

To Whom it May Concern:

My name is Judy Herlihy and I am the homeowner and resident of 836 Rex St., the small bungalow and separate garage on the corner of Rex and Main.

I am requesting a variance and permit approval for guest quarters I have been trying to build, for over 3 years, above my garage.

As a single senior, my home is great for me but cannot accommodate visiting family or guests. I have had to use a pull-out sofa in my tiny office, which takes up the entire room, when unfolded. I also hope to use the proposed guest space for a caretaker, if needed in my future (I am 82).

3 Years ago, I hired a builder for this project. After too many delays that he attributed to hold-ups with my permit, I took charge and discovered the permit had never been requested. I paid him 40k for the architectural plans, "permits" and foundation work. He is no longer responding to me. I am hurt and frustrated, but would like to move on with this project that I continue to have so much hope for.

I am requesting that I be allowed to proceed, by keeping the 2nd floor addition within the footprint of the existing garage, except for the back side, into my yard. If I were to comply with the 15' offset on the Main St. side, I would have to slide the entire addition, further into my backyard/garden. The size and footprint of the entire structure would be greatly and unnecessarily increased. It just doesn't seem to make sense, both visually and architecturally.

The proposed front wall, on the Main St. side, is already set back from the existing garage footprint, to allow for the small front porch (for neighborly interaction). I am happy to reduce or remove this porch so it does not protrude over the existing garage footprint.

I believe my garage has unique and unusual physical circumstances. My home and garden are alongside the popular pedestrian thoroughway/entrance to Community Park. Several visitors per day stop at my fence to visit and see my garden (my pre-retirement profession was horticulture). The let-down happens when they see, not only my old, unmatching garage, but the numerous messy powerlines and towering modern black box house behind it. I believe my proposed addition would so beautifully cover this and improve the Old Town charm and aesthetic experience for the entrance to the park.



My neighbors have all been rooting for me and are happy to chime in with their full support. Thank you so much for your consideration of this project. It would mean so much to me.

Sincerely,

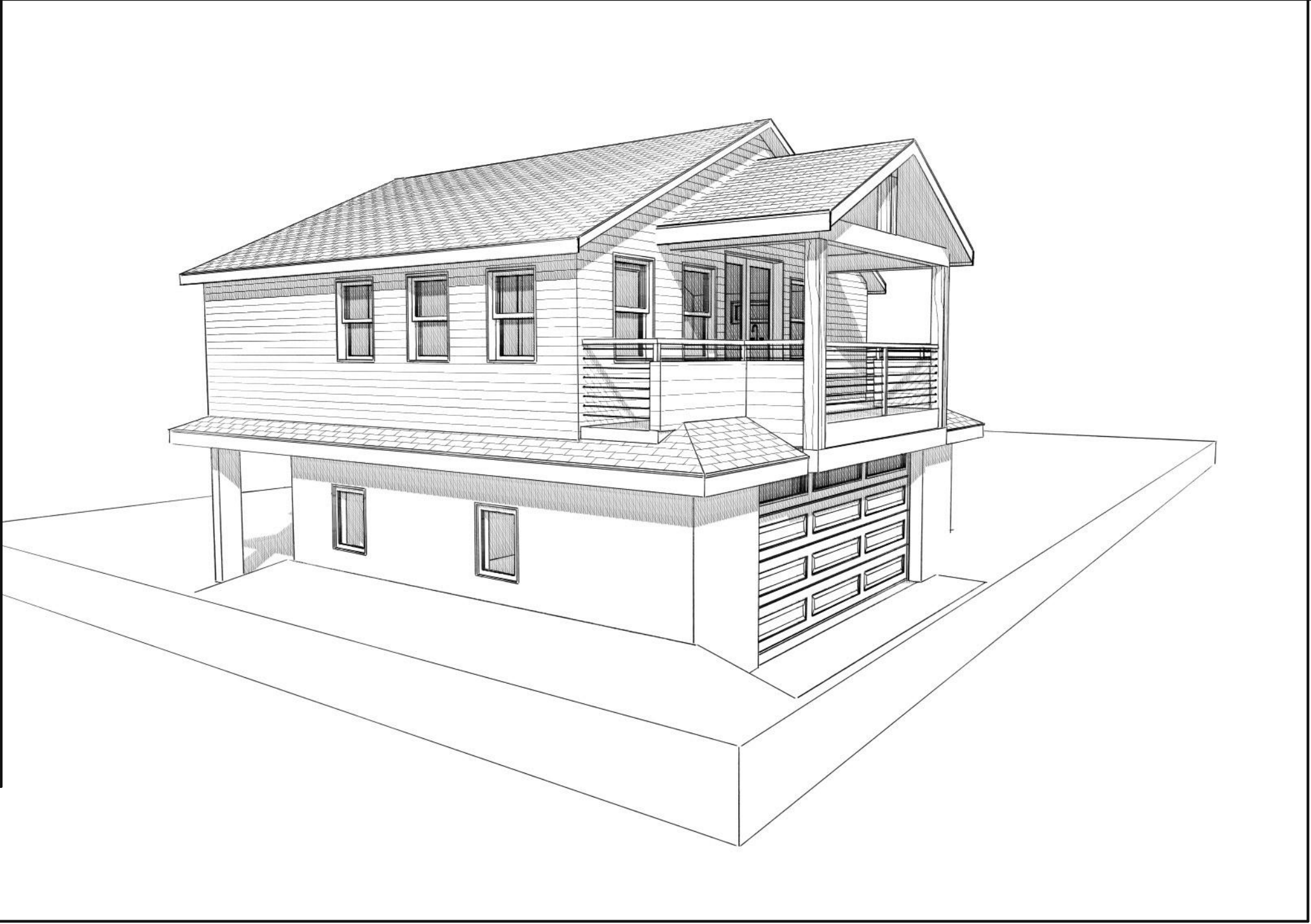
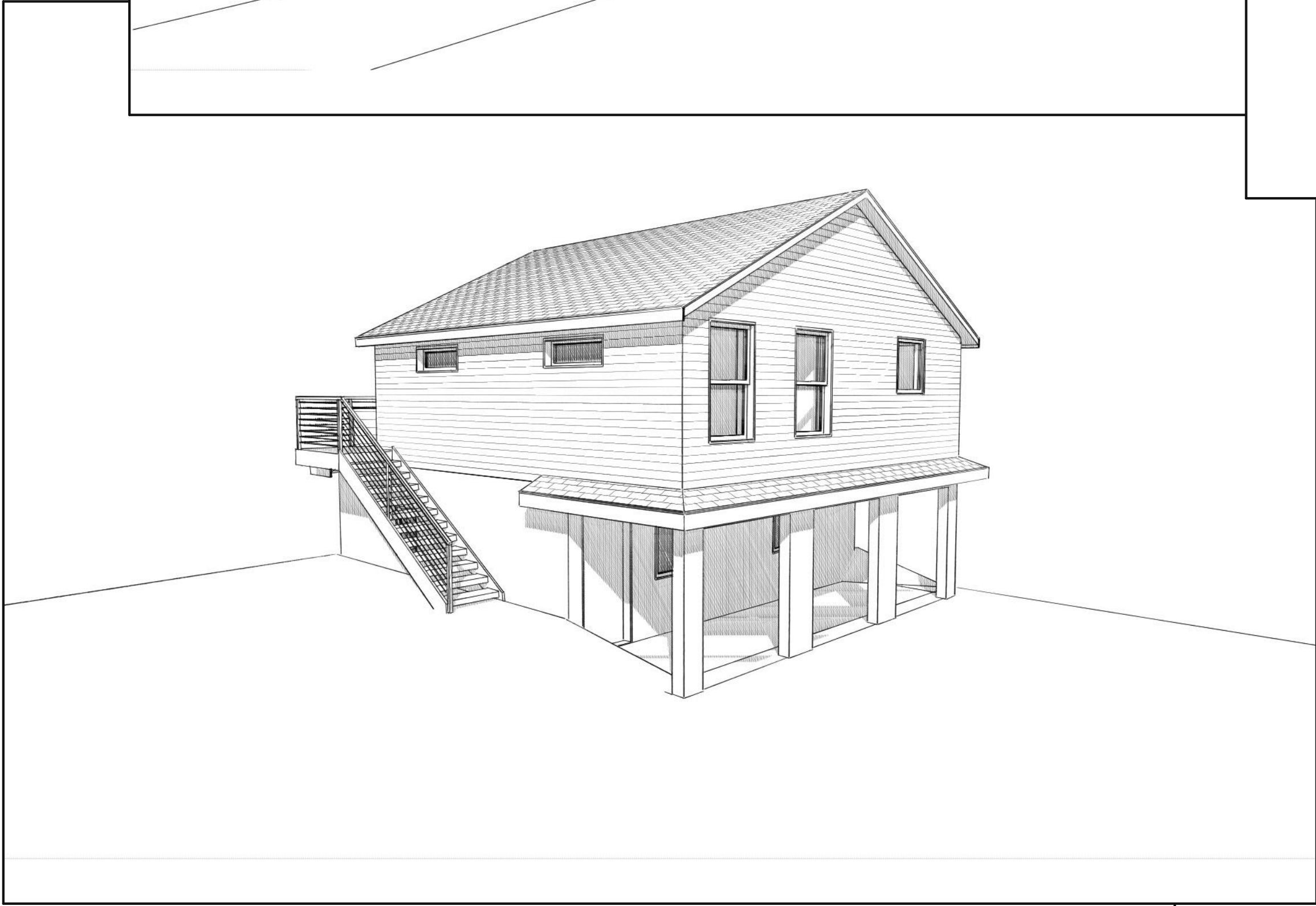
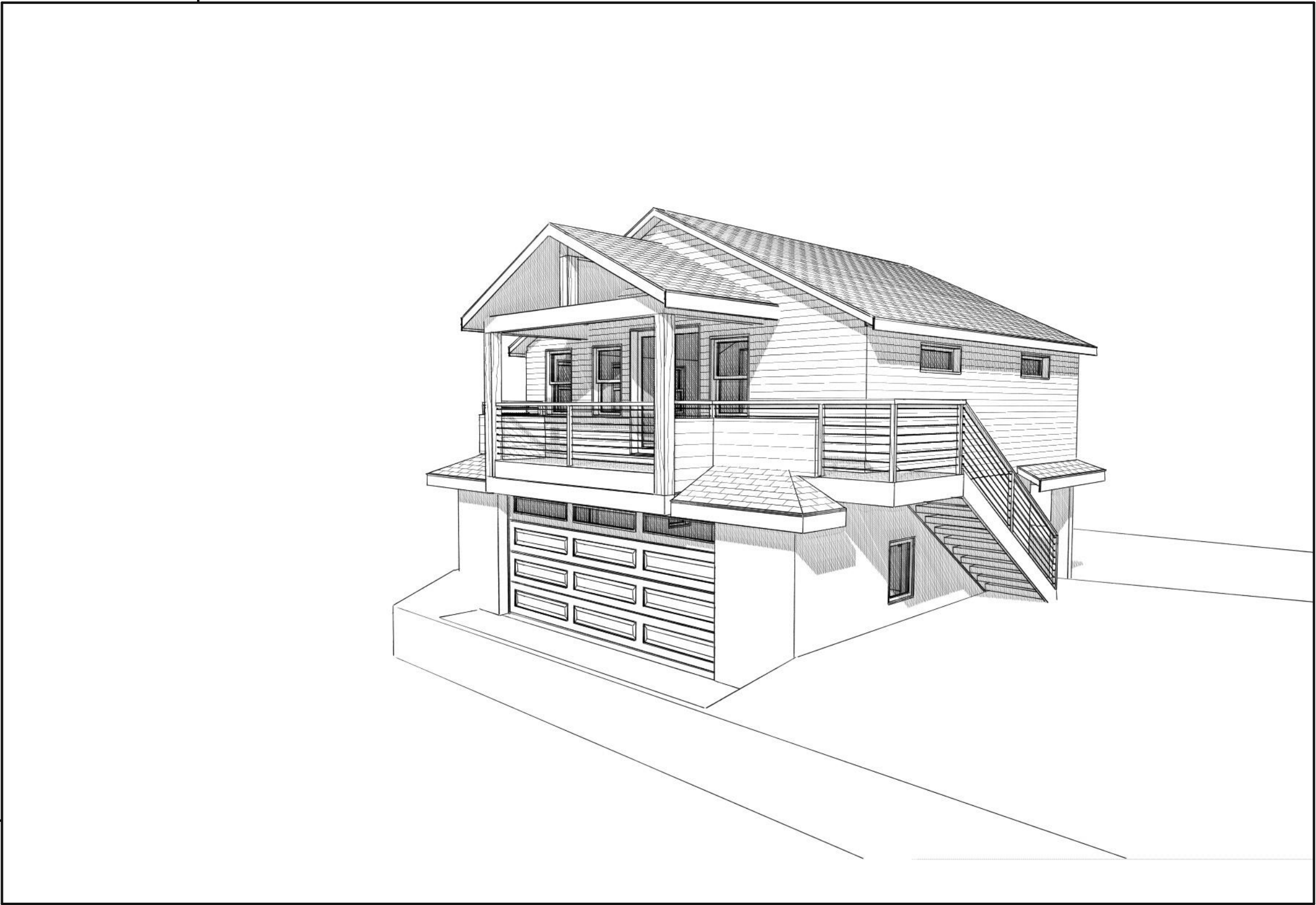
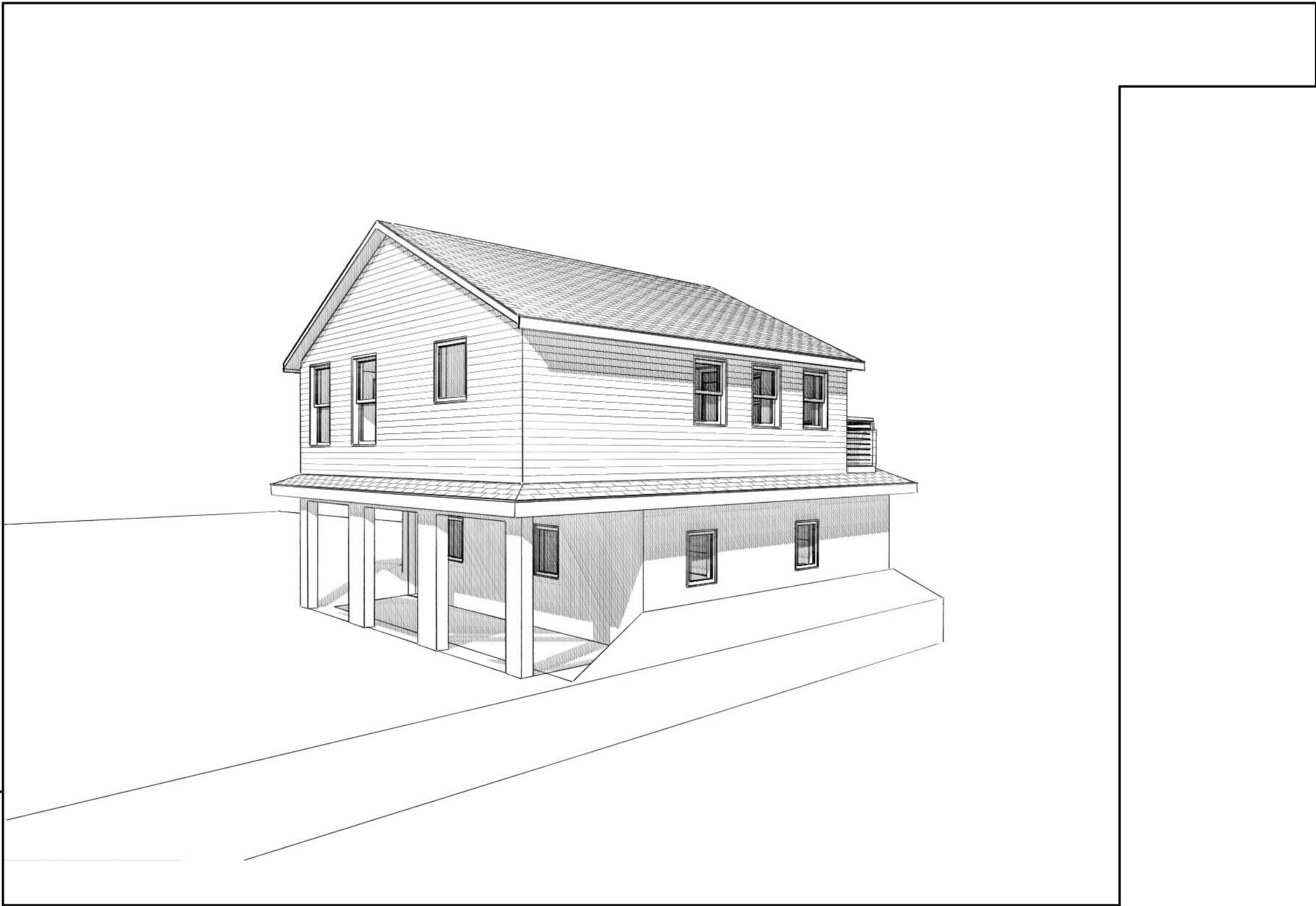
Judy Herlihy

Herlihy Residence

836 Rex Street, Louisville, CO 80027

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EMP-1	ELECTRICAL, HVAC, PLUMBING PLANS

Review comments sent
02/03/2023



OWNER / SITE: Herlihy Residence
836 Rex Street, Louisville, CO 80027

BUILDER:

COVER SHEET

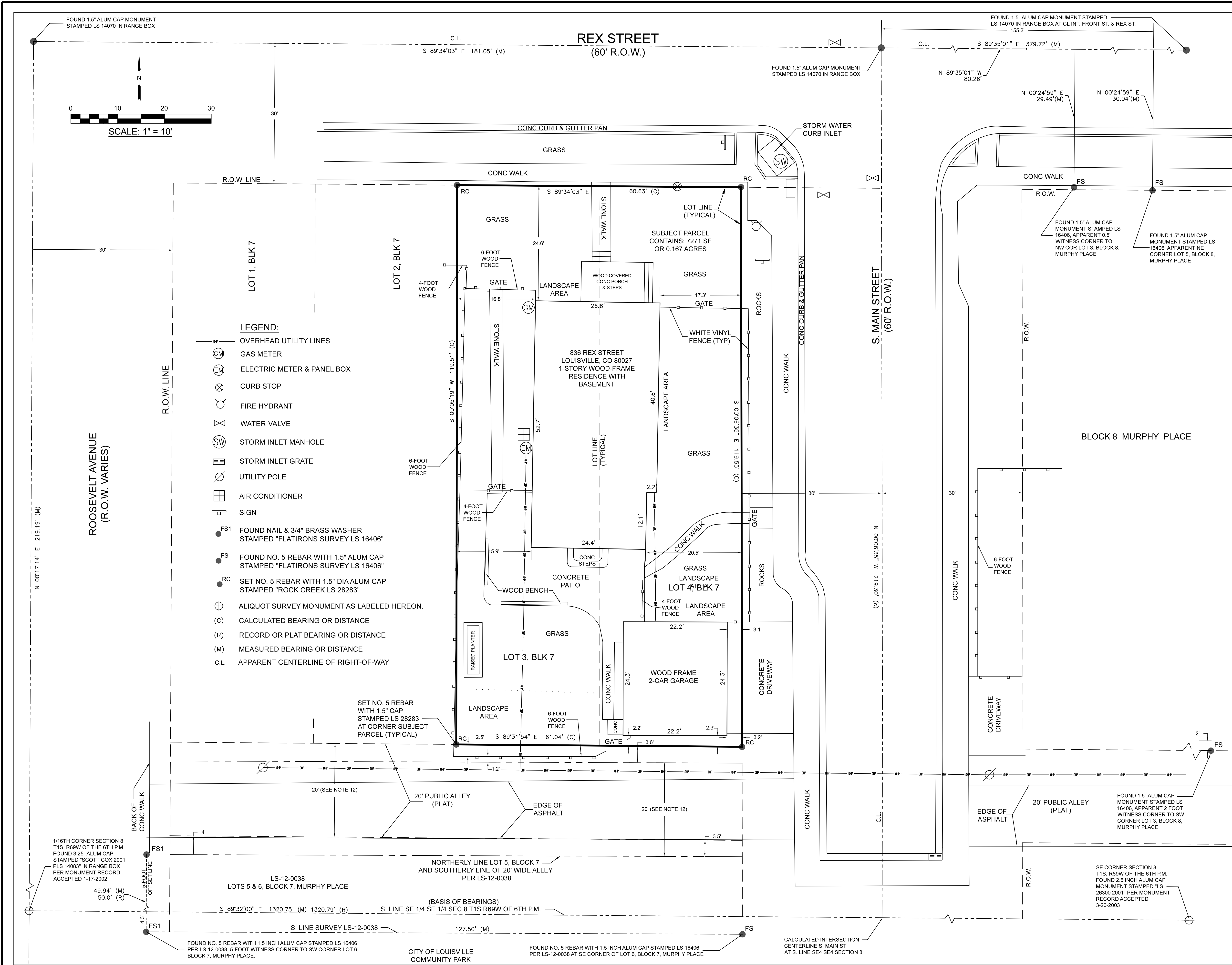
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DRAWN BY: CADDesigns
JOB NUMBER: 2025
ISSUE DATE: 1/20/23
REVISIONS:

COVER SHEET

SHEET:

A-1



IMPROVEMENT SURVEY PLAT

LOTS 3 & 4, BLOCK 7 MURPHY PLACE
PART OF THE SOUTHEAST QUARTER OF
SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69
WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF LOUISVILLE, COUNTY OF BOULDER,
STATE OF COLORADO

LEGAL DESCRIPTION: (FROM TITLE COMMITMENT)

LOTS 3 AND 4 BLOCK 7,
MURPHY PLACE SUBDIVISION
COUNTY OF BOULDER,
STATE OF COLORADO.

NOTES:

- 1.) THIS IMPROVEMENT SURVEY PLAT (ISP) HAS BEEN PREPARED IN CONFORMANCE WITH CRS 38-51-102 (9).
- 2.) THIS ISP AND THE INFORMATION HEREON, MAY NOT BE USED FOR ANY ADDITIONAL OR EXTENDED PURPOSE BEYOND THAT FOR WHICH IT WAS INTENDED AND MAY NOT BE USED BY ANY PARTIES OTHER THAN THOSE TO WHICH IT IS CERTIFIED.
- 3.) UTILITIES DEPICTED HEREON FROM SURFACE EVIDENCE ONLY. UNDERGROUND UTILITIES ARE NOT SHOWN.
- 4.) DIMENSIONS ARE SHOWN HEREON ARE IN U.S. SURVEY FEET. BUILDING DIMENSIONS SHOWN ARE MEASURED AT FOUNDATION OF STRUCTURE. BUILDING OVERHANGS ARE NOT DEPICTED.
- 5.) EXISTING SURVEY MONUMENTS AS RECOVERED DURING FIELD SURVEYING AND LAND SURVEY PLATS ON DEPOSIT WITH BOULDER COUNTY WERE USED IN BOUNDARY CALCULATIONS.
- 6.) BASIS OF BEARINGS: THE SOUTH LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN BEARS SOUTH 89 DEGREES 32 MINUTES EAST BETWEEN A FOUND 3.25 INCH ALUMINUM CAP STAMPED "PLS 14083 2001" IN RANGE BOX AT THE EAST 16TH CORNER OF SAID SECTION 8 AND A FOUND 2.5 INCH ALUMINUM CAP MONUMENT STAMPED "LS 26300 2001" IN RANGE BOX AT THE SOUTHEAST CORNER OF SAID SECTION 8.
- 7.) SUBJECT PARCEL CONTAINS: 7271 SQUARE FEET OR 0.167 ACRES MORE OR LESS.
- 8.) BUILDING OVERHANGS ARE NOT SHOWN.
- 9.) TREES AND LANDSCAPING FEATURES ARE NOT SHOWN.
- 10.) LAND TITLE GUARANTED COMPANY TITLE COMMITMENT NO. K 70446841 WITH EFFECTIVE DATE 9-4-2015 AT 5:00 P.M. WAS PROVIDED FOR USE ON THIS SURVEY. THIS DOCUMENT WAS USED FOR THE RESEARCH OF EASEMENTS, RIGHTS-OF-WAY AND ENCUMBRANCES AFFECTING THE SUBJECT PROPERTY.
- 11.) THE PLAT OF MURPHY PLACE, RECORDED MAY 25, 1907, IN BOOK 3 AT PAGE 28, RECEPTION NO. 57381 DOES NOT SHOW ANY EASEMENTS ON THE SUBJECT PROPERTY.
- 12.) THE LOCATION OF THE 20-FOOT WIDE PUBLIC ALLEY IN BLOCK 7, MURPHY PLACE IS SHOWN PER THE RECORD PLAT. THIS ALLEY IS ALSO DEPICTED ON AN IMPROVEMENT SURVEY PLAT (ISP) PREPARED BY FLATIRONS, INC. STAMP DATED 11-1-11 BY PLS NO. 16406 AND DEPOSITED WITH BOULDER COUNTY FEBRUARY 16, 2012 AS "LS-12-0038", AS PREPARED FOR LOTS 5 & 6 OF BLOCK 7, MURPHY PLACE. THIS ISP SHOWS THE 20-FOOT WIDE ALLEY SOUTH OF THE LOCATION OF THE ALLEY PER THE PLAT OF MURPHY PLACE SUBDIVISION, AS SHOWN AND LABELED HEREON.

SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY TO JUDITH HERLIHY ON THAT THIS IMPROVEMENT SURVEY PLAT WAS PREPARED UNDER MY RESPONSIBILITY AND IN CHARGE ON APRIL 18, 2020 AND THAT THERE ARE NO ENCROACHMENTS OR VISIBLE EVIDENCE OF ANY EASEMENTS, RIGHTS-OF-WAY ACROSS SAID PROPERTY, EXCEPT AS INDICATED ON THIS PLAT.

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT, MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SIGNATURE HEREON.

ROBERT A. RICKARD, PLS NO. 28283 DATE
FOR AND ON BEHALF OF
ROCK CREEK SURVEYING, LLC

DEPOSIT CERTIFICATE:

ACCEPTED FOR DEPOSIT IN THE OFFICE OF THE COUNTY CLERK AND RECORDER OF BOULDER COUNTY, AT BOULDER, COLORADO, ON THIS _____ DAY OF _____, 20____, AT _____ O'CLOCK ____ M.
AS SURVEY PLAT NO. _____
BY _____
BOULDER COUNTY CLERK AND RECORDER

IMPROVEMENT SURVEY PLAT
836 REX STREET, LOUISVILLE, CO 80027

REVISIONS

ROCK CREEK SURVEYING, LLC.
3021 GARDENIA WAY
SUPERIOR, CO 80027
303-521-7376

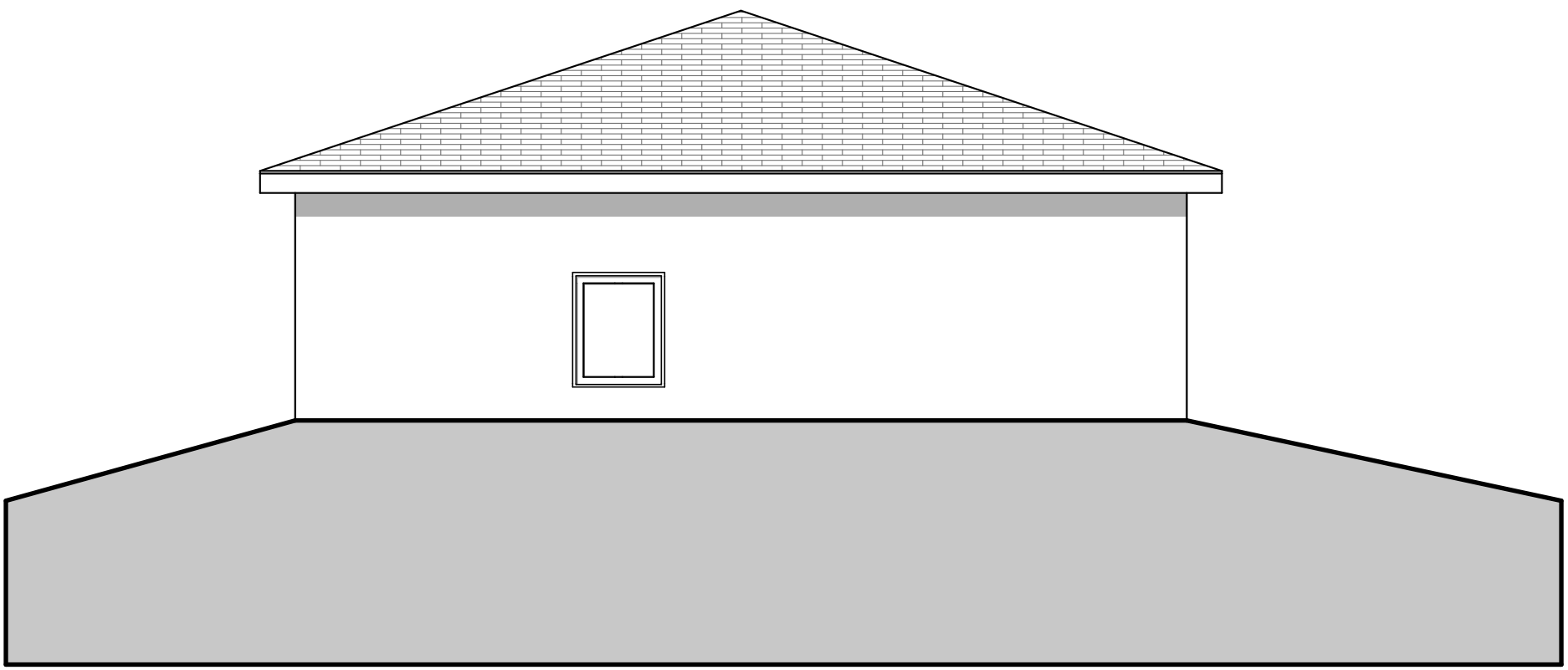
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FIELD DATES:
APRIL 11, 2020

REVISION:

SCALE: 1" = 10'
DATE: APRIL 18, 2020

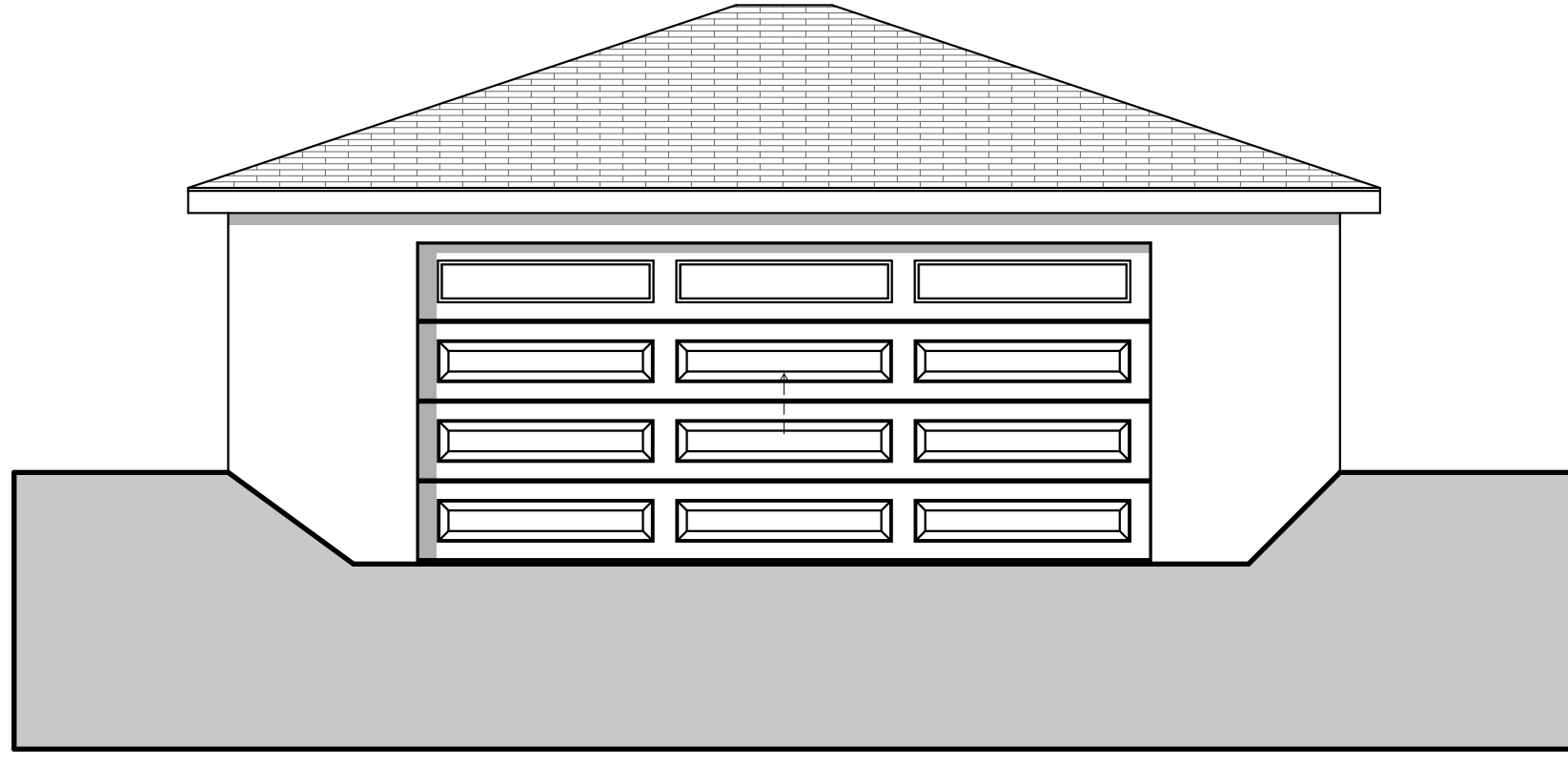
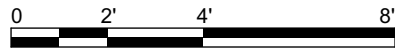
SHEET:

A-3



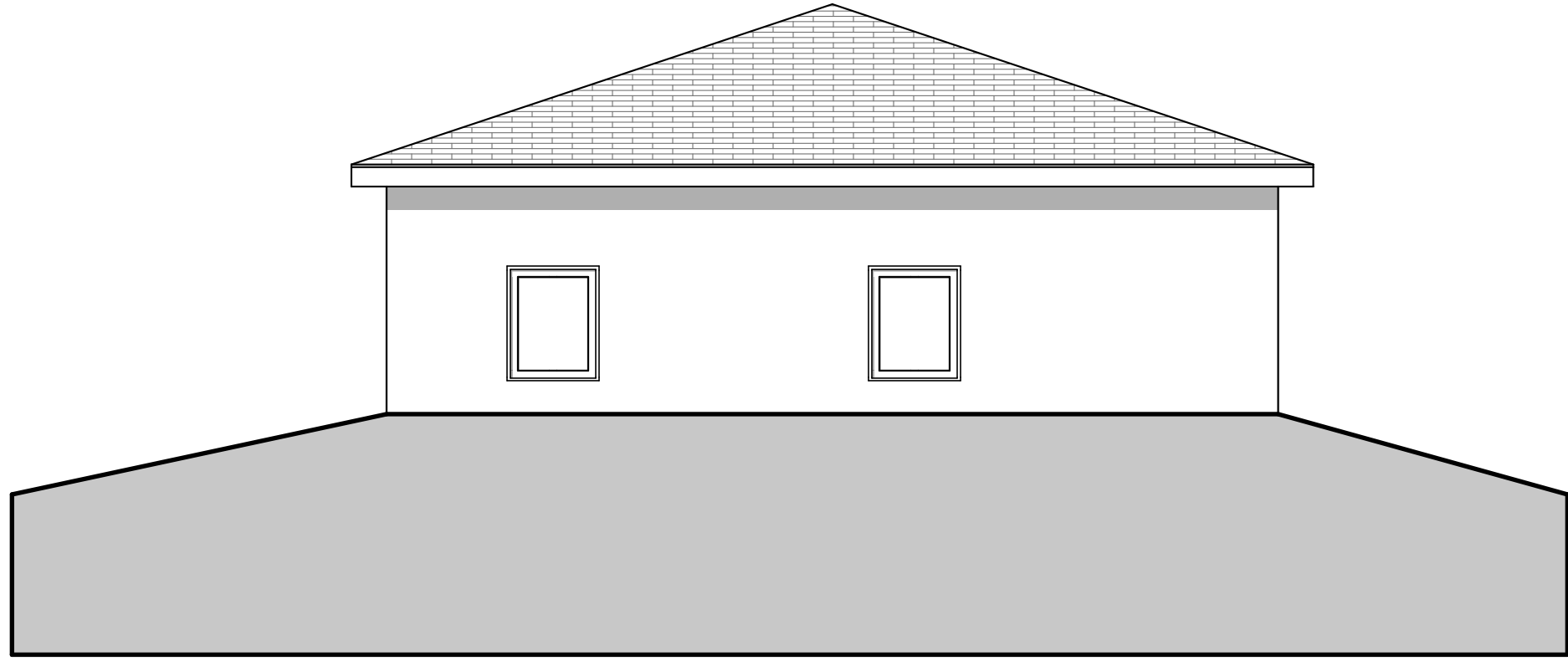
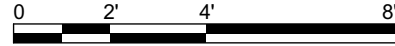
1 Existing North Elevation

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



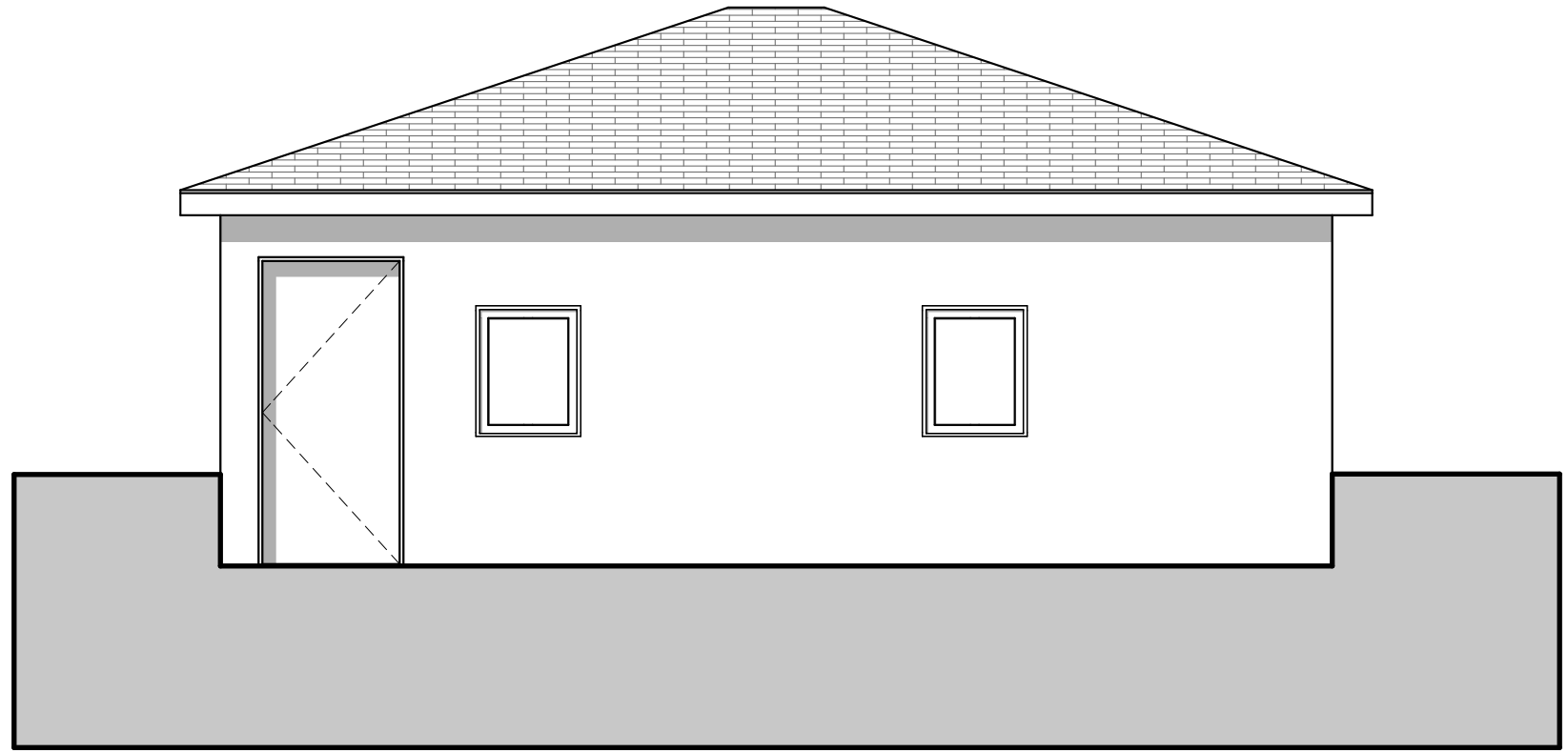
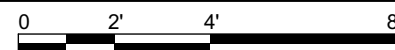
2 Existing East Elevation

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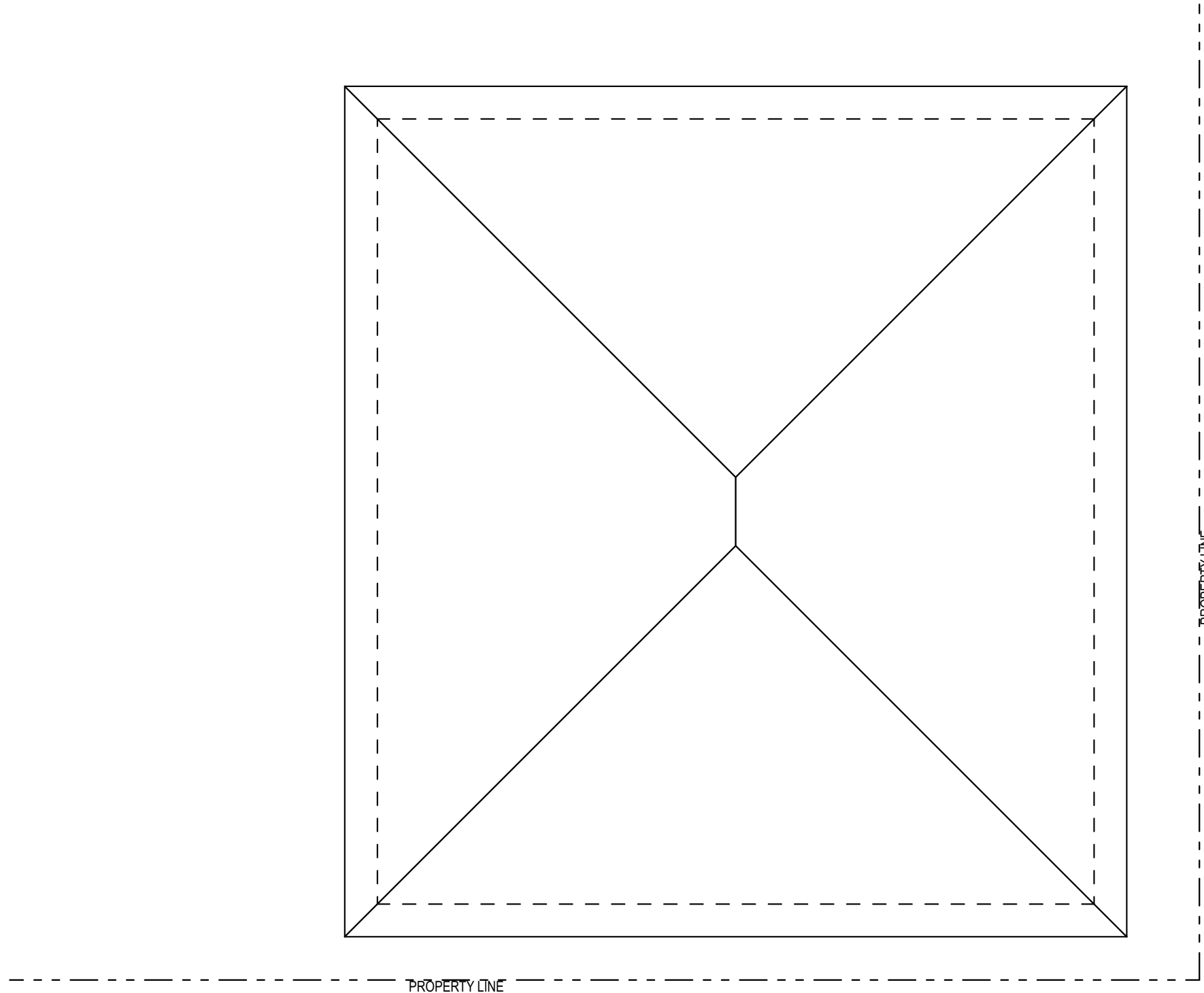
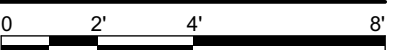
3 Existing South Elevation

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



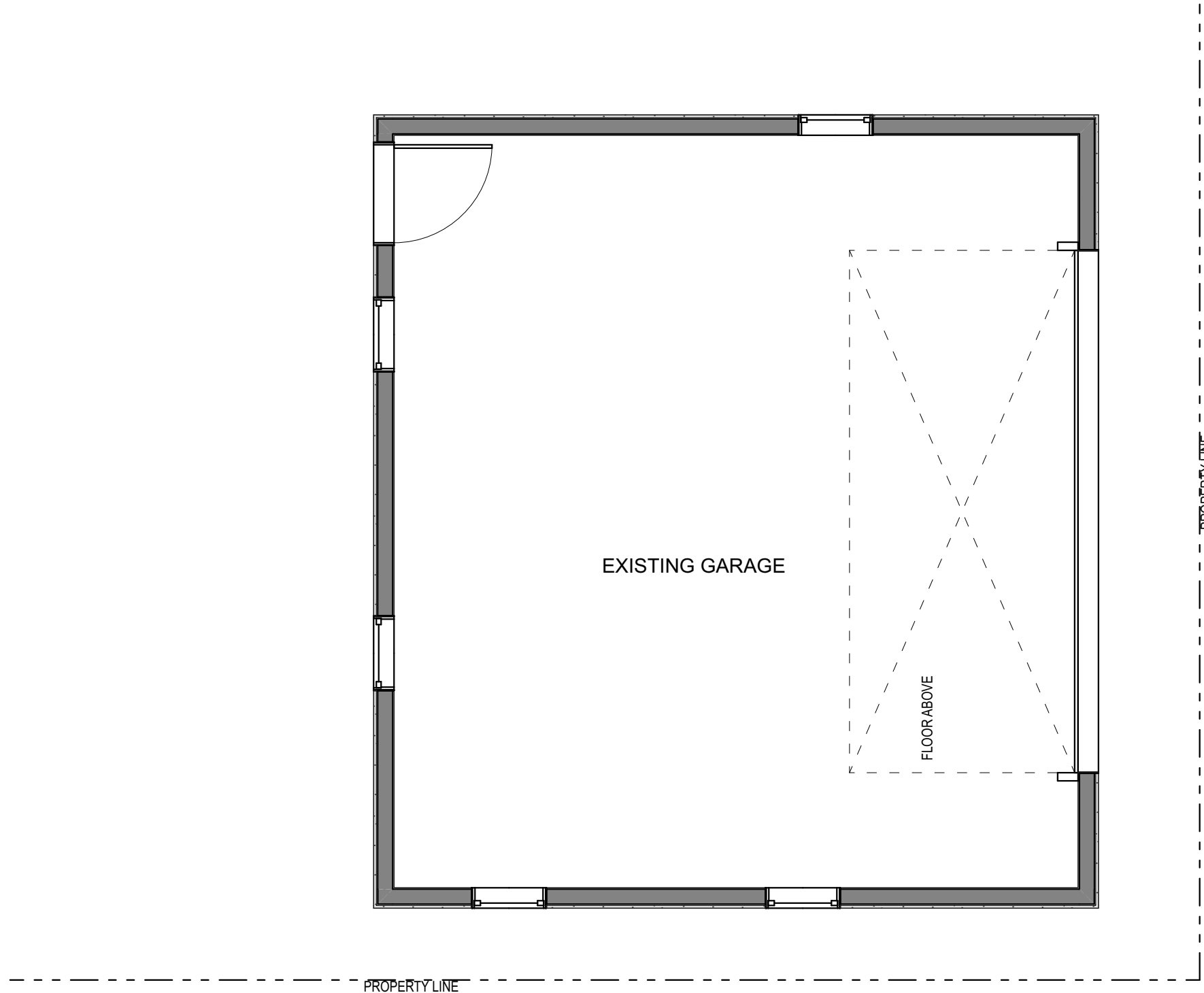
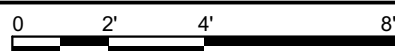
4 Existing West Elevation

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



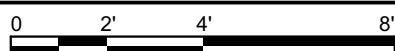
5 Existing Roof Plan

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



6 Existing Main Level Floor Plan

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



OWNER / SITE: Herlthy Residence
836 Rex Street, Louisville, CO 80027

BUILDER:

EXISTING FLOOR AND ROOF
PLANS, EXISTIGN ELEVATIONS

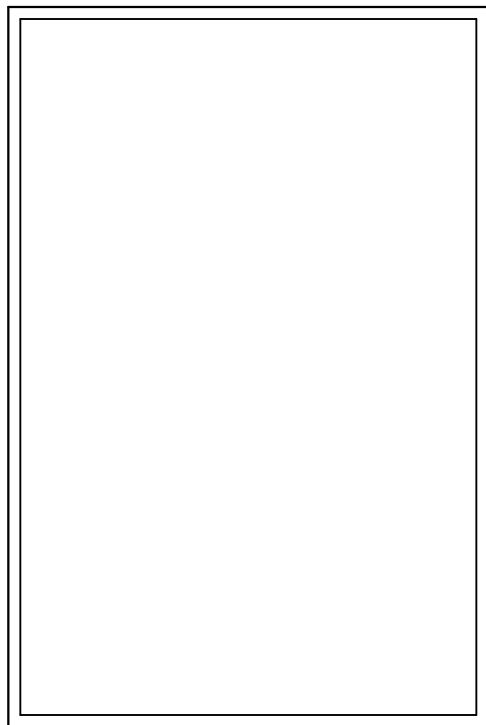
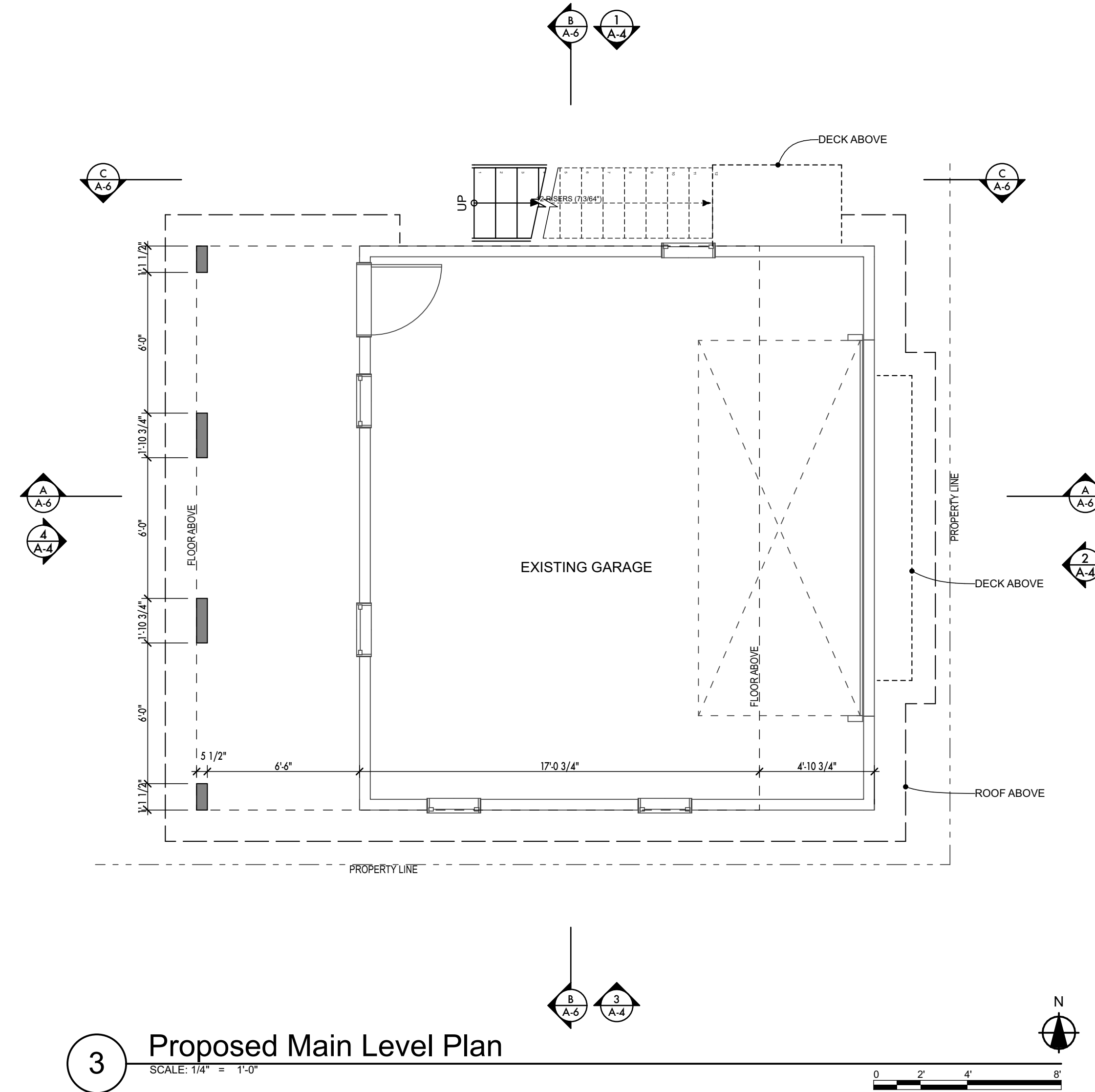
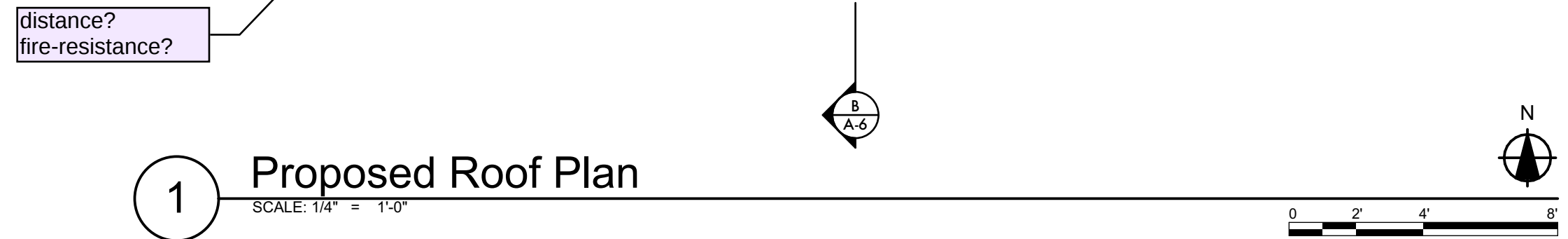
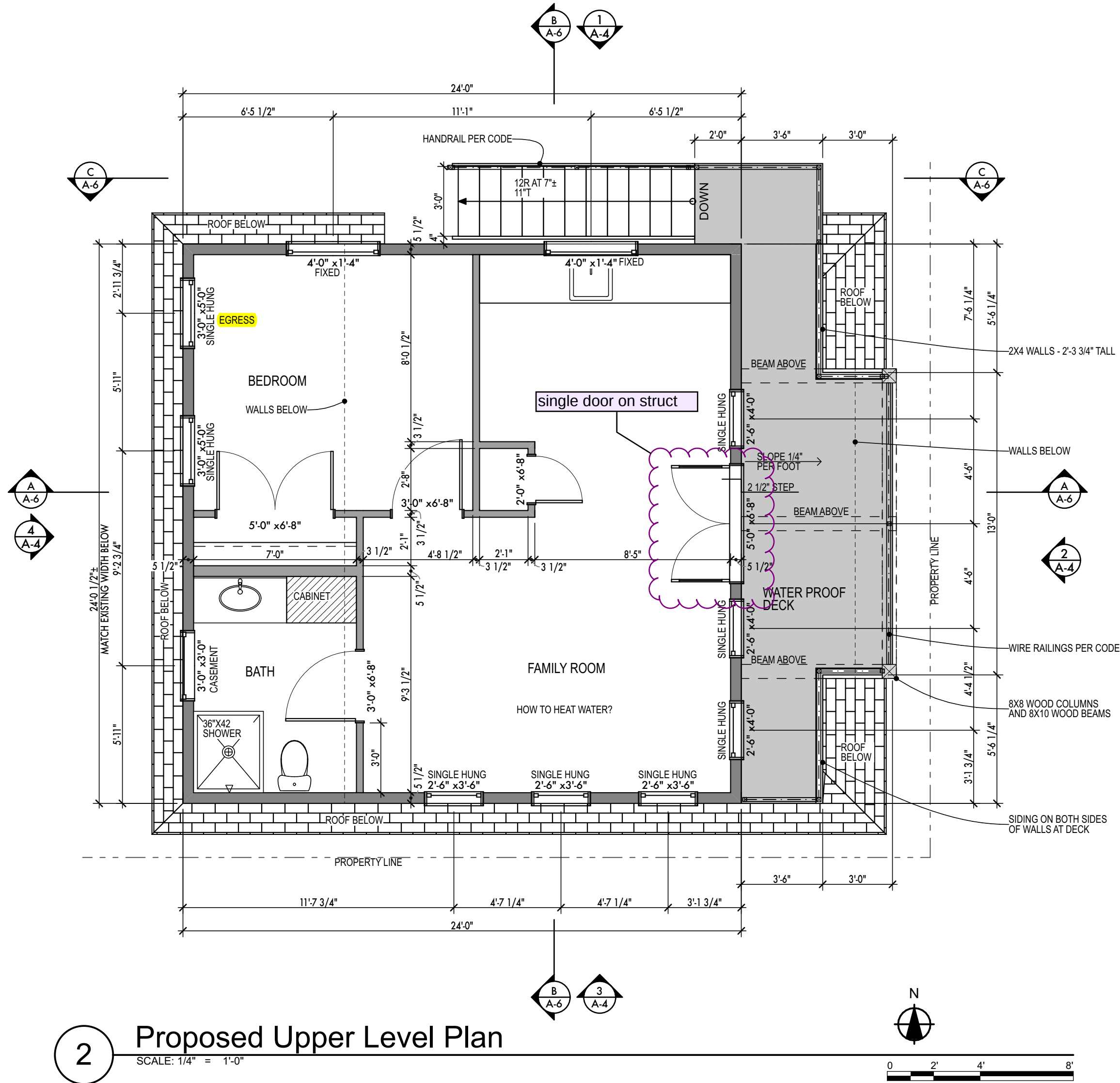
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EXISTING FLOOR AND ROOF
PLANS, EXISTIGN ELEVATIONS

SHEET:

A-4



OWNER / SITE: **Herlithy Residence**
836 Rex Street, Louisville, CO 80027

BUILDER:

PROPOSED FLOOR PLANS AND
ROOF PLAN

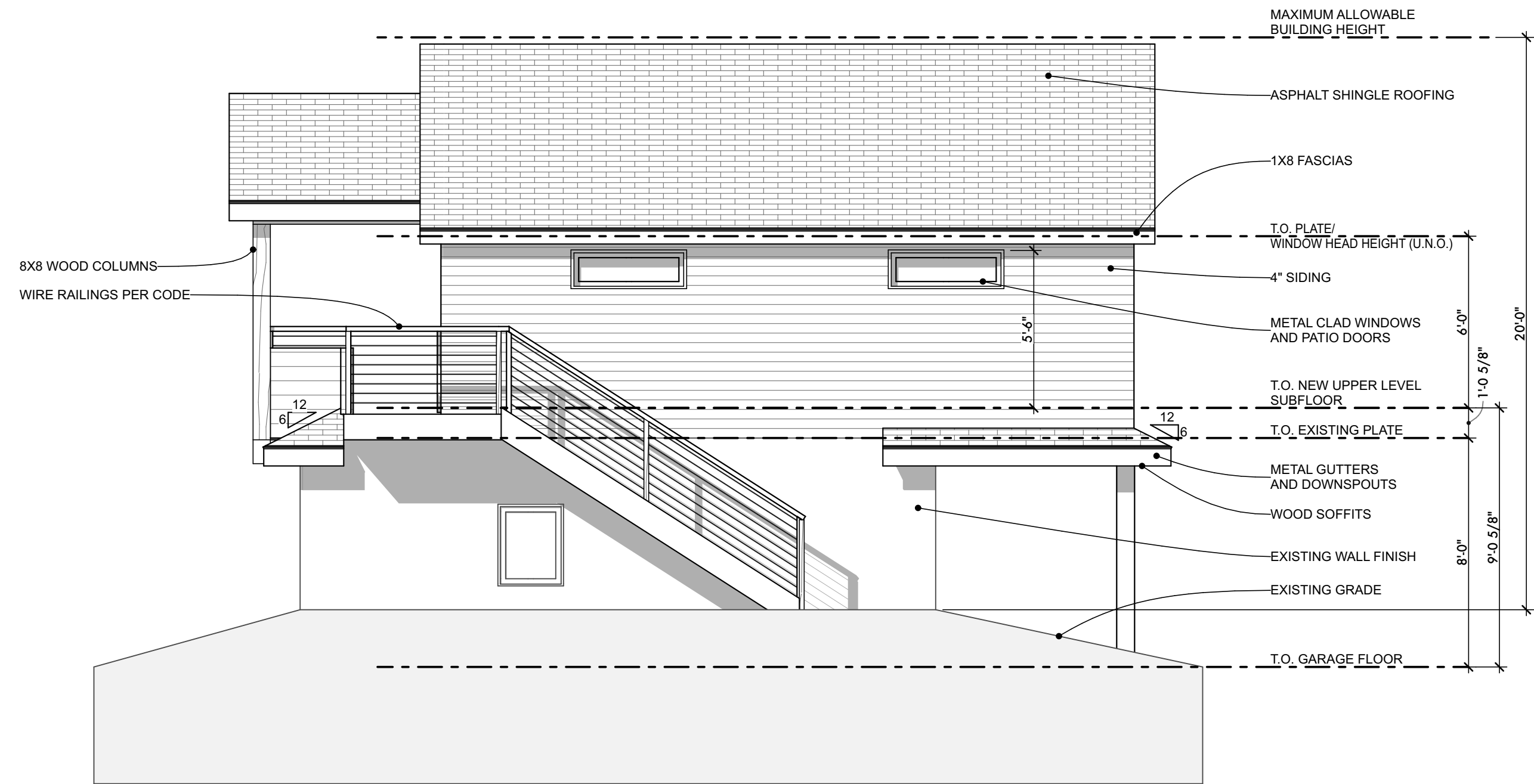
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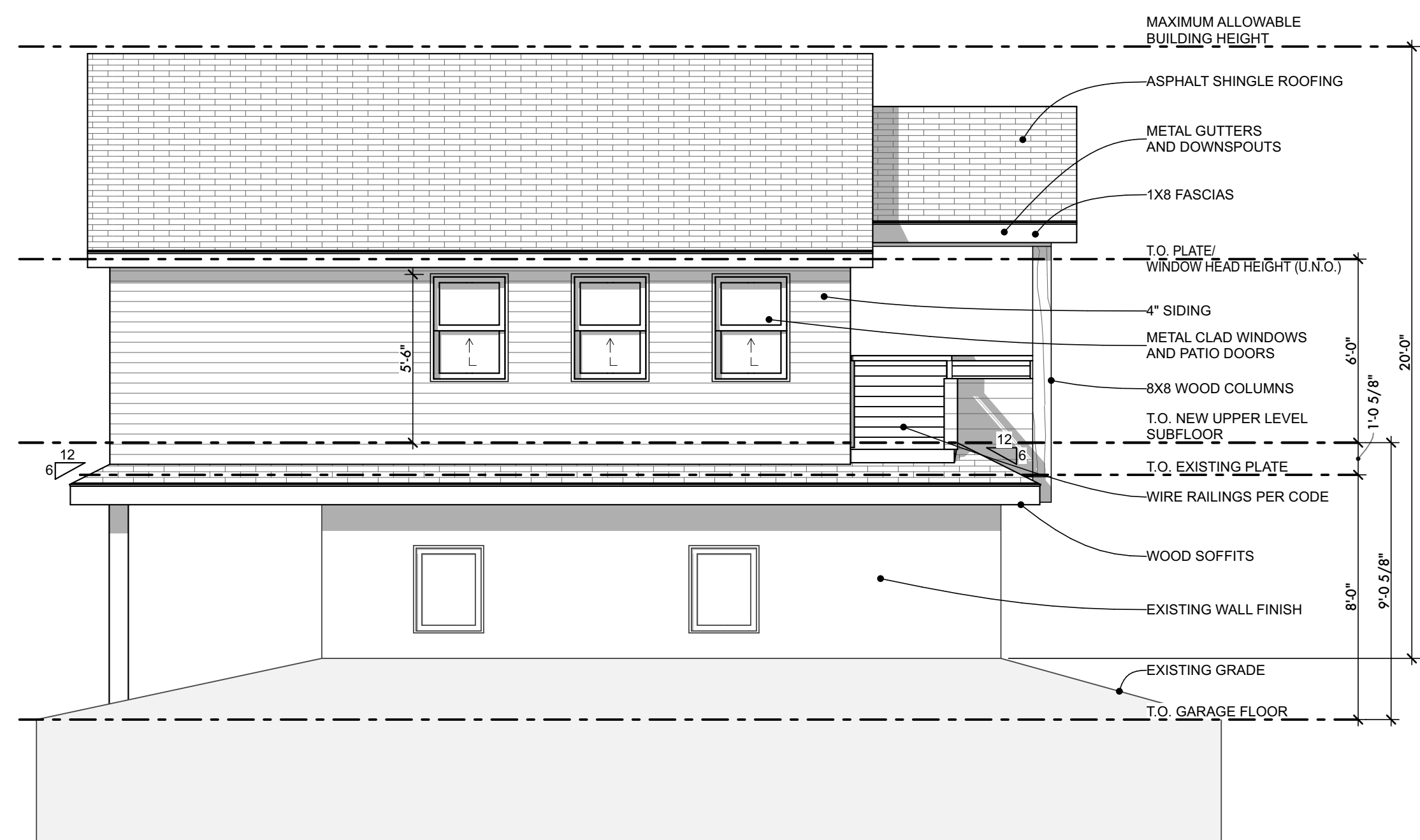
PROPOSED FLOOR PLANS AND
ROOF PLAN

SHEET:
A-5

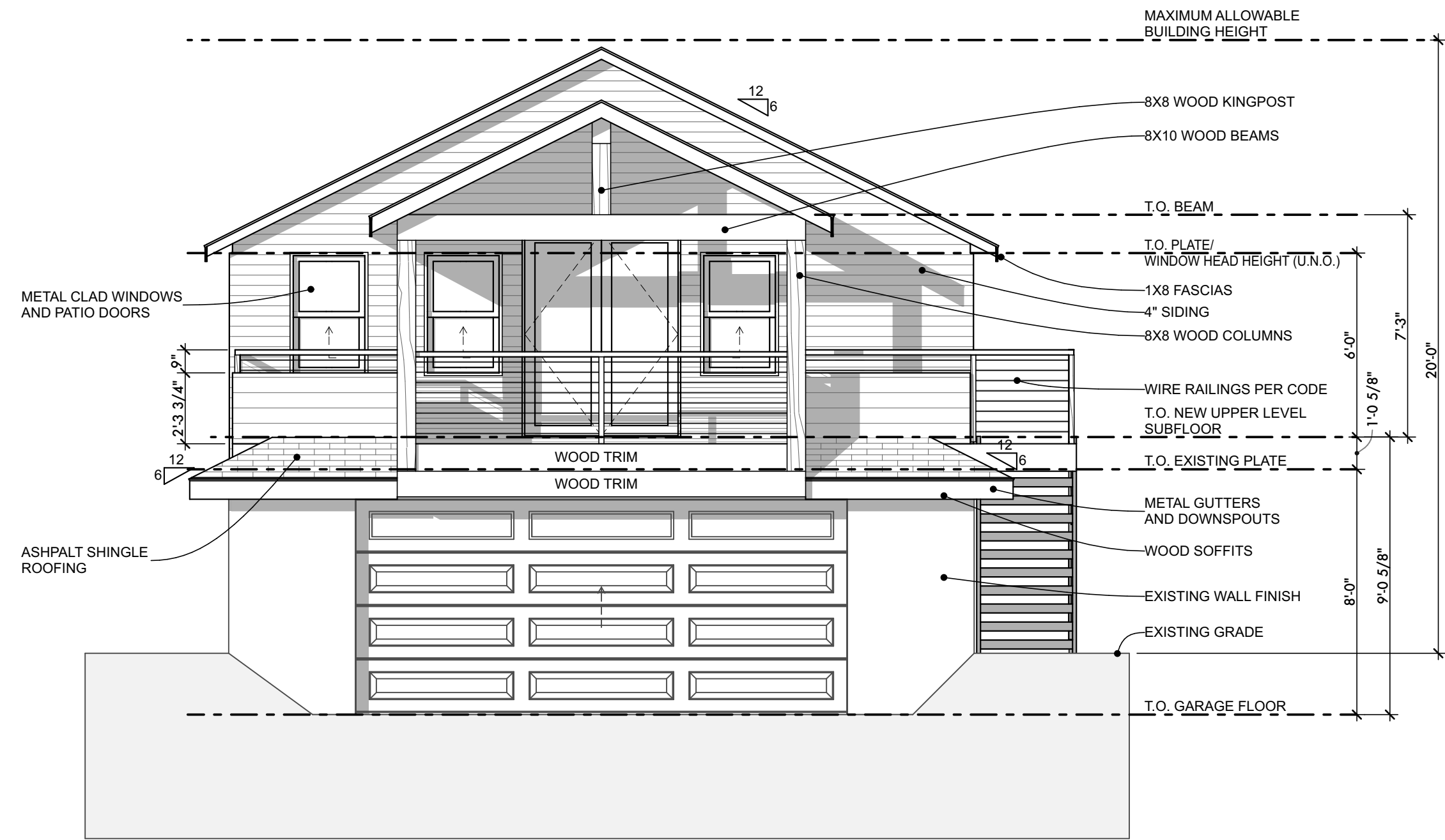
A-6 PROPOSED ELEVATIONS AND BUILDING SECTIONS : Plotted on 1/20/23 at 8:57 AM by Kevin Weinmann. File Path: BIMcloud: caddesigns - BIMcloud: caddesigns - BIMcloud as a Service/Innovative Endusers/2025 Herlthy Residence 230104



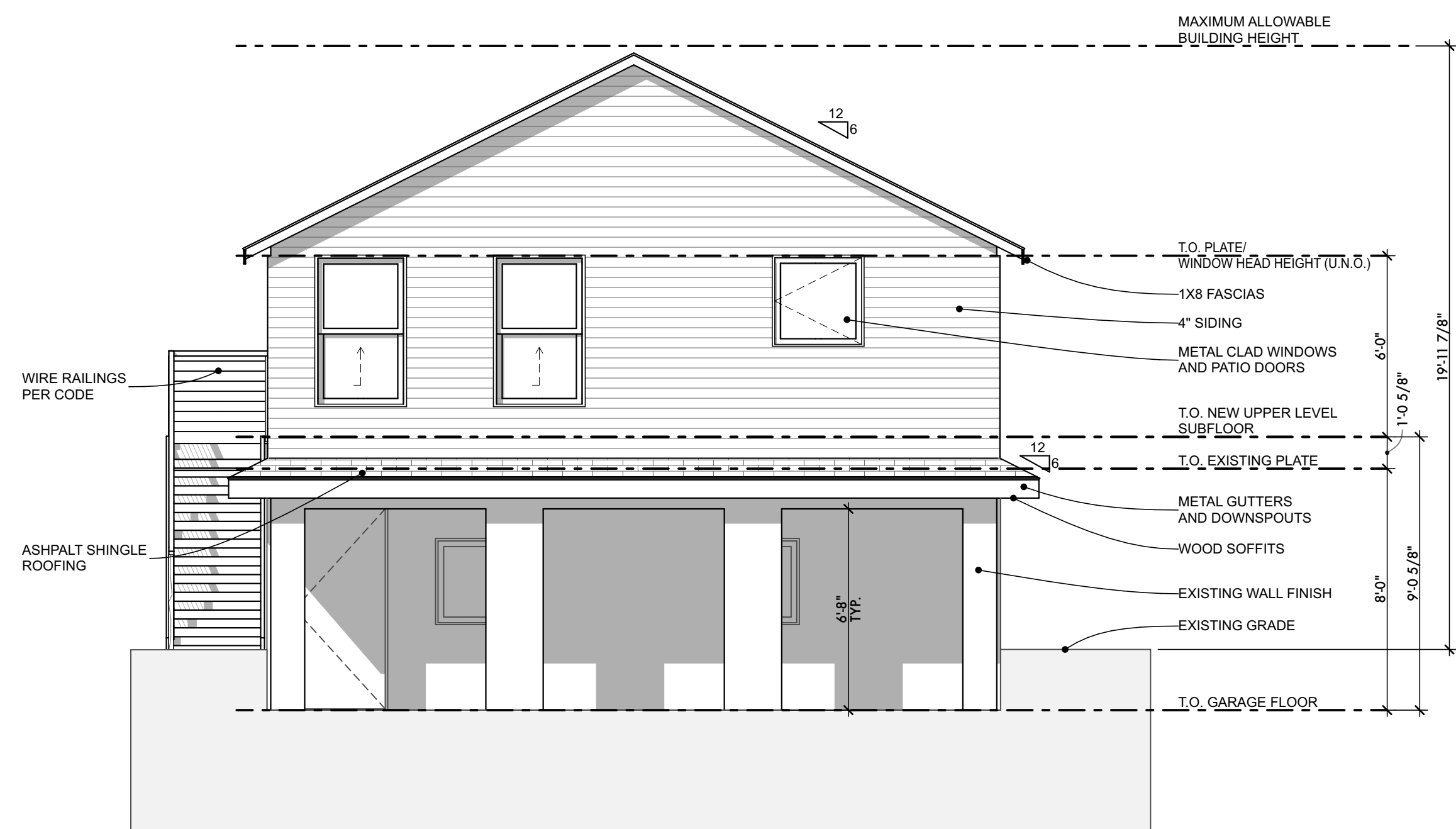
1 Proposed North Elevation
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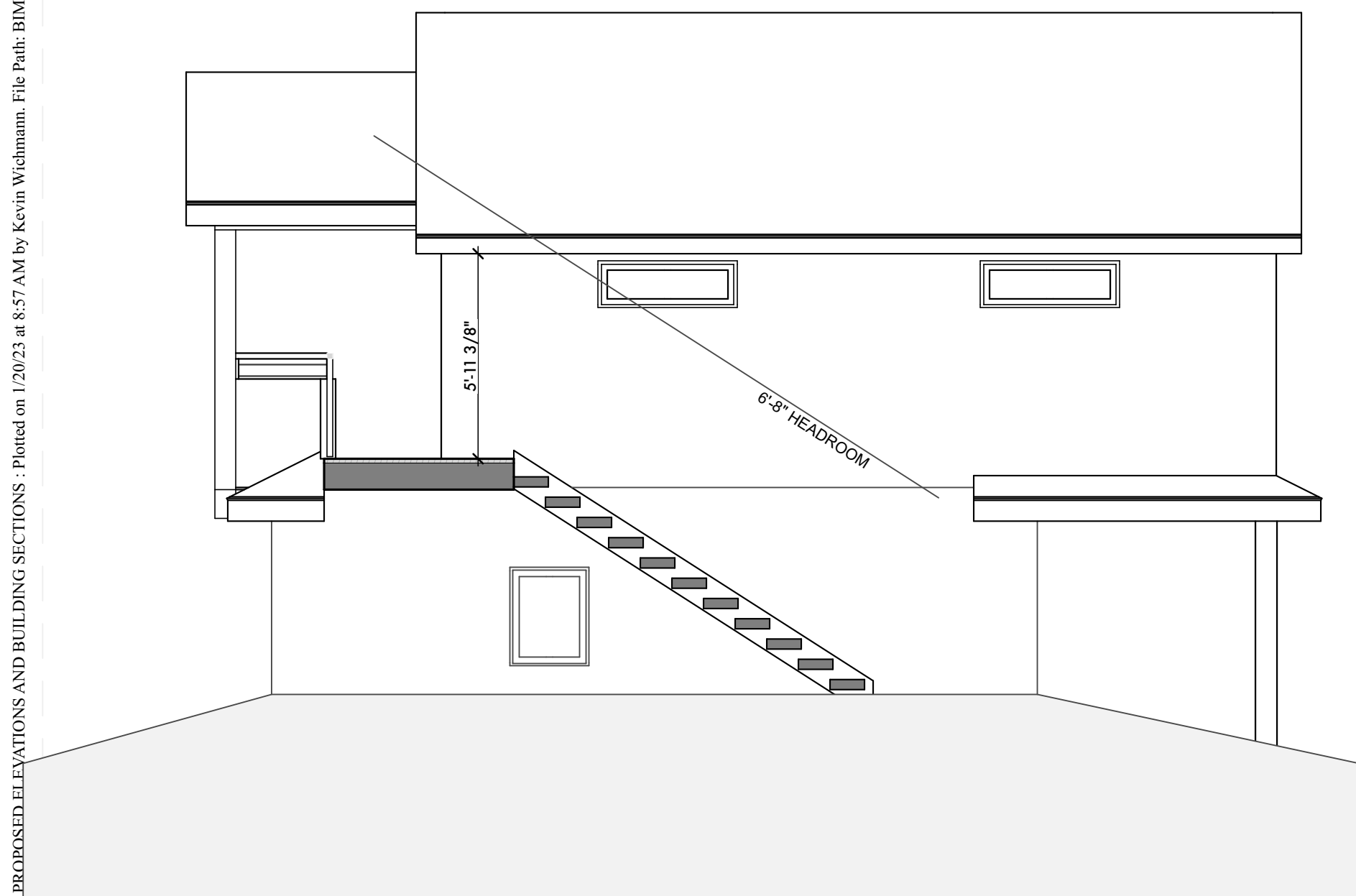
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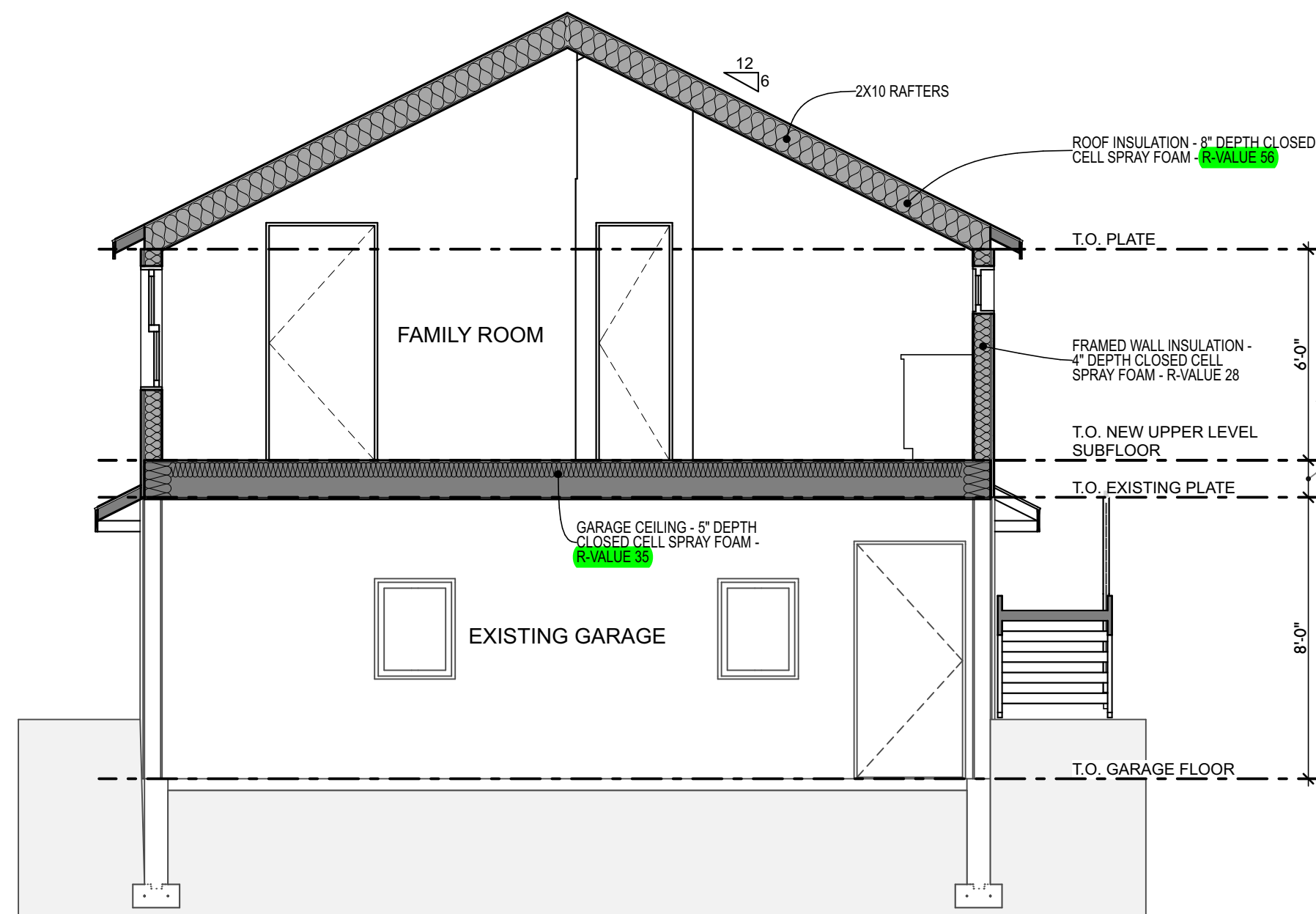
2 Proposed East Elevation
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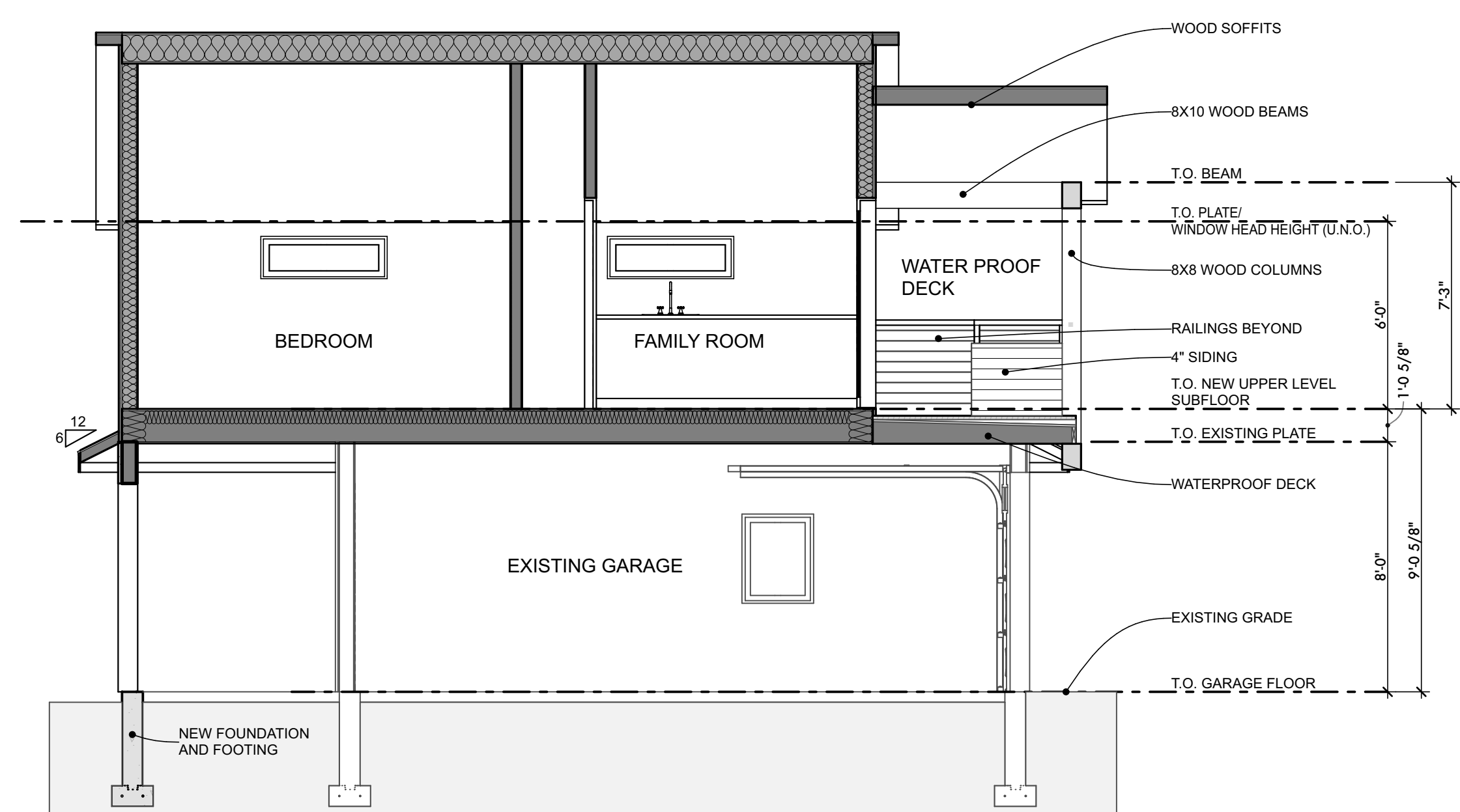
4 Proposed West Elevation
SCALE: 1/4" = 1'-0"



C Stair Section
SCALE: 1/4" = 1'-0"



B Proposed Section B
SCALE: 1/4" = 1'-0"



A Proposed Section A
SCALE: 1/4" = 1'-0"

OWNER / SITE: Herlthy Residence
836 Rex Street, Louisville, CO 80027

BUILDER:

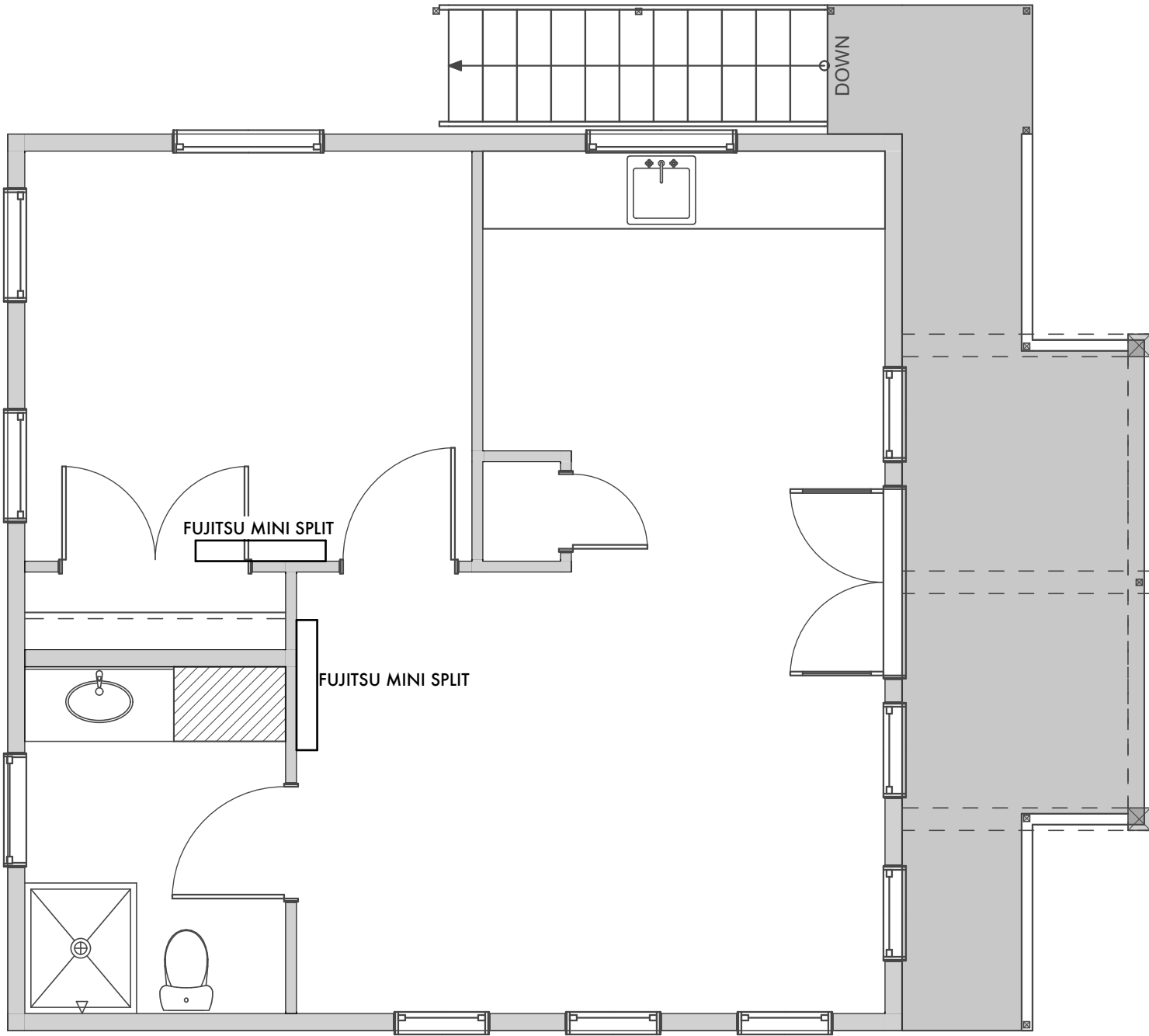
PROPOSED ELEVATIONS AND BUILDING SECTIONS

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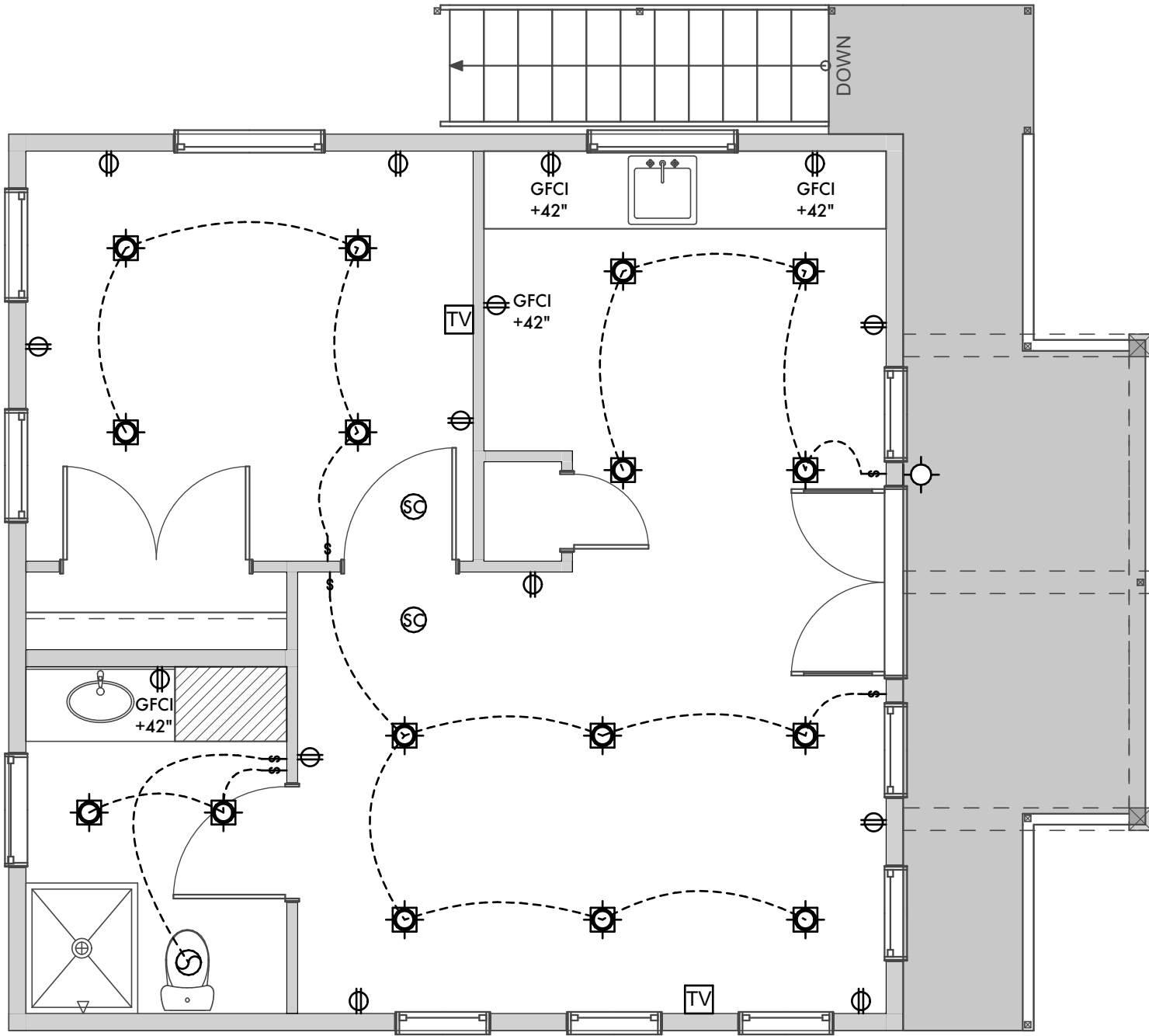
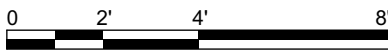
PROPOSED ELEVATIONS AND BUILDING SECTIONS

SHEET: A-6



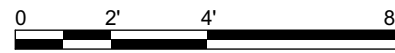
1 Upper Level HVAC Plan

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

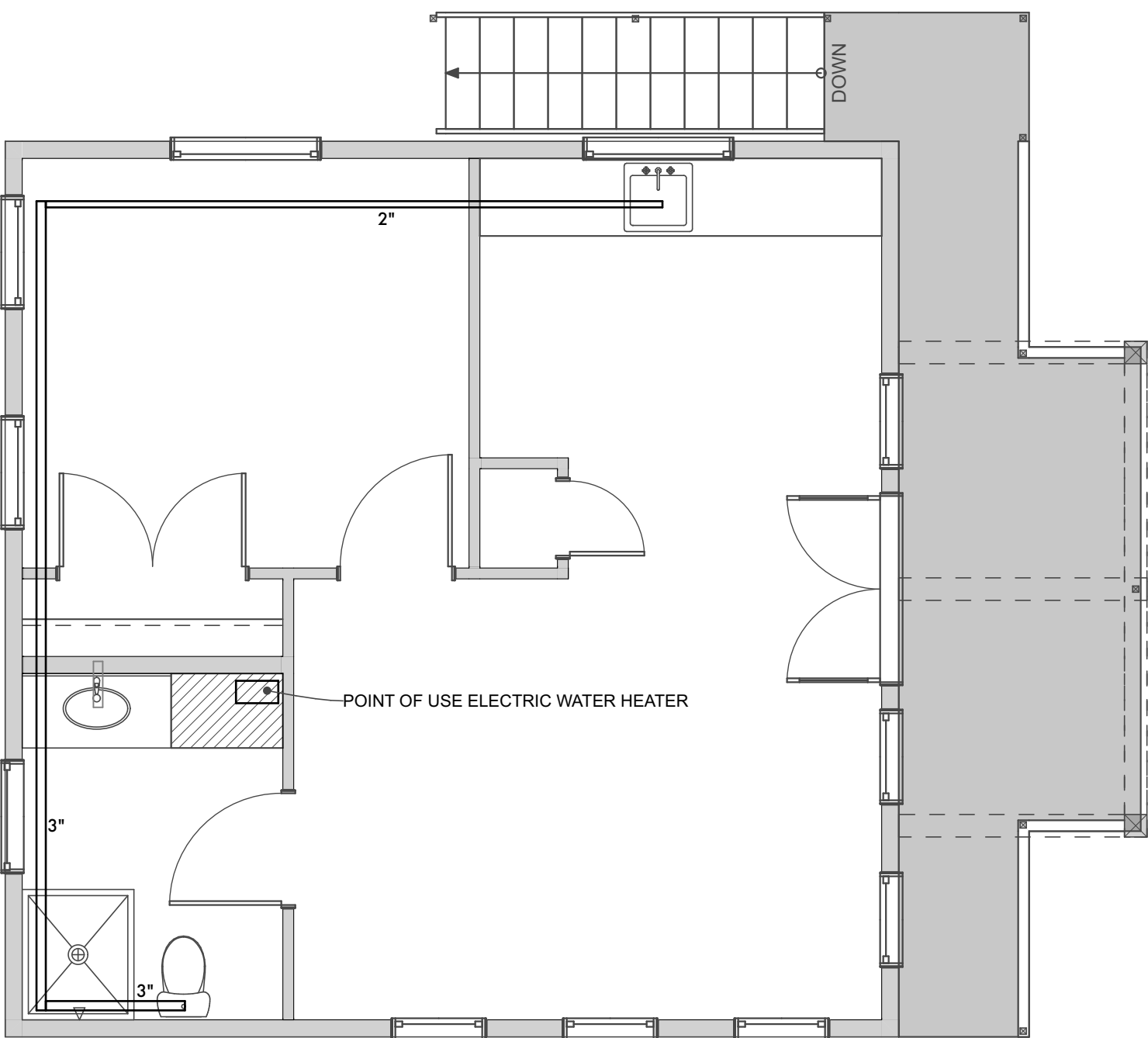


2 Upper Level Electrical Plan

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



ELECTRICAL SYMBOLS KEY	
	SURFACE MOUNTED OR HANGING FIXTURE
	RECESSED CAN FIXTURE
	RECESSED CAN FIXTURE (WALL WASH)
	WALL MOUNTED FIXTURE / WALL SCONCE
	FLUORESCENT SURFACE MOUNTED FIXTURE
	LED STRIP FIXTURE
	TRACK LIGHT
	LANDSCAPE LIGHT
	DUPLEX RECEPTACLE OUTLET / UNDER COUNTER OUTLET
	WATERPROOF DUPLEX RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET SPLIT WIRED
	QUADRUPLEX RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET FLOOR MOUNTED
	220 VOLT OUTLET
	TELEPHONE OUTLET
	CABLE TELEVISION OUTLET
	CEILING EXHAUST FAN
	GARAGE DOOR OPENER
	SINGLE SWITCH
	THREE-WAY SWITCH
	FOUR-WAY SWITCH
	DIMMER SWITCH
	JUNCTION BOX
	SMOKE AND CARBON MONOXIDE DETECTOR
	CEILING FAN W/ LIGHTS
NOTE: ALL FIXTURE AND OUTLET LOCATIONS SUBJECT TO CODE COMPLIANCE AND STRUCTURAL FRAMING MEMBER LOCATIONS	



3 Upper Level Plumbing Plan

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



OWNER / SITE: Herlthy Residence
836 Rex Street, Louisville, CO 80027

BUILDER:

ELECTRICAL, HVAC, PLUMBING
PLANS

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ELECTRICAL, HVAC, PLUMBING
PLANS

SHEET:

EMP-1

GENERAL STRUCTURAL NOTES:

Design Criteria:

- Building Code:
 - All work shall be performed in accordance with the 2018 IRC and all amendments of the City of Louisville, Colorado. (Note: It is beyond the scope of these general notes to list all of the requirements of the governing codes. The contractor is responsible for complying with detailed requirements affecting installation procedures, inspections and quality control, whether or not they are listed in the general notes or on the drawings).
- Design Loads:
 - Roof Loads:
 - Snow Load: 30 psf
 - Dead Load: 15 psf
 - Floor Loads:
 - Dead Load: 10 psf
 - Live Load: 40 psf
 - Wind Speed: V_{100} = 115 mph, 3 sec. gust, exp. B
 - Seismic Design Category: B

General:

These structural notes form a part of the agreement between the structural engineer and the client.

- Contractor is responsible for following all applicable building code requirements, minimum standards of the industry, as well as all local, state, and federal regulations and requirements, wether or not they are listed in the general notes or on the drawings. This includes building inspections & observations. It is beyond the scope of these general notes to list all of the requirements of the governing codes.
- Contractor shall thoroughly review the plans and specifications prior to commencing construction.
- Contractor shall verify existing conditions(including existing soil conditions), dimensions, and elevations as required prior to construction, and shall notify architect/engineer immediately upon discovery of any conditions differing from those shown or noted in writing.
- Contractor shall verify and coordinate all drawings with each other and with the general notes, general requirements, dimensions, specifications, and structural notes. Where there is a disagreement or conflict between the architectural drawings, the structural drawings or the specifications, as to the size or spacing of structural members, the most stringent requirements shall apply.
- Contractor shall ask the architect/engineer for clarification in writing whenever a conflict is identified.
- Contractor shall be responsible for including the cost of implementing all provisions shown, specified, or as required by regulations.
- Sections and details shown or noted apply to similar conditions elsewhere, not specifically shown or noted.
- If the architect or structural engineer, as a claimant or a defending party, is at any time a party to litigation involving any claim related to the work described on these drawings, and should claimant not prevail substantially against defending party in such litigation, all litigation expenses, witness fees, court costs, and attorney fees incurred by the defending party in defending against such claim, shall be paid by the claimant.
- These plans have been engineered for construction at one specific building site. Client and contractor assume all responsibility for use of these plans at any other building site.
- In an effort to resolve any conflicts that arise during the design and construction of the project or following the completion of the project, the client and the consultant agree that all disputes between them arising out of or relating to this agreement or the project shall be submitted to non-binding mediation unless the parties mutually agree otherwise. The client and the consultant further agree to include a similar mediation provision in all agreements with independent contractors and consultants retained for the project and to require all independent contractors and consultants also to include a similar mediation provision in all agreements with their subcontractors, sub consultants, suppliers and fabricators, thereby providing for mediation as the primary method for dispute resolution between the parties to all those agreements.
- All structural elements require ongoing, continued maintenance. Structural elements vary in their normal life expectancy, deterioration, deformation, and movement.
- All building and structural elements, including foundation soils, shall be protected from water and negative drainage.
- Ownership of documents and designs: all engineering documents and design developed by Lopez Smolens Associates remain the property of the company and are to be used on this project only under the terms of this letter of agreement. The client shall not, without prior written approval of Lopez Smolens Associates, use the documents or designs provided under this letter of agreement on other projects or assign, sell, or transfer the same to others. These documents are copyrighted and are subject to copyright protection as an "engineering work" under the latest version of the Copy Right Law of the United States of America.
- All shop drawings required for a project shall first be reviewed, initialed & dated by the contractor for general placement, dimensions, and completeness.
- Shop drawing review or jobsite observations performed by architect or structural engineer does not constitute acceptance of work that is defective or in noncompliance with the drawings, specifications, building codes or manufacturer's recommendations.
- Structural engineer's approval must be secured for all substitutions or changes prior to purchase or installation.
- Contractor shall provide supplemental support w/ structural engineer's stamped design for roof and/or ceiling mounted mechanical equipment.
- Contractor is responsible for all temporary shoring as required by OSHA and local building department.
- Contractor shall notify required building department officials, architect, or engineer a minimum of four (4) business days prior to a required or needed "inspection"(construction observation).
- Lopez Smolens Associates' liability is limited to the fee for services related to this project.

Foundations:

- Foundations have been designed without geotech engineer's soil investigation. Design criteria below (assumed for the purpose of this design), should be confirmed by a geotech engineer, at the owner's expense, during excavation. This procedure may require revisions to foundation design if geotech engineer determines that such criteria are inappropriate for this site.
- Design Criteria:**
Soils Report Information
 - Prepared by: N/A
 - Report number: N/A
 - Date: N/A**Foundation Design Loads**
 - Allowable Bearing: 1500 psf (Assumed, Verify on site)
 - Minimum Exterior Footing Depth: 36" (frost)
 - Minimum Interior Footing Depth: Appropriate soils
 - Equivalent Fluid Pressure: 50 psf (Assumed)
- Non-expansive backfill shall be compacted in lifts at optimum moisture content as per soils engineer's recommendations. When no soil report is provided, use a lift thickness of 6 to 8 in. or less in loose thickness, compact to 95% of standard proctor dry density per ASTM D698, with a moisture content of optimum to 3% above optimum.
- Foundation walls should be temporarily internally braced as required during backfill and compaction. Contractor shall be responsible for adequately bracing top and bottom of foundation/basement walls prior to backfilling and compaction.
- Foundation walls and grade beams having earth placed on each side shall be backfilled evenly on both sides of the wall to maintain common elevation.
- Concrete must be placed continuously without horizontal cold joint. If cold joint is necessary, notify engineer for additional vertical reinforcement detail.
- Vent all crawl spaces (1 sq ft per 150 sq ft) or completely seal as required by code.
- Top of foundation walls must be anchored securely to first floor framing.
 - Use min. 2x6 sill plate, offset splices by 2'-0" min. for double or multiple sill plates, all multiple sill plates shall also be nailed to the plate below w/ a min. of 16d nails @ 4" o.c. staggered.
 - Anchor plate(s) to foundation walls with 5/8" diameter anchor bolt at 24" o.c. maximum (or as noted on plans). Bolts to be centered in sill plate.
 - Square washers or approved alternate are required per AWC SDPWS 4.3.6.4.3.
 - All sill plates shall be fully engaged by concrete anchor bolts and washers.
 - Anchor floor framing to plate with Simpson A35 at each third joist at bearing walls, and with solid blocking spaced at 32" o.c. at nonbearing walls.
- First floor joists shall be solid blocked where parallel to foundation wall, 32" o.c. for a minimum of: 4 joists bays for 10'-0" tall basement walls, 3 joist bays for 8'-0" tall basement walls, 2 joist bays for 5'-0" crawl space walls, and 1 joist bay for 4'-0" crawl space walls.
- Foundation walls have been designed to be full height unless otherwise noted. Changes in wall heights may require re-engineering, including design as a cantilevered retaining wall.
- All foundation wall steel beam pockets shall be cleaned and fully grouted after the steel beam is placed. Refer to detail requiring additional horizontal reinforcement in concrete foundation wall "behind" the beam pocket
- All concrete foundation walls shall have control joints, 1/8th wall thickness deep, placed full height vertically on each side of the wall at a maximum spacing of 20' o.c. and shall be caulked flush with the surface of the wall on each side, typ.

Concrete & Reinforcement:

- Concrete shall conform to all applicable provisions of ACI 301 (Standard Specifications for Structural Concrete), ACI 318 (Building Code Requirements for Reinforced Concrete), and tolerances shall conform to ACI117, unless noted otherwise. When cold weather exists, all concrete work shall conform to ACI 306 (properly protect from freezing). When hot weather exists, all concrete work shall conform to ACI 305 (proper curing required).
- Concrete specification matrix (if element is not listed, contact engineer for specification):

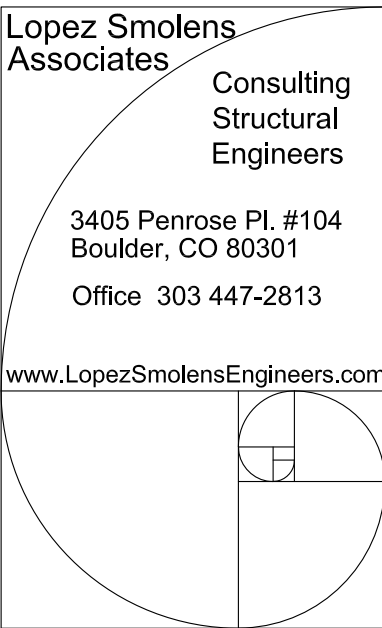
MIX	INTENDED USE	F _c (ksi)	MAX. W/C	MAX. AGG. Ø (IN)	MAX. SLUMP (IN)	AIR ENT. (%)	(MIN) CEMENT TYPE	(MIN) REQ'S.	OTHER REQ'S.
	NOTES	(a)	(b)	(c)	(d)	(e)	(f)	(g)	
A	Piers (Caissons)	4.0	0.45	1	5-7	NO*	III		
B	Interior Slabs on Grade	3.0	0.45	1	4	NO*	III		
C	Exterior Slabs	4.5	0.45	1	4	6 ± 1.5	III		
D	Columns and Beams	4.0	0.45	1	4	NO*	I		
E	Structural Slabs	4.0	0.45	3/4	5	6 ± 1.5	III	LI, WL Agg.	
F	Exposed Aggregate	4.0	0.45	3/8	4	6 ± 1.5	III		Test Sec.
G	Foundation Walls & Beams	4.0	0.45	1	4	NO*	III		

- * 6 ± 1.5% required when concrete is place during cold weather as defined by ACI 306
- 28-day compressive strength unless otherwise noted.
 - Water/ cement ratio (cement & fly ash): percent of fly ash shall not exceed 15%.
 - Aggregates shall conform to requirements of ASTM C33.
 - Specifier may allow an adjustment in slump using admittures to facilitate placement so long as the w/c of the approved mix design is maintained.
 - See ASTM C94
 - Cement type shall be III, unless otherwise noted. Type II cement, as a minimum, shall be used in concrete exposed to soil w/ higher sulfate content. Re: Geotechnical Engineering Report

- Deformed reinforcement:
 - ASTM A615 Grade 40 for #3,
 - ASTM A615 or ASTM A706, Grade 60 for #4 and larger
 - #5 corner bars may be Grade 40. Minimum 24" overlapped.
- Welded wire fabric shall conform to ASTM A185
- Welding of reinforcing steel not allowed unless noted otherwise and shall conform to ASTM 706
- Reinforcing shall be detailed per ACI 315
- Splices, dowel projection, or embedment shall be min. 32 bar diameters, but not less than 18 inches, unless otherwise noted.
- Provide corner bars, minimum 24" x 24" or continuous reinforcement at all corners and intersections.
- In continuous members, splice top bars at mid-span between supports and splice bottom bars over supports.
- Typical foundation reinforcement (minimum):
 - For a wall height greater than or equal to 4'-0": (2) - #5 x cont. top and bottom of wall, near center; #4 vert. @ 24" o.c. at inside face of wall w/ 6" hook in footing(where applicable); and (2) - #4 x cont. at footings. Reference drawings for additional required reinforcement.
 - Provide (2) - #5 around all openings with bars extending 24 inches beyond opening horizontally on each side, min.
 - Vertically reinforce each side of openings, and at all wall height changes (top and bottom of wall) with (2) - #5 vertical reinforcement full height of walls.
 - Provide (2) - #4 @ 24" vert. full height minimum in all found. walls at beam bearing location.
 - Reference drawings and details for additional required reinforcement.
- At the time concrete is placed, steel reinforcement shall be free from rust, loose mill scale, oil, paint, and other coatings preventing bond between steel and concrete.
- Minimum cover for reinforcing to be as follows:
 - On earth side when placed against earth - 3½"
 - On earth side when formed and w/ exterior walls - 2"
 - On inner-sides of walls and beams - 1"
 - Welded wire fabric (or other slab reinf.) - centerline of slab on chairs
 - Place top reinforcement not more than 2" from top of wall or grade beam.
 - Place bottom reinforcement not more than 4" from bottom of the conc. wall or grade beam.
- For location, size, and details of all openings, including windows, sleeves, inserts, conduits, pipes, slots, and related items required to be located prior to placing concrete, refer to architectural, mechanical, electrical, and all other drawings and construction trades for the project prior to commencing construction.

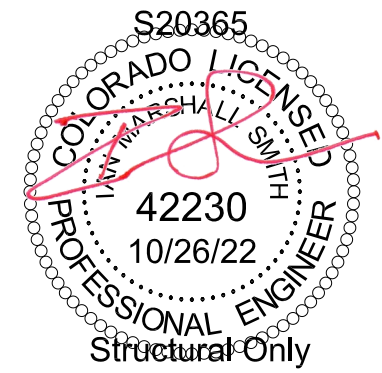
Wood Framing (2018 Code):

- Maximum moisture content for framing lumber = 19 %
- Minimum requirements for species & grades of lumber (design values based on information contained in 2015 National Design Specification (NDS) for wood construction):
 - 2x4 studs for nonbearing, interior partitions: Hem-Fir or White Wood (Pine), Stud Grade minimum.
 - 2x4 studs for bearing walls and/or exterior walls:
 - Up to 8'-0" length - Doug-Fir Stud Grade
 - 8'-0 1/16" and longer - Doug-Fir No. 2
 - 2x6 studs:
 - Up to 8'-0" length - Doug-Fir Stud Grade
 - 8'-0 1/16" and longer - Doug-Fir No. 2
 - Joists, beams, and rafters
 - 2" - 4" thick, 2" and wider: Doug Fir-Larch No. 2 (F_b = 900 psi, F_v = 180 psi, E = 1,600,000 psi)
 - Built-up columns:
 - Douglas Fir-Larch No. 2 (F_b = 900 psi, F_c = 1350 psi, E = 1,400,000 psi)
 - Glue and nail with 16d nails @ 8" o.c., max. for each 2x staggered.
 - Timbers (5"x 5" & larger):
 - Beams & Stringers - Douglas Fir-Larch No. 1 (F_b = 1350 psi, F_v = 170 psi, E = 1,600,000 psi)
 - Posts & Timbers - Douglas Fir-Larch No. 1 (F_b = 1200 psi, F_c = 1000 psi, E = 1,600,000 psi)
- Members noted as LSL (Laminated Strand Lumber) shall be 1½" wide x depth indicated on plan and have the following minimum design criteria:
 - F_b = 1700 psi, F_v = 425 psi, $F_{c||}$ = 1835 psi, F_c = 710 psi, E = 1,300,000 psi
 - Note: 1/8" wide Rim Board products may not be substituted where an LSL is specified
- Members noted as LVL (Laminated Veneer Lumber) shall be 1½" wide x depth indicated on plan and have the following minimum design criteria:
 - F_b = 2600 psi, F_v = 285 psi, $F_{c||}$ = 2510 psi, F_c = 750 psi, E = 2,000,000 psi
- Members noted as PS� (Parallel Strand Lumber) shall be 3½" wide x depth indicated on plan and have the following minimum design criteria:
 - Columns: F_b = 2400 psi, F_v = 190 psi, $F_{c||}$ = 2500 psi, F_c = 545 psi, E = 1,800,000 psi
 - Beams: F_b = 2900 psi, F_v = 290 psi, $F_{c||}$ = 2900 psi, F_c = 625 psi, E = 2,000,000 psi
 - 24F-V4 F_b = 2400 psi, F_v = 190 psi, E = 1,800,000 psi
 - 24F-V8 F_b = 2400 psi, F_v = 190 psi, E = 1,800,000 psi
- Engineered I-Joists to be TJI Prefabricated Wood I-Joists. Substitution of equivalent I-Joist by different manufacturer is acceptable with engineers approval. Install I-Joists per manufacturer recommendations. Do not cut or notch the flange. Holes in web to be per manufacturers recommendations.
- Plywood:
 - All plywood and/or OSB roof, floor, and wall sheathing shall be engineered grades with APA grade stamp indicating appropriate maximum span rating.
 - Supply 2" nominal, or wider, framing behind all vertical wall panel edges. Add blocking behind horizontal panel seams where indicated in the design drawings.
 - All exterior stud walls shall be sheathed with ½" plywood (or OSB) sheathing conforming to IBC section 2304.6.1. Attach to framing using minimum 8d common nails spaced at 6" o.c. maximum at plywood panel edges, and at 12" o.c. in the "field", unless otherwise noted.
 - Where plywood is applied to both faces of a wall and nail spacing is less than 6" o.c. on either side, panel joints shall be offset to fall on different framing members or framing shall be 3" nominal or thicker & nails on each side shall be staggered.
 - All plywood floor & roof sheathing shall be APA rated exterior sheathing, exposure I. Panel identification index and/or thickness shall be as noted on the drawings & left visible where possible. Glue plywood floor sheathing to floor joists with adhesive conforming to 2018 IBC. Sheathing to be continuous over two or more spans with strength axis perpendicular to supports.
 - Floor sheathing to be a minimum of ¾" plywood (or OSB) with a panel rating of 48/24. Attach to framing using minimum 8d common nails spaced at 6" o.c. maximum at plywood panel edges, and at 12" o.c. in the "field", unless otherwise noted.
 - Roof sheathing to be a minimum of ¾" plywood (or OSB) with a panel rating of 24/16. Attach to framing using minimum 8d common nails spaced at 6" o.c. maximum at plywood panel edges, and at 12" o.c. in the "field", unless otherwise noted.
- Connections & Nailing:
 - Unless otherwise noted, steel connectors, manufactured by Simpson Strong-Tie Company (or equivalent), shall be used to join rafters, trusses, joists, and beams to other members. Connector conditions not otherwise noted shall utilize type "U" or type "HU" hangers of a size specifically designed for the member supported as shown in the manufacturer's published tables for max. loading for member spans. All nails used with connectors to be as specified by steel connector manufacturer.
 - Provide Simpson, or equivalent, steel construction connections for wood columns to foundation, and wood columns to construction above.
 - Except as noted otherwise, minimum nailing shall be provided as specified in Table 2304.6.1 and Tables 2304.8(1)-2304.8(5).
 - Glue & nail all multiple members min. 2-12d common nails @ 6" staggered for each member.
 - Lead holes for lag screws shall be 40% to 70% of the shank diameter for the threaded portion and equal to the shank diameter for the unthreaded shank portion, per NDS 11.1.3
 - All bolts and nuts must be fitted with cut steel washers.
 - No checks or splits allowed at areas to be bolted.
 - For uplift, the following straps/ties are to be provided at a minimum
 - H2.5a hurricane tie @ the ends of ea. roof truss or rafter,
 - H8 hurricane tie @ the ends of ea. girder truss,
 - H8 hurricane tie within the first 6'-0" from an exterior wall corner
- Double joists under partitions where joists are parallel to partitions. Space double joists at walls to allow for plumbing where necessary.
- Solid block between floor joists perpendicular to and supporting a bearing wall from above. Install solid blocking between the joist under the wall and for three (3) joist bays beyond the wall, or (2) joist bays in each direction.
- Solid block between floor joists (and beams) at column-from-above locations, two bays back, each side.
- Cross bridge all floor joists at midspan or 8'-0" o.c. maximum. Provide solid blocking or rim joists at all joist supports and joist ends.
- Columns and built up posts must have a continuous load path to the foundation. Provide vertically oriented "squash" blocks or built up posts between the sub-floor and the wall top plate or sill plate at all columns, posts, & window sides.
- All wall studs shall be continuous from floor to floor framing or from floor to roof framing, unless otherwise specifically noted or shown. Do not install an intermediate plate in any stud wall.
- All window headers shall have a min. of 2-2x10's w/ 2x6 trimmer + 2x6 king ea. end, unless otherwise noted.
- Provide additional continuous wall studs (king studs) at each side of all window & exterior door openings. The number of additional continuous studs at each side of any opening shall equal half of the number of studs interrupted by the opening, unless otherwise noted.
- All walls shall have fire blocking as per the IBC, IRC, and as required by the authority having jurisdiction.
- Cutting, notching, or drilling of structural members is not allowed unless noted otherwise, specifically approved by the engineer, or allowed per the manufacturer's specifications. Wood I-beam flanges shall not be cut or notched in any way.
- Install beams, joist, etc. with crown up.
- All plates, sills, and columns bearing on or immediately adjacent to concrete or masonry shall be pressure-treated douglas-fir (PTDF). Place 6 mil plastic sheeting between all concrete & wood. All field cut ends, notches and drilled holes of pressure preservatively treated wood are to be retreated in the field in accordance with IRC Section R317.1.1 and AWPFA M4.
- Trusses:
 - Lower chord of gable end trusses shall be anchored to wall plate with 18 ga. framing anchors at 4'-0" o.c. and laterally braced to roof framing at 4'-0" o.c. maximum, for a min. length of 8 ft.
 - Asymmetrical pre-engineered wood truss ends shall be marked and identified for correct placement.
 - Roof truss suppliers shall provide complete truss system, designed by an engineer registered in Colorado. Engineered systems shall include truss design, erection plan, truss to truss and truss to beam connections, and permanent and temporary bridging & bracing. Truss shop drawings shall also be provided.
- Balloon frame gable end walls w/ cathedral ceilings. All wall studs need to be continuous from bottom plate to rafters.



The engineer and his consultants do not warrant or guarantee the accuracy and completeness of the work product herein beyond a reasonable diligence. If any mistakes, omissions or discrepancies are found to exist within the work product, the engineer shall be promptly notified so that he may have the opportunity to take whatever steps necessary to resolve them. Failure to promptly notify the engineer of such conditions shall absolve the engineer from any responsibility for the consequences of such discrepancies. Actions taken without the knowledge and consent of the engineer or in contradiction to the engineer's work product or recommendations shall become the responsibility not of the engineer, but of the parties responsible for taking such action.

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LOUISVILLE, CO

print date: 10/26/22

drawn by: IS

submitted:

Orig. Permit Set: 10/26/22

revision

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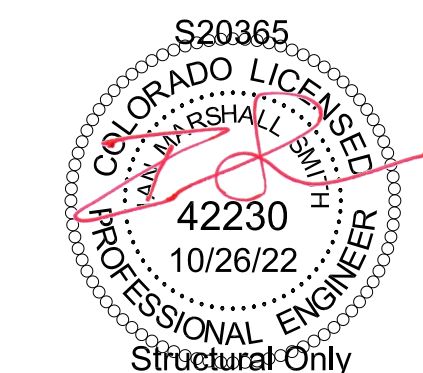
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S1

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STRUCTURAL
PLANS

sheet no: S2

