



**RCRBD Record Set
T.A.**

09/16/2020

Proudly Serving Rural Routt County * City of Steamboat Springs * Town of Hayden * Town of Oak Creek * Town of Yampa * Routt County School

Date: 09/16/2020

Address: 3090 ASPEN WOOD LN, STEAMBOAT	Property Use: SF
Owner: PAMELA K. VANATTA 2017 TRUST AGRM...	Lot Area: 0.56
Parcel ID: 192700080	Year Built: 0
Zoning: TOWN	Book Page: WARRANTY



Building

TB-20-859

To: Josh Graham

Design information:

Occupancy Classification: R3, U

Character and Use: Addition to One-Family Dwelling and Attached Garage

Number of Stories: 2

Type of Construction: Type V-B

Occupant Load: <10

✓Items noted below do not require a response or comment back during the Plan Review in order for us to approve this permit. The Items below are required and will be checked by field inspectors. Please take time to review these items in advance of starting any work to ensure your project is ready for inspection.

1. Separate Electrical Plumbing Permits must be applied for and obtained prior to any work being done within these trades. Note Electrical and Plumbing trades are protected by the State, Licensed Contractors must apply and perform this work on all Commercial Properties, and additionally their employees working on these projects must be registered or licensed with the State of Colorado and work directly under Licensed Individual managing the project.
 - On Residential Properties owners are allowed to apply for the permit and perform their own Electrical and Plumbing work if this is their primary residence and they sign and complete our Home Owner Agreement form.
2. Separate Mechanical Permits must be applied for and obtained prior to any work being done within this trade. Mechanical Contractors must be registered and approved by the Routt County Regional Building Department.

ROUTT County Regional Building Department

136 Sixth Street, PO Box 773840 Steamboat Springs, CO 80477 PH: 970-870-5566 Fax 970-870-5489

3. Deferred Submittal Required: Heat Load Calculations and heating information for the new construction must be submitted prior to Electrical, Plumbing, and Mechanical Permits being issued.
4. Deferred Submittal Required: Ventilating under-floor space as per R408.3 Unvented crawl space for the new construction shall be submitted using one of the following for the under-floorspace:
 - 2.1. Continuously operated mechanical exhaust ventilation at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m²) of crawl space floor area, including an air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated in accordance with Section N1102.2.11 of this code.
 - 2.2. Conditioned air supply sized to deliver at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m²) of under-floor area, including a return air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated in accordance with Section N1102.2.11 of this code.
5. Deferred Submittal Required: Stamped Truss Drawings to be provided for review and approval by RCRBD prior to trusses being set and inspections being done.
6. Anchored masonry veneer installed over a backing of wood or cold-formed steel shall meet the requirements of Section R703.8., see attached handout.
7. R302.9 Flame spread index and smoke-developed index for wall and ceiling finishes. Flame spread and smoke developed indexes for wall and ceiling finishes shall be in accordance with Sections R302.9.1 through R302.9.4. For requirements for foam plastics, see Section R316.
8. While there are exceptions, floor assemblies that are not required elsewhere in this code to be fire-resistance rated, shall be provided with a 1/2-inch (12.7 mm) gypsum wallboard membrane, 5/8-inch (16 mm) wood structural panel membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping and similar openings or penetrations shall be permitted as per R302.13 Fire protection of floors.
9. Dryer duct shall be installed in accordance with the requirement of the 2015 IRC Section M1502 with the maximum allowable exhaust duct length shall be determined by one of the methods specified in Sections M1502.4.5.1 through M1502.4.5.3.
10. M1502.3 Duct termination. Exhaust ducts shall terminate on the outside of the building. Exhaust duct terminations shall be in accordance with the dryer manufacturer's installation instructions. If the manufacturer's instructions do not specify a termination location, the exhaust duct shall terminate not less than 3 feet (914 mm) in any direction from openings into buildings. Exhaust duct terminations shall be equipped with a backdraft damper. Screens shall not be installed at the duct termination.
11. M1502.4 Dryer exhaust ducts. Dryer exhaust ducts shall conform to the requirements of Sections M1502.4.1 through M1502.4.7.
12. M1502.4.1 Material and size. Exhaust ducts shall have a smooth interior finish and be constructed of metal having a minimum thickness of 0.0157 inches (0.3950 mm) (No. 28 gage). The duct shall be 4 inches (102 mm) nominal in diameter.

13. R308 Glazing. Except as indicated in Section R308.1.1, each pane of glazing installed in hazardous locations as defined in Section R308.4 shall be provided with a manufacturer's or installer's label, designating the type and thickness of glass and the safety glazing standard with which it complies, which is visible in the final installation. The label shall be acid etched, sandblasted, ceramic-fired, embossed mark, or shall be of a type which once applied cannot be removed without being destroyed. Exceptions: Tempered spandrel glass may be identified by the manufacturer with a removable paper label.
14. Fenestration U-factors less than or equal to 0.32 will be required. This will apply for all glazing in windows and doors. The builder shall leave the National Fenestration Rating Council (NFRC) labels on all windows and doors with glazing at time of rough inspections so inspectors can verify the glazing requirements.
15. Bath Exhaust ducts if ran in unconditioned space must be done in insulated duct.
16. R321.1 Premises identification. Approved numbers or addresses shall be provided for all new buildings in such a position as to be plainly visible and legible from the street or road fronting the property.
17. SECTION R314 SMOKE ALARMS
 - R314.1 General. Smoke alarms shall comply with NFPA 72 and Section R314.
 - R314.1.1 Listings. Smoke alarms shall be listed in accordance with UL 217. Combination smoke and carbon monoxide alarms shall be listed in accordance with UL 217 and UL 2034.

R314.2 Where required. Smoke alarms shall be provided in accordance with this section.

R314.2.1 New construction. Smoke alarms shall be provided in dwelling units.

R314.3 Location. Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements and habitable attics and not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
4. Smoke alarms shall be installed not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by Section R314.3.

SECTION R315

CARBON MONOXIDE ALARMS

R315.1 General. Carbon monoxide alarms shall comply with Section R315.

R315.1.1 Listings. Carbon monoxide alarms shall be listed in accordance with UL 2034.

Combination carbon monoxide and smoke alarms shall be listed in accordance with UL 2034 and UL 217.

R315.2 Where required. Carbon monoxide alarms shall be provided in accordance with Sections R315.2.1 and R315.2.2.

R315.2.1 New construction. For new construction, carbon monoxide alarms shall be provided in dwelling units where either or both of the following conditions exist.

1. The dwelling unit contains a fuel-fired appliance.
2. The dwelling unit has an attached garage with an opening that communicates with the dwelling unit.

R315.3 Location. Carbon monoxide alarms in dwelling units shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bath-room, a carbon monoxide alarm shall be installed within the bedroom.

R315.4 Combination alarms. Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms.

R315.5 Power source. Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Exceptions:

1. Carbon monoxide alarms shall be permitted to be battery operated where installed in buildings without commercial power.
2. Carbon monoxide alarms installed in accordance with Section R315.2.2 shall be permitted to be battery powered.

Reviewed by: Ted Allen Date: September 16, 2020

Exterior Walls (Lath and Veneer Substrate)

2015 – IRC Section 703 - residential

2015 – IBC Section 1405 - commercial

R703.1 General. Exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall include flashing as described in Section R703.4.

Exception: Log walls designed in accordance with provisions of ICC 400.

R703.1.1 Water Resistance The exterior wall envelope shall be designed and constructed in a manner that prevents the accumulation of water within the wall assembly by providing a water-resistant barrier behind the exterior veneer as required by Section R703.2 and a means of draining to the exterior water that enter the assembly. Protection against condensation in the exterior wall assembly shall be provided in accordance with section R702.7 of the 2015 IRC.

R703.7 Exterior plaster. Installation of these materials shall be in compliance with ASTM C 926 and ASTM C 1063 and the provisions of this code.

R703.7.2 Plaster. Plastering with portland cement plaster shall not be less than three coats where applied over metal lath or wire fabric lath and not less than two coats where applied over masonry, concrete, pressure-preservative-treated wood or decay-resistant wood as specified in Section R317.1 or gypsum backing. If the plaster surface is completely covered by veneer or other facing material or is completely concealed, plaster application need only be two coats, provided the total thickness is as set forward in Table R702.1(1).

R703.7.3 Lintels. As per local amendment, masonry veneer shall not support any vertical load other than the dead load of the veneer above. Veneer above openings shall be supported on lintels of noncombustible materials. The lintels shall have a length of bearing not less than 4 inches (102mm). Steel lintels over openings or steel lintels that are less than 4 inches (102mm) above finished grade shall be shop coated with a rust-inhibitive paint, except for lintels made of corrosion resistance steel or steel treated with coating to provide corrosion resistance. Construction of openings shall comply with either Section R703.7.3.1 or 703.7.3.2.

R703.8 Achored stone and masonry veneer, general. Achored Stone and masonry veneer shall be installed in accordance with Chapter 7, Table R703.3(1) and figure R703.8 These veneers installed over a backing of wood or cold framed steel shall be limited to the first story above grade plane and not exceed 5 inches (127mm) in thickness. See section R602.10 for wall bracing requirements for masonry veneer for wood framed construction and Section R603.9.5 for wall bracing requirements for masonry veneer for cold-framed construction.

Exterior Walls (Lath and Veneer Substrate)

2015 – IRC Section 703 - residential

2015 – IBC Section 1405 - commercial

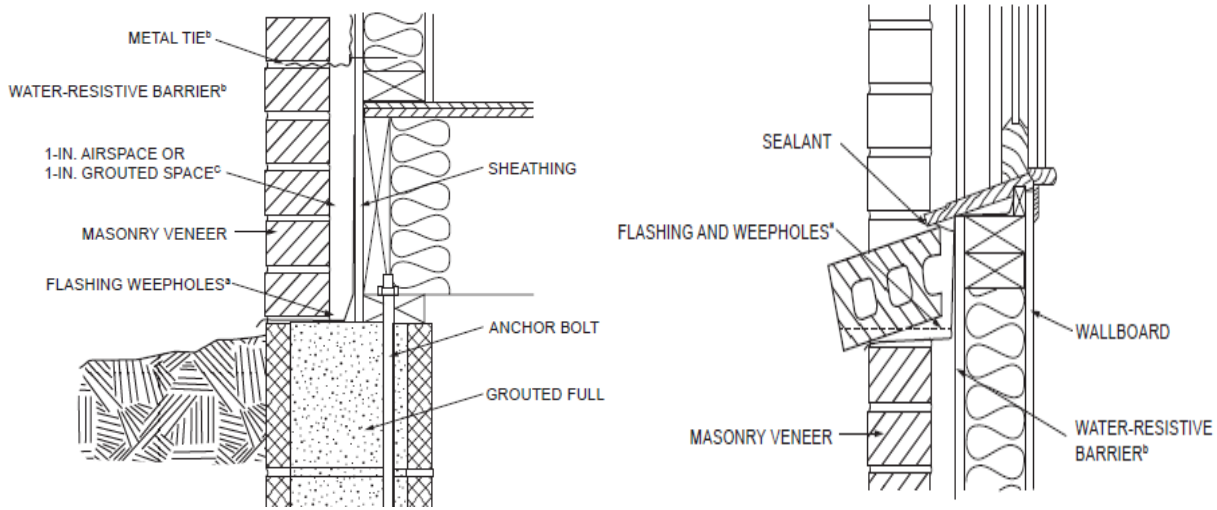


Figure R703.8 Typical Masonry Veneer Wall Details

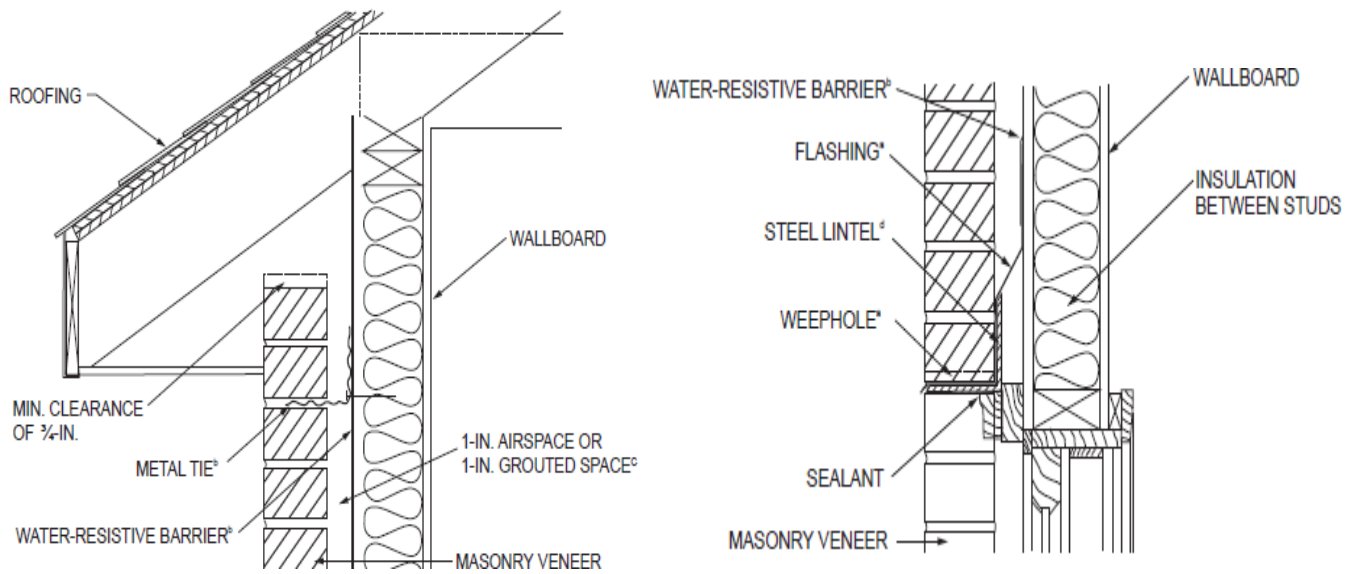


Figure R703.8 Typical Masonry Veneer Wall Details

Exterior Walls (Lath and Veneer Substrate)

2015 – IRC Section 703 - residential

2015 – IBC Section 1405 - commercial

IBC Section 2510.6 Water Resisitive Barriers Water resistive barriers shall be installed as required in section 1404.2 and, where applied over wood-based sheathing, shall include a water-resistive vapor-permeable barrier with a performance at least equivalent to two layers of water resistive barrier complying with ASTM E2556, Type I. The individual layers shall be installed independently such that each layer provides a separate continuous plane and any flashing (installed in accordance with 1405.4) intended to drain to the water resistive barrier is directed between the layers

IBC Section 1405.4 Flashing. Flashing shall be installed in such a manner so as to prevent moisture from entering the wall or to redirect that moisture to the exterior. Flashing shall be installed at the perimeters of exterior door and window assemblie, penetrations and terminations of exterior wall assemblies, exterior wall intersections with roofs, chimneys, porches, decks, balconies and similar projections and at built-in gutters and similar locations where moisture can enter the wall. Flashing with propojecting flanges shall be installed on both sides and the ends of copings, under sills and continuously above projecting trim.

IBC 1405.10 Adhered masonry veneer. Adhered masonry veneer shall comply with the applicable requirements in IBC Section 1405.10.1 and Sections 12.1 and 12.3 of TMS 402/ACI 530/ASCE 5.

*NOTE - RCRBD finds these requirements to be similar to cement plaster (stucco) applied to exterior walls and shall conform to similar requirements specified in Chapter 25.

*NOTE - Figure R703.8 (shown) illustrates a similar drainage system to include a weep screed at the bottom of exterior walls to permit the moisture to escape to the exterior of the building.

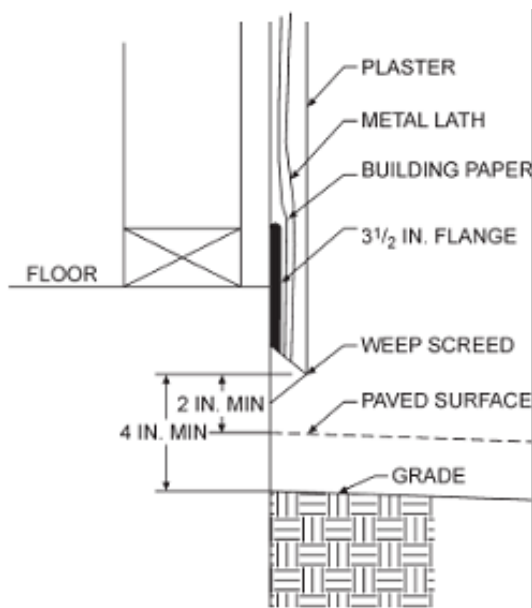


Figure R703.6(3)

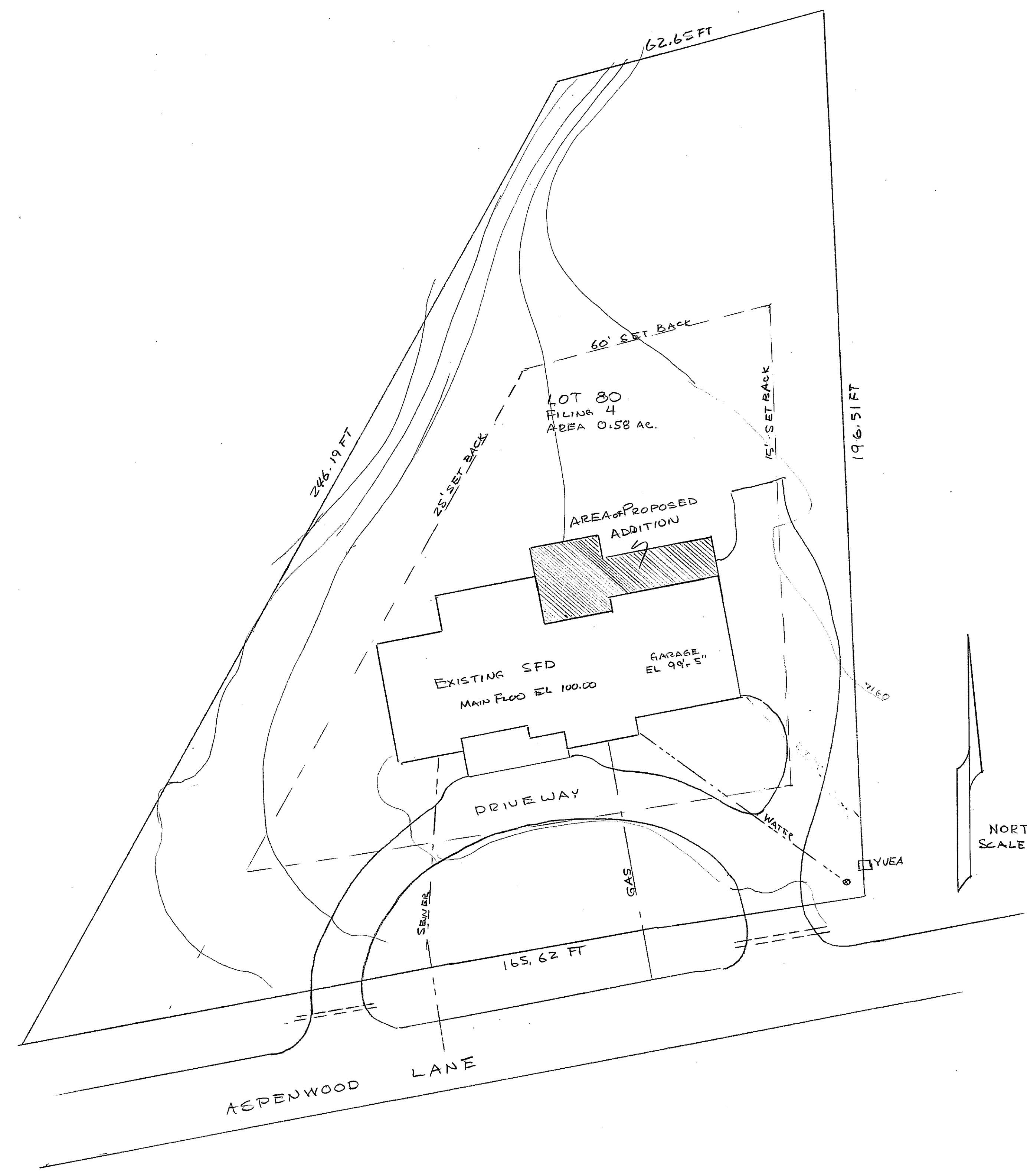
' SCREED FOR EXTERIOR PLASTER ON STUD WALL AT SLAB C

PJ4383-1
 Fire Prevention
 In: 09/09/2020
 Out: 09/11/2020

City of Steamboat Springs
 Planning and Community Development
APPROVED
 September 08, 2020

full permit-Any fire alarm / sprinkler
 work requires plans and a permit to be
 submitted to Fire Prevention. Visit
 www.steamboatsprings.net

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 09/16/2020



SITE PLAN
 LOT 80 FILING 4
 THE SANCTUARY
 3070 ASPENWOOD LANE

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

GRAHAM CUSTOM HOMES DESIGN PO BOX 776338 STEAMBOAT SPRINGS CO 80477 970-848-5552 <small>THIS DRAWING IS THE EXCLUSIVE PROPERTY OF GRAHAM CUSTOM HOMES LLC AND IS NOT TO BE REPRODUCED WITHOUT WRITTEN PERMISSION.</small>	DRAWING # 20-03	REVISIONS:
	SCALE: 1" = 20' DATE: 9/17/20 DRAWN BY: GCH	COVER PAGE SITE PLAN
Vanatta	Lot 80, Filing 4, The Sanctuary 3070 Aspenwood Lane, Steamboat Springs 80487	

**NOTES BASED ON 2015 I.R.C.
GENERAL NOTES**

EVERY ATTEMPT HAS BEEN TAKEN TO AVOID OR ELIMINATE ERRORS DURING THE PREPARATION OF THESE PLANS. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON THE PLANS WITH ACTUAL FIELD CONDITIONS.

IT IS THE BUILDERS RESPONSIBILITY TO DICTATE METHODS OF CONSTRUCTION. THE BUILDER SHALL VERIFY ALL DIMENSIONS OF MANUFACTURED COMPONENTS AND RELATIONSHIPS BETWEEN MATERIALS OR COMPONENTS. THE BUILDER SHALL VERIFY EXISTING CONDITIONS AND DIMENSIONS SHOWN ON THE DRAWINGS INCLUDING ALL EXISTING GRADES AT THE SITE.

ALL WORK SHALL COMPLY WITH ALL STATE, COUNTY AND CITY CODES AND ORDINANCES.

THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES OR DEFICIENCIES IN THE DRAWINGS PRIOR TO CONSTRUCTION.

IF A DISCREPANCY ARISES BETWEEN THE DRAWINGS AND FIELD CONDITIONS, OR WHERE A DETAIL IS DOUBTFUL OF INTERPRETATION, OR AN UNANTICIPATED FIELD CONDITION IS ENCOUNTERED, THE ENGINEER SHALL BE CALLED RIGHT AWAY FOR CORRECT PROCEDURE TO BE FOLLOWED. SUCH INSTRUCTIONS SHALL BE CONFIRMED IN WRITING AND DISTRIBUTED TO ALL AFFECTED PARTIES.

WHERE EVER THERE IS A CONFLICT BETWEEN DETAILS AND SPECIFICATIONS, OR BETWEEN DETAILS, OR WHERE DOUBTFUL OF INTERPRETATION, THE MOST RESTRICTIVE SHALL GOVERN AS DETERMINED BY THE ENGINEER OF RECORD.

THIS IS A CUSTOM DESIGN FOR A SPECIFIC SITE. THESE PLANS MAY NOT BE USED ON ANY OTHER SITE WITHOUT GRAHAM CUSTOM HOMES PRIOR WRITTEN APPROVAL.

THE CONTRACTOR SHALL PROVIDE MECHANICAL AND ELECTRICAL ENGINEERING AS REQUIRED TO COMPLETE WORK AND FOR INTENDED PURPOSE. MECHANICAL CONTRACTORS SHALL VERIFY DIMENSIONS OF ALL NECESSARY FLUE CHASES, DUCTS, AND EQUIPMENT.

THE BUILDER/CONTRACTOR AND ALL SUBCONTRACTORS SHALL CONFORM TO ALL APPLICABLE BUILDING CODES.

THE BUILDING OR DWELLING SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE NOT EXCEEDING THREE AIR CHANGES PER HOUR IN CLIMATE ZONE 7 AS PER R402.4.1.2 TESTING.

BUILDING CODE CRITERIA

THE GENERAL STRUCTURAL DESIGN HAS BEEN CONDUCTED IN CONFORMANCE WITH THE INTERNATIONAL RESIDENTIAL CODE (I.R.C.) 2015 EDITION AND THE FOLLOWING.

- 2015 INTERNATIONAL ENERGY CODE (IECC)
- 2014 NATIONAL ELECTRIC CODE (NEC)
- LOCAL UTILITY REGULATIONS
- ALL CITY AND COUNTY CODES AND ORDINANCES
- APPLICABLE COVENANTS OF THE SUBDIVISION

WOOD: NATIONAL DESIGN SPECIFICATIONS BY AMERICAN FOREST & PAPER ASSOCIATION/AMERICAN WOOD COUNCIL CURRENT EDITION AND THE I.R.C. 2015 EDITION. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES BY AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) 7-10, SECTION 301, 2015 I.R.C. AND SECTION 1605, 2015 I.R.C.

BUILDING DESIGN LOADS

ROOF:	95 PSF
ATTIC:	20 PSF
FLOORS:	40 PSF
DECKS:	95 PSF
PORCHES:	60 PSF
WIND:	115 MPH, EXPOSURE C
SEISMIC DESIGN CATEGORY	B

SOIL DESIGN LOADS

MAX SOIL BEARING PRESSURE	2500 PCF
MIN SOIL BEARING PRESSURE	NA
AT-REST	45 PCF
ACTIVE	35 PCF

REFER TO SOILS REPORT NUMBER 97-2943 FROM Northwest Colorado Consultants FOR ADDITIONAL REQUIREMENTS

SITE NOTES

FIELD LOCATE ALL UTILITIES BEFORE ANY CONSTRUCTION ACTIVITY.

THE SLOPE OF CUT OR FILL SHALL BE NO GREATER THAN 2:1 (50% SLOPE)

WASHED ROCK OR EARTHED FILL USED TO SUPPORT THE SLABS OF THIS BUILDING SHALL BE PLACED IN ACCORDANCE WITH THE SOILS INVESTIGATION REPORT AND ACCEPTABLE ENGINEERING PRACTICE.

BUILDER SHALL ENSURE POSITIVE DRAINAGE AWAY FROM GARAGE STRUCTURE AND ACROSS SITE AS PER SECTION R401.3, 2015 I.R.C. IT IS RECOMMENDED THAT A MINIMUM SLOPE OF 6 INCHES IN THE FIRST 10 FEET IN UNPAVED AREAS, AND A MINIMUM SLOPE OF 2% IN PAVED AREAS BE PROVIDED AWAY FROM THE STRUCTURE. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO FOUNDATION INSTALLATION.

BUILDER SHALL PROVIDE PROPER COMPACTION OF ALL EXCAVATED & TRENCHED AREAS AT TIME OF BACKFILL.

EARTHWORK AND FOUNDATION NOTES

FIELD LOCATE ALL UTILITIES BEFORE ANY CONSTRUCTION ACTIVITY.

CONTRACTOR SHALL ALSO LOCATE THE WATER SUPPLY LINE AND SEPTIC DRAIN WHEN APPROPRIATE.

FOUNDATION WALLS SHALL EXTEND A MIN OF 4" ABOVE FINISHED GRADE WHERE MASONRY VENEER IS USED AND 6" ELSEWHERE.

BACKFILL SHALL NOT BE PLACED AGAINST THE FOUNDATION WALL UNTIL THE WALL HAS SUFFICIENT STRENGTH OR BRACED TO PREVENT DAMAGE FROM BACKFILLING. BRACING IS NOT REQUIRED IF WALL IS LESS THAN 4 FEET TALL.

NOTIFY SOILS ENGINEER WHEN EXCAVATION IS COMPLETE SO THAT THAT CONDITIONS MAY BE INSPECTED PRIOR TO PLACEMENT OF FOOTERS.

REINFORCING STEEL

STEEL REINFORCING BARS SHALL BE GRADE 420 DEFORMED BARS (ASTM SPEC, GRADE 60) FREE FROM MUD, OIL, RUST OR ANY ITEMS THAT MAY REDUCE BONDING. MINIMUM CONCRETE COVER ON TIES, STIRRUPS AND MAIN BARS SHALL BE 1" NOT EXPOSED TO EARTH OR WEATHER, 2" FOR FORMED SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH GROUND, AND 3" FOR UNFORMED SURFACES DEPOSITED AGAINST THE GROUND UNLESS OTHERWISE NOTED.

ANCHOR BOLTS SHALL BE A MIN OF 1/2" DIAMETER X 10" LONG @ 24" ON CENTER, WITHIN 12" OF ALL CORNERS.

ALL REINFORCEMENT SHALL BE ACCURATELY PLACED AND SUPPORTED BEFORE CONCRETE IS PLACED AND SHALL BE SECURED AGAINST DISPLACEMENT. REINFORCING IN CONCRETE PLACED AGAINST EARTH IS TO BE SUPPORTED WITH APPROVED NON-METALLIC CHAIRS OR ANOTHER METHOD APPROVED BY ENGINEER. ALL REINFORCEMENT IS TO BE INSPECTED BY THE BUILDING DEPARTMENT AND DESIGN ENGINEER AS REQUIRED BY THE JURISDICTION PRIOR TO CONCRETE PLACEMENT.

CONCRETE FLATWORK SHALL BE A MINIMUM OF 4" THICK WITH 6X6 W2.2 / W2.1W.W.F. SHEETS UNLESS OTHERWISE NOTED. W.W.F. SHALL LAP 6" AND BE PLACED UPON 2" CHAIRS WITHIN THE FORMS. REINFORCING INSIDE CORNERS WITH 4 FOOT LENGTHS OF #3 REBAR LAID DIAGONALLY TO MINIMIZE CRACKING.

METALS

ALL STEEL SHALL CONFORM TO THE FOLLOWING: BEAMS: A992

ANGLES & MISCELLANEOUS: ASTM A36

BOLTS: ASTM 307

TUBE COLUMNS: ASTM A500, GRADE B 46KSI

FITTED WEB STIFFENERS SHALL BE 3/8" PLATES WELDED CONTINUOUS ON EACH SIDE OF STEEL BEAM WEB UNDER POINT LOADS ABOVE AND AT POINTS OF SUPPORT.

MISCELLANEOUS CLIPS, ANCHORS AND CONNECTORS SHALL BE SIMPSON STRONG TIE OR APPROVED EQUAL, UNLESS OTHERWISE NOTED. PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

ALL STEEL SHALL BE FABRICATED AND ERECTED PER AISC STEEL CONSTRUCTION MANUAL.

WELDING SHALL BE DONE BY A QUALIFIED WELDERS WITH E70XX ELECTRODES.

ANCHOR BOLTS INSTALLED IN CONTACT WITH PRESSURE TREATED WOOD SHALL MEET THE MANUFACTURERS SPECIFICATIONS FOR CORROSION PROTECTION.

ALL STEEL BEAMS SHALL HAVE WOOD NAILER PLATES WITH Y2"Ø CARRIAGE BOLTS AT 36" GLUED, UNO. ALT: DRIVE PINS AT 24". UNLESS OTHERWISE NOTED.

CONCRETE

ALL CONCRETE FLATWORK SHALL DEVELOP 4500 PSI COMPRESSIVE STRENGTH AT 28 DAYS, HAVE A MINIMUM OF 6 - 94 POUND SACKS OF CEMENT PER CUBIC YARD, A MAXIMUM WATER/CEMENT RATIO OF 0.83, AIR ENTRAINMENT BETWEEN 5.5% AND 6.5% AND A SLUMP OF 6". SUBSTITUTE MIXES CONTAINING FLY ASK ARE ACCEPTABLE AS LONG AS THEY MEET THE 4500 PSI STRENGTH.

SAW CUT OR TOOLED CONTROL JOINTS 1/4 THE SLAB THICKNESS SHALL BE PLACED AT A MAXIMUM SPACING OF 2 TO 3 TIMES - IN FEET - THE THICKNESS OF THE SLAB EACH WAY UNLESS THE SOIL REPORT INDICATES A TIGHTER SPACING.

APPLICATION OF SPRAY MEMBRANE CURING COMPOUND AT A RATE OF NO MORE THAN 200 SQUARE FEET PER GALLON AFTER FINISHING IS STRONGLY RECOMMENDED.

PROVIDE 1/2" WIDE ISOLATION JOINTS BETWEEN SLAB AND FOUNDATION WALLS.

CENTER ALL FOOTINGS UNDER WALL OR COLUMNS UNLESS OTHERWISE NOTED.

ALL FOUNDATION WALLS SHALL HAVE A 1/4" CHAMFER ON EXTERIOR EDGE.

ALL REINFORCING SHALL CONFORM TO ASTM A615-73 AND SHALL BE GRADE PER PLANS. ALL REINFORCING SHALL BE COLD BENT UNLESS OTHERWISE APPROVED BY THE ENGINEER.

PROVIDE CONCRETE ENCASED ELECTRODE (UFER GROUND) COORDINATE LOCATION WITH YAMPA VALLEY ELECTRIC AND WITH ELECTRICAL CONTRACTOR.

CONCRETE SHALL BE THORLEY VIBRATED INTO ALL AREAS OF THE FOUNDATION WALLS AND CORNERS.

FRAMING NOTES

ALL DIMENSION ARE TO ROUGH FRAME OR CONCRETE FACE UNLESS NOTED OTHERWISE.

ALL GENERAL LUMBER SHALL BE HEM-FIR GRADE NO. 2 OR BETTER, WITH A BASE MINIMUM ALLOWABLE EXTREME FIBER BENDING STRESS FOR MEMBERS (Fb) OF 850 PSI EXCLUDING ADJUSTMENT FACTORS FOR USE, SIZE, LOAD, DURATION, ENVIRONMENT, ETC., UNLESS OTHERWISE NOTED.

STUDS SHALL BE STANDARD GRADE OR BETTER. DIMENSION LUMBER SHALL BE MARKED WITH A GRADE STAMP. ALL LUMBER IN CONTACT WITH CONCRETE SHALL BE ACQ TREATED TO 0.40 PCF.

ALL DOUG-FIR LUMBER SHALL BE GRADE NO. 2 OR BETTER, WITH A BASE MINIMUM ALLOWABLE EXTREME FIBER BENDING STRESS FOR MEMBERS (Fb) OF 900 PSI EXCLUDING ADJUSTMENT FACTORS FOR USE, SIZE, LOAD, DURATION, ENVIRONMENT, ETC., UNLESS OTHERWISE NOTED.

GLUE LAMINATED BEAMS (GL) SHALL BE STRESS RATED TO A COMBINATION SYMBOL 24 F-V4 FOR SIMPLE SPANS AND 24 F-V8 FOR MULTI SPANS AND CANTILEVERS. EXPOSED GL NOT PROTECTED FROM THE ELEMENTS MUST CONFORM TO (IRC R317.1.5)

LVL BEAMS SHALL BE MICRO-LAMS AS MANUFACTURED BY TRUSS JOIST CORP OR EQUAL WITH Fv 2600 PSI, Fv 285 PSI, E 1900 KSI TO BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.

FLOOR JOIST SHALL BE TJI'S AS MANUFACTURED BY TRUSS JOIST CORP. OR APPROVED EQUALS INSTALLED PER MANUFACTURER'S SPECIFICATIONS. SEE MANUFACTURER'S MANUAL FOR REQUIRED BLOCKING, FLOORING AND NAILING REQUIREMENTS. INSTALL DOUBLE FLOOR JOISTS UNDER WALLS PARALLEL TO JOIST DIRECTION WHERE NOTED.

WOOD STRUCTURAL MEMBERS SHALL NOT BE CUT, BORED, OR NOTCHED, EXCEPT AS PERMITTED BY I.R.C. R502.8, R602.6, AND R802.7.

FLOOR ASSEMBLIES SHALL BE PROVIDED WITH A 1/2-INCH GYPSUM WALLBOARD MEMBRANE, 5/8-INCH WOOD STRUCTURAL PANEL MEMBRANE, OR EQUIVALENT ON THE UNDER UNDERSIDE OF THE FLOOR FRAMING MEMBER UNLESS LOCATED OVER A SPACE PROTECTED BY AUTOMATIC SPRINKLER SYSTEM PER SECTION P2904, NFPA 13D, OR OVER CRAWL SPACE NOT INTENDED FOR STORAGE OR FUEL FIRED APPLIANCES OR USING MINIMUM 2X10 DIMENSION LUMBER PER SECTION R302.13, 2015 I.R.C. UP TO 80 SQUARE FEET AGGREGATE AREA PER STORY MAY BE UNPROTECTED IF SEPARATED FROM THE ASSEMBLY WITH FIRE BLOCKING PER SECTION R302.11.1, 2015 I.R.C.

ALL MULTI-PLY BEAMS SHALL BE GLUED, NAILED AND/OR BOLTED AS PER MANUFACTURER'S RECOMMENDATIONS OR AS NOTED ON PLANS. FOR 2-PLY SAWN LUMBER, USE (2) ROWS OF 10D NAILS @ 16" OC. USE 16D NAILING BOTH SIDES ON ANYTHING GREATER THAT 2 PLYS.

THE NUMBER OF JACK AND KING STUDS INSTALLED ON EACH SIDE OF A HEADER SHALL COMPLY WITH TABLE R602.7. KING, JACK, AND CRIPPLE STUDS SHALL BE OF THE SAME DIMENSION AND THICKNESS AS THE ADJACENT WALLS STUDS. HEADERS SHALL BE CONNECTED TO THE KING STUDS IN ACCORDANCE WITH TABLE R602.3.

CARRY ALL POINT LOADS CONTINUOUS TO THICKENED SLAB, CONCRETE PAD, OR FOOTING FOUNDATION DESIGNED TO CARRY LOADS. PROVIDE "SOLID STUDS" OR 2 MINIMUM GANGED STUDS IN WALLS AT BEAM BEARINGS AS SHOWN, CONTINUOUS THROUGH SOLID BLOCKING IN FLOORS.

ALL EXTERIOR WALLS ARE 2X6 WOOD STUDS AT 24" ON CENTER UNLESS OTHERWISE NOTED ON THE PLANS. ALL EXTERIOR WALLS TO BE PLATFORM FRAMED TO BOTTOM OF JOIST, RAFTERS OR TRUSS WITH DOUBLE TOP PLATE AND SINGLE BOTTOM PLATE. WALLS OVER 10' UNSUPPORTED HEIGHT SHALL HAVE MIDSPAN BLOCKING. WALLS OVER 14' UNSUPPORTED HEIGHT SHALL BE 2X6 AT 24" ON CENTER WITH LVL KING STUDS AT HEADERS.

ALL INTERIOR WALLS ARE 2X4 WOOD OR METAL STUDS AT 24" ON CENTER UNLESS OTHERWISE NOTED ON PLANS. INTERIOR BEARING WALLS TO BE FRAMED WITH DOUBLE TOP PLATE AND SINGLE BOTTOM PLATE.

RECOMMEND USING LSL STUDS AT ALL WALL WHERE CABINETSRY WILL BE INSTALLED. INSTALL BACKING/BLOCKING AT ALL LOCATIONS NECESSARY FOR MOUNTING CABINETS, SHELVING, HARDWARE, GRAB BARS, ETC. INCLUDING KITCHEN, BATHROOMS, CLOSETS, ETC.

ALL BEARING WALLS WITH OPENINGS (DOORS, WINDOWS, ETC) SHALL HAVE (2) 2X10 IF NOT CALLED OUT ON THE PLANS. PROVIDE A MINIMUM (1) 2X POST UNDER HEADERS LESS THAN 6' AND A MINIMUM (2) 2X POSTS UNDER HEADER GREATER THAN 6'. REFERENCE STRUCTURAL PLANS FOR ALL OTHER SPECIALIZED POST SIZES AND OR 2X QUANTITIES UNDER HEADERS AND BEAMS.

16" ON CENTER FRAMED FLOORS SHALL BE 3/4" TAG, APA RATED 48/24 GLUED AND NAILED. USE CONSTRUCTION ADHESIVE MEETING ASTM D 3498 (AFG-01) WITH MINIMUM DRY STRENGTH OF 350 PSI. AREAS RECEIVING TILE SHALL HAVE AN ADDITIONAL CEMENTOUS BACKER UNIT UNDERLAYMENT FASTENED OVER THE SHEATHING PER TCA F151.

WALL SHEATHING SHALL BE ZIP SYSTEMS R-SHEATHING (INSULATING SHEATHING) R-6 PANELS. CLOSELY FOLLOW NAILING PATTERNS NOTED TO MEET 2015 I.R.C. CODE FOR WALL BRACING AND SHEARWALL PANELS. SEE TABLE-1 AND TABLE-2 ATTACHED TO PLANS. PROVIDE FULL SHEATHING AT ALL LEVELS UNLESS OTHERWISE NOTED FOR SWAY BRACING PER SECTION R602.10, 2015 I.R.C. ALL EXTERIOR WALL SHEATHING SHOULD SPAN OVER FLOOR SYSTEM TO WALL ABOVE OR BELOW WHERE POSSIBLE WITH HORIZONTAL BLOCKING AT SEAMS AS NOTED.

ROOF SHEATHING SHALL BE 15/32" O.S.B. APA RATED SHEATHING EXP1, 32/16 PLACED WITH 8" DIMENSIONS PERPENDICULAR TO THE JOIST, RAFTER OR TRUSS ENDS AND EDGES. COVER ROOF AS SOON AS POSSIBLE WITH UNDERLAYMENT FOR PROTECTION AGAINST EXCESSIVE MOISTURE.

PROVIDE IRC APPROVED JOIST HANGERS AT ALL "FLUSH FRAME" CONDITIONS AND AS DEPICTED ON FRAMING PLANS. PROVIDE ANY OTHER POST BASES, MULTIPLE JOIST HANGERS, AND BEAM CONNECTORS AS REQUIRED. INSTALL WITH NUMBER AND TYPE OF NAILS RECOMMENDED BY MANUFACTURER.

FIRE BLOCKS ARE REQUIRED WITHIN STUD WALLS HORIZONTALLY AND VERTICALLY AT 10' INTERVALS AND AT THE FLOOR AND CEILING. FIRE BLOCKING IS ALSO REQUIRED AT FLOOR AND CEILING PENETRATIONS AROUND VENTS, PIPES, DUCTS, CABLES, WIRES, ETC., THE INTERCONNECTIONS BETWEEN CONCEALED, VERTICAL AND HORIZONTAL SPACES (SOFFITS), BETWEEN STAIRS STRINGERS AT THE TOP AND BOTTOM OF RUN, AND THE SPACES BETWEEN CHIMNEY CHASES AND FLOORS, CEILINGS, AND ATTIC SPACES. FIRE BLOCK MATERIAL MAY BE 2" NOMINAL LUMBER, 1/2" GYPSUM BOARD, OR ANY OTHER APPROVED METHOD PER SECTION R302.11.1 I.R.C.

FRAMER RESPONSIBLE FOR REQUIRED PLUMBING AND HEATING, RUNS AND CHASES.

REQUIRED MINIMUM NAILING SCHEDULE: (SEE I.R.C. TABLE R602.3(1))
NAILS SHALL BE COMMON AND COMPLY WITH ASTM F 1607

STUD TO PLATES	TOENAIL 4-8D OR END NAIL 2-16D.
ROOF BLOCKING	TOENAIL 3-8D.
DOUBLE TOP PLATES	FACE NAIL 1-10D STAGGERED 16" OC.
DOUBLE TOP PLATES LAP SPLICE	FACE NAIL 8 10D IN 24" LAPPED AREA
DOUBLE STUDS	FACE NAIL 2-10D 24" OC.
CORNER STUDS AND ANGLES	1-16D COMMON 24" OC.
RIM JOIST TO SILL	TOENAIL 1-10D 6" OC.
BRIDGING TO JOIST	TOENAIL 2-8D AT EACH END
SHEATHING TO RAFTERS/TRUSSES	FACE NAIL 8D 12" OC FIELD, 6" EDGE
SHEATHING TO STUDS	FACE NAIL 8D 12" OC FIELD, 6" ON EDGE
ZIP SYSTEM R-SHEATHING R-6 PANELS	SEE TABLE-1 AND TABLE-2

NAILS OR OTHER APPROVED SHEATHING CONNECTORS SHALL BE DRIVEN FLUSH BUT SHALL NOT BREAK THE SURFACE OF THE SHEATHING.

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Vanatta	JOB NOTES		
1/4" = 1'	DATE: 8/17/20	DRAWN BY: GCH	Lot 80, Filing 4, The Sanctuary 3070 Aspenwood Lane, Steamboat Springs 80487
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ROOF NOTES

ALL TRUSSES TO BE PRE-ENGINEERED BY TRUSS MANUFACTURE TO INCORPORATE ALL LOADING AS SPECIFIED IN GENERAL FRAMING NOTES AS WELL AS ANY ADDITIONAL LOADS AS MAY BE REQUIRED BY CODE AND SPECIFIC POINT LOADS AS SHOWN ON DRAWINGS.

ROOF FRAMING SHALL BE PER THE ROOF FRAMING PLAN. THE ROOF LAYOUT IN THIS DRAWING PORTRAYS DESIGN INTENT ONLY. REFER TO TRUSS DRAWINGS BY TRUSS MANUFACTURER FOR ACTUAL CONSTRUCTION.

WOOD ROOF TRUSSES SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF COLORADO. CALCULATED LIVE LOAD DEFLECTIONS OF TRUSSES SHALL NOT EXCEED 1/360TH OF THE SPAN LENGTH. SHOP DRAWINGS AND CALCULATIONS BEARING THE SEAL AND SIGNATURE OF THE DESIGN ENGINEER SHALL BE SUBMITTED FOR REVIEW BY THE STRUCTURAL ENGINEER. THESE SHOP DRAWINGS SHALL SHOW THE LOCATIONS OF ALL TRUSSES, CONNECTION PLATE SIZE AND CAPACITY, AND THE SIZE AND GRADE OF LUMBER TO BE USED. SHOP DRAWING REVIEW BY THE STRUCTURAL ENGINEER OR BUILDER SHALL BE COMPLETED PRIOR TO TRUSS FABRICATION. TRUSS MANUFACTURER SHALL PROVIDE BLOCKING AT BEARING LOCATIONS, BRIDGING AS REQUIRED FOR TRUSS STABILITY AND AT ALL TRUSS AND GIRDER HANGERS. STRESS INCREASES ARE NOT ALLOWED.

ALL TRUSSES SHALL HAVE A MINIMUM HEAL HEIGHT OF 14" UNLESS OTHERWISE NOTED.

ROOF TRUSS ENGINEERING AND VERIFICATION OF DIMENSIONS/PLATE HEIGHTS WILL BE THE RESPONSIBILITY OF THE SUPPLIER AND BUILDER. PROVIDE SOLID BLOCKING BETWEEN TRUSSES AT BEARING POINTS FOR LATERAL SUPPORT, TO PREVENT ROTATION AND LATERAL DISPLACEMENT.

ATTACH ALL RAFTERS / TRUSSES TO TOP PLATE WITH A MINIMUM OF (2) 10D TOE NAILS AT EACH BEARING POINT. PROVIDE SIMPSON H2.5A HURRICANE OR EQUAL ANCHORS AND REQUIRED BLOCKING AT ALL RAFTER / TRUSS BEARING UNLESS OTHERWISE NOTED.

COMPOSITE ASPHALT SHINGLE ROOF INSTALLED AS PER MANUFACTURERS SPECIFICATIONS OVER ONE (1) LAYER OF SYNTHETIC UNDERLAYMENT (PERM RATING GREATER THAN 0.5) OVER APA RATED SHEATHING. PROVIDE ICE & WATER SHIELD AS REQUIRED AT EDGE OF ROOF 24" INTO INTERIOR FROM EXTERIOR WALL AND AT ALL VALLEYS.

CONTRACTOR SHALL COMPLY WITH MANUFACTURER'S INSTALLATION REQUIREMENTS RECOMMENDATIONS FOR SHINGLE ROOFING MATERIALS REGARDING NAILING PATTERNS AND NAIL PENETRATION.

FLOOR PLAN NOTES

SAFETY GLAZING SHALL BE PROVIDED IN ALL FIXED AND OPERABLE PANELS OF SWINGING, SLIDING AND BIFOLD DOORS AS PER SECTION R308.4.1, 2015 I.R.C.

SAFETY GLAZING SHALL BE PROVIDED IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60" ABOVE THE FLOOR OR WALKING SURFACE AS PER SECTION R308.4.2, 2015 I.R.C.

SAFETY GLAZING SHALL BE PROVIDED IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT HAS AN EXPOSED AREA OF AN INDIVIDUAL PANE LARGER THAN 9 S.F. AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR, AND WHOSE TOP EDGE IS GREATER THAN 36" ABOVE THE FLOOR AND WITHIN 36" HORIZONTALLY OF ONE OR MORE WALKING SURFACES MUST BE SAFETY GLASS AS PER SECTION R308.4.3, 2015 I.R.C.

SAFETY GLAZING SHALL BE PROVIDED IN RAILINGS REGARDLESS OF AREA OR HEIGHT ABOVE A WALKING SURFACE AS PER SECTION R308.4.4, 2015 I.R.C.

SAFETY GLAZING SHALL BE PROVIDED FOR FENCES, ENCLOSURES FOR AND WALLS ADJACENT TO WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS AND SHOWERS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" ABOVE AND STANDING OR WALKING SURFACE AS PER SECTION R308.4.5, 2015 I.R.C.

SAFETY GLAZING SHALL BE PROVIDED ADJACENT TO STAIRWAYS, LANDINGS, AND RAMPS WITHIN 36" HORIZONTALLY OF THE WALKING SURFACE WHEN THE EXPOSED SURFACE OF THE GLAZING IS LESS THAN 36" ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE AS PER SECTION R308.4.6 2015 I.R.C.

INSTALL GYPSUM WALL BOARD, CEMENT, FIBER-CEMENT, AND GLASS MAT GYPSUM BACKERS PER R702.3 THROUGH R702.4.2, 2015 I.R.C.

PROVIDE A MECHANICALLY OPERATED EXHAUST SYSTEM TO THE EXTERIOR (50 CFM INTERMITTENT OR 20 CFM CONTINUOUS) IN ALL BATHROOMS, WATER CLOSET COMPARTMENTS, AND SIMILAR ROOMS WHOSE OPERABLE EXTERIOR OPENINGS ARE ONE HALF OF 3 SQ. FT. PER SECTION R303.3, 2015 I.R.C.

TOILETS SHOULD BE 1.28 GALLONS PER FLUSH AND SHOWER HEADS SHOULD BE 2.5 GPM.

FIRE-RATED GYPSUM BOARD SHALL BE APPLIED AT ALL NECESSARY LOCATIONS TO COMPLY WITH SECTION R302.1 I.R.C. AND LOCAL BUILDING CODES.

DWELLING TO ATTACHED GARAGE OPENING AND PENETRATION PROTECTION SHALL COMPLY WITH SECTION R302.5 I.R.C.

ENCLOSED ACCESSIBLE SPACE UNDER STAIRS SHALL HAVE 1/2" GYPSUM BOARD ON WALLS, UNDER STAIR SURFACE AND SOFFITS PER SECTION R302.7, 2015 I.R.C.

BASEMENTS, HABITABLE ATTICS, AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPENABLE EMERGENCY ESCAPE AND RESCUE OPENING WITH A SILL HEIGHT OF NOT MORE THAN 44" (MEASURED FROM THE FINISHED FLOOR TO THE BOTTOM OF THE CLEAR OPENING), A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET, A MINIMUM OPENING HEIGHT OF 24", AND A MINIMUM OPENING WIDTH OF 20" PER SECTION R310, 2015 I.R.C.

STAIRS AND STAIR RAILINGS SHALL COMPLY WITH SECTION R311, 2015 I.R.C. ALL HANDRAILS AND GUARDRAILS SHALL BE 34" TO 38" ABOVE THE FLOOR. ALL BALUSTERS SHALL NOT ALLOW PASSAGE OF A SPHERE 4" (4 3/8" ON OPEN SIDE OF STAIRS) OR GREATER IN DIAMETER.

THERE SHALL BE A FLOOR OR LANDING ON EACH SIDE OF EXTERIOR DOOR. LANDINGS OR FINISHED FLOORS SHALL NOT BE MORE THAN 1.5" LOWER THAN THE TOP OF THE THRESHOLD EXCEPT ON THE EXTERIOR SIDE SHALL NOT BE MORE THAN 7 3/4" LOWER THAN THE TOP OF THE THRESHOLD PER SECTION R311, 2015 I.R.C.

OPENINGS FROM THE GARAGE INTO THE DWELLING SHALL HAVE A 1 3/8" THICK SOLID WOOD DOOR, 1 3/8" SOLID OR HONEYCOMBED-CORE STEEL DOOR, OR 20-MINUTE FIRE-RATED DOOR EQUIPPED WITH A SELF CLOSING DEVICE. OPENINGS SHALL NOT OPEN DIRECTLY INTO A ROOM USED FOR SLEEPING.

CEILING HEIGHTS FOR HABITABLE SPACES, HALLWAYS, BATHROOMS, TOILET ROOMS, LAUNDRY ROOMS, AND PORTIONS OF BASEMENTS CONTAINING THESE SPACES SHALL BE AT LEAST 7 FEET MEASURED FROM THE FINISHED FLOOR TO THE LOWEST PROJECTION OF THE CEILING. PORTIONS OF BASEMENTS CONTAINING NON-HABITABLE SPACE MAY HAVE A CEILING HEIGHT OF 6 FEET-8 INCHES WITH CLEARANCE BELOW BEAMS AND DUCTS OF 6 FEET-4 INCHES. BATHROOMS MUST HAVE A CEILING HEIGHT OF 6 FEET-8 INCHES AT THE FIXTURE FRONT CLEARANCE AREA AND OVER THE FIXTURE PER SECTION R305.1, 2015 I.R.C.

ALL DIMENSIONS ARE TO FACE OF STRUCTURE AND ROUGH OPENINGS.

ELECTRICAL NOTES

INSTALL ALL ELECTRICAL PER THE 2014 NEC.

All 125-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING RECEPTACLES IN BATH ROOM(S), GARAGE(S), OUTDOORS, CRAWL SPACES, UNFINISHED BASEMENT(S), KITCHEN(S) FOR COUNTER SERVICE, WITHIN 6' OF ANY SINK, LAUNDRY AREAS, AND UTILITY AREAS SHALL BE GFCI PROTECTED PER 210.8(A) THROUGH (D), 2014 NEC.

ALL 125-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING RECEPTACLES INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN'S, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT PER 210.12(A)(1) THROUGH (E), 2014 NEC.

IN EACH ATTACHED AND DETACHED GARAGE WITH ELECTRIC POWER, AT LEAST ONE RECEPTACLE SHALL BE INSTALLED FOR EACH CAR SPACE. THIS BRANCH CIRCUIT SHALL NOT SUPPLY OUTLETS OUTSIDE THE GARAGE PER 210.52(1), 2014 N.E.C. ALL RECEPTACLES IN GARAGES SHALL BE A MINIMUM 18" ABOVE THE FLOOR.

UL 217 LISTED AND LABELED SMOKE DETECTORS SHALL BE LOCATED IN EACH SLEEPING ROOM, OUTSIDE EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS, ON EACH STORY OF THE DWELLING INCLUDING BASEMENTS, BUT NOT INCLUDING CRAWL SPACES OR UNINHABITABLE ATTICS AND INTERCONNECTED WITH BATTERY BACK UP PER NFPA 72 AND SECTION R314, 2015 I.R.C.

UL 2034 LISTED AND LABELED CARBON MONOXIDE ALARMS SHALL BE INSTALLED IN DWELLING UNITS WHEN THE DWELLING UNIT CONTAINS A FUEL-FIRED APPLIANCE OR HAS AN ATTACHED GARAGE WITH OPENING TO DWELLING UNIT PER SECTION R315, 2015 I.R.C. CARBON MONOXIDE DETECTORS SHALL BE INSTALLED OUTSIDE EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS, WHERE A FUEL-BURNING APPLIANCE IS LOCATED WITHIN A BEDROOM, OR ITS ATTACHED BATHROOM, A CARBON MONOXIDE ALARM SHALL BE INSTALLED WITHIN THE BEDROOM. UL LISTED 2075 CARBON MONOXIDE DETECTION SYSTEMS IN LIEU OF ALARMS ARE PERMITTED PER NFPA 720, AND SECTION R315.8, 2015 I.R.C.

MAIN ELECTRICAL PANEL TO BE VERIFIED AS SUFFICIENT FOR ADDITIONAL CIRCUITS BY ELECTRICIAN.

COLD WATER PIPING AND GROUND ROD GROUNDING ELECTRODES SHALL BE SHALL BE CONFIRMED AS PRESENT AND ADEQUATE BY ELECTRICIAN.

MECHANICAL NOTES

THE DWELLING SHALL BE PROVIDED WITH A WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM IN ACCORDANCE WITH SECTION M1507.3 AND THE MECHANICAL VENTILATION SYSTEM FANS SHALL MEET THE EFFICIENCY REQUIREMENTS OF TABLE R403.6.1.M1503.4

MAKEUP AIR SYSTEM IS REQUIRED WHEN AN EXHAUST HOOD SYSTEM IS INSTALLED AND CAPABLE OF EXHAUSTING IN EXCESS OF 400 CFM.

NEW WOOD BURNING FIREPLACES SHALL HAVE TIGHT FITTING FLUE DAMPERS OR DOORS, AND OUTDOOR COMBUSTION AIR, WHERE USING TIGHT FITTING DOORS ON A FACTORY BUILT FIREPLACES LISTED AND LABELED IN ACCORDANCE WITH UL 127, THE DOORS SHALL BE TESTED AND LISTED FOR THE FIREPLACE. WHERE USING TIGHT FITTING DOORS ON MASONRY FIREPLACES, THE DOORS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 907. PER IECC R402.4.2

FACTORY BUILT FIREPLACES SHALL BE LISTED AND LABELED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING. FACTORY BUILT FIREPLACES SHALL BE TESTED IN ACCORDANCE WITH UL 127. PER IBC R1004.1

SECTION NOTES

THE FOLLOWING SHALL BE CAULKED, GASKETED, WEATHER-STRIPPED, FOAM SEALED OR OTHERWISE SEALED WITH AN AIR BARRIER MATERIAL, SUITABLE FILM OR SOLID MATERIAL PRIOR TO INSULATION:

- ALL JOINTS, SEAMS, AND PENETRATIONS IN FRAMING/BUILDING ENVELOPE
- SITE-BUILT WINDOWS, DOORS, SKYLIGHTS
- OPENINGS BETWEEN WINDOW AND DOOR ASSEMBLIES AND THEIR RESPECTIVE JAMS AND FRAMING
- UTILITY PENETRATIONS
- DROPPED CEILINGS OR CHASES ADJACENT TO THE THERMAL ENVELOPE
- KNEE WALLS
- WALLS AND CEILINGS OR CHASES SEPARATING THE GARAGES FROM CONDITIONED SPACES
- BEHIND TUBS AND SHOWERS ON EXTERIOR WALLS
- COMMON WALLS BETWEEN DWELLING UNITS
- ATTIC ACCESS OPENINGS
- RIM JOIST JUNCTIONS
- OTHER SOURCES OF INFILTRATION INCLUDING TOP PLATES, BOTTOM PLATES, STUDS, AND SHEATHING.

ALL EXTERIOR WALLS SHALL HAVE A MINIMUM OF R-20 INSULATION. ROOF/CEILING SHALL HAVE A MINIMUM OF R-49 INSULATION. WHERE THE AREA IS LESS THAN 500 SQ. FT. OR 20% OF TOTAL INSULATED AREA, THE INSULATION R-VALUE MAY BE REDUCED TO R-30. FLOORS OVER UNHEATED AREAS SHALL HAVE A MINIMUM OF R-30 INSULATION. THESE REQUIREMENTS ASSURE COMPLIANCE WITH THE INTERNATIONAL ENERGY CONSERVATION CODE. UNDER SLAB INSULATION SHALL COMPLY WITH ASTM C578.

ALL INTERIOR SPRAY FOAM TO BE 1.9 POUND DENSITY OR GREATER FREE RISE, CLOSED CELL MATERIAL WITH A VAPOR PERMEANCE EQUAL OR LESS THAN 0.8 PERMIN AND A MINIMUM R VALUE OF 6.9 AGED PER INCH.

ALL EXTERIOR FRAMED RIMS SHALL HAVE A MINIMUM OF 3.0 INCHES, R-20 SPRAY FOAM INSULATION. PER SECTION R316.5.11 FOAM PLASTIC DOES NOT REQUIRE A THERMAL BARRIER AS LONG AS THE THICKNESS IS LESS THAN 3 1/2", THE DENSITY IS BETWEEN 0.5 AND 2.0 PCF, AND THE FOAM PLASTIC SHALL HAVE A FLAME SPREAD INDEX OF 25 OR LESS, AND A SMOKE DEVELOPMENT INDEX OF 450 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 723. THESE REQUIREMENTS ASSURE COMPLIANCE WITH THE INTERNATIONAL RESIDENTIAL CODE AND THE INTERNATIONAL ENERGY CONSERVATION CODE.

PROVIDE ADEQUATE ATTIC AND ENCLOSED RAFTER SPACE CROSS VENTILATION FOR EACH SEPARATE SPACE PER SECTION R806, 2015 I.R.C. PROTECT AGAINST THE ENTRANCE OF RAIN AND SNOW. VENTILATION OPENINGS SHALL BE 1/16" MIN AND 1/2" MAX, OR BE PROVIDED WITH CORROSION RESISTANT WIRE MESH, 1/8" TO 1/2" OPENINGS. MINIMUM NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/160 OF THE AREA OF THE SPACE VENTILATED THOUGH MAY BE REDUCED TO 1/300 PER R806.2.

UNVENTED ATTIC ASSEMBLY (SPACE BETWEEN THE CEILING JOISTS AND THE TOP OF THE TOP STORY AND ROOF RAFTERS) SHALL BE PERMITTED PER SECTION R806.5, 2015 I.R.C.

ALL DUCTWORK OUTSIDE THE BUILDING ENVELOPE SHALL BE INSULATED TO A MINIMUM OF R-8 IN ATTICS, AND R-6 IN OTHER PORTIONS OF THE BUILDING PER SECTION N1103.3, 2015 I.R.C.

ALL DUCTWORK SHALL BE SEALED PER SECTION N1103.3.2 AND M1601.4.1, 2015 I.R.C. AS APPLICABLE AND VERIFIED AS SEALED PER SECTION N1103.3.3, 2015 I.R.C.

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	DRAWING #	20-03
	DATE	08/17/20
	DESIGNER	Vanatta
	DATE	08/17/20
	REVISIONS	JOB NOTES
	DRAWN BY	GCH
	PAGE #	S-3
	PROJECT	Lot 80, Filing 4, The Sanctuary
	ADDRESS	3070 Aspenwood Lane, Steamboat Springs 80487
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	STEAMBOAT SPRINGS CO	80477
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NORTH ELEVATION



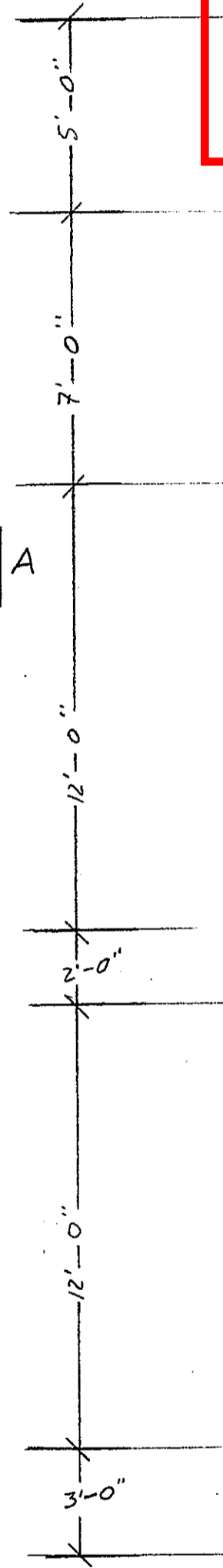
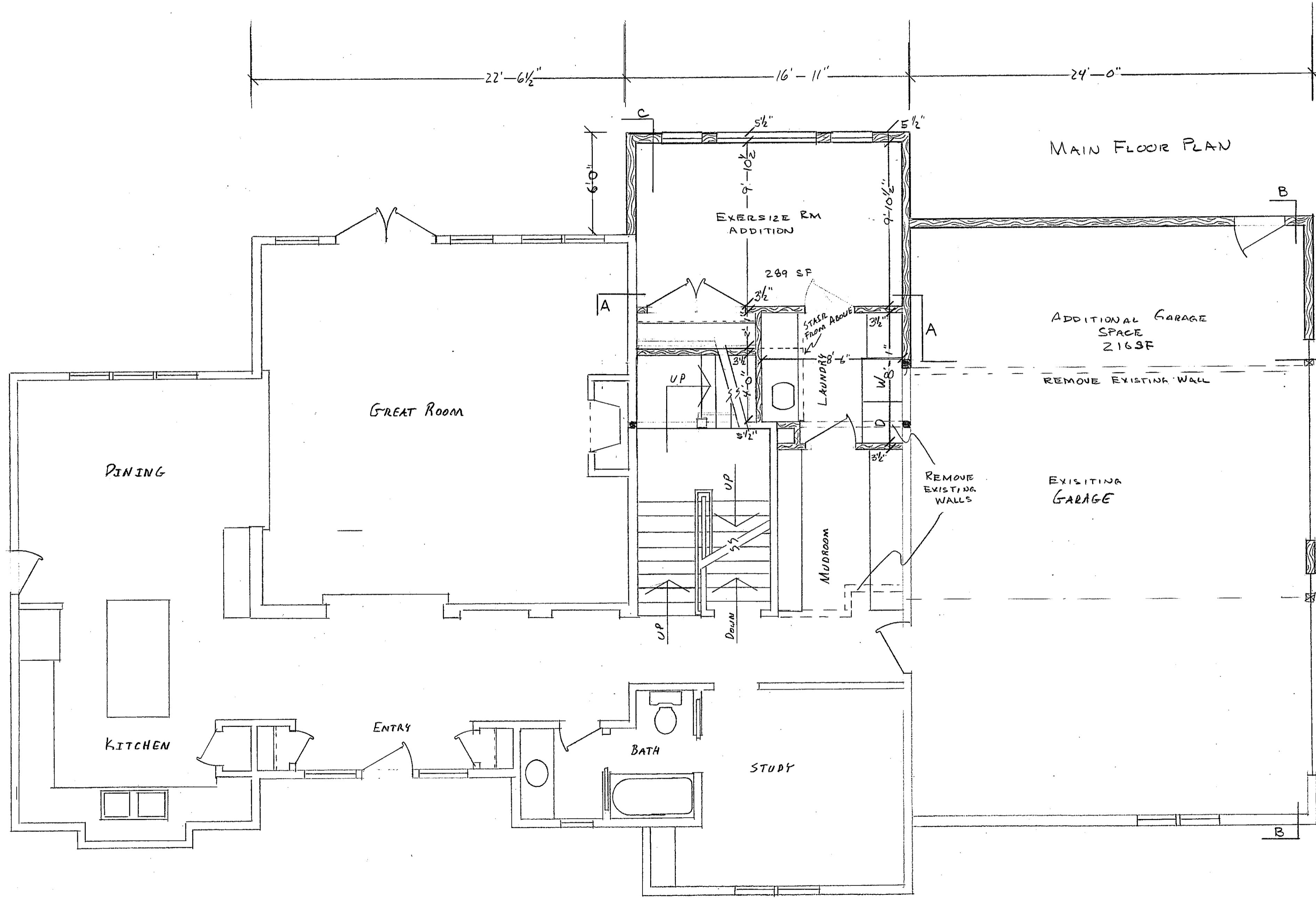
WEST ELEVATION

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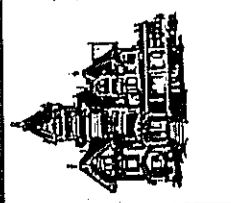
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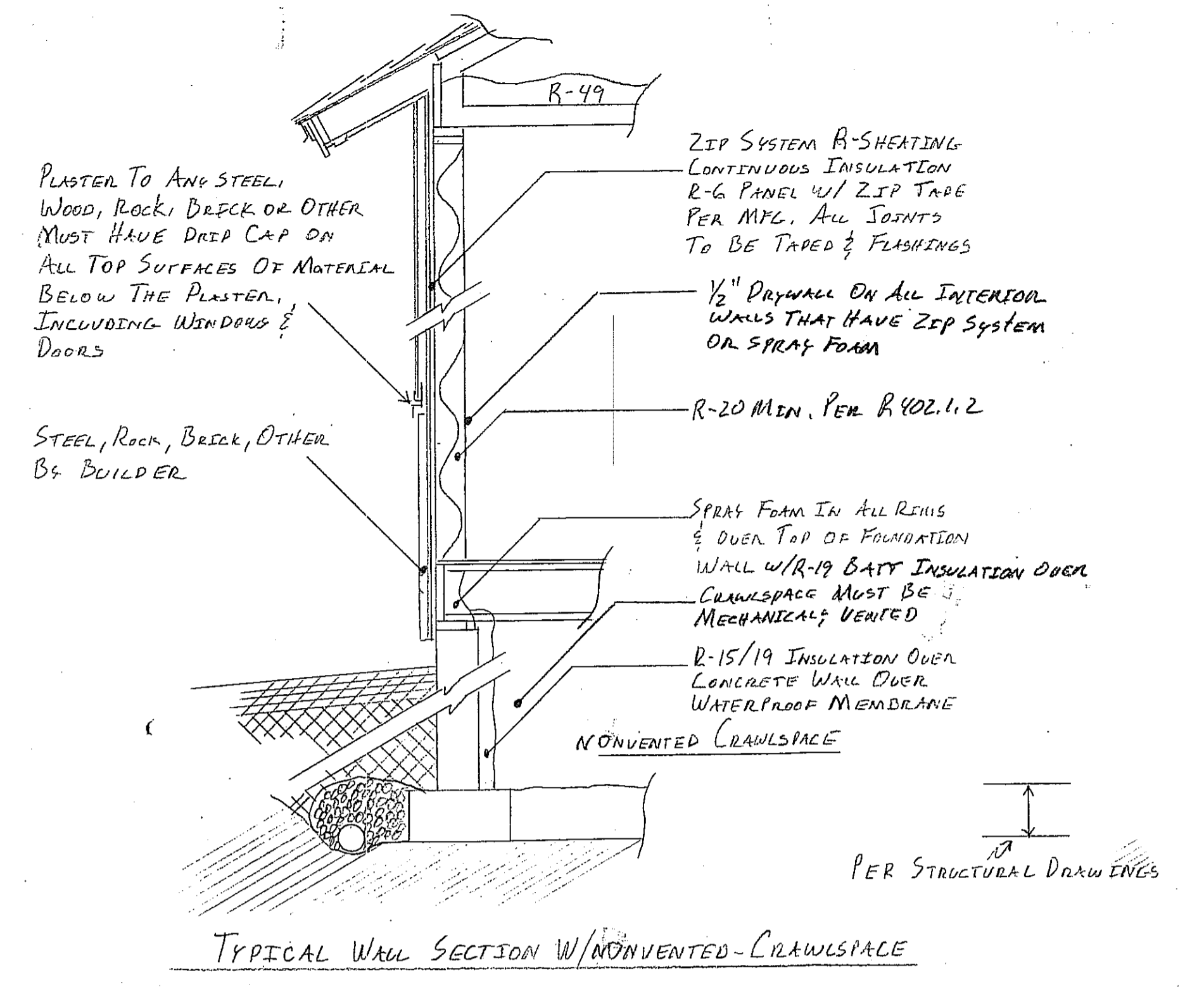
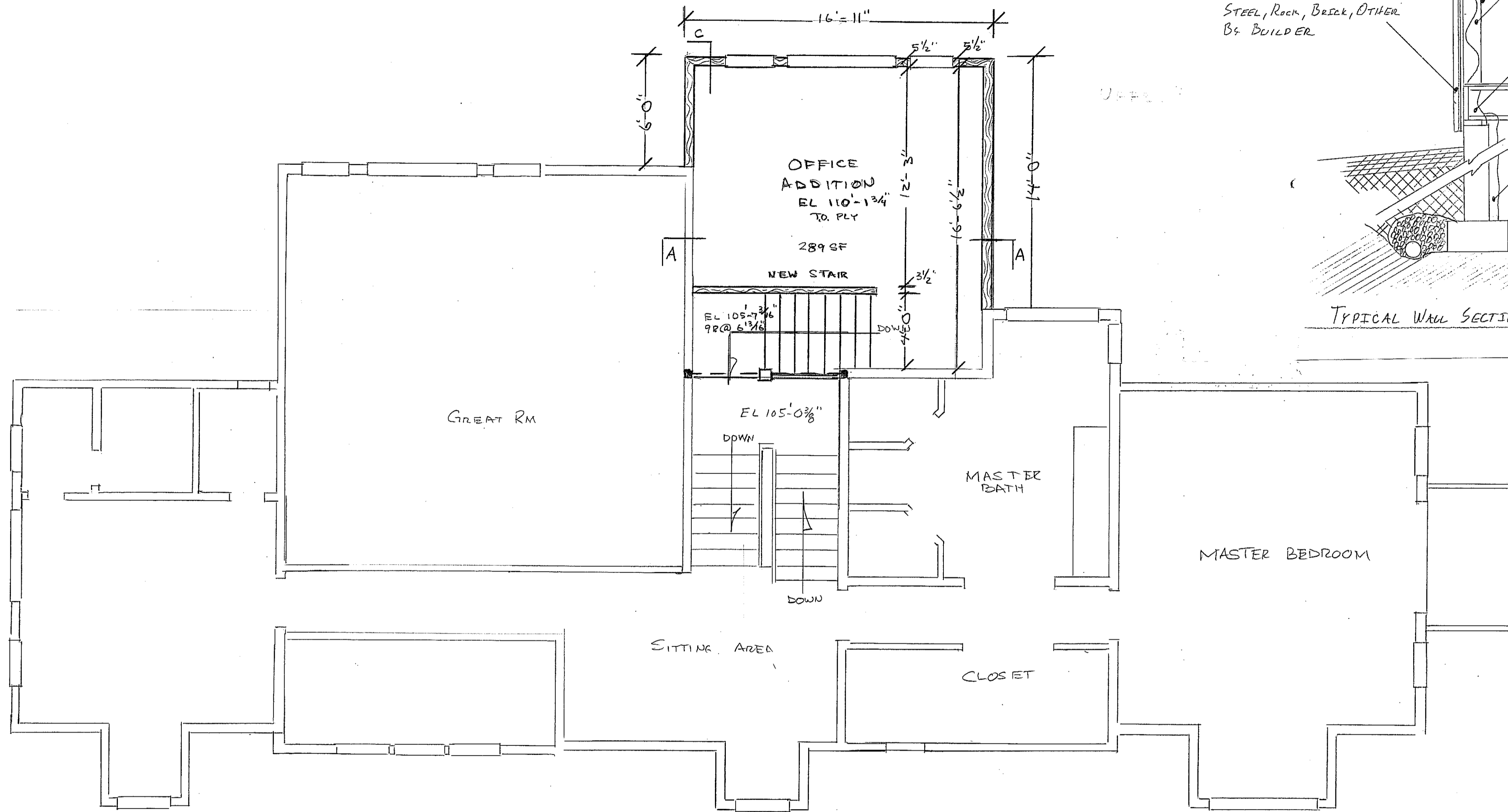
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ADDITIONAL GARAGE 216 SF
ADDITIONAL MAIN FLR 289 SF
ADDITIONAL UPPER FLR 289 SF
ADDITIONAL FINISHED 578 SF

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	REVISIONS
DESIGN	Vanatta
	MAIN FLOOR PLAN
DATE: 8/17/20	
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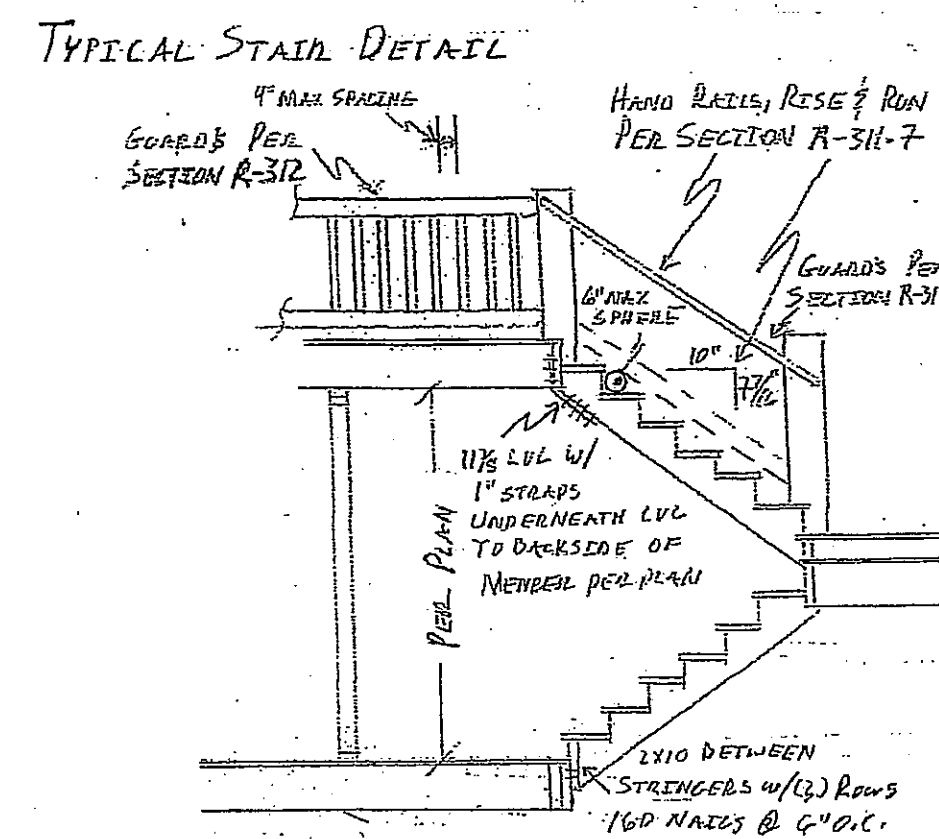
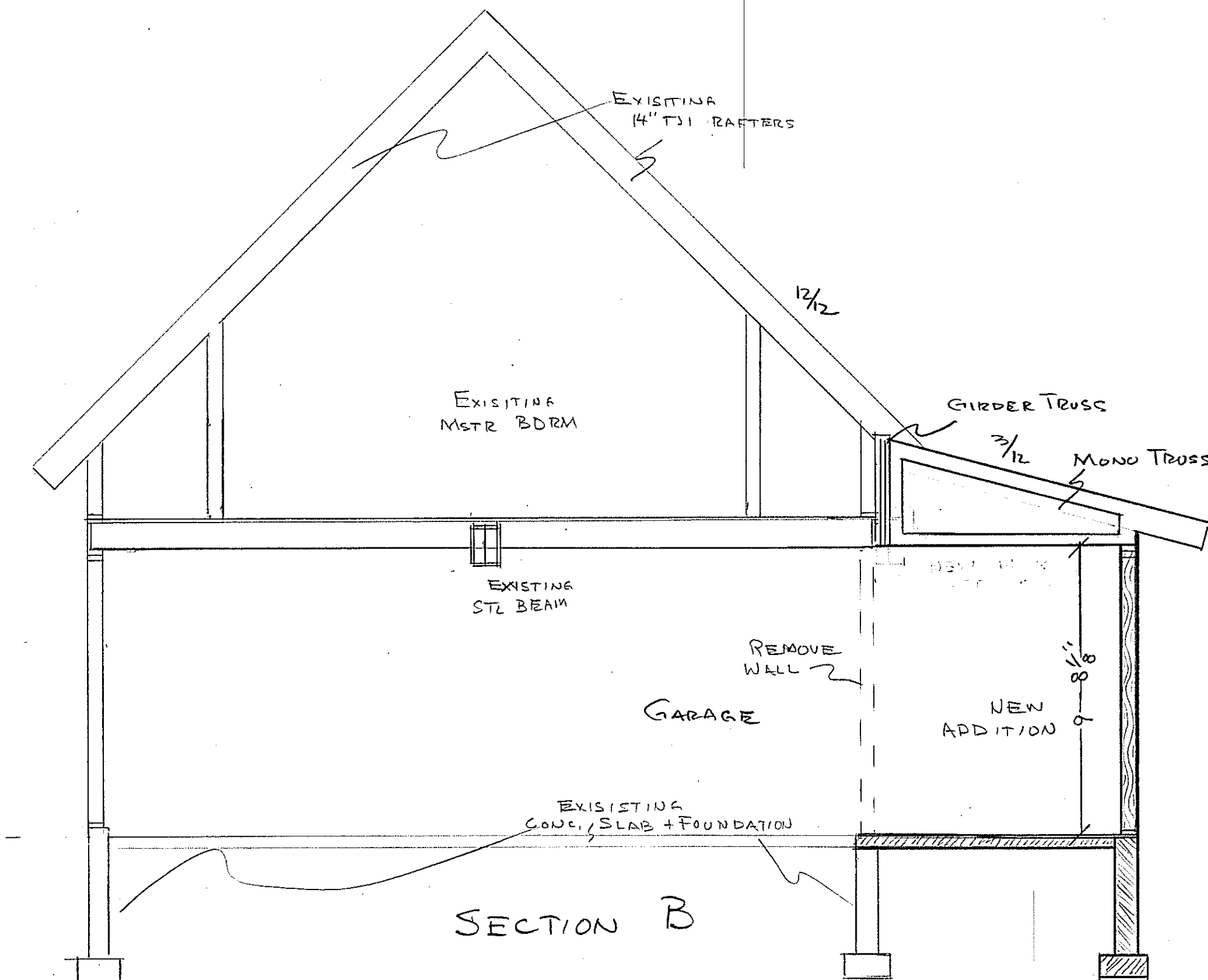
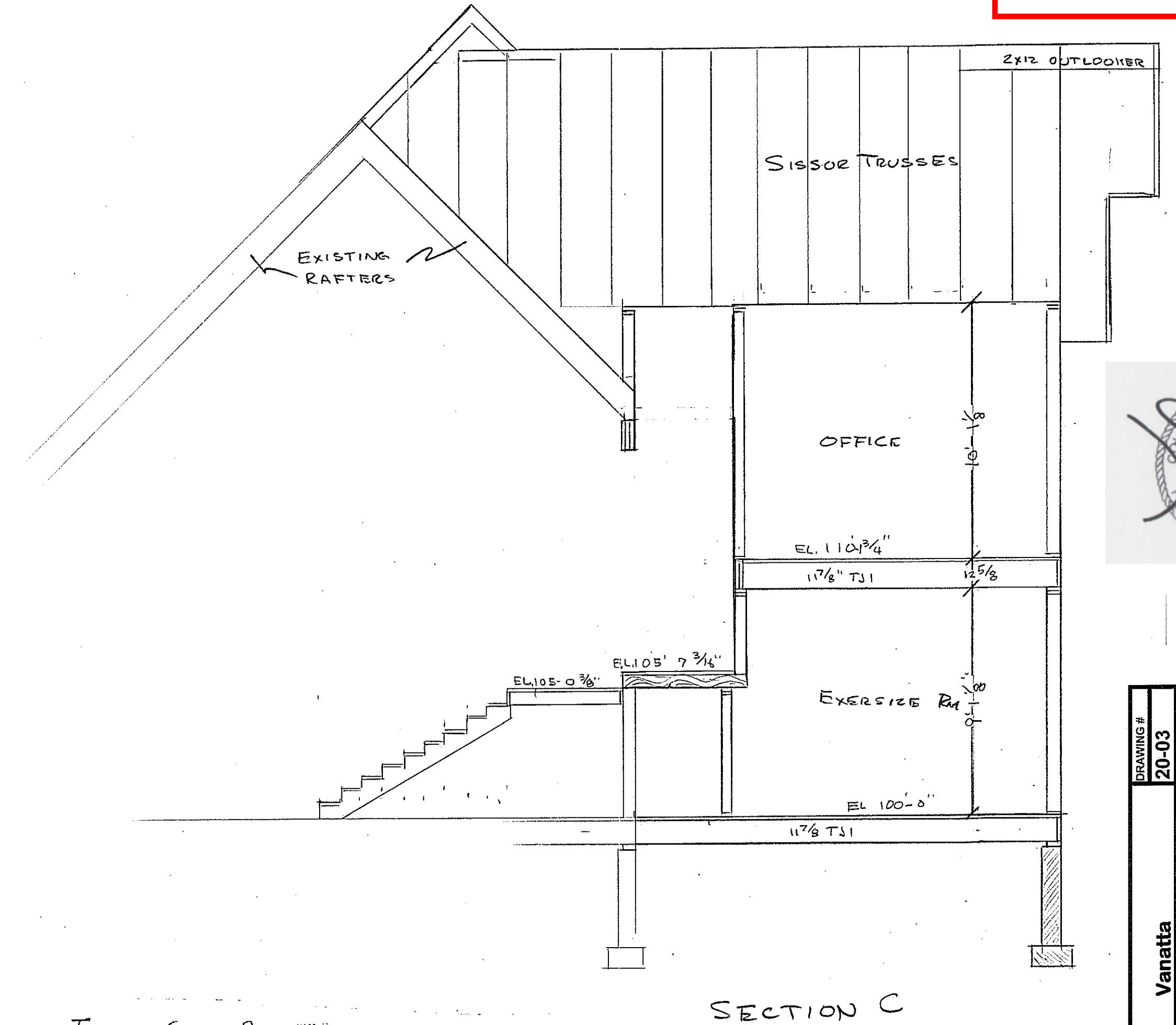
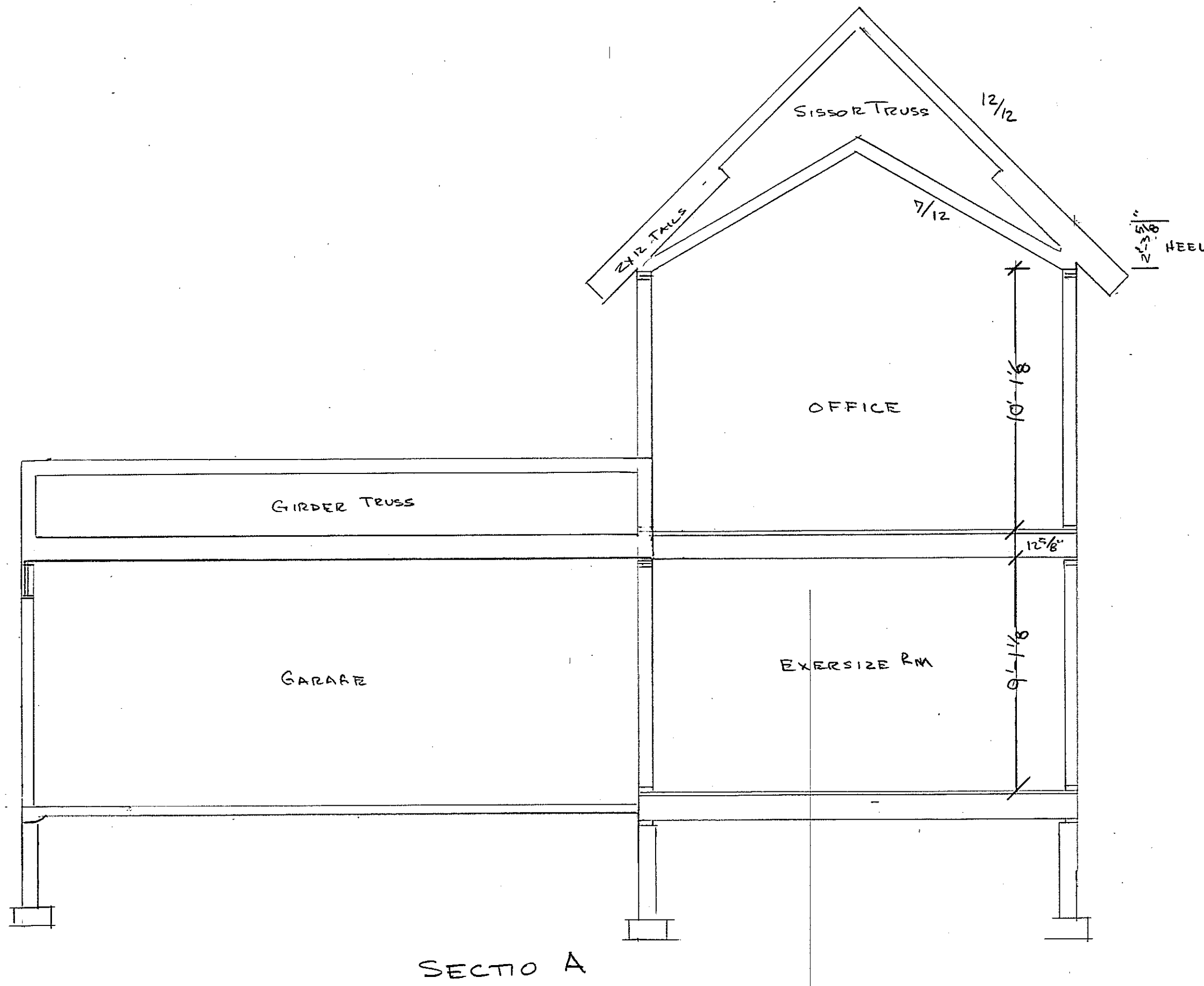
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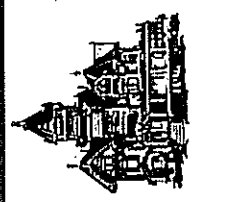
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GRAHAM CUSTOM HOMES DESIGN	Lot 80, Filing 4, The Sanctuary 3070 Aspenwood Lane, Steamboat Springs 80487 970-846-5552 PO BOX 776338 STEAMBOAT SPRINGS CO 80477			
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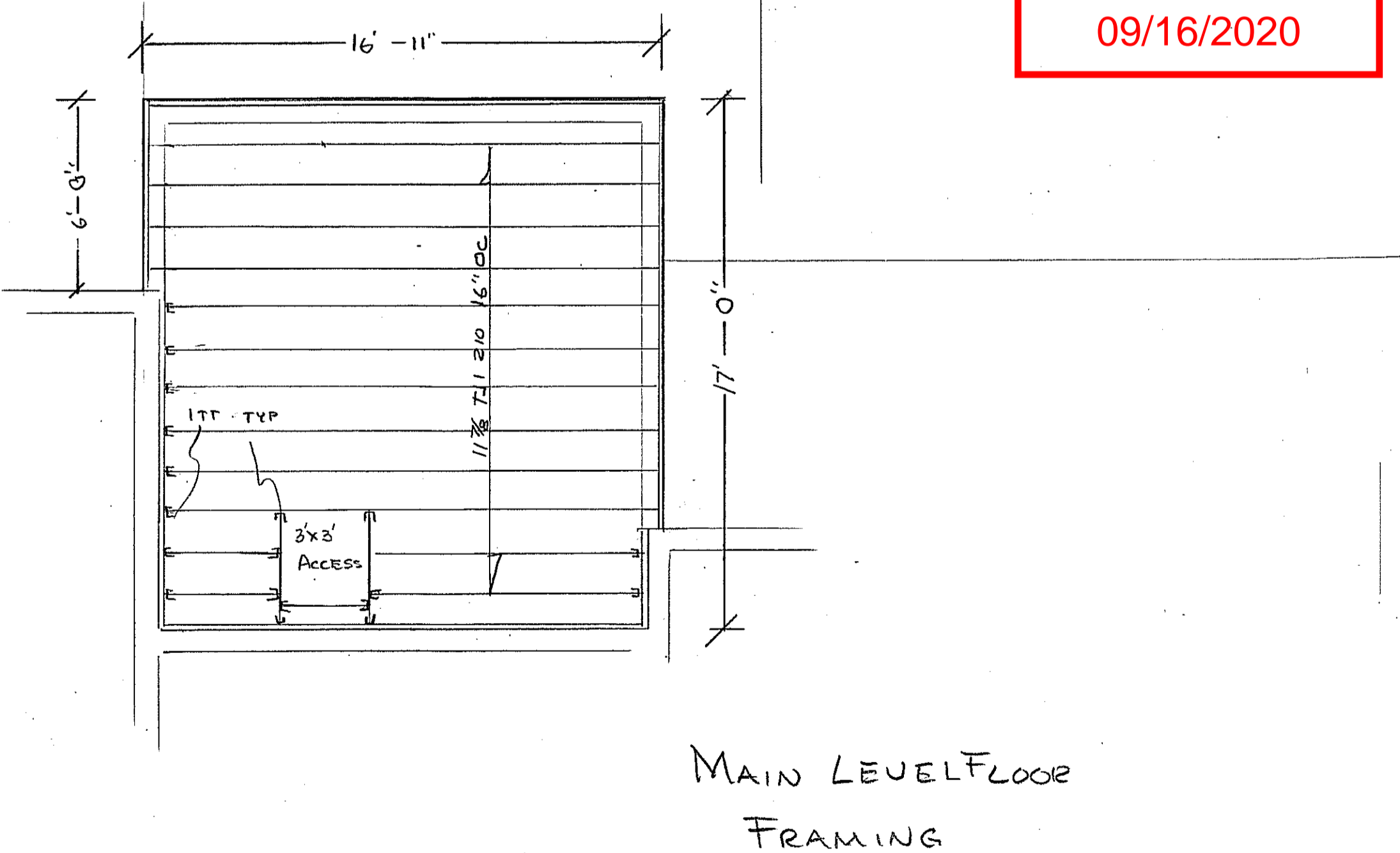
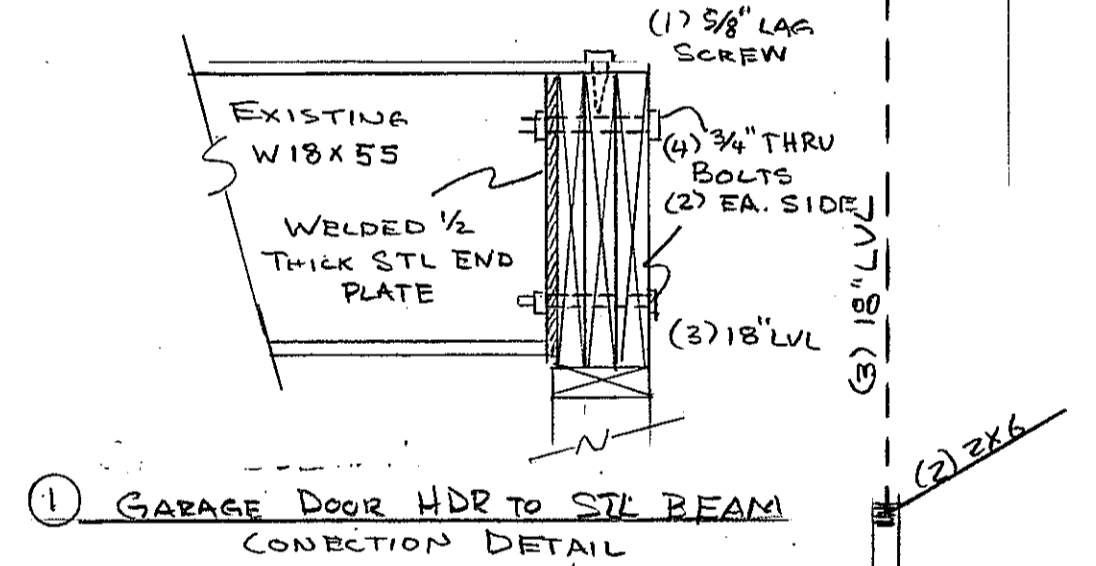
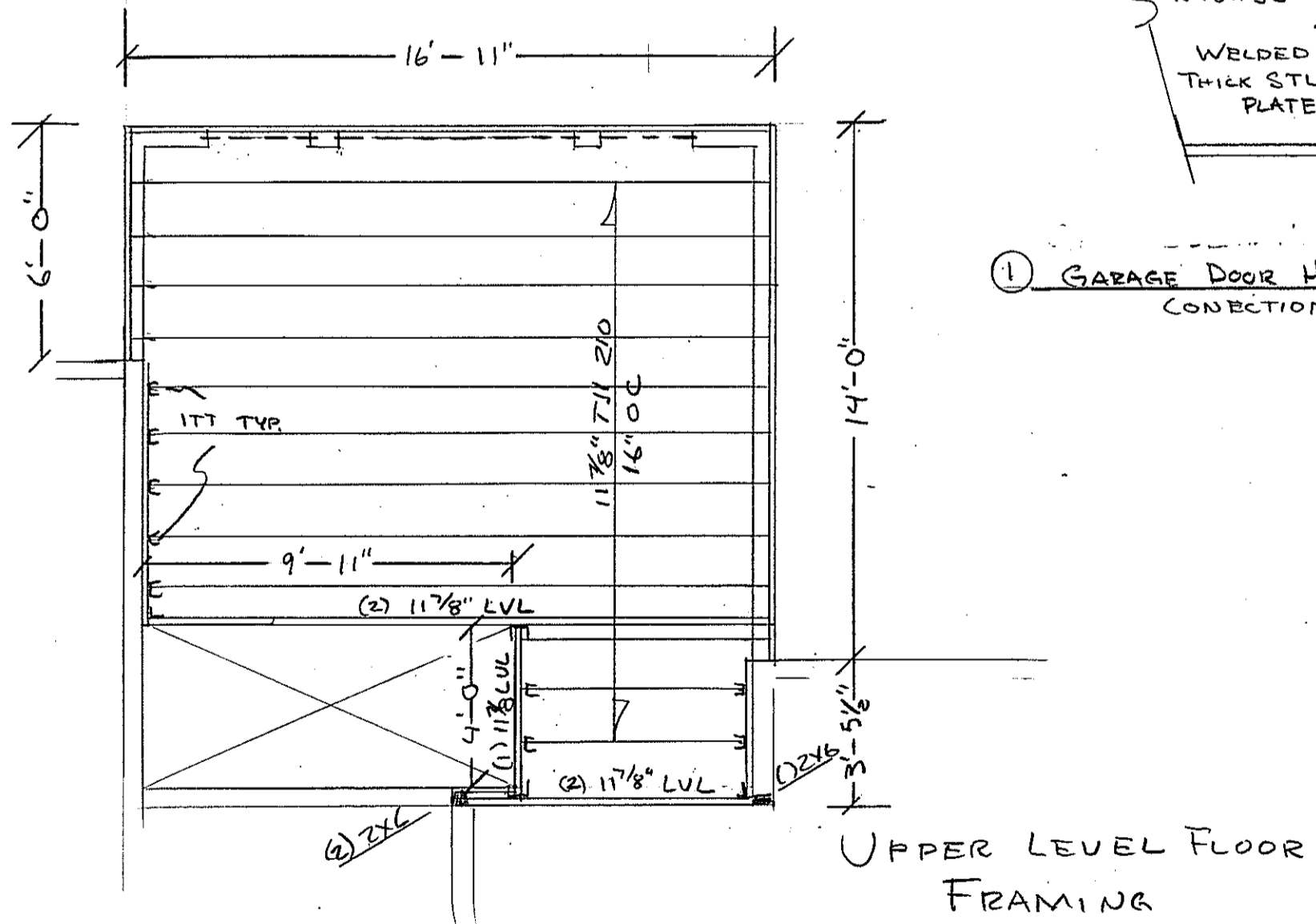
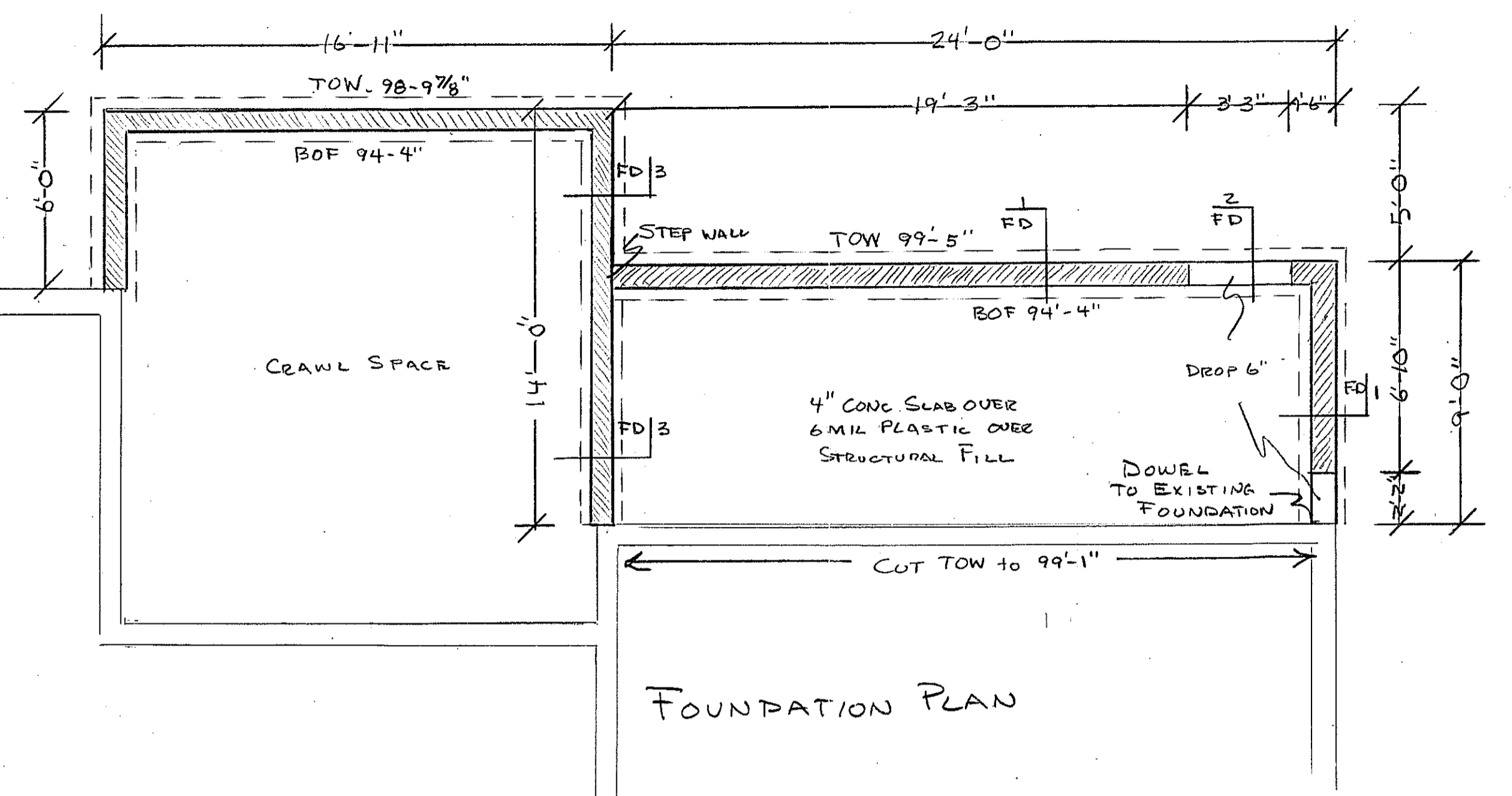
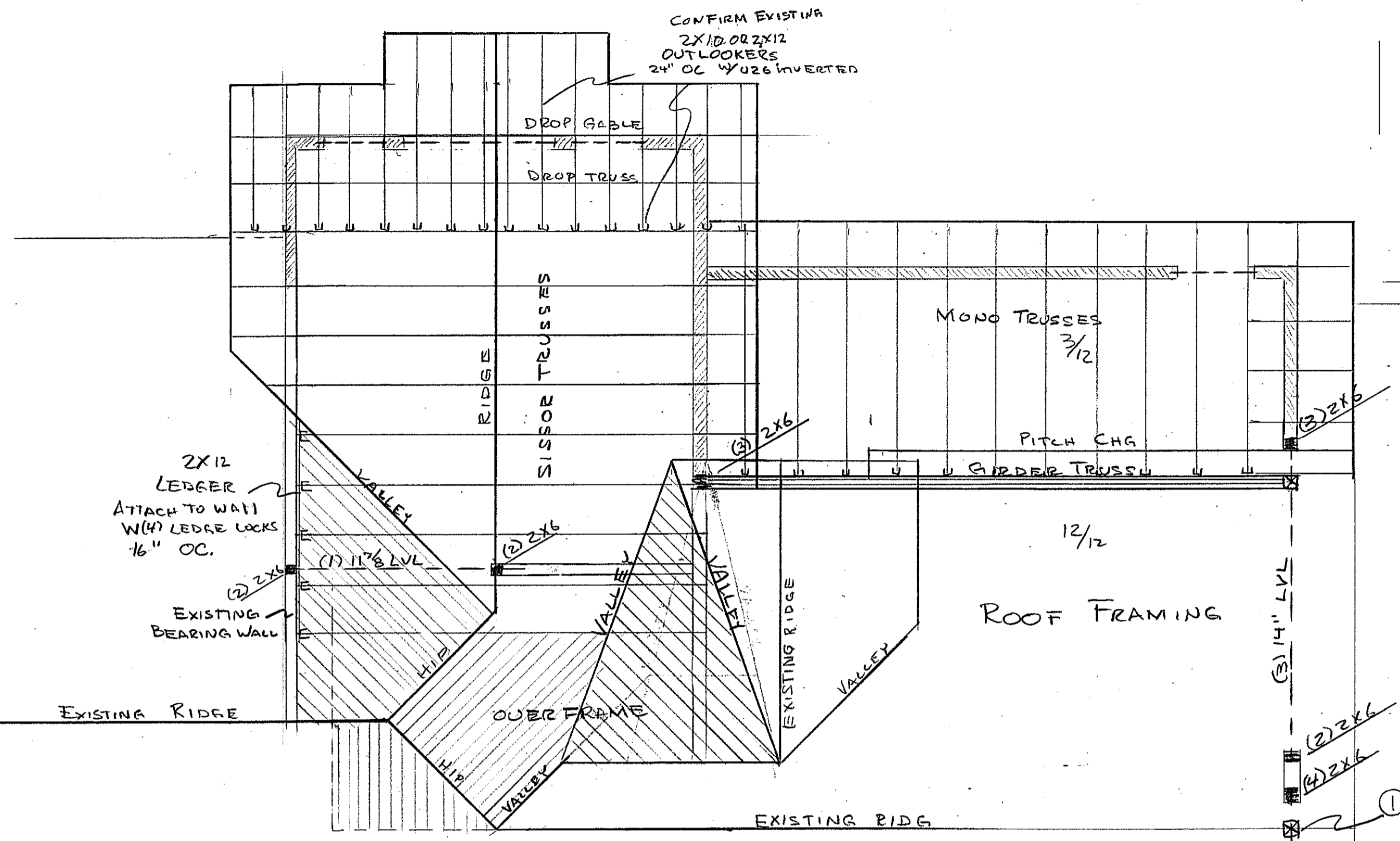
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09/16/2020



DRAWING #	20-03
REVISIONS	
DATE	8/17/20
DRAWN BY	GCH
PAGE #	A-7
Vanatta SECTIONS	
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Lot 80, Filing 4, The Sanctuary 3070 Aspenwood Lane, Steamboat Springs 80487 970-846-5552	
PO BOX 778338 STEAMBOAT SPRINGS CO 80477	
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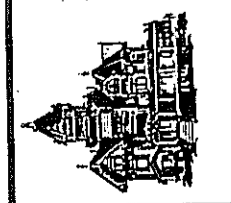




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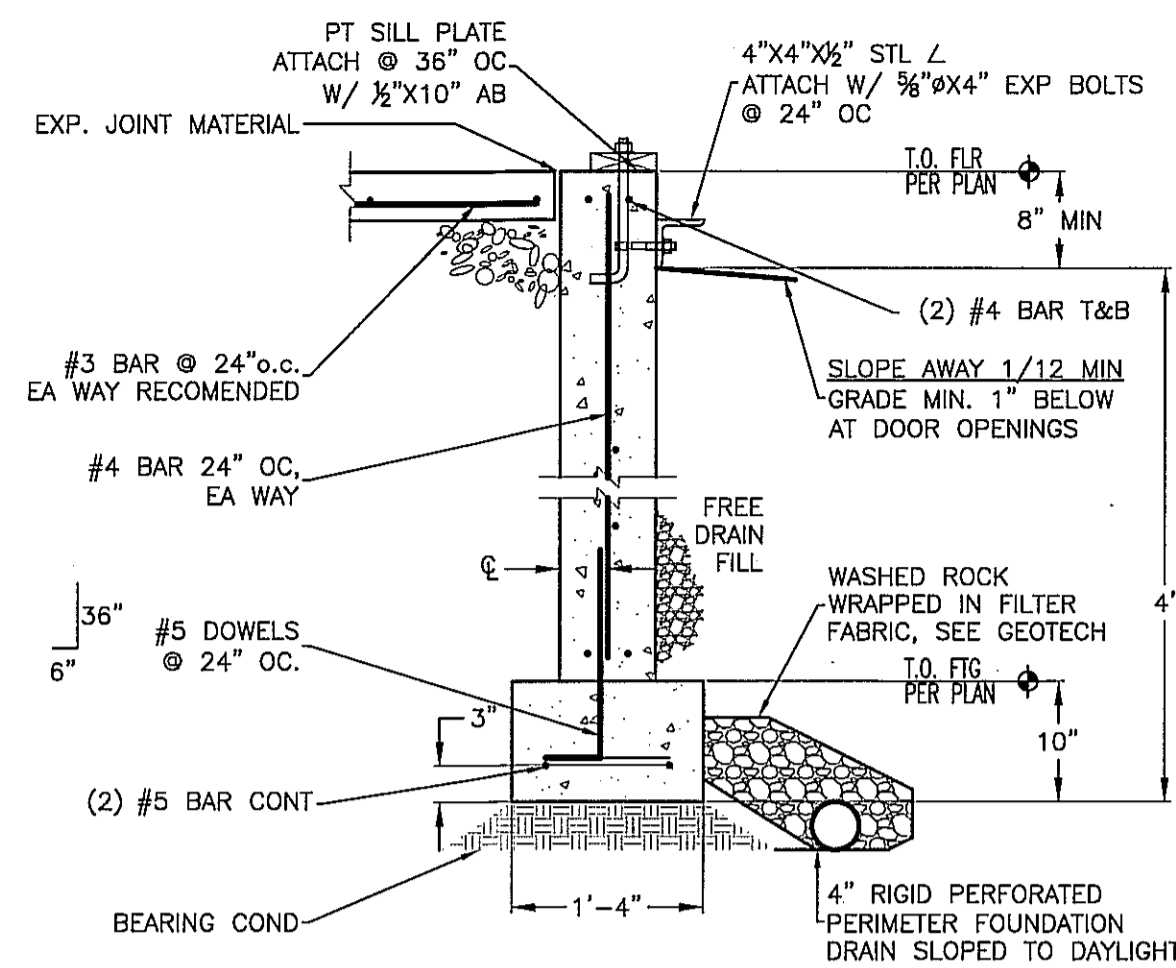
DRAWING # 20-03	DATE 8/17/20	DRAWN BY GCH	PAGE # A-8
Vanatta	Framing Plans	Foundation Plan	
Lot 80, Filing 4, The Sanctuary 3070 Aspenwood Lane, Steamboat Springs 80487 970-848-5552			
GRAHAM CUSTOM HOMES DESIGN PO BOX 776338 STEAMBOAT SPRINGS CO 80477			



09/16/2020

STRUCTURAL
MECHANICAL
ENGINEERING
DESIGN
DRAFTING
SERVICES

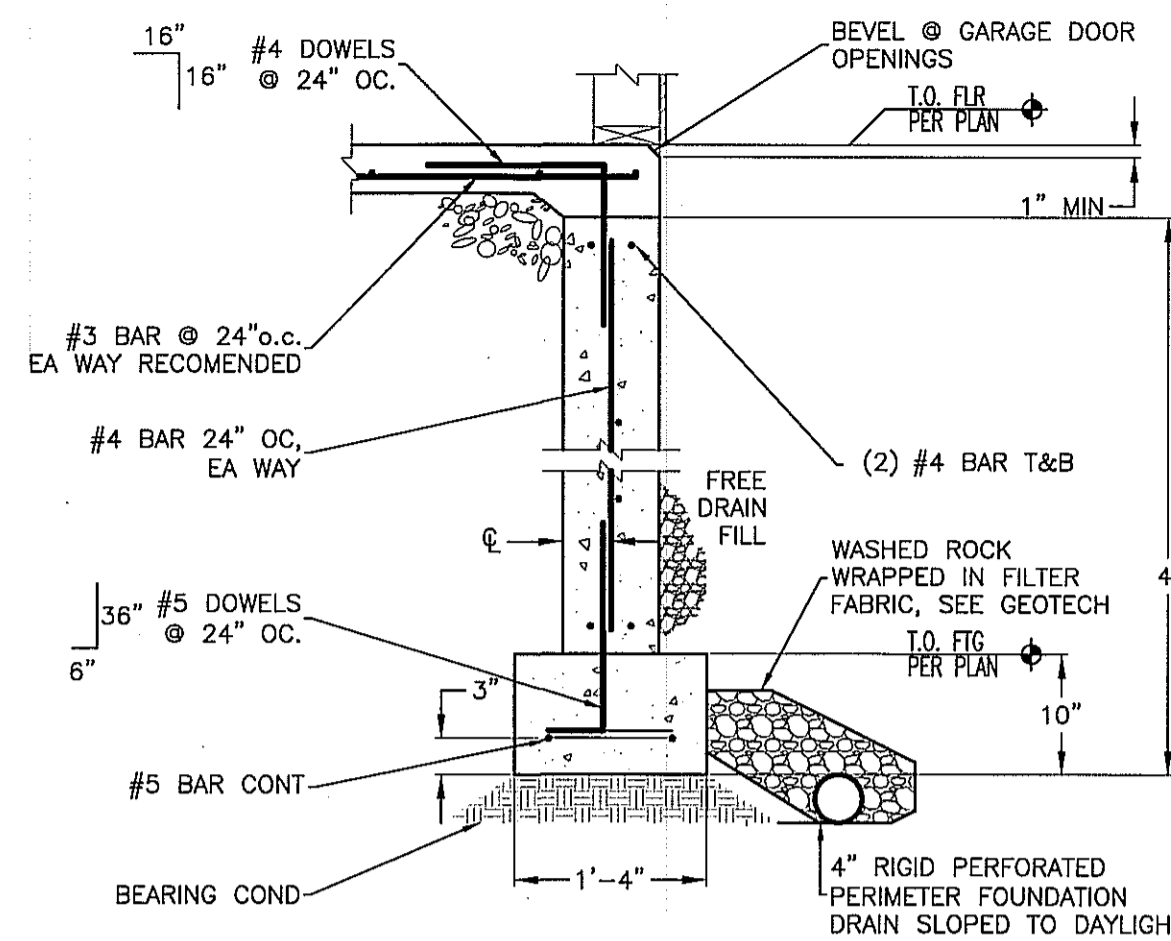
JAMES STEGMAIER, P.E.
1794 KAMAR PLAZA
P.O. BOX 772192
STEAMBOAT SPRINGS, CO
80477
970-870-9229
jvengr@yvengr.com



- NOTES:
1. MAINTAIN 3" COVER FOR CONC. POURED ON EARTH. 2" FOR FORMED CONC.
 2. ENERGY CODE DETAILS PER ARCHITECTURAL PLANS.

1 CONCRETE WALL

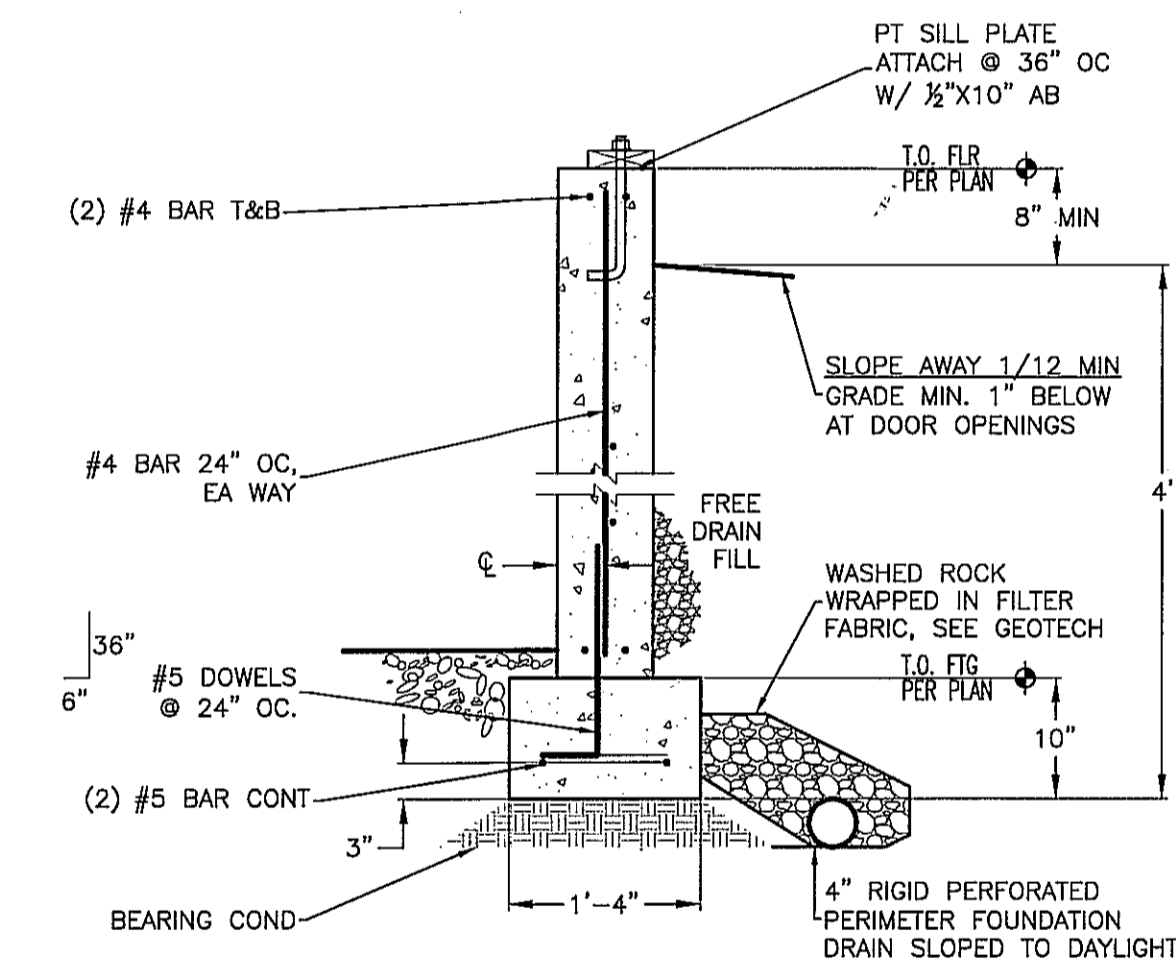
NO SCALE



- NOTES:
1. MAINTAIN 3" COVER FOR CONC. POURED ON EARTH. 2" FOR FORMED CONC.
 2. ENERGY CODE DETAILS PER ARCHITECTURAL PLANS.

2 CONCRETE WALL @ DOOR OPENING

NO SCALE



- NOTES:
1. MAINTAIN 3" COVER FOR CONC. POURED ON EARTH. 2" FOR FORMED CONC.
 2. ENERGY CODE DETAILS PER ARCHITECTURAL PLANS.

3 CONCRETE WALL @ CRAWLSPACE

NO SCALE

FRAMING NOTES

1. ALL FRAMING NOT SPECIFICALLY SHOWN, DETAILED, OR DRAWN ON PLAN SHALL COMPLY WITH THE NON-ENGINEERED REQUIREMENTS SPECIFIED IN THE IRC.
2. ALL LOADS, POINT OR DISTRIBUTED, SHALL HAVE CONTINUOUS UNINTERRUPTED PATH TO FOUNDATION. 2X SQUASH BLOCKS BETWEEN FLOOR ASSEMBLY TO MATCH COLUMN ABOVE.
3. MINIMUM HEADER SIZE SHALL BE 2-2X10'S, UNO.
4. ALL KING AND TRIMMER STUDS PER PLAN. MINIMUM 1 KING AND 1 TRIMMER STUD AT WALL OPENINGS.
5. ALL HEADERS CONSISTING OF TWO OR MORE LVL'S SHALL HAVE A MINIMUM 2 TRIMMERS AND 1 KING.

YVE JOB# 20-047

Design Loads

Roof	95 PSF
Floors	40 PSF
Wind	115 MPH, Exposure C
Seismic design category	B
Maximum soil bearing pressure	2500 PSF

Foundation design is in accordance with the recommendations made in the geotechnical report #97-2943 dated 6-6-97 provided by NWCC. This report is referenced herein as the "Geotech" and the contractor/owner shall implement all recommendations with this report. An open hole investigation should be conducted by the geotechnical engineer to verify conditions prior to construction. Any deviations in the reported design conditions shall be reported to Yampa Valley Engineering, Inc. which may require substantial design changes.

The design herein and all construction standards shall utilize the 2015 International Residential Code.

Concrete:

1. Place footings on firm, undisturbed natural soil. Footings placed on compacted fill shall require the approval of a geotechnical engineer.
2. No concrete shall be poured on frozen sub-grade or be subject to freezing conditions until fully cured.
3. All concrete form work shall be adequately braced and tied to form true lines, square corners and plumb walls. Trench forming is not allowed.
4. All cast-in-place concrete shall be type 1/II and develop 3,000 PSI compressive strength in 28 days.
5. All concrete work and reinforcement detailing shall be in accordance with ACI Building Code 301 and 318.
6. All reinforcing shall be deformed bars conforming to ASTM A615 grade 60. Deformed bars specified to be field bent, stirrups, and ties can be grade 40, UNO.
7. Welded wire fabric shall conform to ASTM 185 and shall be lapped 1 full mesh at splices and be tied together.
8. Concrete protection for reinforcement shall be:
 - 3" minimum for concrete cast against earth
 - 2" minimum for concrete poured in forms
 - 3/4" in slabs and walls, not exposed to weather
9. Reinforcement shall be fabricated and placed per ACI 315. Make all bars continuous around corners. Lap splices shall be a minimum of 50 bar diameters.
10. Slabs, footings, and walls shall not have joints in a horizontal plane. Any stop in concrete work (cold joints) must be made at a third point of span with vertical bulkheads and horizontal shear keys. Continue top bar in wall down through corners of openings for 2'-0" & tie with a vertical bar 3' from opening.
11. Anchor bolts shall be spaced at 36" O.C. and within 12" of each foundation corner or end of mudsill plate. Anchor bolts shall have 7" minimum concrete penetration.
12. Provide all accessories necessary to support reinforcing at positions shown on the plans and in accordance with ACI 318.
13. All concrete walls shall be mechanically vibrated.
14. Floor slabs shall be placed with construction joints per the geotechnical report or 10ft max spacing and/or as shown on the plans.

Metals:

1. All steel shall conform to the following:
 - Beams: A992
 - Angles & miscellaneous: ASTM A36
 - Bolts: ASTM 307
 - Tube Columns: ASTM A500, Grade B 46ksi
2. Fitted web stiffeners shall be 3/8" plates welded continuous on each side of steel beam web under point loads above and at points of support.
3. Miscellaneous clips, anchors and connectors shall be Simpson strong tie or approved equal, unless otherwise noted. Products shall be installed in accordance with manufacturer's instructions.
4. All steel shall be fabricated and erected per AISC Steel Construction Manual.
5. Welding shall be done by a qualified welders with E70XX electrodes.
6. Anchor bolts installed in contact with pressure treated wood shall meet the manufacturers specifications for corrosion protection.
7. All steel beams shall have wood nailer plates with 1/2" carriage bolts at 36" glued, UNO. ALT: 3/2" drive pins at 24".

Carpentry:

1. All framing not specifically shown, detailed, or drawn on plan shall comply with the non-engineered requirements specified in the IRC.
2. Minimum nailing and wood structural panel attachments shall be as specified in TABLE #R602.3(1) of the IRC. Additional nailing or attachment required for connections are per plan.
3. All treated lumber shall be treated in accordance with AWPA Standard U1 to the requirements of the intended use.
4. All 2"-4" thick dimensional framing lumber shall be visually graded, S-dry with the following minimum design values:
 - Wall framing: SPF Stud grade or better, E=1,200,000 psi, Fb=675 psi, Ft=350 psi, Fv=135 psi, Fc=425 psi, Fc=725 psi
 - Joist or Rafter:
 - SPF No.2 or better, E=1,400,000 psi, Fb=875 psi, Ft=450 psi, Fv=135 psi, Fc=425 psi, Fc=1,150 psi
 - DF-L (N) No.1/No.2 or better, E=1,600,000 psi, Fb=850 psi, Ft=500 psi, Fv=180 psi, Fc=625 psi, Fc=1400 psi
5. All 2"-4" dimensional lumber in contact with concrete or masonry shall be treated and have the following minimum design values:
 - Hem-Fir No.2 or better, E=1,300,000 psi, Fb=850 psi, Ft=525 psi, Fv=150 psi, Fc=405 psi, Fc=1300 psi
6. All 5" thick and greater dimensional timber framing lumber shall be visually graded, S-dry with the following minimum design values:
 - Beams: DF-L (N) No.1 or better, E=1,600,000 psi, Fb=1,300 psi, Ft=675 psi, Fv=170 psi, Fc=625 psi, Fc=925 psi
 - Columns: DF-L (N) No.1 or better, E=1,600,000 psi, Fb=1,200 psi, Ft=825 psi, Fv=170 psi, Fc=625 psi, Fc=1,000 psi
7. All structural glued laminated beams shall be AITC stressed rated and have the following minimum design values:
 - Single Span: (24F-V4) E=1,800,000 psi, Fbc=2,400 psi, Fbt=1,450 psi, Fc=650 psi, Fv=265 psi, SG=0.50
 - Multiple Span: (24F-V8) E=1,800,000 psi, Fbc=2,400 psi, Fbt=2,400 psi, Fc=650 psi, Fv=265 psi, SG=0.50
 - Glue-lam beams in exterior applications shall be exterior rated.
8. All engineered wood shall be True Joist or approved equivalent with the following minimum design values:
 - LVL: E=1,900,000 psi, Fb=2,600 psi, Ft=1,555 psi, Fc=750 psi, Fc=2,510 psi, Fv=285 psi, SG=0.50
 - LSL: E=1,300,000 psi, Fb=1,700 psi, Ft=1,075 psi, Fc=680 psi, Fc=1,400 psi, Fv=400 psi, SG=0.50
 - PSL: E=2,000,000 psi, Fb=2,900 psi, Ft=2,025 psi, Fc=750 psi, Fc=2,900 psi, Fv=290 psi, SG=0.50
9. All prefabricated wood I-joists shall be Trus Joist or approved equivalent with the following minimum design values:
 - 9 1/2" TJI 210: Mr=2,860 ft-lbs, V=1,330 lbs, EI=167x10⁶ sq.in.-lbs
 - 1 1/2" TJI 210: Mr=3,620 ft-lbs, V=1,655 lbs, EI=263x10⁶ sq.in.-lbs
 - 1 1/2" TJI 180: Mr=6,180 ft-lbs, V=1,705 lbs, EI=419x10⁶ sq.in.-lbs
 - 14" TJI 210: Mr=4,280 ft-lbs, V=1,945 lbs, EI=415x10⁶ sq.in.-lbs
 - 14" TJI 360: Mr=7,335 ft-lbs, V=1,955 lbs, EI=612x10⁶ sq.in.-lbs
10. All Roof sheathing shall be:
 - MIN. 1/2" APA Rated 40/20 Exp. 1
11. All Floor sheathing shall be:
 - MIN. 2 3/8" APA Rated 48/24 Exp. 1 T&G, glued and nailed.
12. All Wall sheathing shall be:
 - MIN. 5/8" APA Rated 24/16 Exp. 1.
13. All prefabricated I-joists, pre-engineered trusses, specified connectors shall be installed per manufacturers specifications.
14. Wood framing members, including wood sheathing, that are in contact with exterior foundation walls and are less than 8 inches from exposed earth shall be of naturally durable or preservative-treated wood.
15. ALL EXTERIOR WALLS SHALL BE SHEATHED. Exterior walls shall be a minimum 2 x 6 @ 16" OC, UNO.
16. Interior bearing walls shall be 2x6 @ 16", UNO. For bearing walls perpendicular to floor framing provide full height solid blocking between bays. For bearing walls parallel to floor framing provide additional double floor joists under bearing wall or balloon frame bearing wall below to underside of sheathing.
17. Interior partitions (non load bearing) shall be 2x4 @ 16". Support partitions with 2x blocking @ 24" between joists, top and bottom.
18. All loads, point or distributed, shall have continuous uninterrupted path to foundation. 2x squash blocks between floor assembly to match column above.
19. Provide solid blocking between joists at all supports, beams or bearing walls. Provide 1x4 cross-bridging or 2x blocking at not over 8' on center for all wood joists.
20. Minimum header size shall be 2-2x10's, UNO.
21. All king and trimmer studs per plan. Minimum 1 king and 1 trimmer stud at wall openings. All headers consisting of two or more LVL's shall have minimum 2 trimmers and 1 king.
22. Crawlspace shall be vented per Section 408 of the IRC. The contractor is responsible for all ventilation required.
23. Pre-engineered, pre-fabricated trusses shall be designed by a Registered Professional Engineer and shall comply with all applicable codes and the Truss Plate Institute requirements. Truss to Truss connections are by manufacturer.
24. Over-framing rafters shall be 2x6 minimum with 2x6 minimum ridge, supported at 32" O.C. max directly to rafter or truss below. 2x10 sleepers shall support joist ends at valleys. Joist supports shall be horizontally blocked at bottom.

Erection Requirements:

1. Do NOT scale construction documents, if a dimension is necessary and not shown, Yampa Valley Engineering shall be contacted for dimension needed for construction.
2. If a discrepancy exists between the architectural and structural drawings, Yampa Valley Engineering shall be contacted immediately to rectify the discrepancy.
3. All structural elements are shown in final erected position. The contractor is responsible for all sequence of construction, shoring, bracing, or temporary work associated to achieve the final structure.
4. The main level floor shall be installed prior to the backfill of any foundation wall or adequate bracing must be provided by the contractor to ensure foundation wall stability.
5. The basement slab shall be installed and cured prior to the backfill of any foundation wall or adequate bracing must be provided by the contractor to ensure foundation wall stability.
6. Expansive soils may or may not be present on-site. All concrete slabs on grade shall be separated from all building finishes to allow for slab movement. Slab movement is caused by numerous conditions, the owner/contractor should take the necessary precautions to limit slab heave. Yampa Valley Engineering shall not be held liable for damage caused by slab movement.

VANATTA ADDITION
LOT 80 THE SANCTUARY FILING 4
Steamboat Springs, Colorado

JOB NO.: 20-047
DRAWN: RC
DATE: 8-12-20

SHEET NUMBER

F-D

FOUNDATION

June 6, 1997

Snake River Construction
P.O. Box 773504
Steamboat Springs, CO 80477

Job No. 97-2943

Subject: Open Hole Inspection, Vanatta
Residence, Lot 80, Filing 4, The Sanctuary
Subdivision, Steamboat Springs, Colorado.

Gentlemen:

As requested, Northwest Colorado Consultants, Inc. visited the project site on June 5, 1997 to observe the foundation excavations for the Vanatta Residence being constructed within Lot 80, Filing 4 of The Sanctuary Subdivision in Steamboat Springs, Colorado.

At the time of our site visit, the excavation contractor had completed the foundation excavations to the final grades. The depth of the excavations ranged from approximately 3 to 5 feet in depth. The soils exposed in the excavations consisted mainly of natural sands and gravels. The sands and gravels were generally silty, fine to course grained with cobbles and boulders, non-plastic, medium dense and brown in color. The sands and gravels are similar to those encountered in the subsoil investigation conducted by our office, under this job number and dated April 14, 1997. The contractor had placed screened rock in areas where cobbles and boulders were encountered at the proposed footing grades. The depth of the screened rock was approximately 2 to 8 inches in thickness.

We believe that the natural sands and gravels and the screened rock should provide adequate bearing for spread footings designed for an allowable soil bearing pressure of 2,500 psf, as indicated in the soils report.

If you have any questions regarding this letter, our observations or recommendations or if we may be of further service, please contact this office.

Sincerely,
NORTHWEST COLORADO CONSULTANTS, INC.,

Timothy S. Travis, P.E.

Reviewed by Brian D. Len, P.E.

cc: Routt County Building Department

**RCRBD Record Set
T.A.**

09/16/2020

April 14, 1997

Joe Robbins
P.O. Box 771463
Steamboat Springs, CO 80477

Attention: Shelley Pastachak

Job Number 97-2943

Subject: Subsoil Investigation, Proposed
Vanatta Residence, Lot 80, Filing No. 4,
The Sanctuary, Steamboat Springs,
Colorado.

Ladies & Gentlemen:

This report presents the results of a subsoil investigation and geotechnical evaluation for the proposed Vanatta Residence to be constructed within Lot 80, Filing No. 4 of the The Sanctuary in Steamboat Springs, Colorado. The approximate project site location is shown on Figure #1.

The scope of our work included obtaining data from a visual inspection of the site, the excavation of two test pits, the sampling of the probable foundation soils and the laboratory testing of the samples obtained. The contents of this report present recommendations for economically feasible and safe type foundations, as well as allowable soil pressures and other design and construction considerations that are advisable, but not necessarily routine to quality design and building practices.

Proposed Construction: We understand that the owner proposes to construct a one to two story wood framed structure with an attached garage. The lower level of the structure will be constructed with a structural floor system placed near or slightly above the existing ground surface. The attached garage will be constructed utilizing a slab-on-grade floor system also located near the existing ground surface.

For design purposes, we have assumed that the building loads will be light to moderate, typical of residential construction. If loadings or conditions are significantly different from those above, we should be notified to reevaluate the recommendations in this report.

Site Conditions: The building site is situated east of South Steamboat Boulevard in Steamboat Springs, Colorado. The site was vacant and was covered with approximately 2 feet of snow at the time of this

investigation. The site appeared to be well vegetated with natural grasses, weeds and deciduous brush in a moderately dense aspen forest.

The topography of the site is fairly consistent and generally slopes gently down to the south on the order of 2 to 3 percent. It appears that a maximum elevation difference of approximately 2 feet exists across the proposed building site.

Subsurface Conditions: To investigate the subsurface conditions at the site, two test pits were advanced with a trackhoe on April 9, 1997. The approximate test pit locations are shown on Figure #2.

The subsoils encountered were fairly uniform and generally consisted of a layer of topsoil and organics overlying natural sands and gravels to the maximum depth investigated, 8 feet. Graphic logs of the exploratory test pits, along with the associated Legend and Notes, are presented in Figure #3.

The topsoil encountered in the test pits was approximately 12 to 18 inches in thickness. Cobbles and boulders were encountered in the topsoil. Natural sands and gravels were encountered below the topsoil layer and extended to depths of 8 to 6 feet, in test pits 1 and 2, respectively. The natural sands and gravels were slightly silty, fine to coarse grained with cobbles and boulders, non-plastic, medium dense to dense, moist and brown in color. Samples of the sands and gravels classified as GM and SM-GM soils in accordance with the Unified Soil Classification System. The laboratory test results are summarized in Table 1. It should be noted that boulders ranging from 1 to 3 feet in diameter were encountered in the test pits.

Groundwater seepage was not encountered in the test pits at the time of this investigation. It should be noted that groundwater conditions can be expected to fluctuate with changes in precipitation and runoff.

Foundation Recommendations: Based on the soils encountered in the test pits, the results of the field and laboratory investigations and the proposed construction, we believe an economically feasible and safe type of foundation system is spread footings or individual pads with grade beams founded on the natural sands and gravels or on properly compacted structural backfill. Foundation movement should be within tolerable limits if the following design and construction precautions are observed.

- 1) The footings placed on the natural sands and gravels or properly compacted structural backfill should be designed for an allowable soil bearing pressure of 2,500 psf.
- 2) All footings or pad sizes should be computed based on the above soil pressures and placed on the natural undisturbed soils found below the topsoil or on properly compacted structural backfill. Spread footings placed on granular soils should have a minimum footing width of 16 inches.
- 3) Any topsoil or loose natural soils encountered within the foundation excavations, should be removed prior to concrete or structural fill placement. If fills are required to bring the footing excavations back to the desired footing grade, the fill placed beneath the footings should be a

non expansive granular soil approved by the soil engineer. Fill should be placed in 6 to 8 inch lifts and uniformly compacted to at least 95% of the maximum modified Proctor density near optimum moisture content in accordance with ASTM D1557. The existing sands and gravels will be suitable for use as fill materials beneath the footings after the cobbles and boulders are removed.

- 4) All foundation walls should be designed and reinforced to span an unsupported distance of 10 feet or the length between pads, whichever is greater.
- 5) All footings or pads should be placed well enough below final backfill grades to protect them from frost heave. Forty eight (48) inches is typical for this location considering normal snow cover and other winter factors.
- 6) Based on experience, we estimate total settlement for footings and pads designed and constructed as discussed in this section will be approximately 1 inch. Additional bearing capacity values along with the associated settlements are presented in Figure #4.
- 7) We suggest a soils engineer be called to the site when the foundation excavations are near completion to identify the bearing soils and confirm the recommendations in this report. In addition, any fill placed beneath the foundation system should be tested for compaction.

Floor Slabs: The natural soils, exclusive of topsoil, are suitable to support lightly to moderately loaded slab-on-grade construction. Floor slabs should be provided with control joints placed a maximum of 12 feet on center in each direction to help control shrinkage cracking. The location of the joints should be carefully checked to assure that the natural, unavoidable cracking will be controlled.

We recommend that a 6-inch layer of free draining washed rock fill be placed beneath all floor slabs. If fills are required to bring the underslab areas to grade, the materials placed beneath the floor slabs should be a non expansive granular soil approved by the soil engineer. Fill should be placed in 6 to 8 inch lifts and uniformly compacted to at least 95% of the maximum standard Proctor density, within 2% of the optimum moisture content, in accordance with ASTM D-698. The existing sands and gravels will be suitable for use as fill materials beneath the floor slabs after the cobbles and boulders are removed. We recommend that all of the topsoil and organics be removed from underneath the floor slabs prior to concrete or fill placement.

Underdrain System: If any floor level is placed beneath the finished ground surface, that level should be protected by an underdrain system to help reduce the problems associated with surface drainage during high runoff periods. Localized perched water or runoff can infiltrate the foundation at the footing levels. This water can be one of the primary causes of differential foundation and slab movement.

The drain should be located around the entire perimeter of the foundation level and should be placed between the top and bottom of the footings. We recommend the use of perforated PVC pipe for the drain tile, which meets ASTM D-2729 requirements, to minimize the potential for crushing the pipe during

backfill operations. The holes in the drain tile should be oriented down between 4 o'clock and 8 o'clock to promote rapid runoff of the water. The drain tile should be surrounded with at least 6 inches of free draining gravel and should be protected from contamination by a filter covering of Mirafi 140N subsurface drainage fabric or an equivalent product. The drain should have a minimum slope of 1/8 inch per foot and should be daylighted at a positive outfall protected from freezing, or be led to a sump from which the water can be pumped. Caution should be taken when backfilling so as not to damage or disturb the installed underdrain. We recommend the drainage system include at least one cleanout, be protected against intrusion by animals at the outfall and be tested prior to backfilling. A typical perimeter/underdrain detail is shown in Figure #5.

Foundation and Retaining Walls: Foundation walls and retaining structures which are laterally supported and can be expected to undergo only a moderate amount of deflection may be designed for a lateral earth pressure computed on the basis of an equivalent fluid unit weight of 45 pcf for the on-site granular backfill.

Cantilevered retaining structures on the site can be expected to deflect sufficiently to mobilize the full active earth pressure condition. Therefore, cantilevered structures may be designed for a lateral earth pressure computed on the basis of an equivalent fluid unit weight of 35 pcf for the on-site granular backfill.

All foundation and retaining structures should be designed for appropriate hydrostatic and surcharge pressures such as adjacent buildings, traffic and construction materials. An upward sloping backfill also increases the earth pressures on foundation walls and retaining structures.

The lateral resistance of retaining wall foundations placed on undisturbed natural soils at the site will be a combination of the sliding resistance of the footing on the foundation materials and the passive pressure against the side of the footing. Sliding friction can be taken as 0.4 times the vertical dead load. Passive pressure against the sides of the footing can be calculated using an equivalent fluid pressure of 250 pcf.

We recommend granular soils for backfilling foundation walls and retaining structures because their use results in lower lateral earth pressures. Granular material should be placed to within 2 feet of the ground surface. The upper 2 feet of fill should be a relatively impervious soil or pavement structure to prevent surface water infiltration into the backfill.

Backfill should be carefully placed in uniform lifts and compacted to between 90 and 95 percent of the maximum standard Proctor density, near the optimum moisture content. Care should be taken not to overcompact the backfill since this could cause excessive lateral pressure on the walls. Some settlement of deep foundation wall backfill materials will occur even if the material is placed correctly.

Compacted fill placed against the sides of the footings to resist lateral loads should be a non expansive material approved by the soil engineer. Fill should be compacted to at least 95% of the maximum standard Proctor density, near the optimum moisture content.

Surface Drainage: Proper surface drainage at this site is of paramount importance for minimizing the infiltration of surface drainage into the wall backfill and bearing soils which could result in increased wall pressures, differential foundation and slab movement. The following drainage precautions should be observed during construction and at all times after the building has been completed:

- 1) The ground surface surrounding the building should be sloped (minimum of 1.0 inch per foot) to drain away from the building in all directions to a minimum of 10 feet. Ponding must be avoided. If necessary, raising the top of foundation walls to achieve a better surface grade is advisable.
- 2) Non structural backfill around the building should be compacted to at least 90% of the maximum standard Proctor density at or near the optimum moisture content in order to minimize future settlement of the fill. The backfill should be placed immediately after the braced foundation walls are able to structurally support the fill. Puddling or sluicing must be avoided.
- 3) The top 2 feet of soil within 10 feet of the foundation should be impervious in nature to minimize infiltration of surface water into the wall backfill.
- 4) Roof downspouts and drains should discharge well beyond the limits of all backfill. Roof overhangs which project two to three feet beyond the foundation should be considered if gutters are not used.
- 5) Landscaping which requires excessive watering and lawn sprinkler heads, should be located a minimum of 10 feet from the foundation walls of the building.
- 6) Plastic membranes should not be used to cover the ground surface adjacent to foundation walls.

Limitations: The recommendations given in this report are based on the soils exposed at this site and the behavior of structures at neighboring, similar sites. We believe that this information gives a high degree of reliability for anticipating the behavior of the proposed structure; however, our recommendations are professional opinions and cannot control nature, nor can they assure the soils profiles beneath those or adjacent to those observed; therefore, no warranties of the accuracy of these recommendations beyond the limits of the obtained data is herein expressed or implied.

This report is based on the investigation at the described site and on the specific anticipated construction as stated herein. If either of these conditions are changed, the results would also most likely change. Man-made or natural changes in the conditions of a property can also occur over a period of time. In addition, changes in requirements due to state of the art knowledge and/or legislation, do from time to time occur. As a result, the findings of this report may become invalid due to these changes. Therefore, this report is subject to review and not considered valid after a period of 3 years or if conditions as stated above are altered.

It is the responsibility of the owner or his representative to insure that the information in this report is incorporated into the plans and/or specifications and construction of the project. It is advisable that a contractor familiar with construction details typically used to dealing with the local subsoils and climatic conditions be retained to build the structure. If you have any questions regarding this report or if we may be of further service, please do not hesitate to contact us.

Sincerely,

NORTHWEST COLORADO CONSULTANTS, INC.

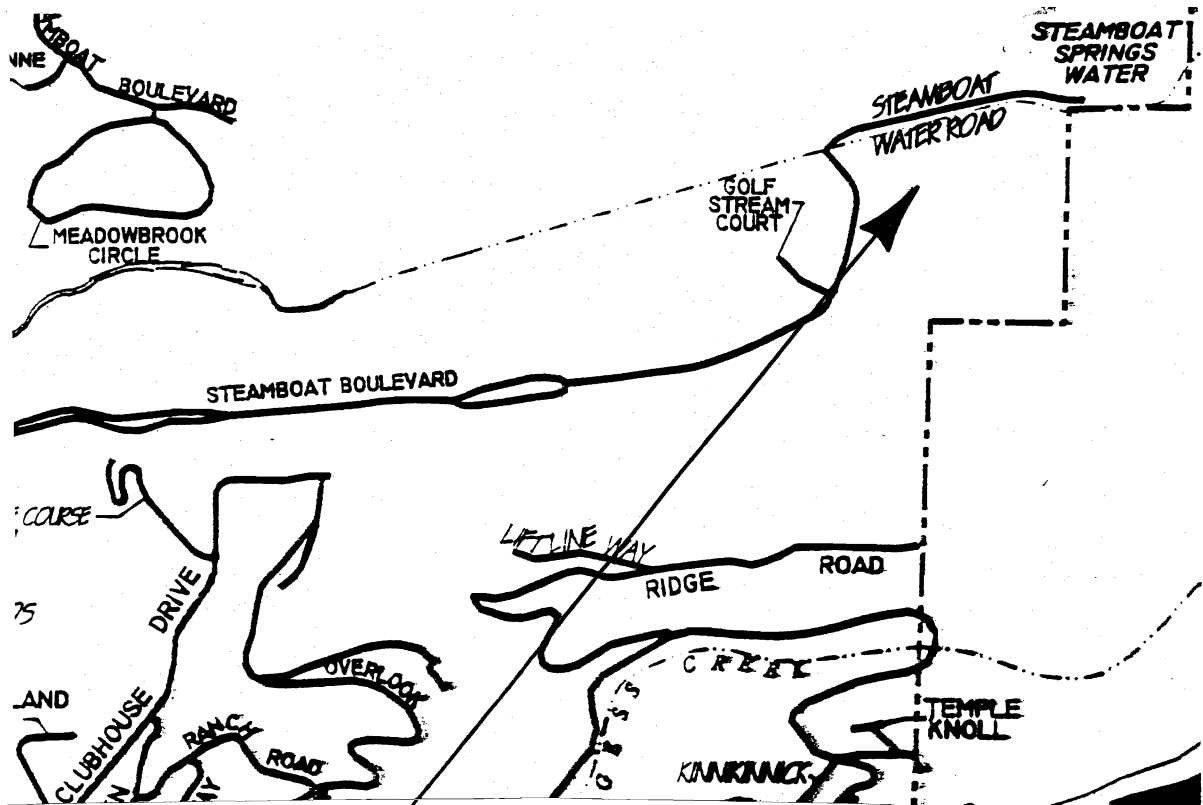
Timothy S. Travis, P.E.

Reviewed by Harold N. Schlicht, P.E.

NORTHWEST COLORADO CONSULTANTS
STEAMBOAT SPRINGS COLORADO



(No Scale)



Project Site

VICINITY MAP

Job Name: Proposed Vanatta Residence	Job No. 97-2943
Location: Lot 80, Fil.4, The Sanctuary, Steamboat Springs, CO	Figure #1

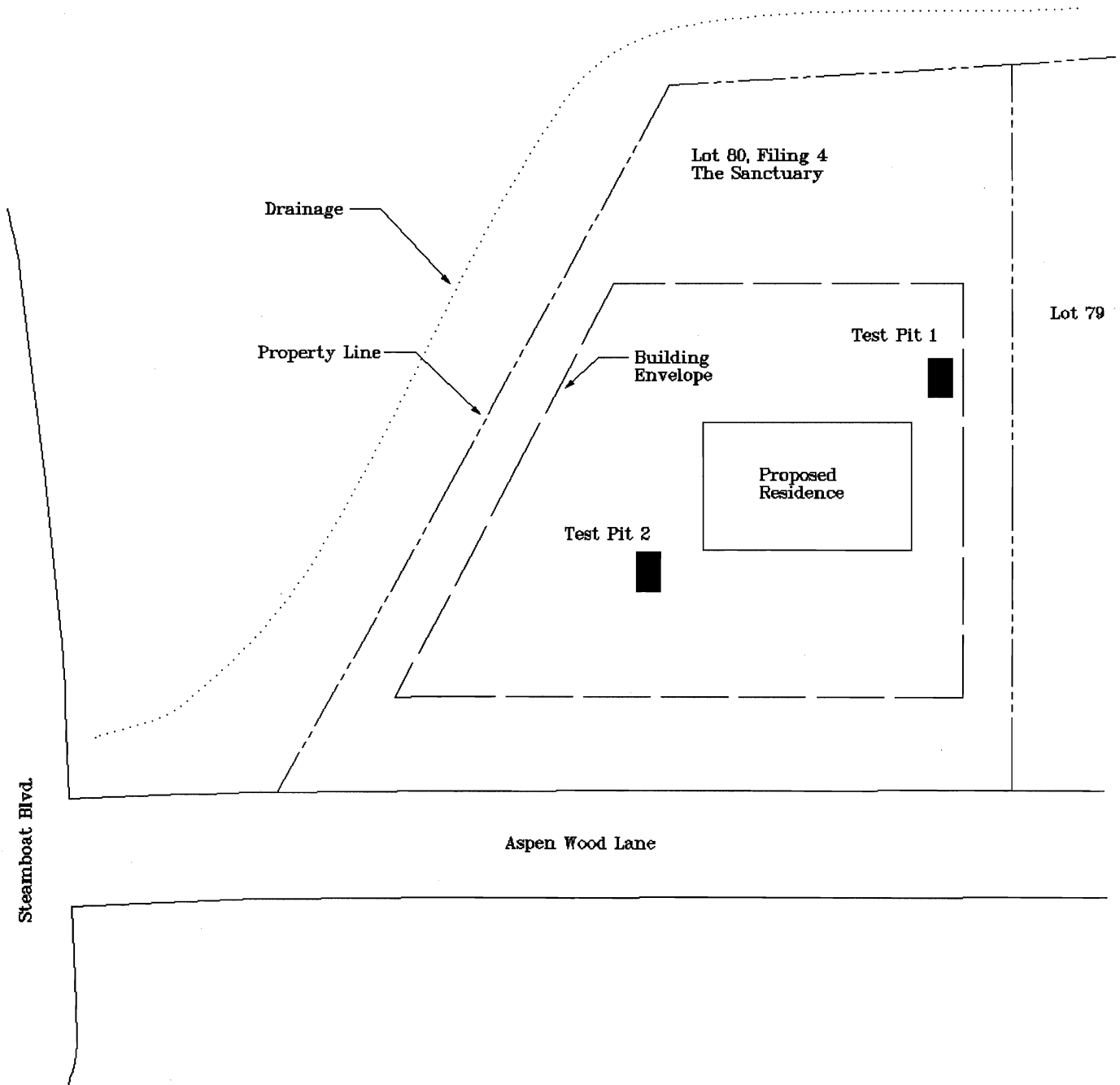
NORTHWEST COLORADO CONSULTANTS

STEAMBOAT SPRINGS

COLORADO



(Not to Scale)



SITE PLAN / LOCATION OF TEST PITS

Job Name: Proposed Vanatta Residence

Job No. 97-2943

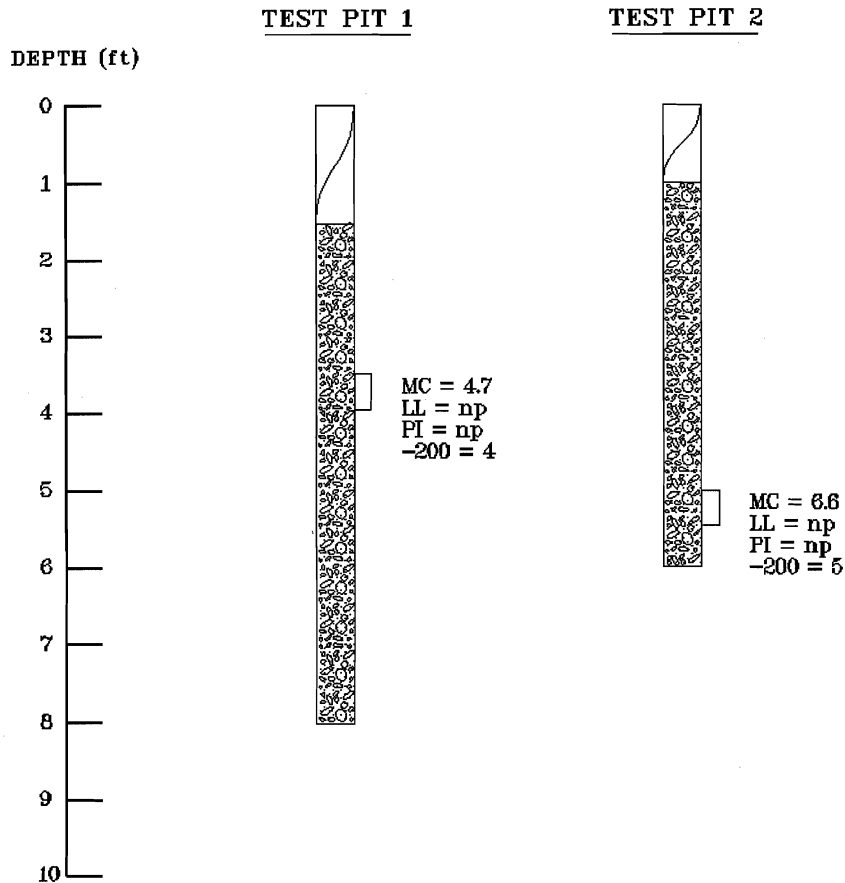
Location: Lot 80, Fil. 4, The Sanctuary, Steamboat Springs, CO

Figure #2


NORTHWEST COLORADO CONSULTANTS


STEAMBOAT SPRINGS

COLORADO



LEGEND:

 TOPSOIL & ORGANICS: With cobbles and boulders.

 SANDS & GRAVELS: Slightly silty, fine to coarse grained with cobbles and boulders, non-plastic, medium dense to dense, moist and brown.

 Small disturbed bulk sample.

NOTES:

- 1) MC = Natural Moisture Content (%)
DD = Natural Dry Density (pcf)
LL = Liquid Limit (%)
PI = Plasticity Index (%)
-200 = Percent Passing the #200 US Standard Sieve
- 2) Test pits were excavated on 4/9/97 with a Komatsu PC200 trackhoe.
- 3) Locations of the test pits were determined in the field by pacing from topographic features at the site.
- 4) Elevations of the test pits were not measured and the logs are drawn to the depth investigated.
- 5) The lines between materials shown on the test pit logs represent the approximate boundaries between material types and transitions may be gradual.

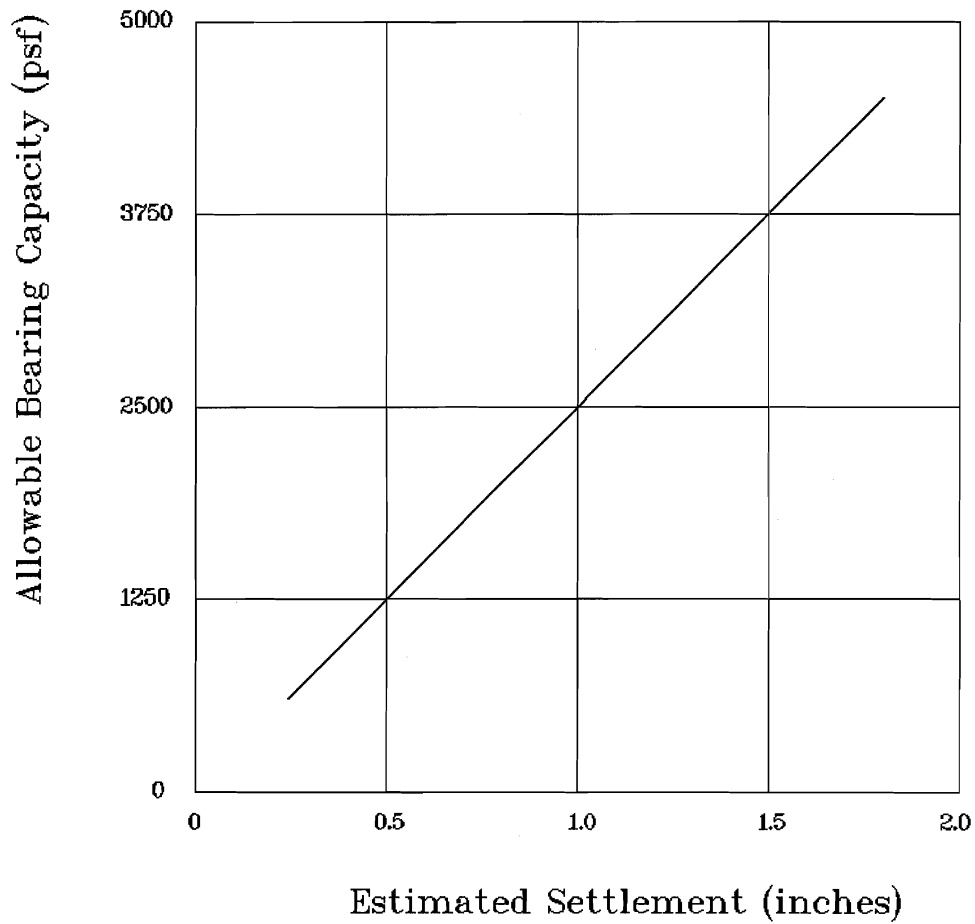
LOGS, LEGEND, & NOTES

Job Name: Proposed Vanatta Residence

Job No. 97-2943

Location: Lot 80, Fil. 4, The Sanctuary, Steamboat Springs, CO

Figure #3



Note: These values are based on footing widths of 1 to 4 feet. If the footing width is to be greater than 4 feet in width, then we should be notified to re-evaluate these recommendations.

BEARING CAPACITY CHART

Job Name: Proposed Vanatta Residence

Job No. 97-2943

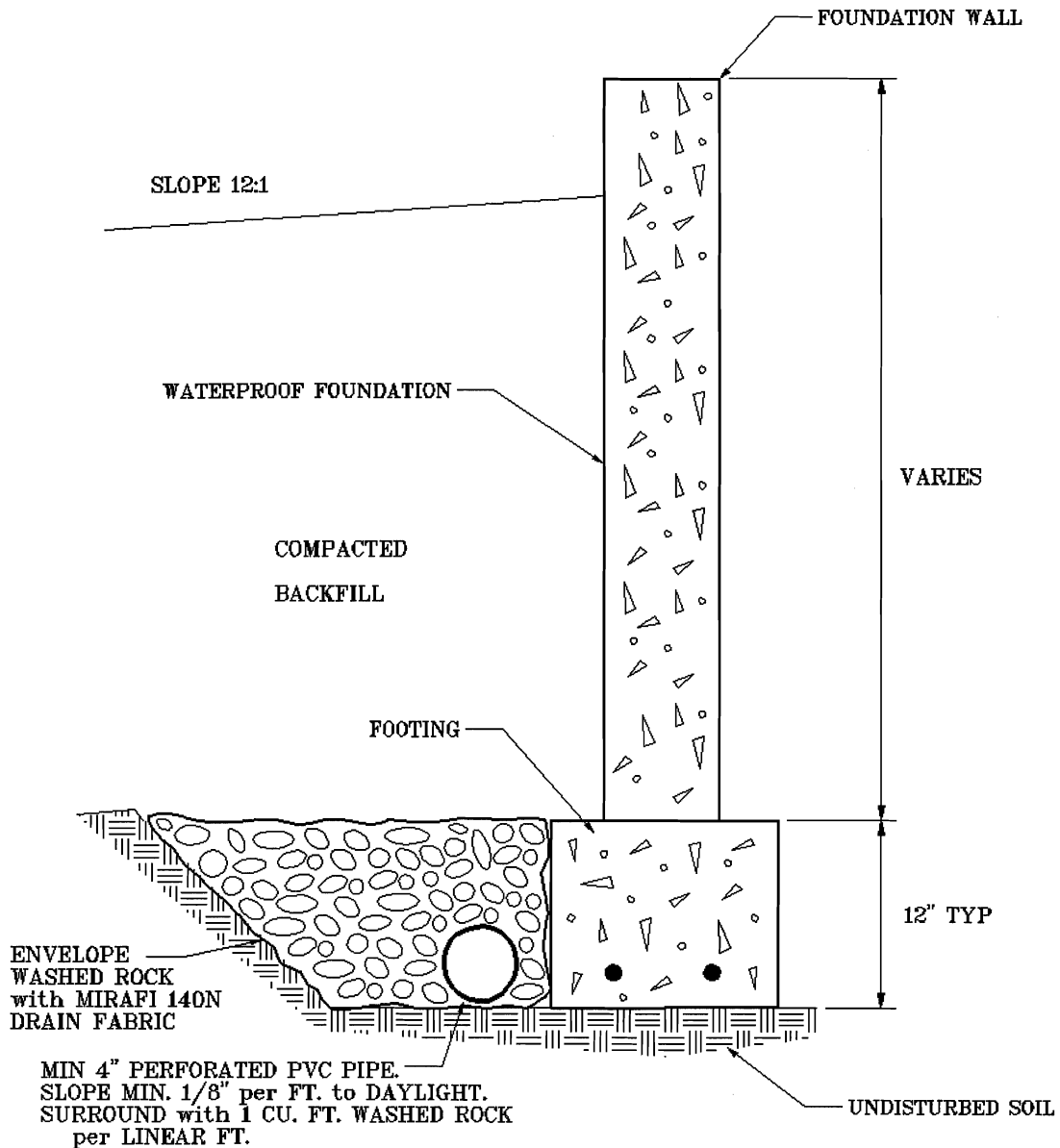
Location: Lot 80, Fil. 4, The Sanctuary, Steamboat Springs, CO

Figure #4

NORTHWEST COLORADO CONSULTANTS

STEAMBOAT SPRINGS

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PERIMETER/UNDERDRAIN DETAIL

Job Name: Proposed Vanatta Residence

Job No. 97-2943

Location: Lot 80, Fil. 4, The Sanctuary, Steamboat Springs, CO

Figure #5

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TABLE 1

SUMMARY OF LABORATORY TEST RESULTS

SAMPLE LOCATION		NATURAL MOISTURE CONTENT (%)	NATURAL DRY DENSITY (pcf)	ATTERBERG LIMITS		GRADATION		PERCENT PASSING No. 200 SIEVE	UNCONFINED COMPRESSIVE STRENGTH (psf)	SOIL or BEDROCK DESCRIPTION	UNIFIED SOIL CLASS.
TEST HOLE	DEPTH (feet)			LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)				
1	3 1/2	4.7		np	np	67	29	4		Sands and Gravels	GM
2	5	6.6		np	np	49	46	5		Sands and Gravels	SM-GM