGN

B. PREFABRICATED WOOD TRUSSES

C. POST-INSTALLED ANCHOR ICC-ES OR IAPMO ES EVALUATION REPORTS

10. DESIGN CRITERIA

A. BUILDING CODE: 2021 INTERNATIONAL BUILDING CODE

B. GEOTECHNICAL AND GRAVITY DESIGN DATA

- I. ALLOWABLE SOIL BEARING CAPACITY: 1500 PSF FOR GRAVITY LOADS, 2000 PSF FOR WIND AND SEISMIC LOADS
- II. FLOOR LIVE LOAD: 40 PSF
- III. ROOF LIVE LOAD: 20 PSF
- IV. GROUND WATER LOAD: PG 3225 PSF
- V. WATERFLOOD ENCL LOAD: PR 30 PSF
- VI. SNOW EXPOSURE FACTOR: CE 1.0
- VII. SNOW LOAD IMPORTANCE FACTOR: I 1.0
- VIII. THERMAL FACTOR: CT 1.1

C. WIND DESIGN DATA

- I. BASIC WIND SPEED: WIND = 105 MPH
- II. RISK CATEGORY: II
- III. WIND EXPOSURE CATEGORY: C
- IV. INTERNAL PRESSURE COEFFICIENT, GCPI: +/- 0.08

D. SEISMIC DESIGN DATA

- I. RISK CATEGORY: II
- II. DESIGN SPECTRAL ACCELERATION, IE: 0.0
- III. MAPPED SPECTRAL ACCELERATION, SS: 0.013
- IV. MAPPED SPECTRAL ACCELERATION, SR: 0.038
- V. SITE CLASS: D
- VI. DESIGN SPECTRAL ACCELERATION, SDS: 0.040
- VII. DESIGN SPECTRAL ACCELERATION, SDR: 0.214
- VIII. SEISMIC DESIGN CATEGORY: D
- IX. BASIC SEISMIC FORCE RESISTING SYSTEM: WOOD-FRAMED SHEAR WALLS, EACH ORTHOGONAL DIRECTION
- X. DESIGN BASE SHEAR: 37 KIPS, EACH ORTHOGONAL DIRECTION
- XI. DESIGN RESPONSE COEFFICIENT, CS: 0.062, EACH ORTHOGONAL DIRECTION
- XII. RESPONSE MODIFICATION FACTOR, R: 6.5, EACH ORTHOGONAL DIRECTION
- XIII. ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE

POST-INSTALLED ANCHORS

1. ADHESIVE ANCHORS AND DOWELS IN CONCRETE: SET-XP (ICC-ES ESR-250B) OR AT-XP (IAPMO UES ER-263) BY SIMPSON STRONG-TIE OR HIT-HY 200 (ICC-ES ESR-3187) BY HILTI.

2. ADHESIVE ANCHORS AND DOWELS IN REINFORCED MASONRY: SET-XP (IAPMO UES ER-265) OR AT-XP (IAPMO UES ER-281) BY SIMPSON STRONG-TIE.

3. EXPANSION ANCHORS IN CONCRETE: STRONG-BOLT 2 (ICC-ES ESR-3037) BY SIMPSON STRONG-TIE OR KWIK BOLT T2 (ICC-ES ESR-977) BY HILTI.

4. EXPANSION ANCHORS IN MASONRY: STRONG-BOLT 2 (IAPMO UES ER-240) BY SIMPSON STRONG-TIE.

5. SCREW ANCHORS IN CONCRETE: HITEN HD (ICC-ES ESR-2713) BY SIMPSON STRONG-TIE OR KWIK HUS-EZ (ICC-ES ESR-3027) BY HILTI.

6. SCREW ANCHORS IN MASONRY: HITEN HD (ICC-ES ESR-1056) BY SIMPSON STRONG-TIE OR KWIK HUS-EZ (ICC-ES ESR-3056) BY HILTI.

7. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ALL POST-INSTALLED ANCHORS, INCLUDING REQUIREMENTS FOR INSTALLING ANCHORS NEAR HEAD OR BED JOINTS IN MASONRY WALLS.

8. PROVIDE STAINLESS STEEL FASTENERS FOR EXTERIOR USE OR WHEN EXPOSED TO WEATHER. PROVIDE ELECTRO-PLATED CARBON STEEL ANCHORS AT OTHER LOCATIONS, UNLESS NOTED OTHERWISE.

9. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABDOMIN AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM 12 INCHES OF CLEARANCE ON EACH SIDE OF THE REINFORCEMENT. IF THE HOLE IS LARGER, FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, SEEK GUIDANCE FROM THE ENGINEER.

10. LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH POST-INSTALLED ANCHORS.

11. SUBSTITUTIONS: SUBSTITUTED PRODUCTS SHALL HAVE AN ASSOCIATED ICC-ES OR IAPMO EVALUATION REPORT AND THE CONTRACTOR MUST DEMONSTRATE PERFORMANCE IS EQUIVALENT TO THE SPECIFIED PRODUCTS. SUBSTITUTIONS WILL NOT BE CONSIDERED UNLESS THIS INFORMATION IS SUBMITTED.

SHALLOW FOUNDATIONS

1. IF ANY OF THE FOLLOWING CONDITIONS ARE DISCOVERED DURING CONSTRUCTION AT THE BUILDING SITE, A GEOTECHNICAL INVESTIGATION SHALL BE COMMISSIONED IN ACCORDANCE WITH CHAPTER 18 OF THE IBC:

- A. QUESTIONABLE SOIL
- B. EXPANSIVE SOIL
- C. GROUND-WATER TABLE IS ABOVE OR WITHIN 5 FEET BELOW THE ELEVATION OF THE LOWEST FLOOR LEVEL WHERE SUCH FLOOR IS LOCATED BELOW THE FINISHED GROUND LEVEL ADJACENT TO THE FOUNDATION.
- D. DEEP FOUNDATION
- E. RISKS OF VARIABLE OR DOUBTFUL CHARACTERISTICS
- F. EXCAVATIONS THAT WILL REMOVE THE LATERAL SUPPORT OF AN ADJACENT EXISTING FOUNDATION
- G. USE OF COMPACTED FILL MATERIAL BELOW SHALLOW FOUNDATIONS IN EXCESS OF 12 INCHES IN DEPTH
- H. USE OF CONTROLLED LOW-STRENGTH MATERIAL (CLSM)
- I. ALTERNATE SETBACK AND CLEARANCE
- J. SEISMIC DESIGN CATEGORIES C THROUGH F

2. EXCAVATION FOR ANY PURPOSE SHALL NOT REMOVE LATERAL SUPPORT FROM ANY FOUNDATION WITHOUT FIRST UNDERPINNING OR PROTECTING THE FOUNDATION AGAINST SETTLEMENT OR LATERAL TRANSLATION.

3. FOUNDATIONS SHALL BE BUILT ON UNDISTURBED SOIL OR COMPACTED FILL MATERIAL. 12 INCHES OR LESS IN DEPTH, IF PROVIDED. COMPACTED FILL MATERIAL SHALL HAVE AN IN-PLACE DRY DENSITY NOT LESS THAN 90 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D1557. IF THE COMPACTED FILL MATERIAL EXCEEDS 12 INCHES IN DEPTH OR CLSM IS USED, PLACEMENT SHALL COMPLY WITH THE PROVISIONS OF AN APPROVED GEOTECHNICAL INVESTIGATION AND REPORT.

4. THE BOTTOM OF ALL EXTERIOR FOOTINGS AND FOOTINGS SUSCEPTIBLE TO FROST HEAVE SHALL EXTEND A MINIMUM DEPTH BELOW LOWEST ADJACENT FINISHED GRADE OF 3'-0".

5. THE SUBGRADE OF SLABS ON GRADE SHALL BE STRIPPED, TILLED, AND RE-COMPACTED TO PRODUCE A UNIFORM SURFACE. THE SUBGRADE SHALL BE DRIED AND TILLED TO A MAXIMUM DEPTH OF 12 INCHES. CRUSHER-RUN BASE MATERIAL, WITH A BALANCED DRY CONTENT THAT SATISFIES THE REQUIREMENTS OF ASTM D124, TYPE I MAXIMUM GRADATION C, THE BASE MATERIAL SHALL BE COMPACTED TO A DRY DENSITY NOT LESS THAN 90 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D1557. THE SURFACE OF THE BASE MATERIAL SHALL BE CHOCKED OFF WITH SAND OR FINE GRAVEL AND COMPACTED TO PROVIDE A SMOOTH, PLANAR SURFACE FOR THE CONCRETE SLAB ON GRADE.

6. PROVIDE A VAPOR RETARDER DIRECTLY BELOW THE SLAB AND ABOVE THE GRANULAR BASE MATERIAL, UNLESS NOTED OTHERWISE. THE VAPOR RETARDER SHALL COMPLY WITH ASTM ET45 AND SHALL BE 10 MILS THICK, MINIMUM.

7. THE EXCAVATION OUTSIDE THE FOUNDATION SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, COBBLES AND BOULDERS, OR WITH CLSM. THE BACKFILL SHALL BE PLACED IN LIFTS AND COMPACTED IN A MANNER THAT DOES NOT DAMAGE THE FOUNDATION OR THE WATERPROOFING OR DAMPROOFING MATERIAL. IF PRESENT, CLSM NEED NOT BE COMPACTED.

8. DAMPROOFING AND FOUNDATION DRAINS SHALL BE PROVIDED FOR WALLS THAT RETAIN EARTH AND ENCLOSE INTERIOR SPACES BELOW GRADE:

- A. DAMPROOFING MATERIAL SHALL BE INSTALLED ON THE EXTERIOR SURFACE OF THE WALL, EXTENDING FROM THE TOP OF THE FOOTING TO ABOVE GROUND LEVEL. THE MATERIAL SHALL CONSIST OF A BITUMINOUS MATERIAL, 3 POUNDS PER SQUARE YARD OF ACRYLIC MODIFIED CEMENT, OR 1/8 INCH COAT OF SURFACE-BONDING MORTAR COMPLYING WITH ASTM C887. HOLES AND RECESSES IN CONCRETE WALLS RESULTING FROM THE REMOVAL OF FORM TIES SHALL BE SEALED PRIOR TO APPLYING DAMPROOFING.
- B. THE FOUNDATION DRAIN SHALL BE PLACED AROUND THE PERIMETER OF THE FOUNDATION CONSISTING OF CRUSHER-RUN MATERIAL AND EXTENDING A MINIMUM OF 12 INCHES BEYOND THE OUTSIDE EDGE OF THE FOOTING. THE THICKNESS SHALL BE SUCH THAT THE BOTTOM OF THE DRAIN IS NOT HIGHER THAN THE BOTTOM OF THE BASE UNDER THE FLOOR, AND THAT THE TOP OF THE DRAIN IS NOT LESS THAN 6 INCHES ABOVE THE TOP OF THE FOOTING. THE TOP OF THE DRAIN SHALL BE COVERED WITH A FILTER MEMBRANE MATERIAL.

9. WHERE THE GROUND-WATER TABLE IS ABOVE OR WITHIN 5 FEET OF THE BASEMENT FLOOR OR RETAINING WALL FOUNDATION, PROVISIONS FOR WATERPROOFING THE FLOOR AND WALLS SHALL BE COMMISSIONED OR A GROUND-WATER CONTROL SYSTEM SHALL BE PROVIDED, TO BE DESIGNED BY OTHERS.

CAST-IN-PLACE CONCRETE

1. CONCRETE:

A. CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 301, UNLESS OTHERWISE NOTED.

B. REQUIRED COMPRESSIVE STRENGTH, PC:

- I. CONCRETE ELEMENTS EXPOSED TO THE EXTERIOR GROUND AND WEATHER OR UNCONDITIONED SPACE OF THE BUILDING 4500 PSI AT 28 DAYS, NORMAL WEIGHT, MAXIMUM WATER TO CEMENT RATIO = 0.45.
- II. CONCRETE ELEMENTS WITHIN THE CONDITIONED SPACE OF THE BUILDING: 3000 PSI AT 28 DAYS, NORMAL WEIGHT.

III. IF THE CONTRACTOR ELECTS TO REPLACE THE CEMENT IN THE CONCRETE MIX WITH HIGH-VOLUME FLY ASH, IT IS PERMISSIBLE TO ESTABLISH FFC AT 56 DAYS. THE CONTRACTOR SHALL COORDINATE THE DURATION OF SHORING AND TEMPORARY BRACING ACCORDINGLY.

C. DURABILITY REQUIREMENTS:

- I. CONCRETE ELEMENTS EXPOSED TO THE EXTERIOR GROUND AND WEATHER OR UNCONDITIONED SPACE OF THE BUILDING PROVIDE TOTAL AIR CONTENT IN ACCORDANCE WITH EXPOSURE CLASS F1 IN ACCORDANCE WITH ACI 318, CHAPTER 4, PER THE FOLLOWING TABLE. TOLERANCE ON AIR CONTENT AS DELIVERED SHALL BE +/- 15%:

NOMINAL MAXIMUM AGGREGATE SIZE	TOTAL AIR CONTENT EXPOSURE CLASS F1
1/2"	5.5%
3/4"	5%
1"	4.5%
1 1/2"	4.5%

ALL OTHER CONCRETE: NO REQUIREMENTS

D. THE CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS OF CONSTRUCTION OR POUR JOINTS TO THE ARCHITECT AND ENGINEER FOR REVIEW.

E. ROUGHEN CONCRETE SURFACES OF CONSTRUCTION JOINTS AND AT LOCATIONS WHERE CONCRETE IS CAST AGAINST REINFORCING CONCRETE TO 1/4" AMPLITUDE AND CLEAN OF LAITANCE, FOREIGN MATTER, AND LOOSE PARTICLES.

2. REINFORCING STEEL:

A. TYPICAL REINFORCING: ASTM A615 GRADE 40 FOR #3 BARS, ASTM A615 GRADE 60 FOR #4 BARS TO #7 BARS, AND ASTM A706 GRADE 60 FOR #8 BARS AND LARGER

B. REINFORCING TO BE WELDED: ASTM A706 GRADE 60

C. DEFORMED BAR ANCHORS: ASTM A1064, FY = 70 KSL

D. PROVIDE CLEARANCE AND COVER OF REBAR AS FOLLOWS, UNLESS OTHERWISE NOTED:

- I. CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 INCHES
- II. FORMED SURFACES EXPOSED TO EARTH OR WEATHER: # 5 BARS AND SMALLER: 1/2 INCHES
- III. FORMED SURFACES EXPOSED TO EARTH OR WEATHER: # 6 BARS AND LARGER: 2 INCHES
- IV. INTERIOR SLABS, WALLS, AND JOISTS: 3/4 INCHES
- V. BEAMS AND COLUMNS: 1 1/2 INCHES TO TRANSVERSE REINFORCING

E. UNLESS OTHERWISE NOTED, REINFORCING BARS SHALL BE SPLICED WITH 50-BAR-DIAMETER LAPS, MINIMUM.

F. REINFORCING SHALL BE SUPPORTED PRIOR TO CONCRETING IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE, MSP-1.

G. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH ACI 315.

H. WELDING OF REINFORCING IS PERMITTED ONLY WHERE SHOWN IN THE DRAWINGS. WELDING SHALL CONFORM TO AWS D14, STRUCTURAL WELDING CODE - STEEL.

3. SLAB ON GRADE CONTROL JOINTS:

A. THE CONTRACTOR SHALL INSTALL TOOLED OR SAWCUT CONTROL JOINTS IN THE CONCRETE SLABS ON GRADE. THE JOINTS SHALL BE 1/8" WIDE AND T/4 DEEP, WHERE T EQUALS THE SLAB THICKNESS.

B. THE JOINTS SHALL SUB-DIVIDE THE SLAB INTO PANELS WITH THE LONGER SIDE NO GREATER THAN 15 TIMES THE LENGTH OF THE SHORTER SIDE.

C. JOINTS IN INTERIOR SLABS SHALL BE SPACED AT NO FURTHER THAN 12'-0" APART AND JOINTS IN EXTERIOR SLABS SHALL BE SPACED AT NO FURTHER THAN 6'-0".

D. THE CONTRACTOR SHALL SUBMIT THEIR CONTROL JOINT PLAN TO THE ARCHITECT AND ENGINEER FOR REVIEW PRIOR TO THE FIRST SLAB ON GRADE CONCRETE POUR.

4. WELDED WIRE REINFORCEMENT: ASTM A1064, SHEETS ONLY

5. FIBER-REINFORCED CONCRETE: ASTM C116 TYPE III, 40% HOPALON POLYPROPYLENE MO FIBERREINFORCED FIBERS, 15 POUND PER CUBIC YARD, MINIMUM APPLICATION RATE

DEFERRED SUBMITTALS

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED FOR THE FOLLOWING DEFERRED SUBMITTAL: PERMANENT INDIVIDUAL TRUSS DESIGN DRAWINGS. THE CONTRACTOR AND ARCHITECT WILL FORWARD THE DOCUMENTS TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND FOUND TO BE IN GENERAL CONFORMITY TO THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

A. PREFABRICATED WOOD TRUSSES

B. ANCHORAGE OF MECHANICAL, ELECTRICAL, PLUMBING, OR MISCELLANEOUS EQUIPMENT WEIGHING MORE THAN 400 POUNDS

WOOD FRAMING

1. MEMBERS:

A. SAWN LUMBER: NO. 2 DOUGLAS FIR/LARCH, WWP/A GRADE RULES

B. ALL LUMBER SHALL BE KILN DRIED WITH A MOISTURE CONTENT LESS THAN 19%.

C. SILLS AND PLATES IN CONTACT WITH MASONRY OR CONCRETE, AND MEMBERS OF INDIVIDUALS BEING PRESSURE-TREATED DOUGLAS FIR/LARCH, MUD SILL, SHALL BE 2X6, MINIMUM THICKNESS OF THE SAME OR GREATER WIDTH AS THE STUDS ABOVE.

D. TRUSSES SPANNING 60 FEET OR GREATER: THE OWNER SHALL CONTRACT WITH ANY QUALIFIED REGISTERED PROFESSIONAL ENGINEER FOR THE DESIGN OF THE TEMPORARY INSTALLATION RESTRAINT/BRACING AND THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING FOR ALL TRUSSES WITH CLEAR SPANS 60 FEET OR GREATER.

E. TEMPORARY INSTALLATION BRACING/RESTRAINT: THE CONTRACTOR IS RESPONSIBLE FOR THE LATERAL AND INSTALLATION BRACING OF THE TRUSSES. TRUSS BRACING SHALL COMPLY WITH THE REQUIREMENTS OF TPI DS-B-89, TEMPORARY BRACINGS INCLUDES TOP CHORD LATERAL BRACING, BOTTOM CHORD LATERAL BRACING, DIAGONAL BRACING, CROSS BRACING, AND GROUND BRACING.

F. ALL EXTERIOR WOOD SHALL BE PRESSURE TREATED, PAINTED OR STAINED. MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE OWNER. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR EXTERIOR APPLICATIONS.

G. ALL NON-BEARING WALLS BELOW FLOOR FRAMING AND PREFABRICATED TRUSSES SHALL BE SLIP CONNECTED TO ALLOW FOR POTENTIAL FRAMING DEFLECTION.

2. WOOD STRUCTURAL PANELS

A. ROOF: 23/32" THICK, MINIMUM 40, 20/20 SPAN RATING; PANEL GRADE: APA RATED SHEATHING, NAILING, UNLESS NOTED OTHERWISE:

- I. 80 @ 6" OC AT PANEL EDGES
- II. 80 @ 12" OC AT INTERMEDIATE RAFTERS.

B. FLOOR: 23/32" THICK, MINIMUM 24 OC, SPAN RATING: PANEL GRADE: APA RATED SHEATHING, NAILING, UNLESS NOTED OTHERWISE:

- I. 100 @ 6" OC AT PANEL EDGES
- II. 100 @ 12" OC AT INTERMEDIATE JOISTS.

C. WALLS: 7/16" THICK, 24/0 SPAN RATING; PANEL GRADE: APA RATED SHEATHING, NAILING, UNLESS NOTED OTHERWISE:

- I. 80 @ 6" OC AT PANEL EDGES
- II. 80 @ 12" OC AT INTERMEDIATE STUDS.

D. WOOD STRUCTURAL PANELS SHALL CONFORM TO VOLUNTARY PRODUCT STANDARDS PS-1 AND PS-2 AND APA PRP-108 PERFORMANCE STANDARDS.

E. ALL SHEATHING SHALL BEAR THE APA TRADEMARK AND GRADE STAMP

F. ALL END JOINTS SHALL BE STAGGERED AND SHALL BUTT ALONG THE CENTER LINES OF FRAMING MEMBERS.

G. THE LONG DIMENSION OF PANELS SHALL BE INSTALLED PERPENDICULAR TO SUPPORTS WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS.

H. PANELS SHALL NOT BE LESS THAN 4 X 8, EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING. THE MINIMUM PANEL DIMENSION FOR FLOOR SHEATHING AT BOUNDARIES SHALL BE 24" UNLESS ALL EDGES OF THE UNDESERVED PANELS ARE SUPPORTED BY AND FASTENED TO FRAMING MEMBERS OR BLOCKING.

I. NAILS SHALL BE COMMON WIRE NAILS (NOT BOX OR SINKER NAILS) AND BE PLACED 3/8" MINIMUM FROM THE EDGE OF THE PANELS. THE MINIMUM NAIL PENETRATION INTO FRAMING MEMBERS SHALL BE 1/2" FOR 8D NAILS AND 5/8" FOR 10D NAILS.

J. WHERE SPECIAL INSPECTIONS ARE REQUIRED, PANEL NAILING SHALL BE INSPECTED PRIOR TO COVERING.

4. FASTENERS AND FRAMING ANCHORS AND CONNECTORS:

A. NAILS: COMMON WIRE NAILS

- I. 80 @ 0.03" DIA X 2 1/2 LONG
- II. 100 @ 0.04" DIA X 3" LONG
- III. 160 @ 0.06" DIA X 3 1/2 LONG

B. LAG BOLTS AND THRU-BOLTS: ASTM A307

- I. THRU-BOLT HOLES SHALL BE 1/6" LARGER THAN BOLT DIAMETER. PROVIDE STANDARD CUT WASHER UNDER ALL HEAD AND NUTS FOR BOLTS BEARING ON WOOD.
- II. LAG BOLTS IN DRILLED PILOT HOLES EQUAL TO 3/4 TIMES THE BOLT SHANK DIAMETER. DO NOT HAMMER OR OVER-DRIVE BOLTS. PROVIDE STANDARD CUT WASHER UNDER ALL LAG BOLT HEADS BEARING ON WOOD.

C. WOOD SCREWS: AS SPECIFIED ON PLANS

D. FRAMING ANCHORS AND CONNECTORS: SIMPSON STRONG-TIE, ICC-ES ESR 2523, OR APPROVED EQUAL

E. METAL CONNECTORS AND TREATED LUMBER:

- I. ALL METAL CONNECTORS IN CONTACT WITH TREATED LUMBER SHALL BE STAINLESS STEEL, BATH/POST-HOT-DIP GALVANIZED PER ASTM A123 OR A133, OR PROPRIETARY EQUIVALENT.
- II. FASTENERS ARE TO MATCH THE FINISH AND MATERIAL OF THE CONNECTORS.

5. CUTTING, BORING, AND NOTCHING OF WOOD MEMBERS:

A. STUDS:

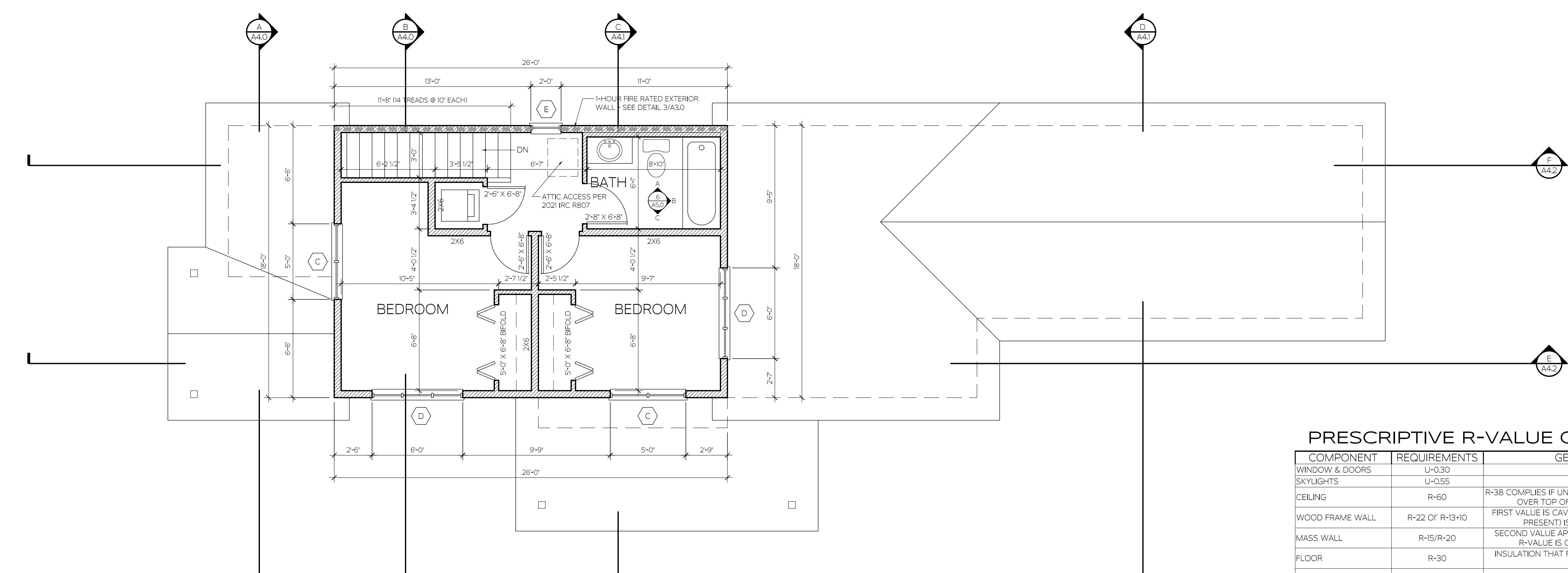
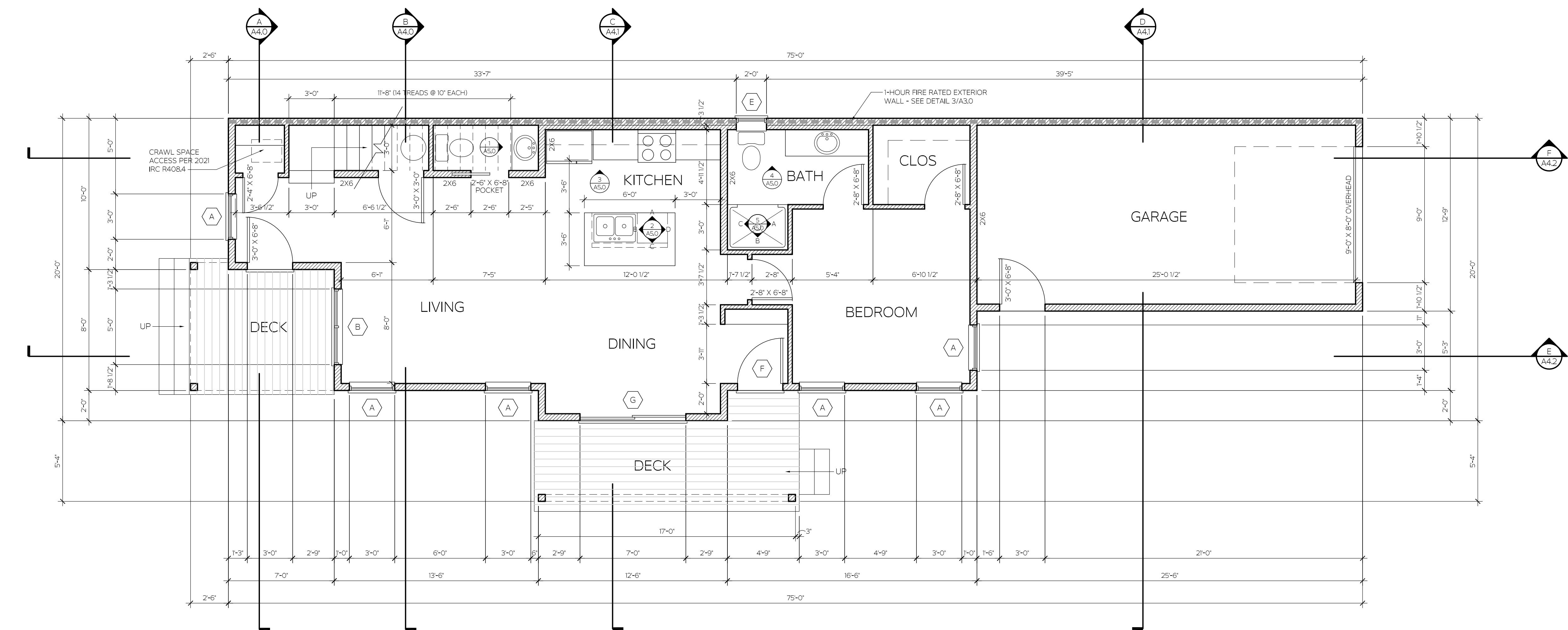
- I. IN EXTERIOR WALLS AND BEARING PARTITIONS, ANY WOOD STUD MAY BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS WIDTH. CUTTING OR NOTCHING OF STUDS TO A DEPTH GREATER THAN 40 PERCENT OF THE WIDTH OF THE STUD IS PERMITTED IN NONBEARING PARTITIONS OR IN ANY WALL WHERE EACH BORED STUD IS DOUBLED. PROVIDED, PROVIDED NOT MORE THAN TWO SUCH SUCCESSIVE DOUBLED STUDS ARE SO BORED. IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8 INCH TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.
- II. A HOLE NOT GREATER IN DIAMETER THAN 40 PERCENT OF THE STUD WIDTH MAY BE BORED IN ANY WOOD STUD. BORED HOLES NOT GREATER THAN 60 PERCENT OF THE WIDTH OF THE STUD ARE PERMITTED IN NONBEARING PARTITIONS OR IN ANY WALL WHERE EACH BORED STUD IS DOUBLED. PROVIDED, PROVIDED NOT MORE THAN TWO SUCH SUCCESSIVE DOUBLED STUDS ARE SO BORED. IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8 INCH TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.

B. JOISTS AND RAFTERS:

- I. NOTCHES AT THE ENDS OF JOISTS AND RAFTERS SHALL NOT EXCEED ONE FOURTH THE DEPTH. NOTCHES IN THE TOP OR BOTTOM OF JOISTS OR RAFTERS SHALL NOT EXCEED ONE SIXTH THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE ONE THIRD OF THE SPAN, EXCEPT THAT A NOTCH NOT EXCEEDING ONE THIRD OF THE DEPTH IS PERMITTED IN THE TOP OF A RAFTER OR CEILING JOIST NOT FURTHER FROM THE FACE OF THE SUPPORT THAN THE DEPTH OF THE MEMBER.
- II. HOLES BORED IN JOISTS OR RAFTERS SHALL NOT BE WITHIN 2 INCHES OF THE TOP AND BOTTOM AND THEIR DIAMETER SHALL NOT EXCEED ONE THIRD THE DEPTH OF THE MEMBER.

C. BEAMS:

- I. NOTCHES ARE NOT PERMITTED UNLESS APPROVED OR DETAILED BY THE ENGINEER, SUBJECT TO THE FOLLOWING LIMITATIONS: NOTCHES IN SAWN LUMBER BENDING MEMBERS SHALL NOT EXCEED ONE SIXTH THE DEPTH OF THE MEMBER, AND SHALL NOT BE LOCATED IN THE MIDDLE ONE THIRD OF THE SPAN, WHERE MEMBERS ARE NOTCHED AT THE ENDS, THE NOTCH DEPTH SHALL NOT EXCEED ONE FOURTH THE BEAM DEPTH. THE TENSION SIDE OF SAWN LUMBER BENDING MEMBERS OF 4 INCH


PREScriptive R-Value Compliance

COMPONENT	REQUIREMENTS	GENERAL NOTES
WINDOW & DOORS	U-0.30	
SKYLIGHTS	U-0.55	
CEILING	R-60	R-38 COMPLIES IF UNCOMPRESSED INSULATION EXTENDS OVER TOP OF EXTERIOR WALL TOP PLATE
WOOD FRAME WALL	R-22 OR R-13+10	FIRST VALUE IS CAVITY INSULATION, SECOND VALUE (IF PRESENT) IS CONTINUOUS SHEATHING
MASS WALL	R-15/R-20	SECOND VALUE APPLIES WHEN MORE THAN HALF OF R-VALUE IS ON INTERIOR OF MASS WALL
FLOOR	R-30	INSULATION THAT FILLS CAVITY (R-19 MINIMUM) ALSO COMPLIES
BASEMENT WALL	R-15/R-19	FIRST VALUE IS CONTINUOUS, SECOND VALUE IS CAVITY
SLAB	R-10, 4FT	INSULATION MUST EXTEND DOWNWARD CONTINUOUSLY FROM TOP OF SLAB FOR 4 FT VERTICALLY OR HORIZONTALLY
CRAWLSPACE WALL	R-15/R-19	FIRST VALUE IS CONTINUOUS INSIDE OR OUTSIDE, SECOND VALUE IS CAVITY INSULATION ON INSIDE

WEST END HOMES

MISSOULA, MONTANA

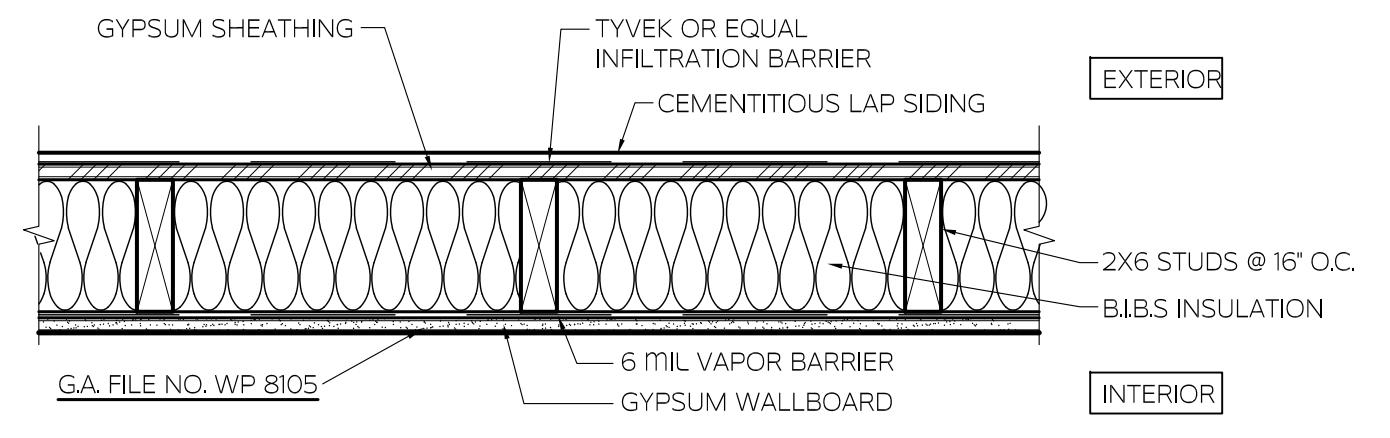
WEST END HOMES - PHASE 1 LOT 34

 PROJECT NUMBER 24-024
 DATE 4/29/2024
 REV DATE DESCRIPTION

FLOOR PLANS
A2.0

MATERIALS LEGEND

1. PREFINISHED LAP SIDING - 4" REVEAL
2. PREFINISHED LAP SIDING - 5" REVEAL
3. PREFINISHED LAP SIDING - 8" REVEAL
4. PREFINISHED 16" O.C. BOARD & BATTEN SIDING - SMOOTH
5. ASPHALT SHINGLE ROOFING
6. EXPOSED CONCRETE
7. PREFINISHED SHINGLE SIDING
8. 4" PREFINISHED TRIM - MATCH SIDING
9. 6" PREFINISHED TRIM - MATCH SIDING
10. PREFINISHED FASCIA
11. WOOD BEAM / COLUMN - PRIMED & PAINTED
12. LOUVER VENT
13. RIDGE VENT
14. 4" PREFINISHED METAL GUTTER TO MATCH SIDING
15. 4" PREFINISHED METAL DOWNSPOUT TO MATCH SIDING
16. 8" PREFINISHED TRIM BAND TO MATCH SIDING



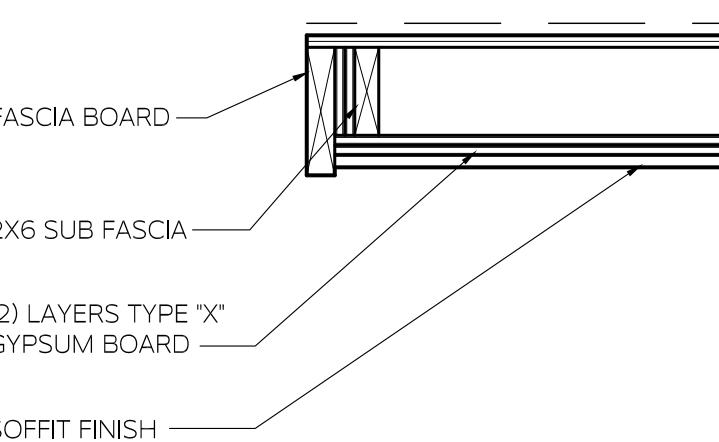
EXTERIOR SIDE: ONE LAYER 48" WIDE 5/8" TYPE X GYPSUM SHEATHING APPLIED PARALLEL TO 2X WOOD STUDS @ 24" O.C. WITH 1 3/4" GALVANIZED ROOFING NAILS 4" O.C. AT VERTICAL JOINTS AND 7" O.C. AT INTERMEDIATE STUDS AND TOP AND BOTTOM PLATES. JOINTS OF GYPSUM SHEATHING MAY BE LEFT UNTREATED. EXTERIOR CLADDING TO BE ATTACHED THROUGH SHEATHING TO STUDS.

INTERIOR SIDE: ONE LAYER 5/8" TYPE X GYPSUM WALLBOARD, WATER RESISTANT GYPSUM BACKING BOARD, OR GYPSUM VENEER BASE APPLIED PARALLEL OR AT RIGHT ANGLES TO STUDS WITH 6D COATED NAILS, 1 7/8" LONG, 0.0915" SHANK, 1/4" HEADS, 7" O.C. (LOAD BEARING)

G.A. FILE NO. WP 8105 - 1 HOUR EXTERIOR WALL CONSTRUCTION

3 1-HOUR RATED EXTERIOR WALL DETAIL

A3.0 SCALE: 1 1/2" = 1'-0"

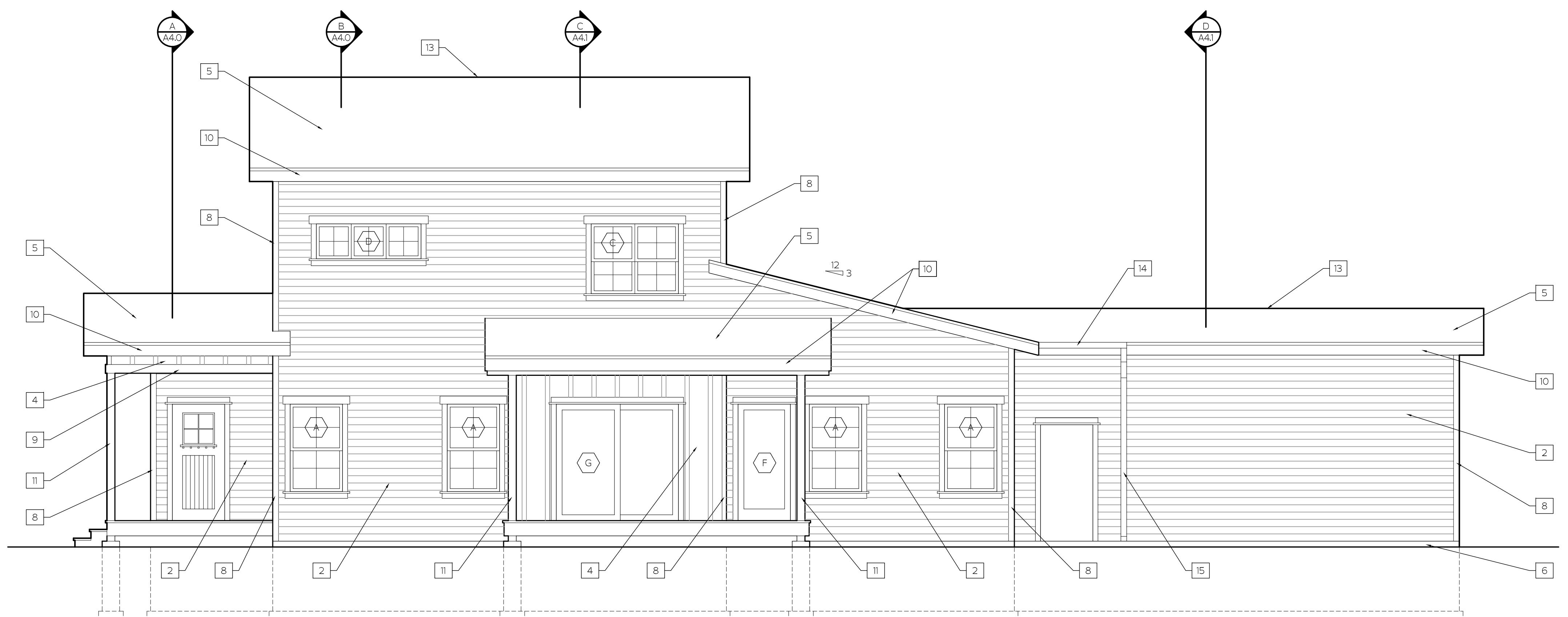


4 1-HOUR RATED ROOF OVERHANG DETAIL

A3.0 SCALE: 1" = 1'-0"

1 FRONT ELEVATION

A3.0 SCALE: 1/4" = 1'-0"



2 RIGHT ELEVATION

A3.0 SCALE: 1/4" = 1'-0"

WEST END HOMES

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WEST END UNION 211 PAGE 1 OCT 21

EXTERIOR ELEVATIONS

A3.C

MATERIALS LEGEND

- PREFINISHED LAP SIDING - 4" REVEAL
- PREFINISHED LAP SIDING - 5" REVEAL
- PREFINISHED LAP SIDING - 8" REVEAL
- PREFINISHED 16' O.C. BOARD & BATTEN SIDING - SMOOTH
- ASPHALT SHINGLE ROOFING
- EXPOSED CONCRETE
- PREFINISHED SHINGLE SIDING
- 4" PREFINISHED TRIM - MATCH SIDING
- 6" PREFINISHED TRIM - MATCH SIDING
- PREFINISHED FASCIA
- WOOD BEAM / COLUMN - PRIMED & PAINTED
- LOUVER VENT
- RIDGE VENT
- 4" PREFINISHED METAL GUTTER TO MATCH SIDING
- 4" PREFINISHED METAL DOWNSPOUT TO MATCH SIDING
- 8" PREFINISHED TRIM BAND TO MATCH SIDING

2315 MCDONALD AVENUE
MISSOULA, MONTANA
406. 529. 3210

SUITE 103
59801



SQUARE1
ARCHITECTURE

WEST END HOMES

MISSOULA, MONTANA

WEST END HOMES - PHASE 1 LOT 34

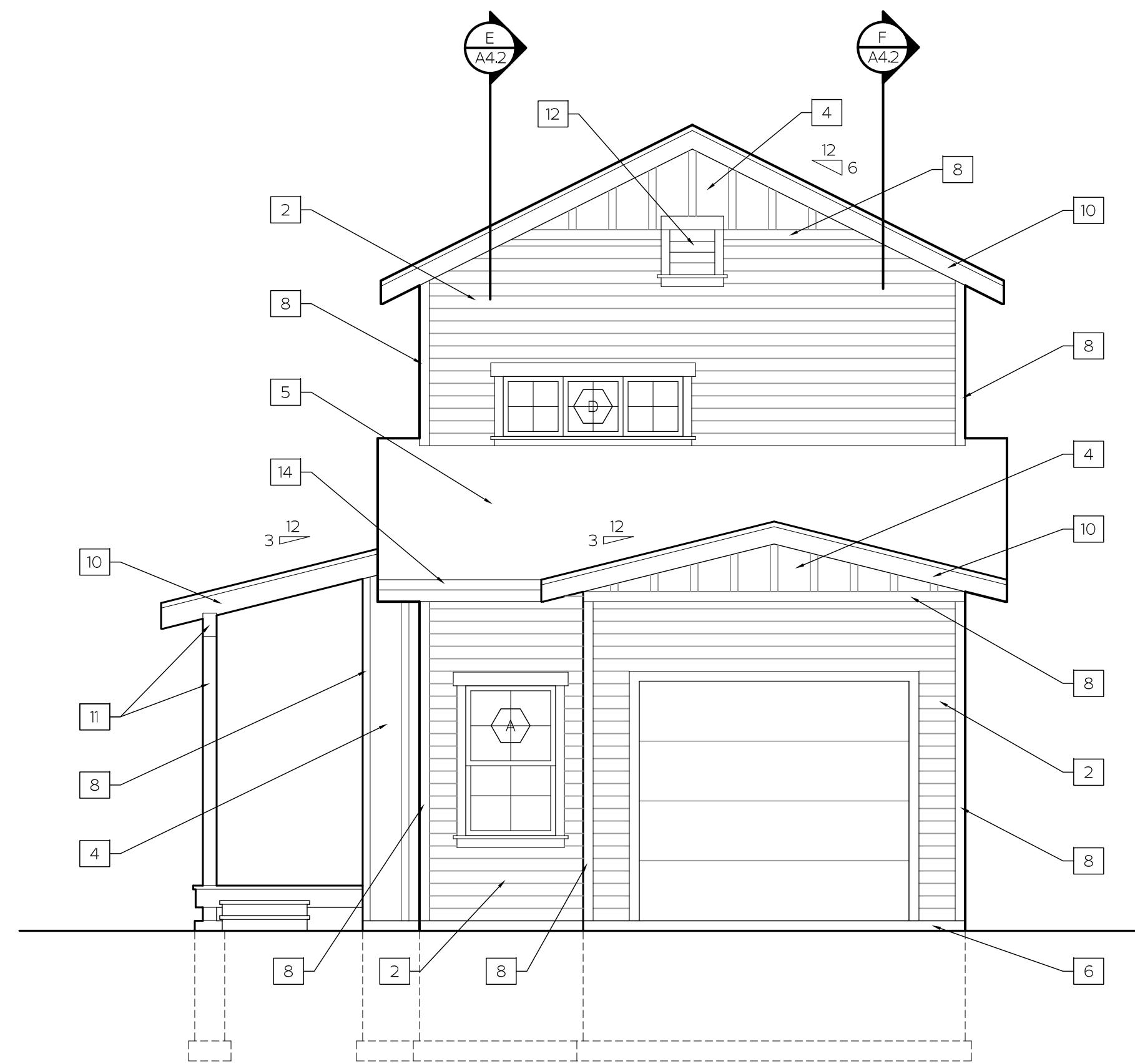
PROJECT NUMBER 24-024

DATE 4 / 29 / 2024

REV DATE DESCRIPTION

EXTERIOR
ELEVATIONS

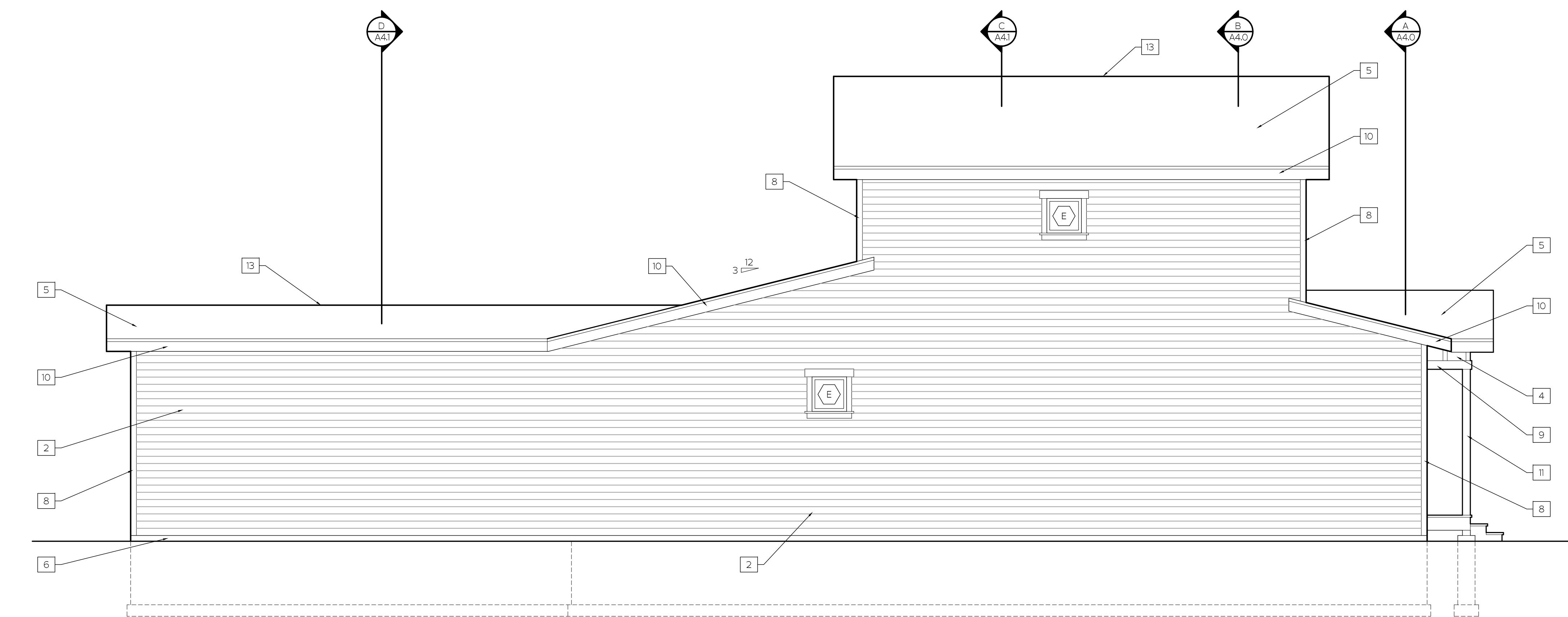
A3.1



1 REAR ELEVATION

A3.1

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



2 LEFT ELEVATION

A3.1

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

MATERIALS LEGEND

- PREFINISHED LAP SIDING - 4" REVEAL
- PREFINISHED LAP SIDING - 5" REVEAL
- PREFINISHED LAP SIDING - 8" REVEAL
- PREFINISHED 16' O.C. BOARD & BATTEN SIDING - SMOOTH
- ASPHALT SHINGLE ROOFING
- EXPOSED CONCRETE
- PREFINISHED SHINGLE SIDING
- 4" PREFINISHED TRIM - MATCH SIDING
- 6" PREFINISHED TRIM - MATCH SIDING
- PREFINISHED FASCIA
- WOOD BEAM / COLUMN - PRIMED & PAINTED
- LOUVER VENT
- RIDGE VENT
- 4" PREFINISHED METAL GUTTER TO MATCH SIDING
- 4" PREFINISHED METAL DOWNSPOUT TO MATCH SIDING
- 8" PREFINISHED TRIM BAND TO MATCH SIDING

2315 MCDONALD AVENUE
MISSOULA, MONTANA
406. 529. 3210

SUITE 103
59801



SQUARE1
ARCHITECTURE

WEST END HOMES

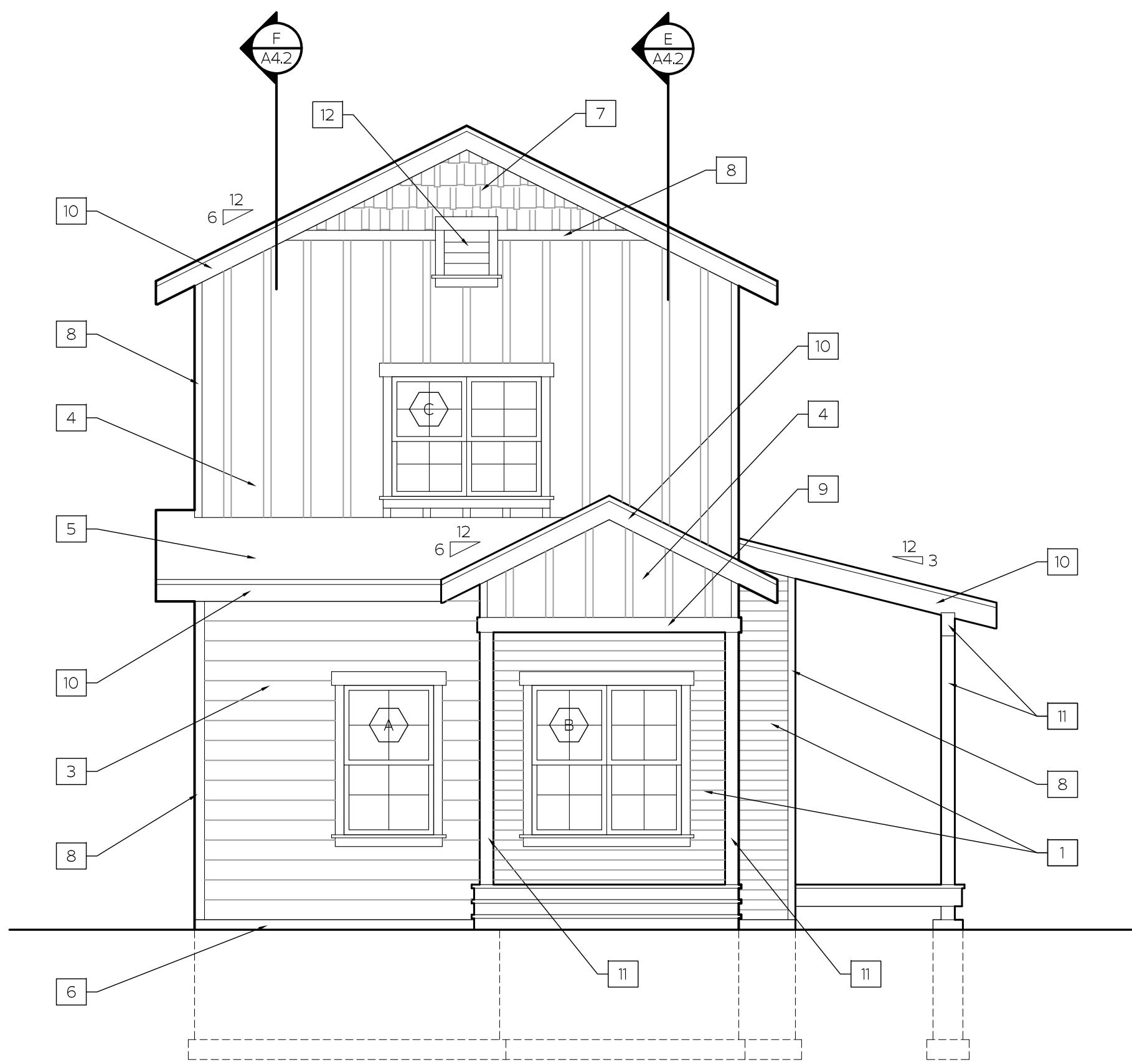
MISSOULA, MONTANA

WEST END HOMES - PHASE 1 LOT 34

PROJECT NUMBER 24-024
DATE 4 / 29 / 2024
REV DATE DESCRIPTION

ALTERNATE
EXTERIOR
ELEVATIONS

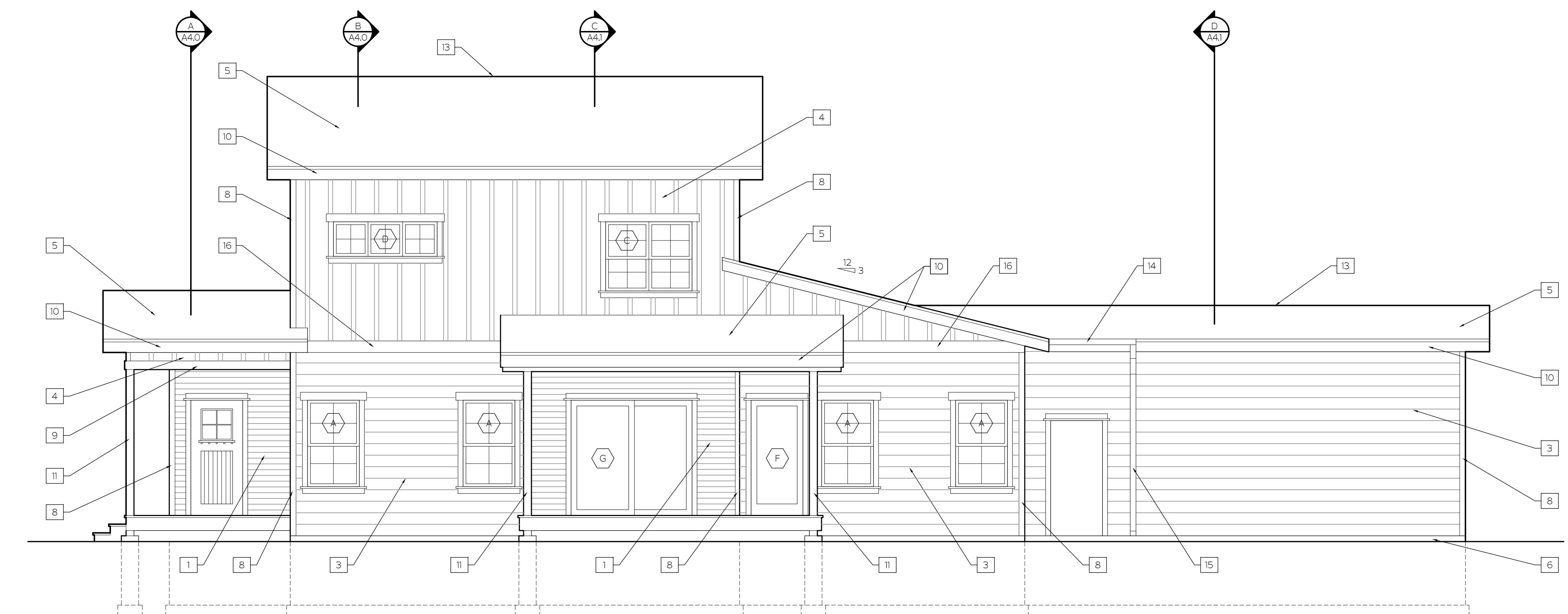
A3.2



1 FRONT ELEVATION - ALTERNATE DESIGN

A3.2

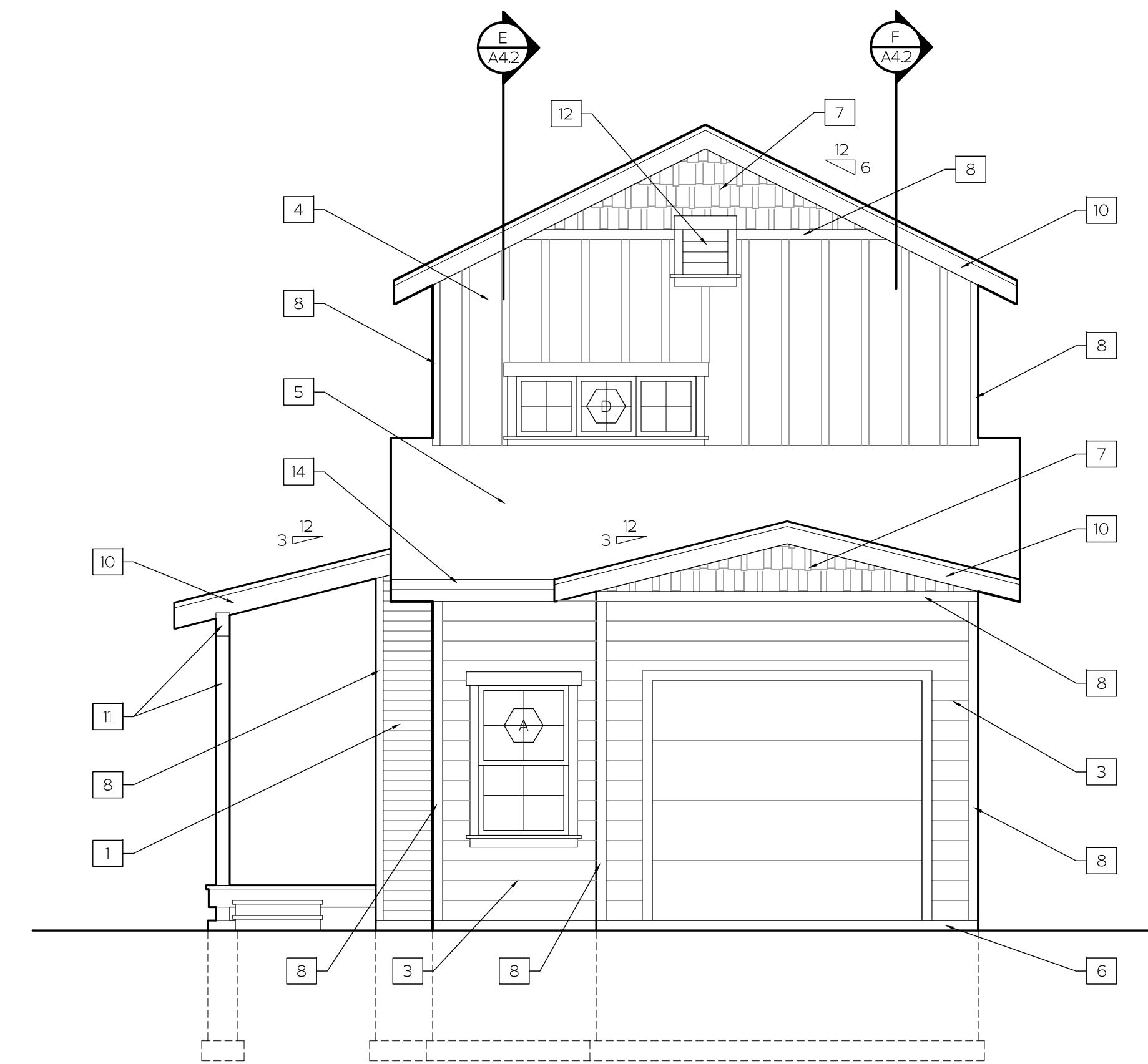
SCALE: 1/4" = 1'-0"



2 RIGHT ELEVATION - ALTERNATE DESIGN

A3.2

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



1 REAR ELEVATION - ALTERNATE DESIGN

A3.3 SCALE: 1/4" = 1'-0"

WEST END HOMES

MISSOULA, MONTANA

WEST END HOMES - PHASE 1 LOT 34

PROJECT NUMBER

24-024

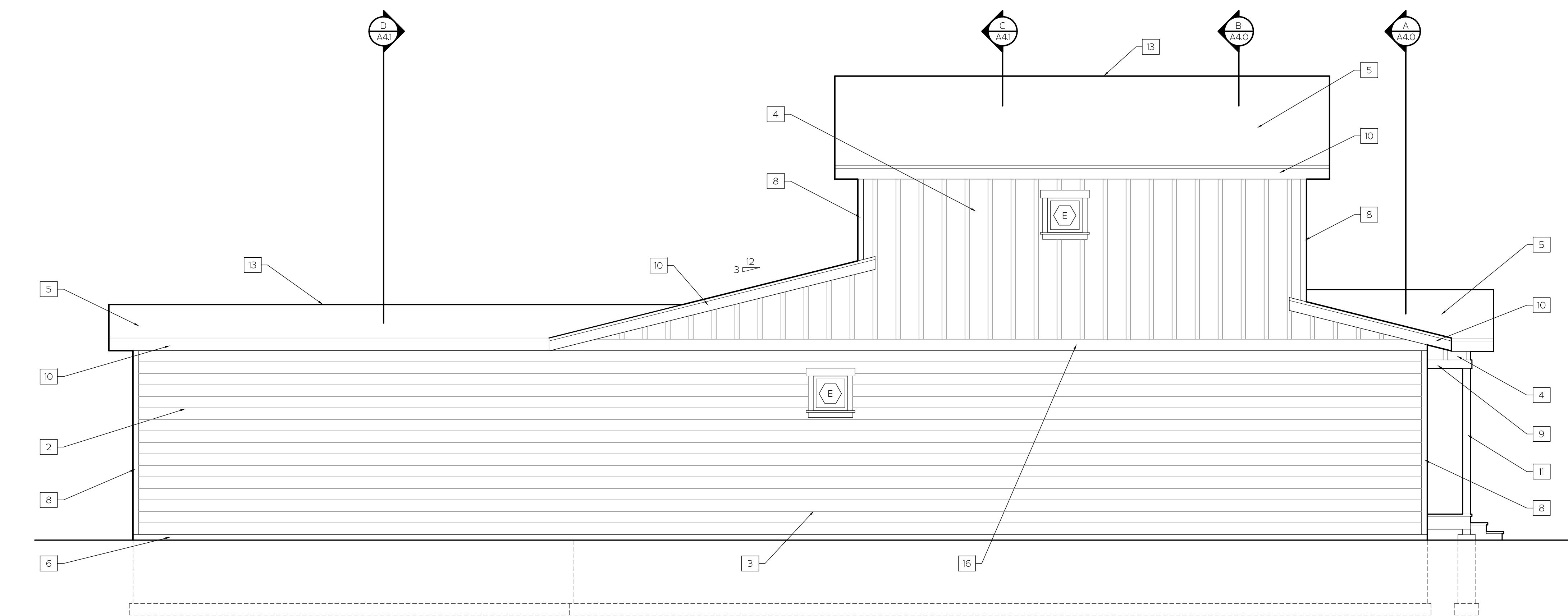
DATE

4 / 29 / 2024

REV

DATE

DESCRIPTION



2 LEFT ELEVATION - ALTERNATE DESIGN

A3.3 SCALE: 1/4" = 1'-0"

MATERIALS LEGEND

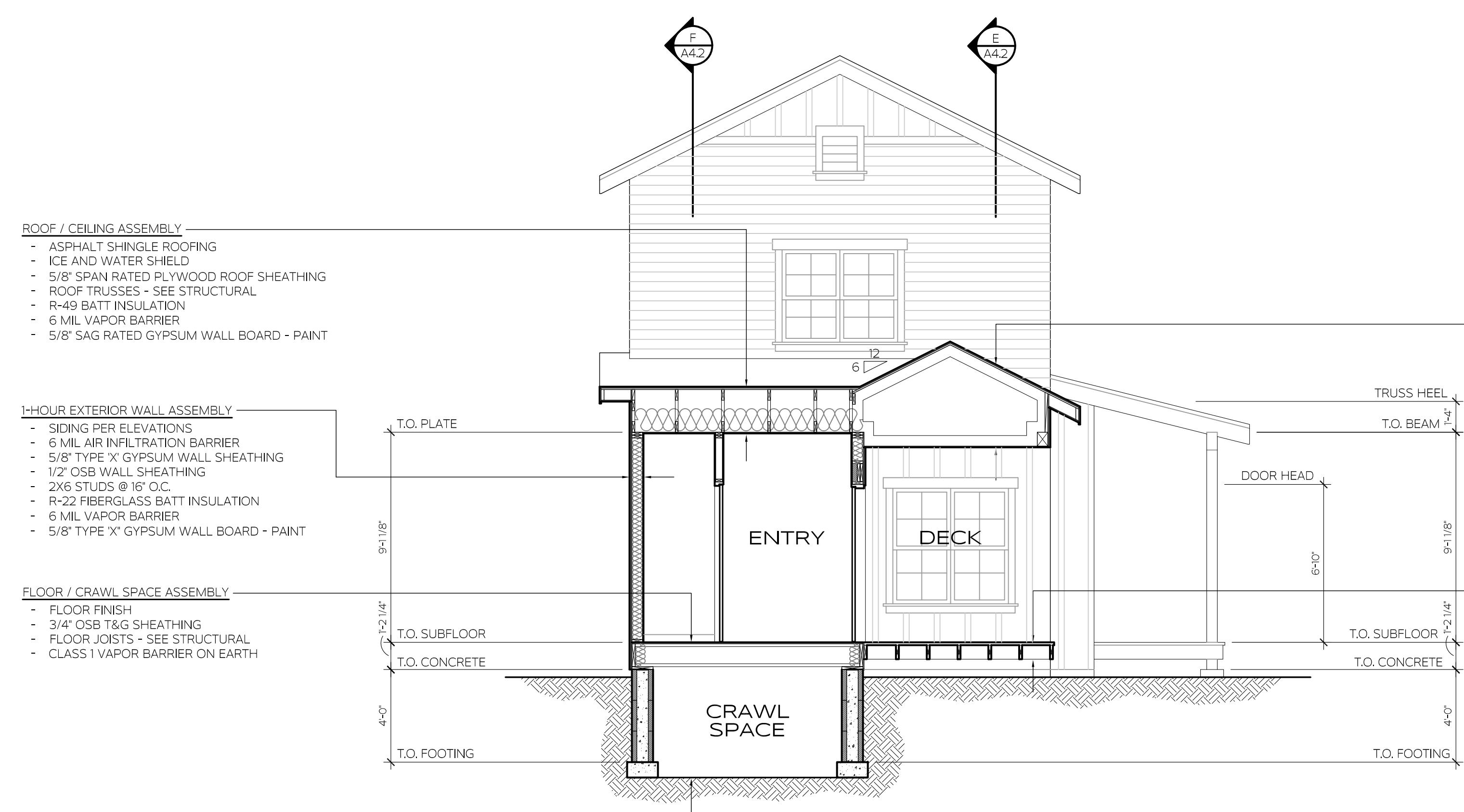
- PREFINISHED LAP SIDING - 4" REVEAL
- PREFINISHED LAP SIDING - 5" REVEAL
- PREFINISHED LAP SIDING - 8" REVEAL
- PREFINISHED 16' O.C. BOARD & BATTEN SIDING - SMOOTH
- ASPHALT SHINGLE ROOFING
- EXPOSED CONCRETE
- PREFINISHED SHINGLE SIDING
- 4" PREFINISHED TRIM - MATCH SIDING
- 6" PREFINISHED TRIM - MATCH SIDING
- PREFINISHED FASCIA
- WOOD BEAM / COLUMN - PRIMED & PAINTED
- LOUVER VENT
- RIDGE VENT
- 4" PREFINISHED METAL GUTTER TO MATCH SIDING
- 4" PREFINISHED METAL DOWNSPOUT TO MATCH SIDING
- 8" PREFINISHED TRIM BAND TO MATCH SIDING

2315 MCDONALD AVENUE
MISSOULA, MONTANA
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59801

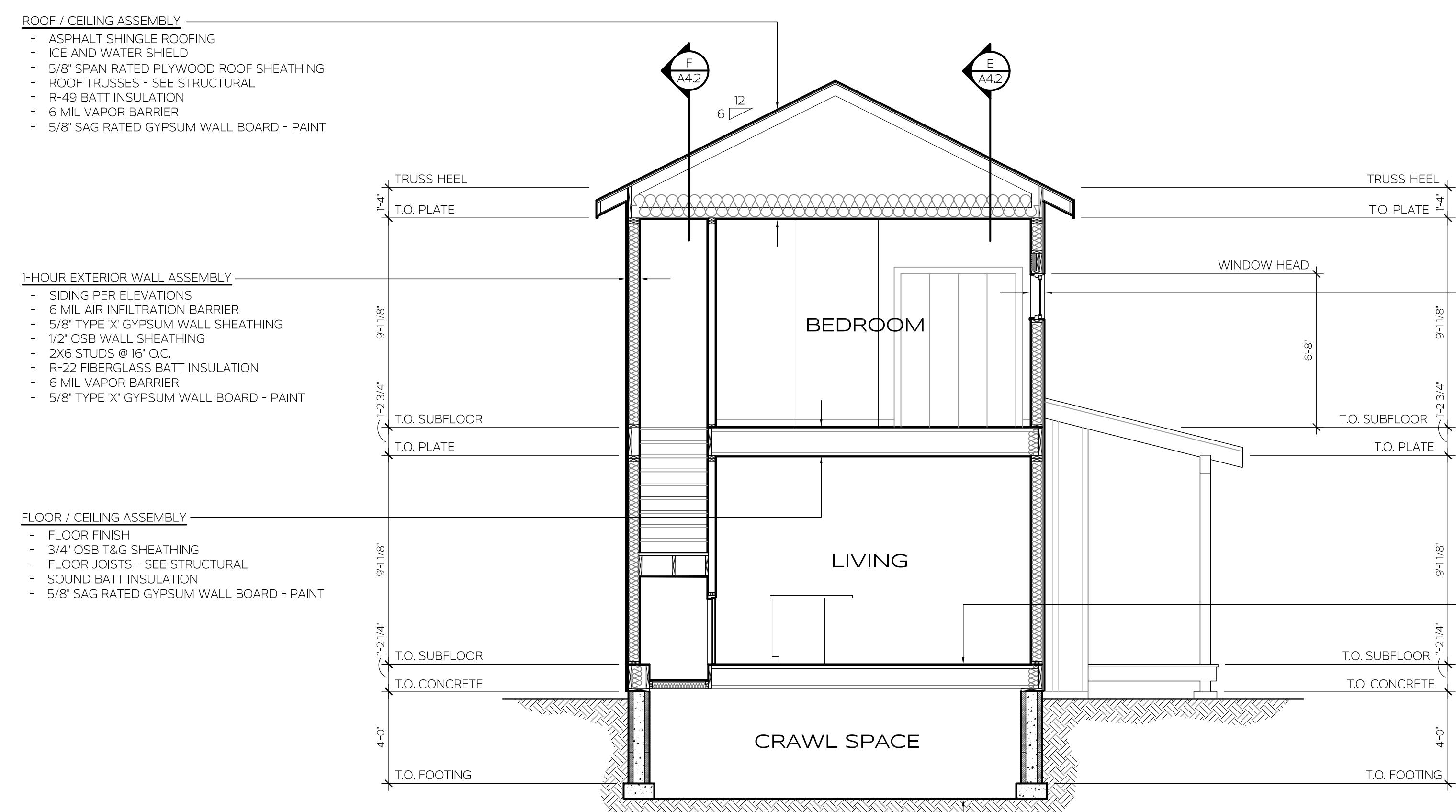
ALTERNATE
EXTERIOR
ELEVATIONS

A3.3



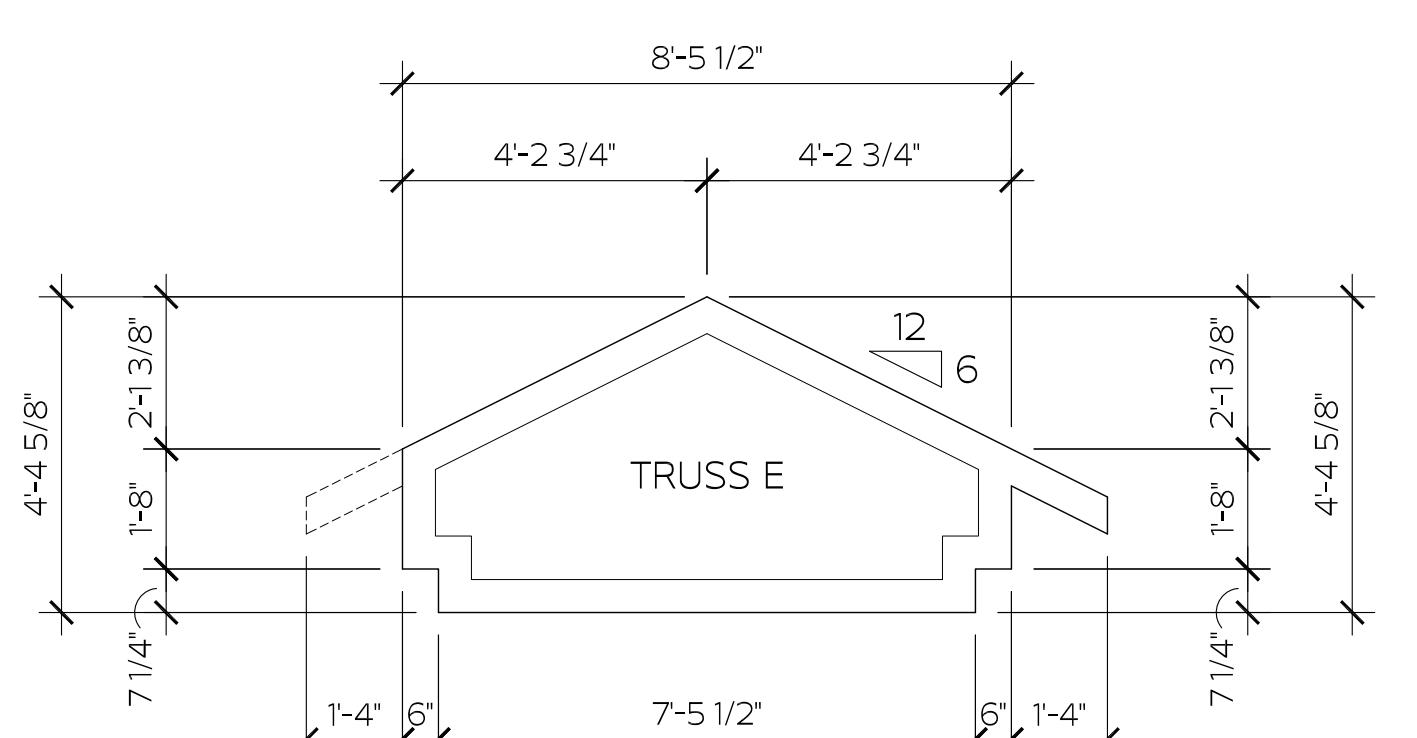
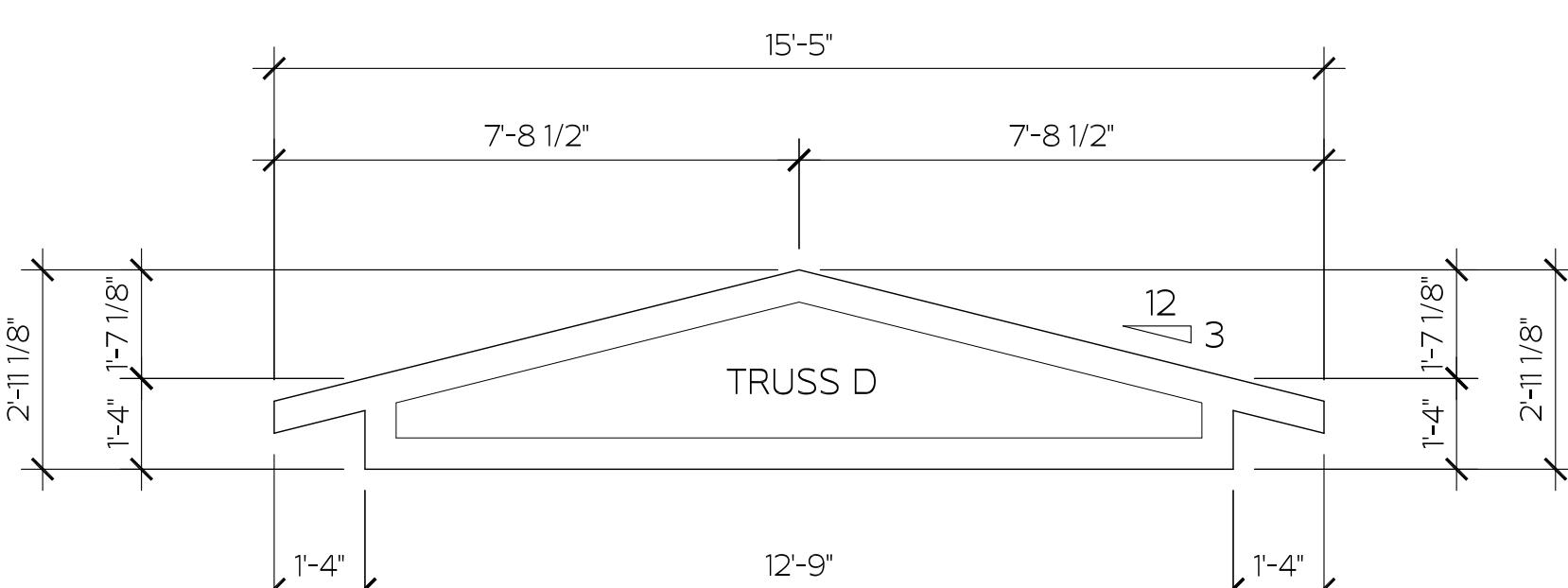
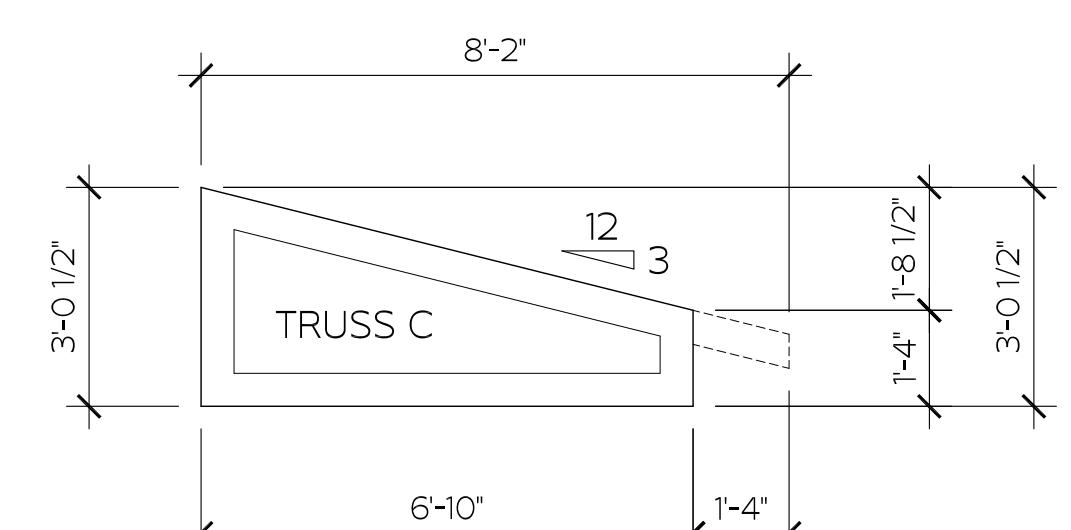
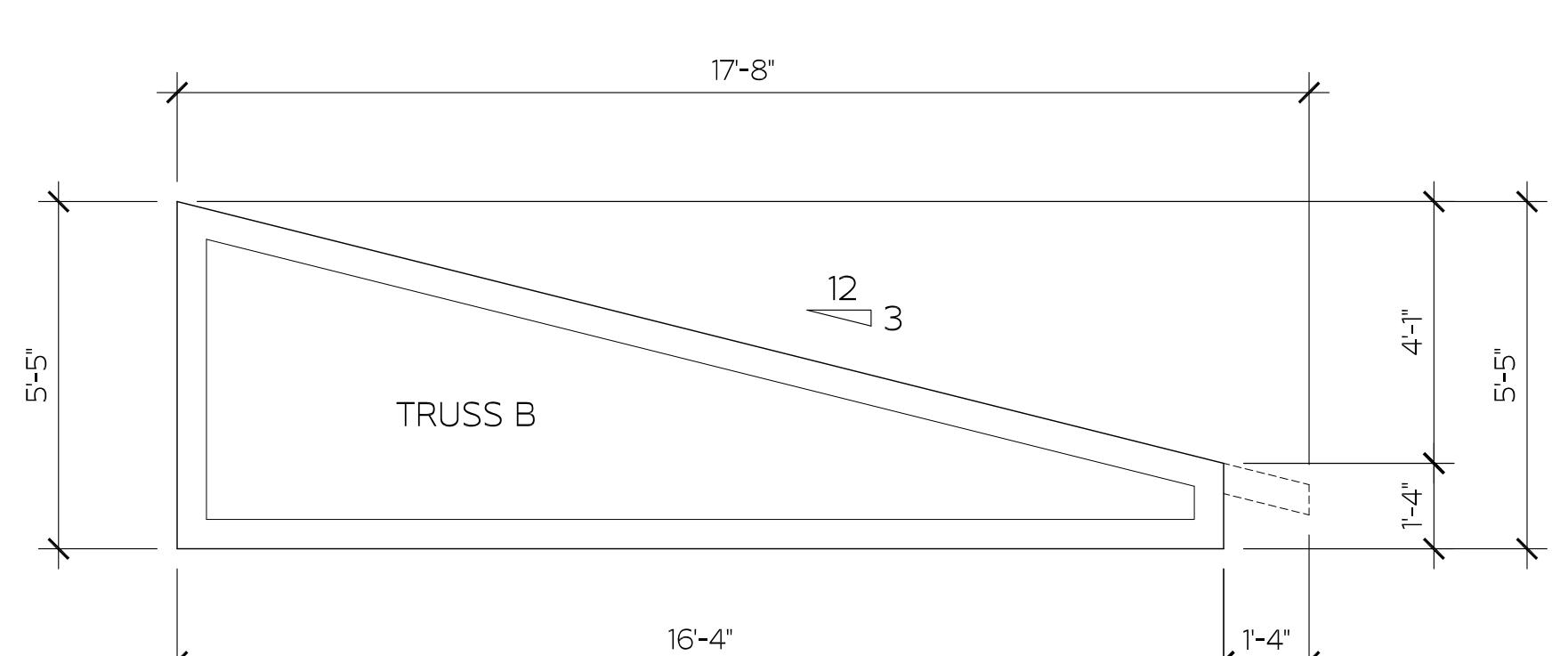
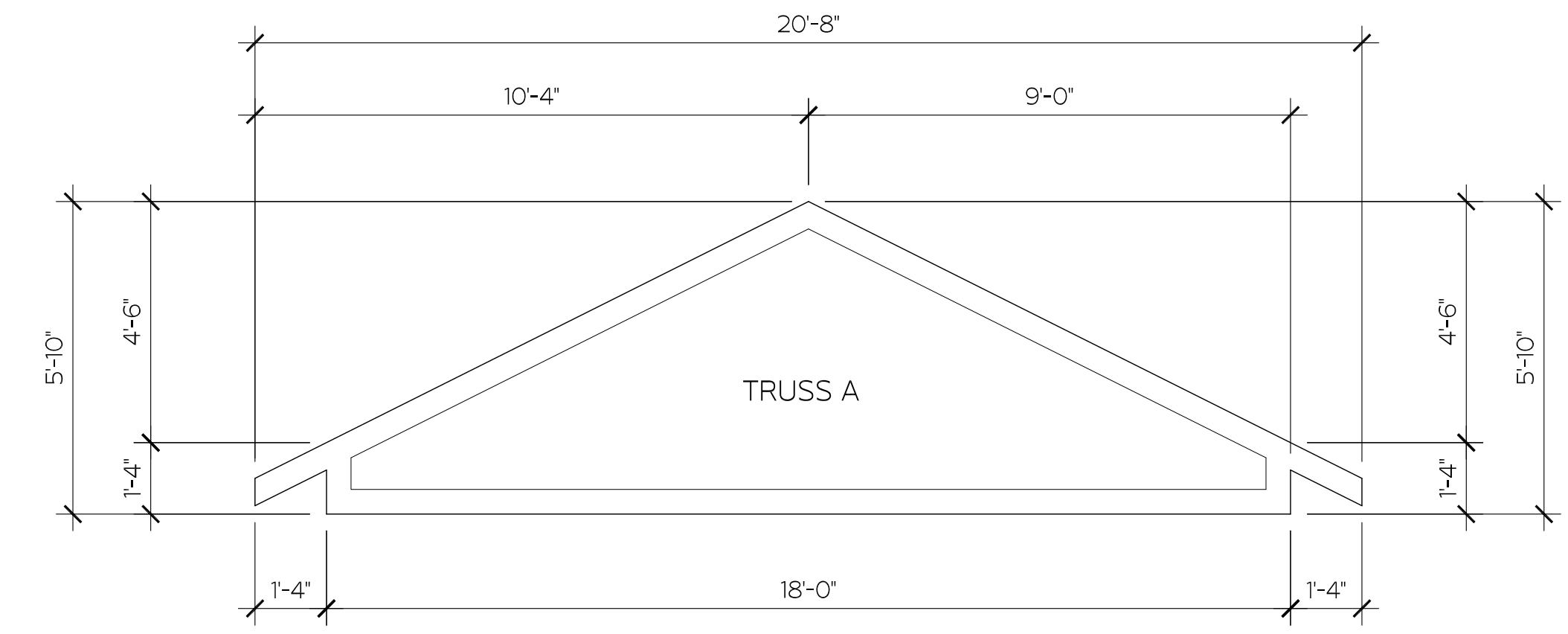
A A4.0 BUILDING SECTION A

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



B A4.0 BUILDING SECTION B

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



1 A4.0 TRUSS PROFILES

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



SQUARE1
ARCHITECTURE

2315 MCDONALD AVENUE
MISSOULA, MONTANA
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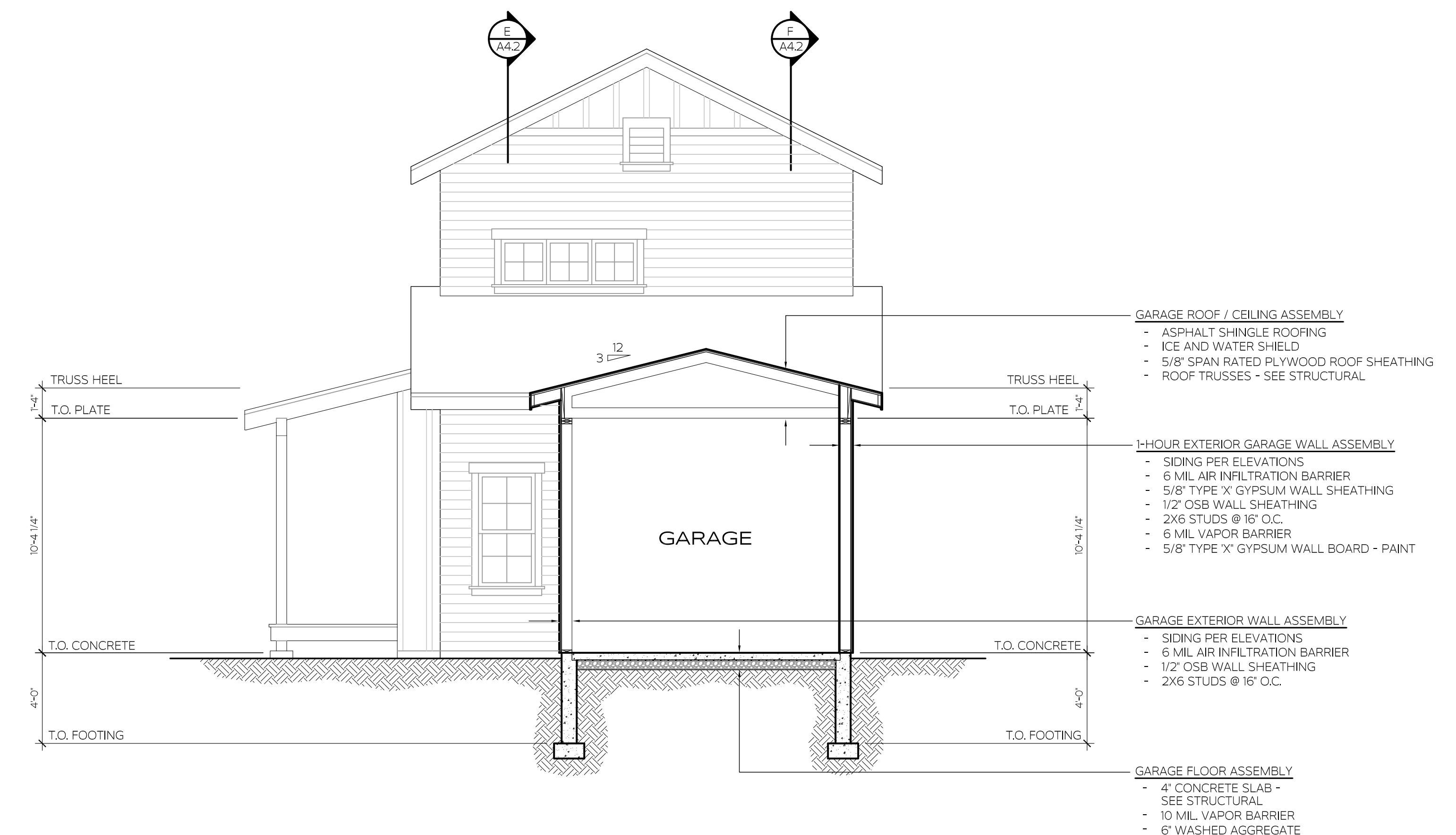
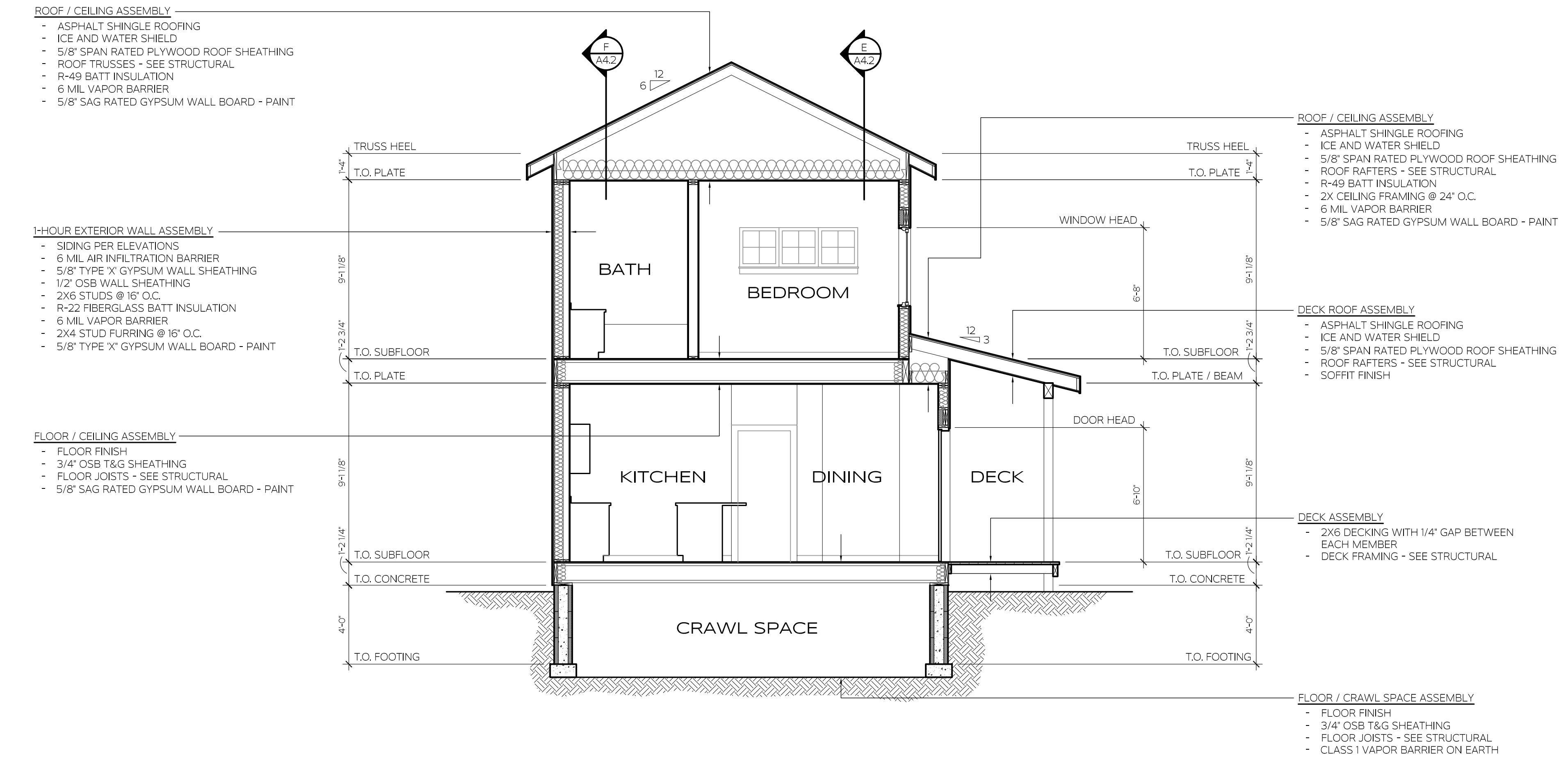
WEST END HOMES

WEST END HOMES - PHASE 1 LOT 34

BUILDING
SECTIONS

A4.1

PROJECT NUMBER 24-024
DATE 4/29/2024
REV DATE DESCRIPTION



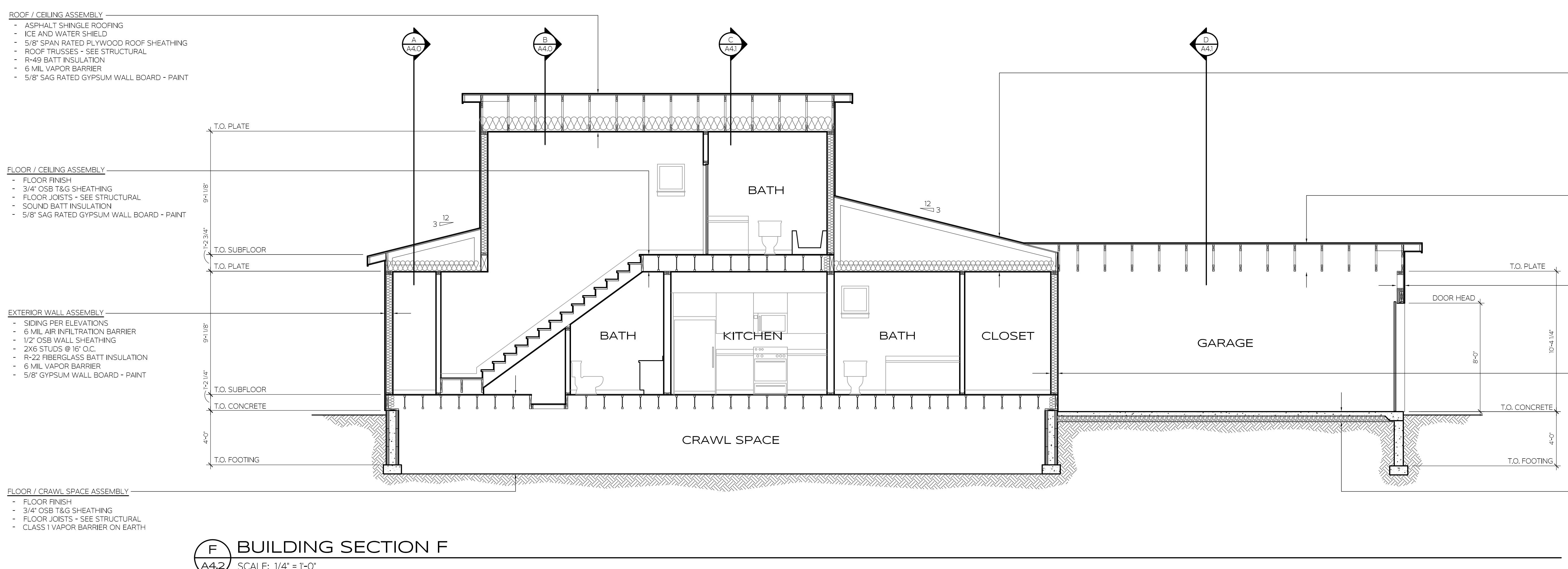
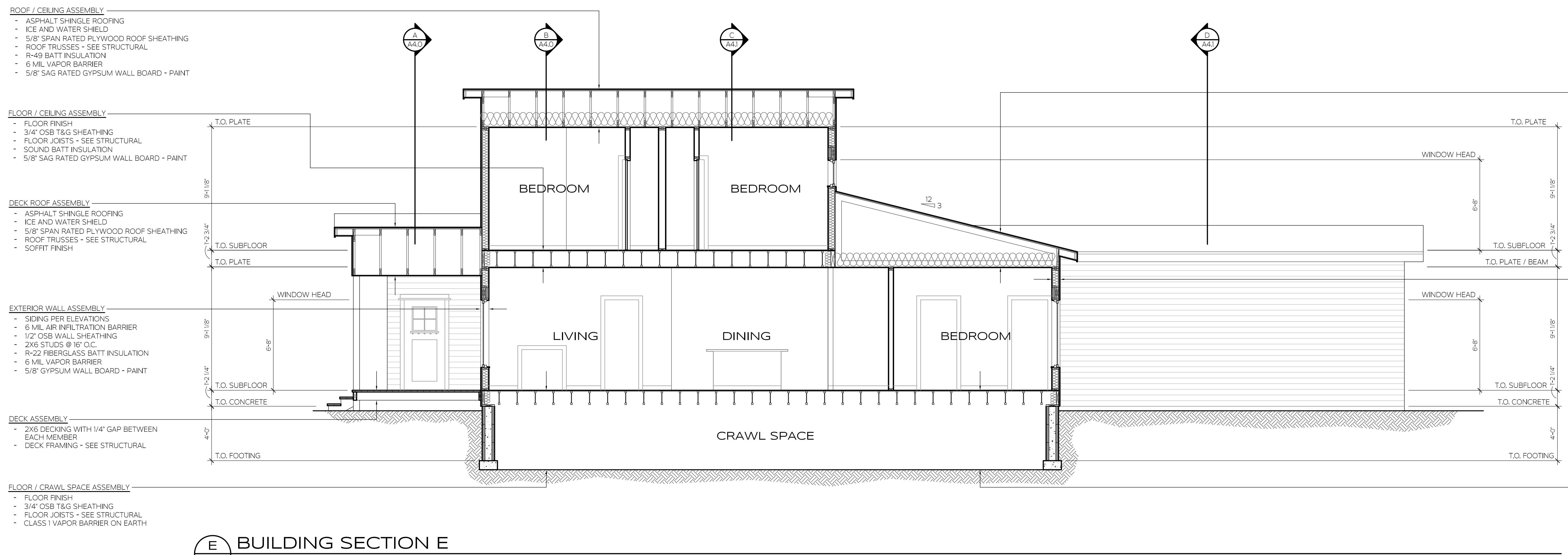


WEST END HOMES

WEST END HOMES - PHASE 1 LOT 34

BUILDING
SECTIONS

A4.2



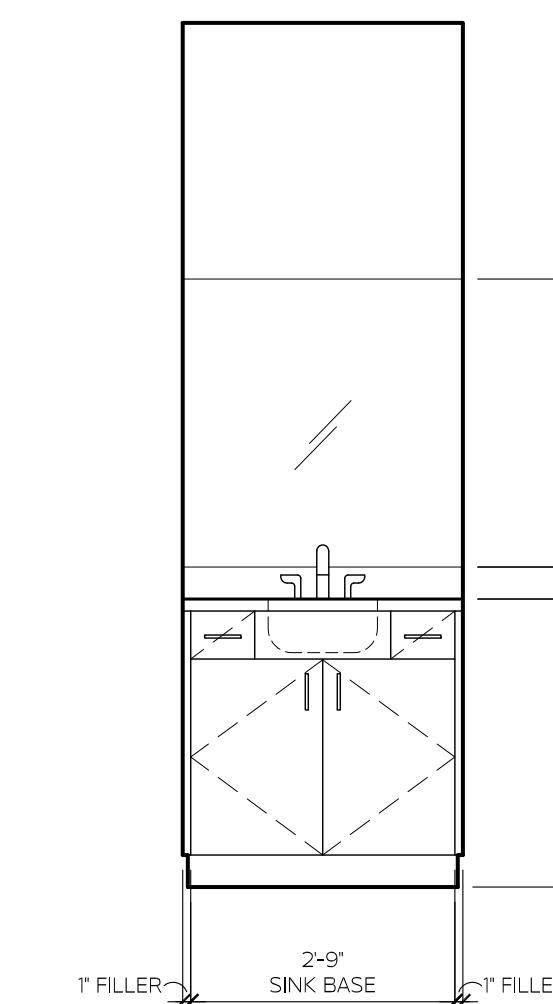
WEST END HOMES

WEST END HOMES - PHASE 1 LOT 34

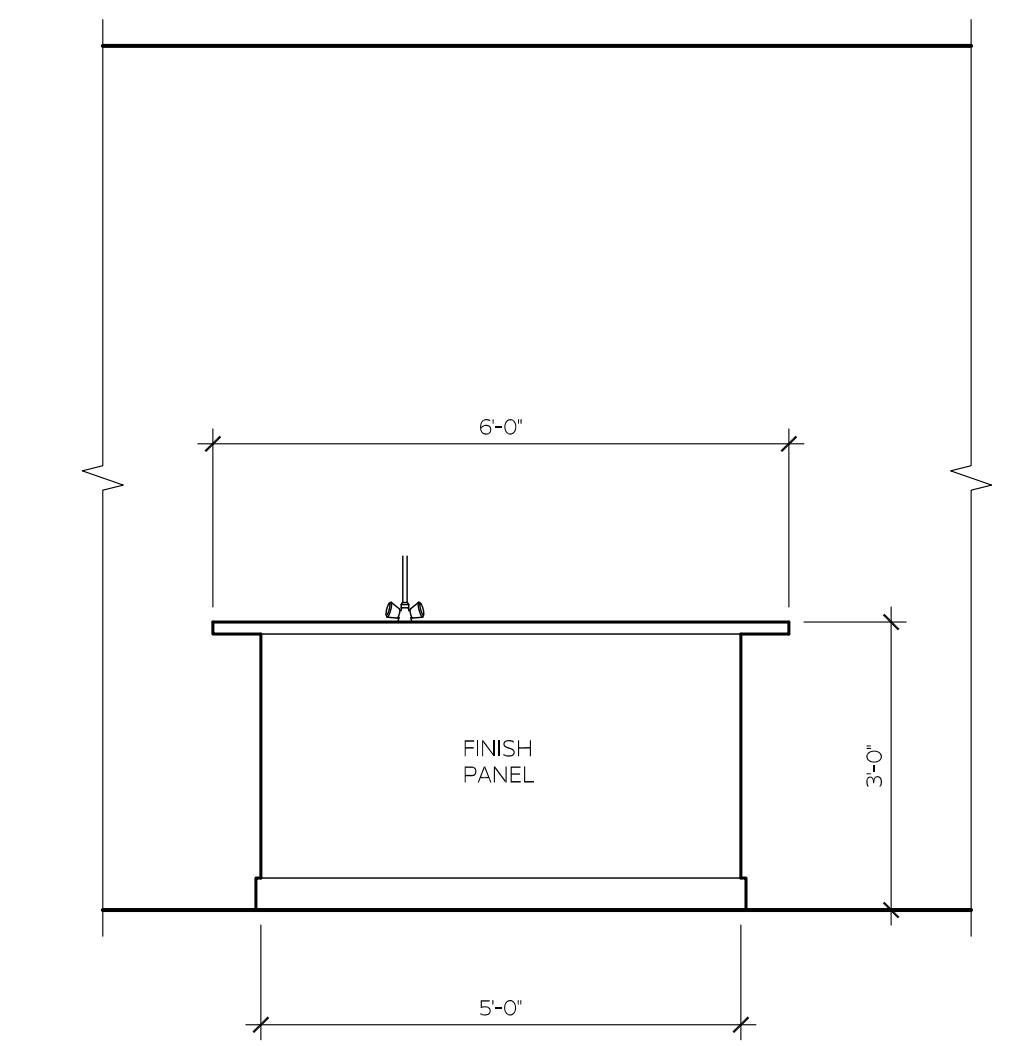
INTERIOR
ELEVATIONS

PROJECT NUMBER 24-024
DATE 4 / 29 / 2024
REV DATE DESCRIPTION

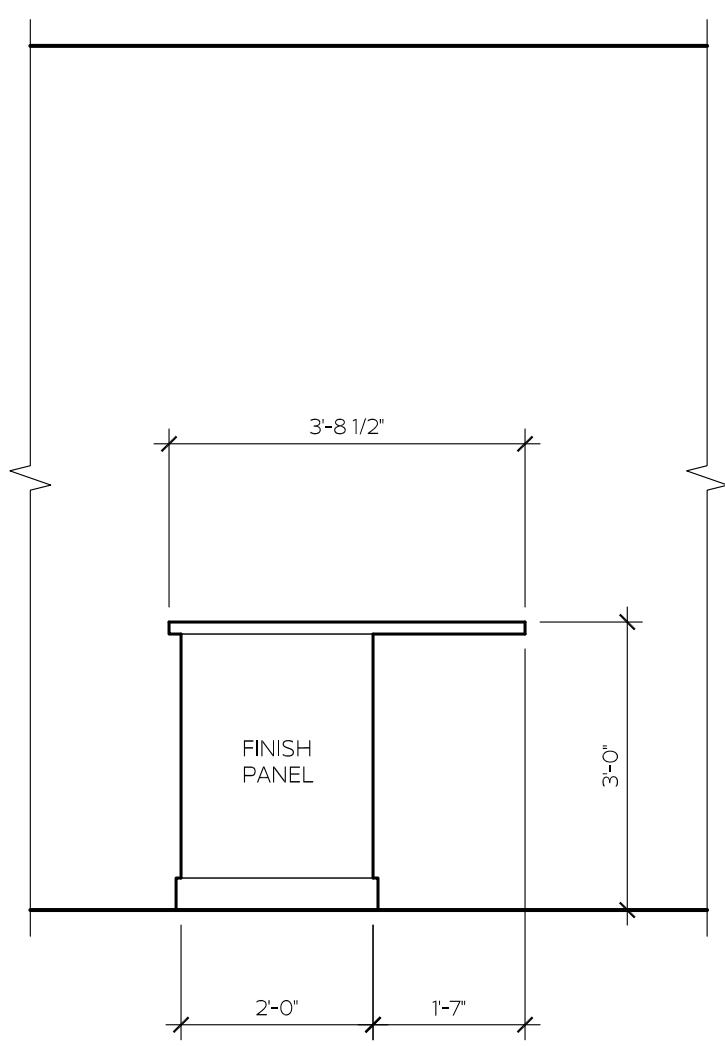
A5.0



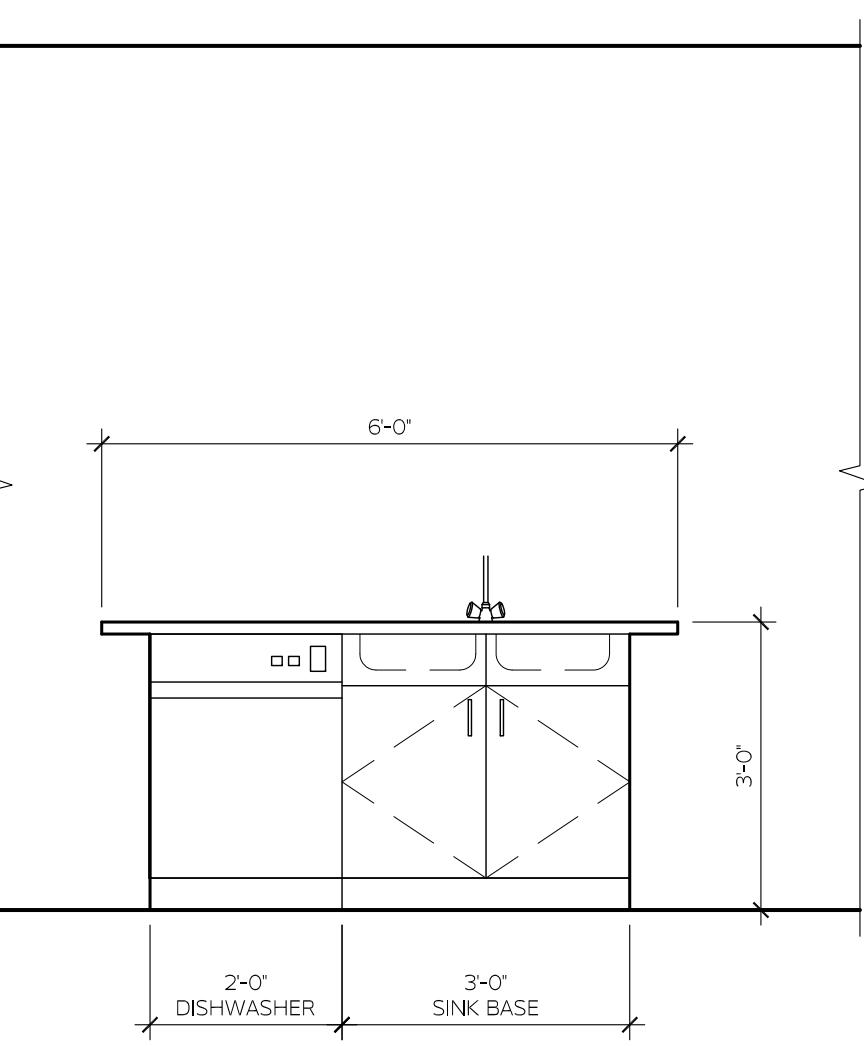
1 POWDER ROOM
A5.0 SCALE: 1/2" = 1'-0"



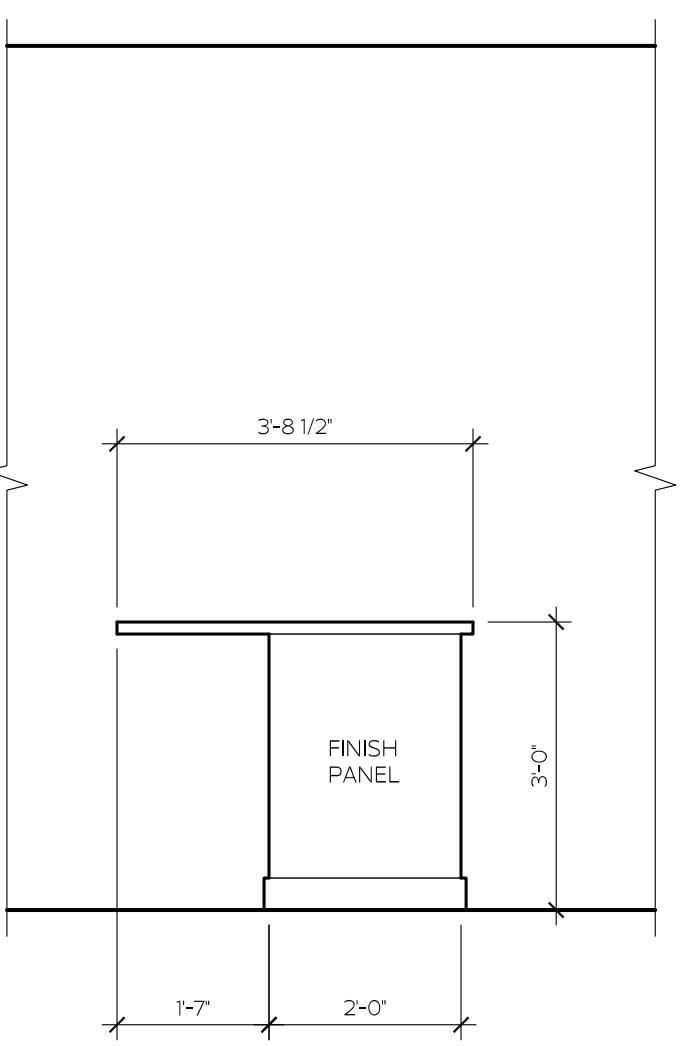
2 KITCHEN ISLAND
A5.0 SCALE: 1/2" = 1'-0"



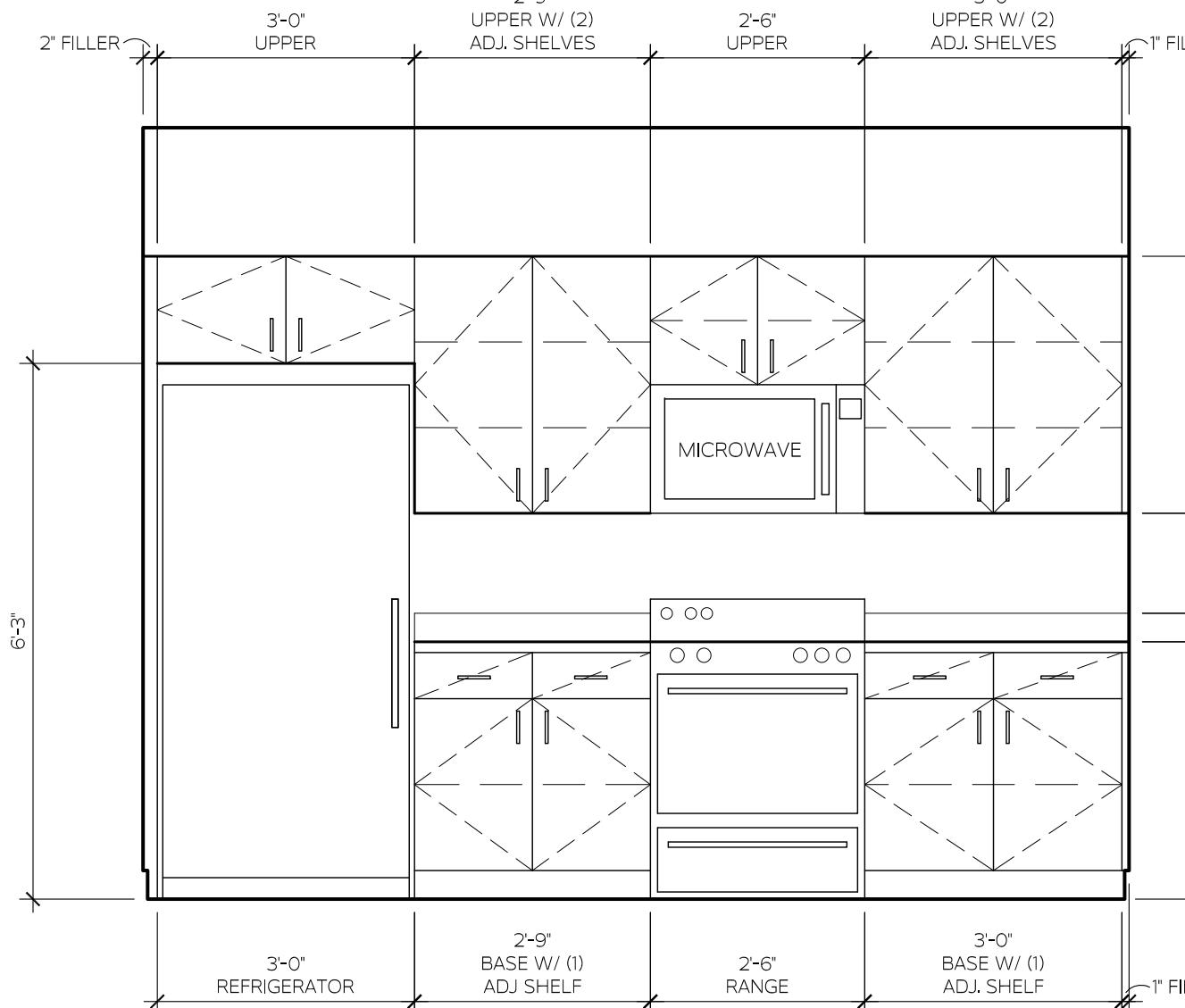
B



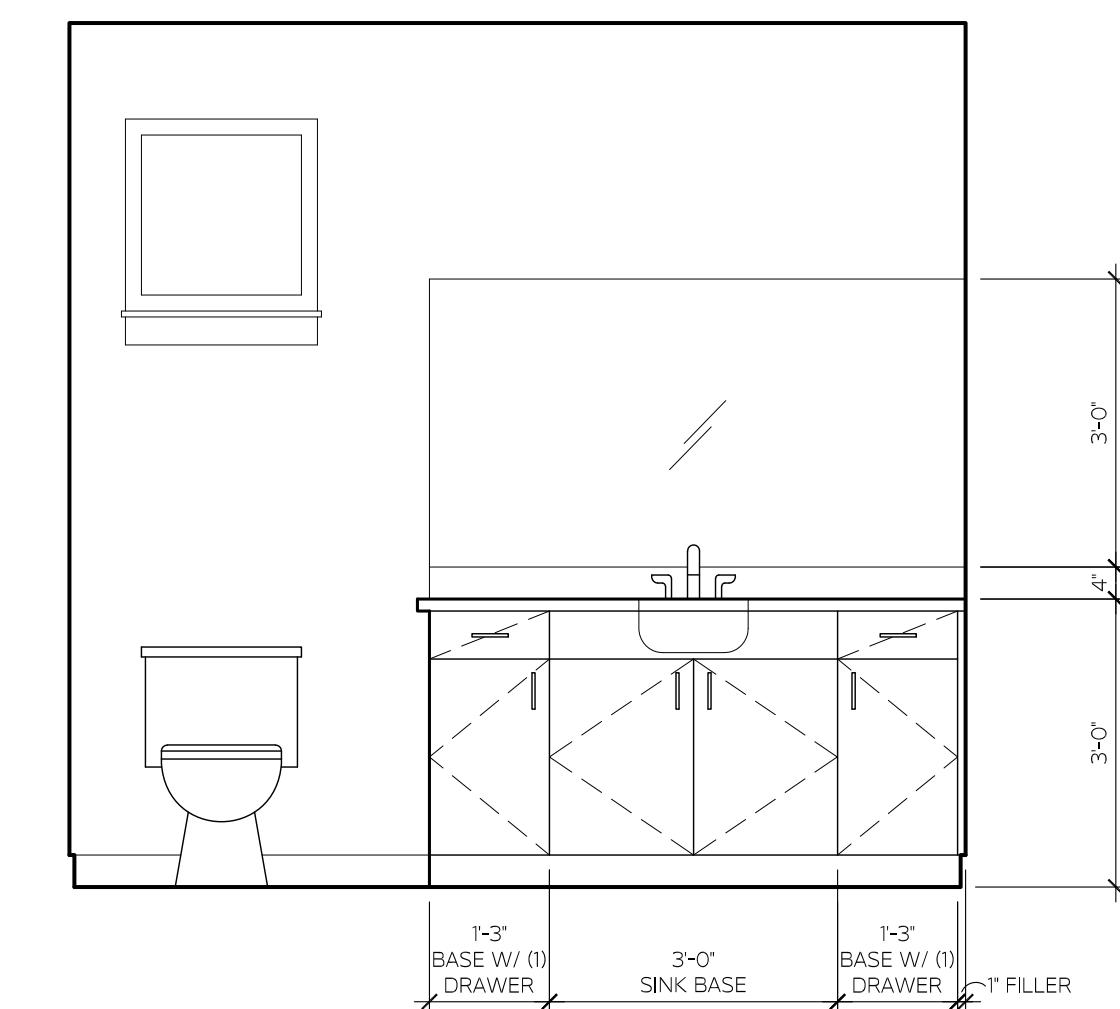
C



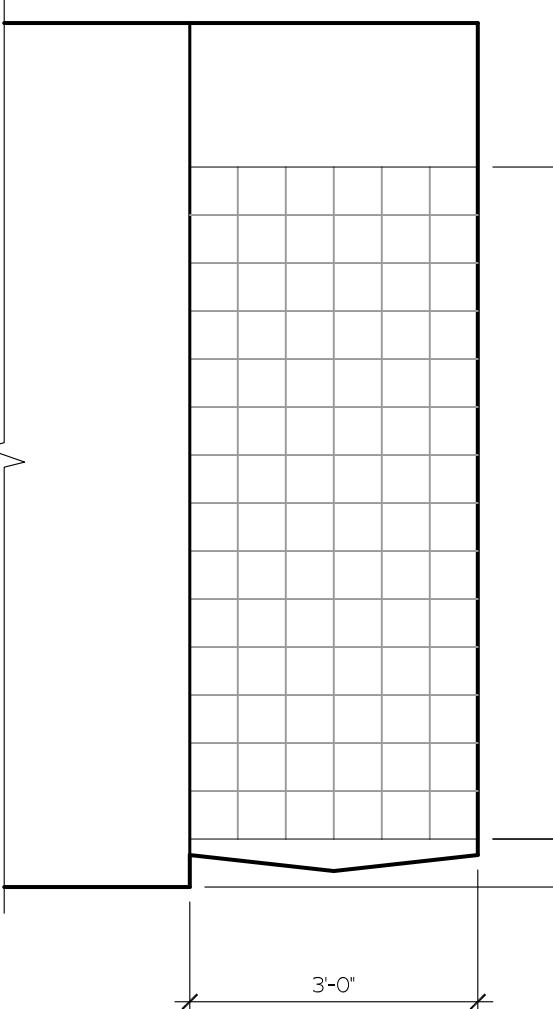
D



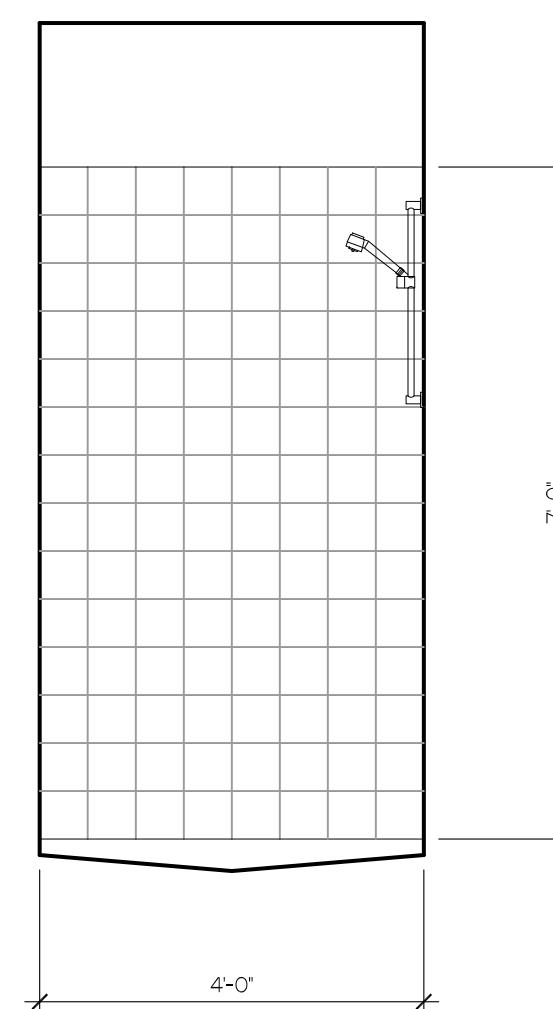
3 KITCHEN
A5.0 SCALE: 1/2" = 1'-0"



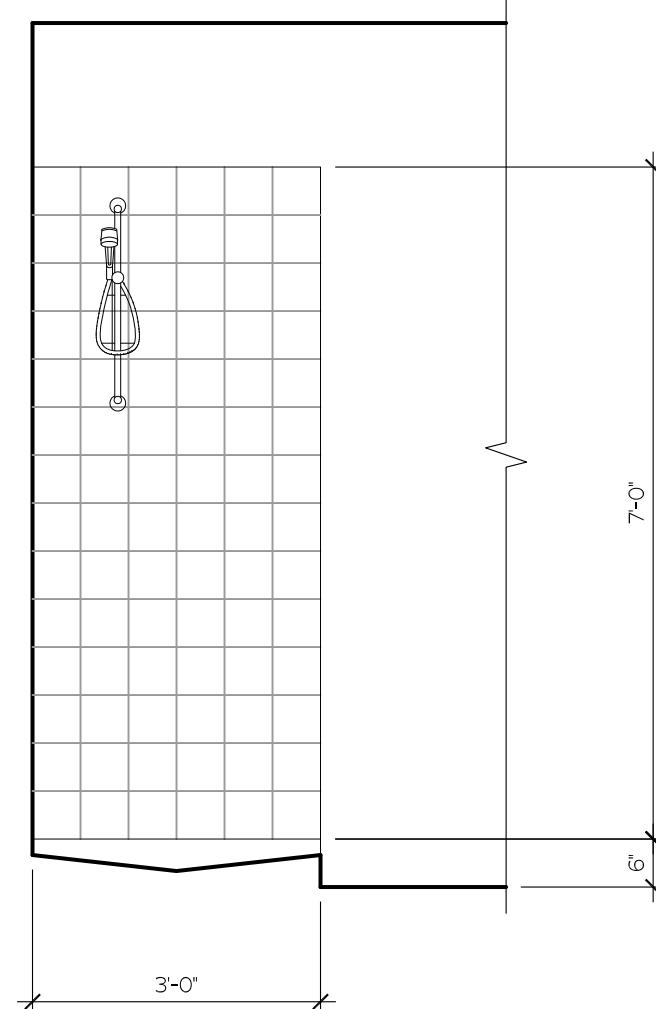
4 BATHROOM
A5.0 SCALE: 1/2" = 1'-0"



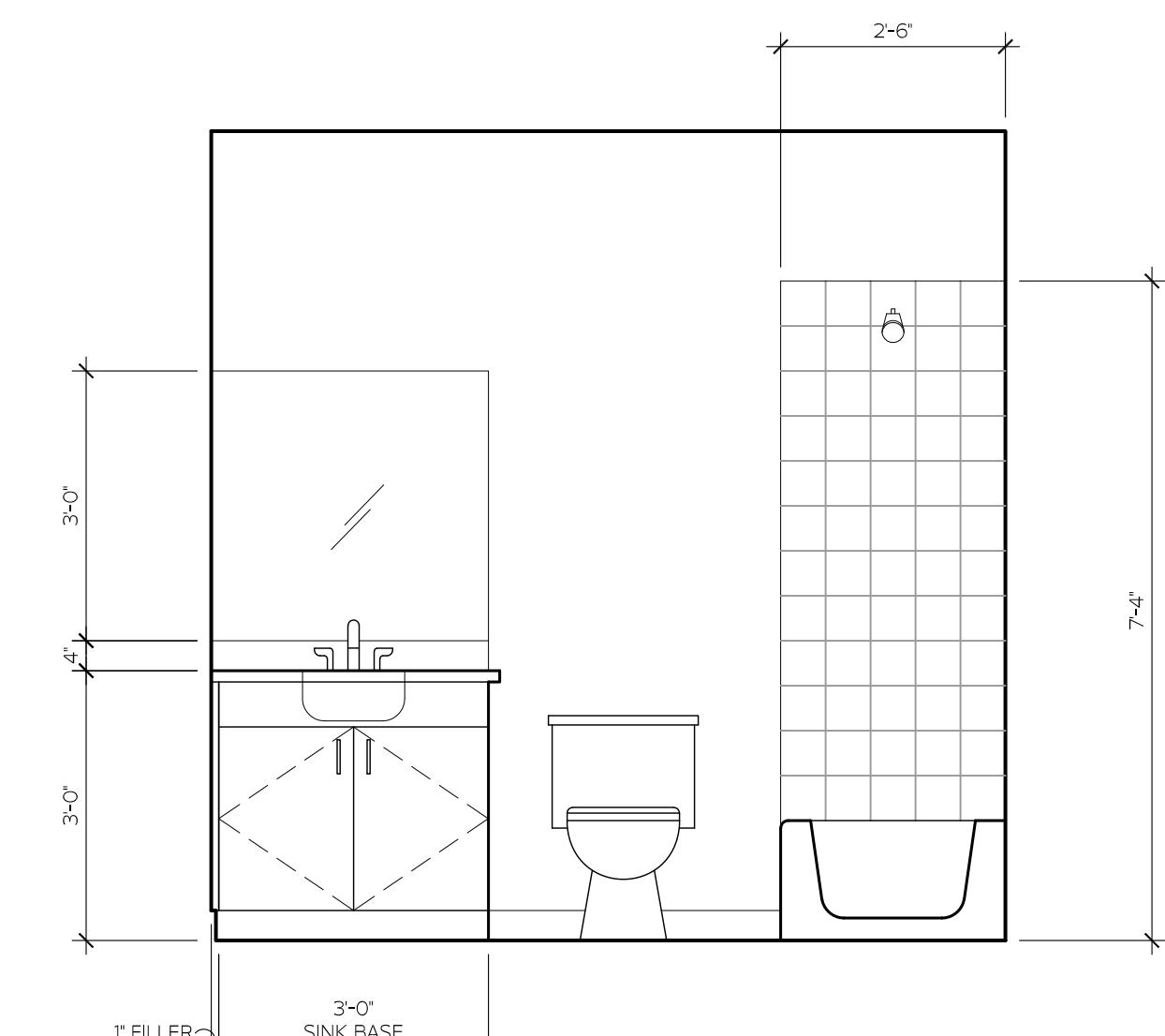
5 SHOWER
A5.0 SCALE: 1/2" = 1'-0"



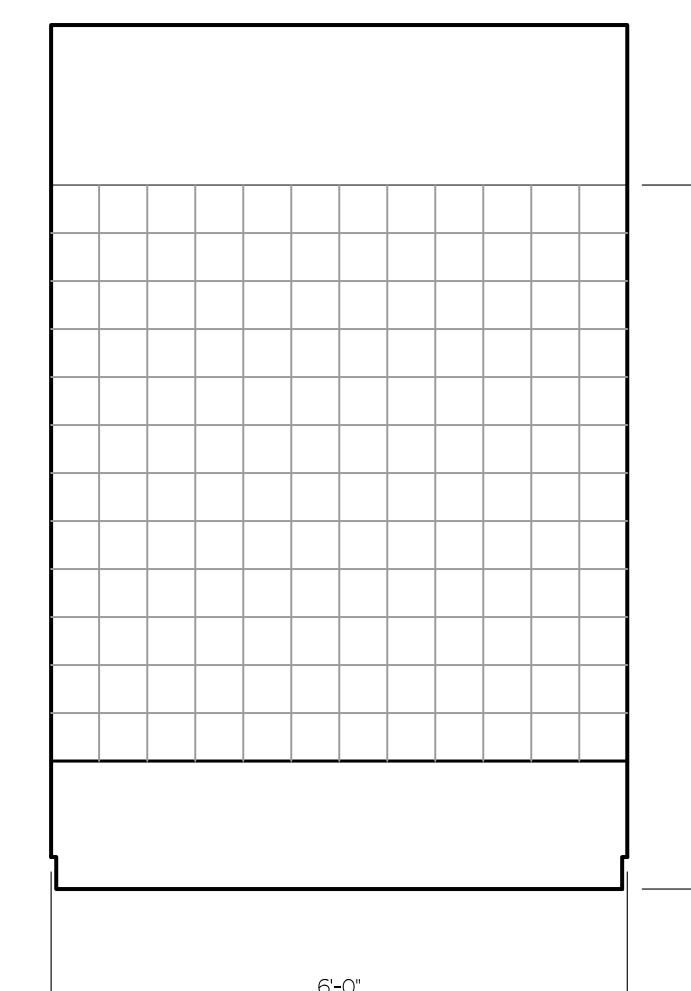
B



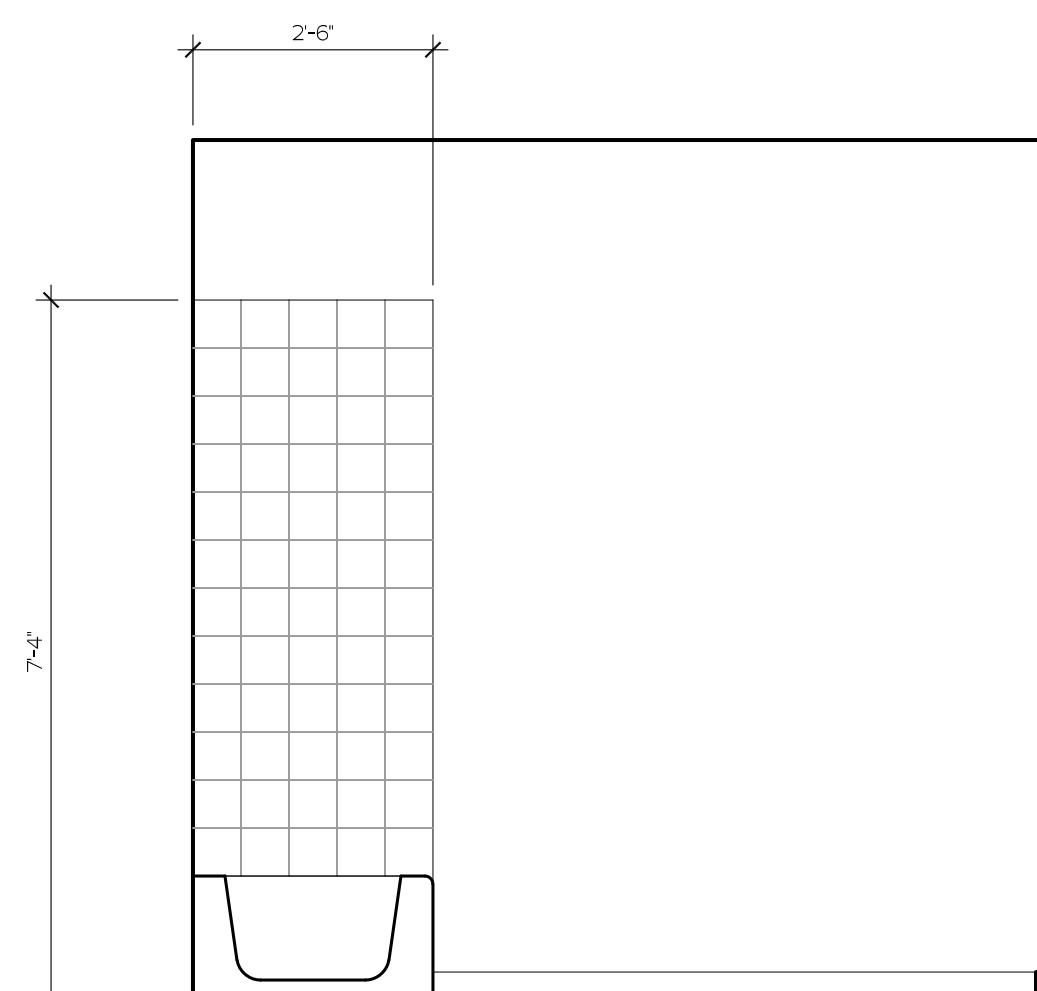
C



A



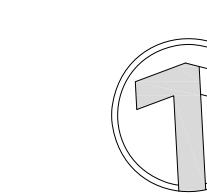
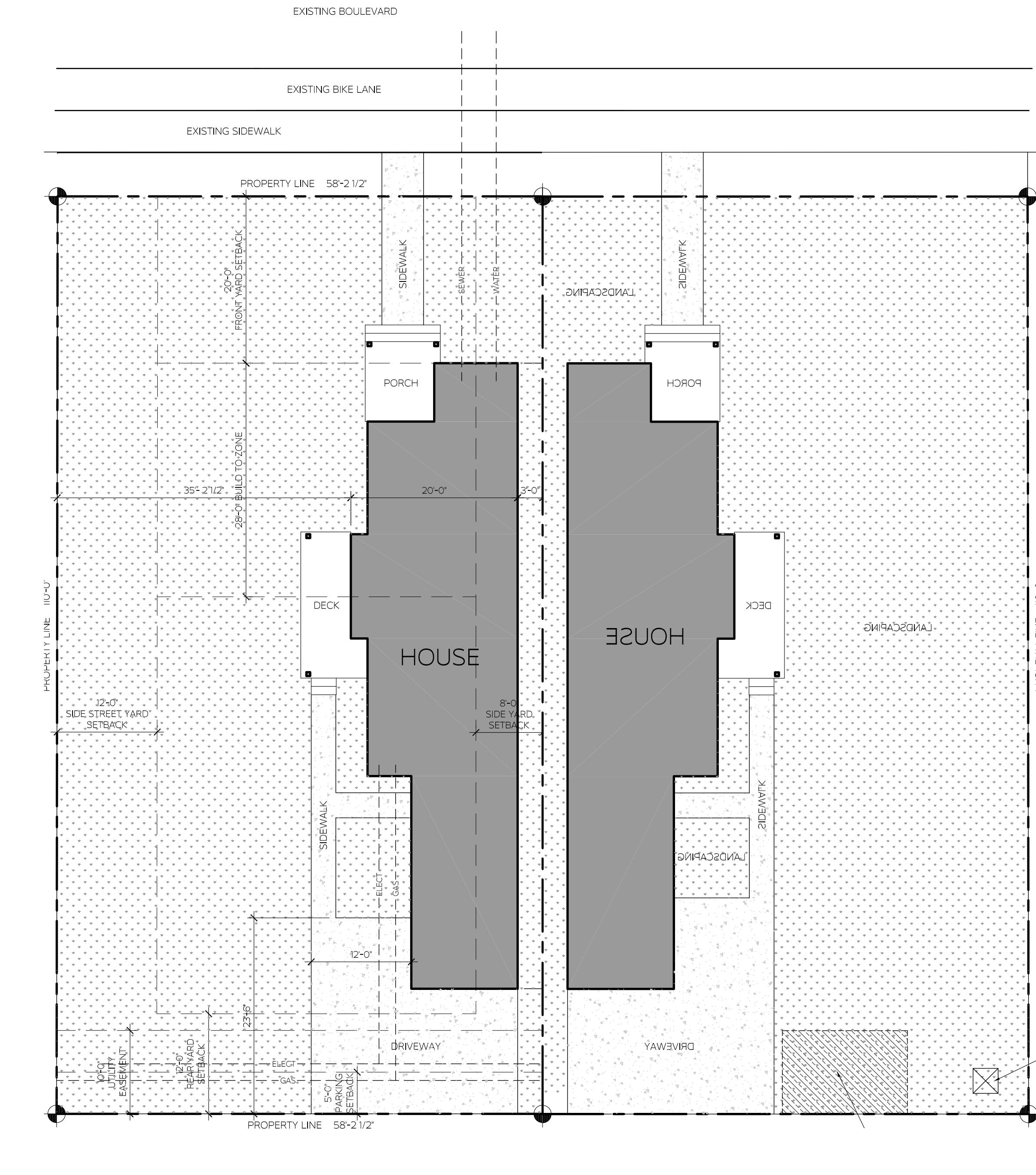
B



C

6 BATHROOM
A5.0 SCALE: 1/2" = 1'-0"

ENGLAND BOULEVARD



SITE PLAN

SCALE: 1" = 1

WEST END HOMES

PROJECT NUMBER 24-024

4 / 29 / 2024

DATE	DESCRIPTION
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SITE PLANS

AO1



SQUARE1

ARCHITECTURE

315 MCDONALD AVENUE SUITE 103
MISSOULA, MONTANA 59801
06 . 529 . 3210

UE SUITE 103
59801



Images are of mirrored homes, each set 3'0" off the interior side property line.

