Jerry and Naomi Hancock Home

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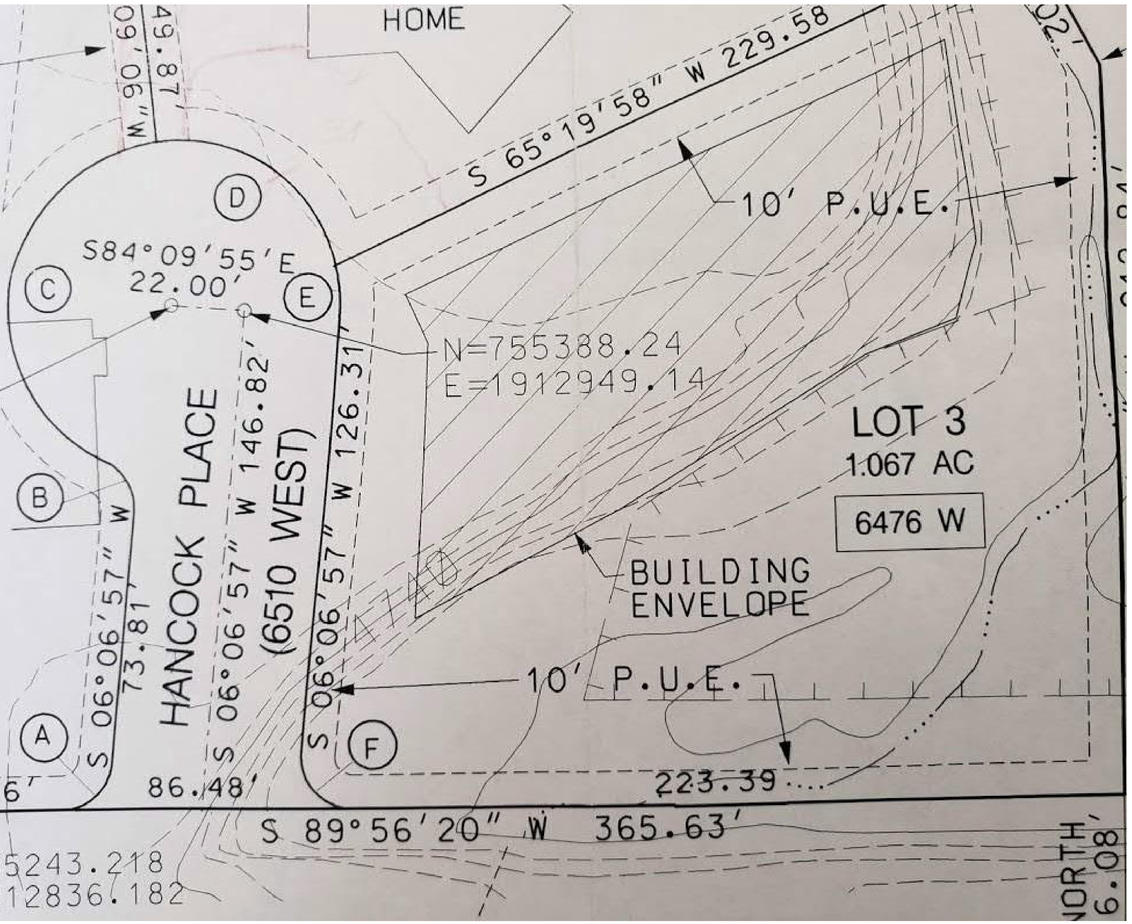
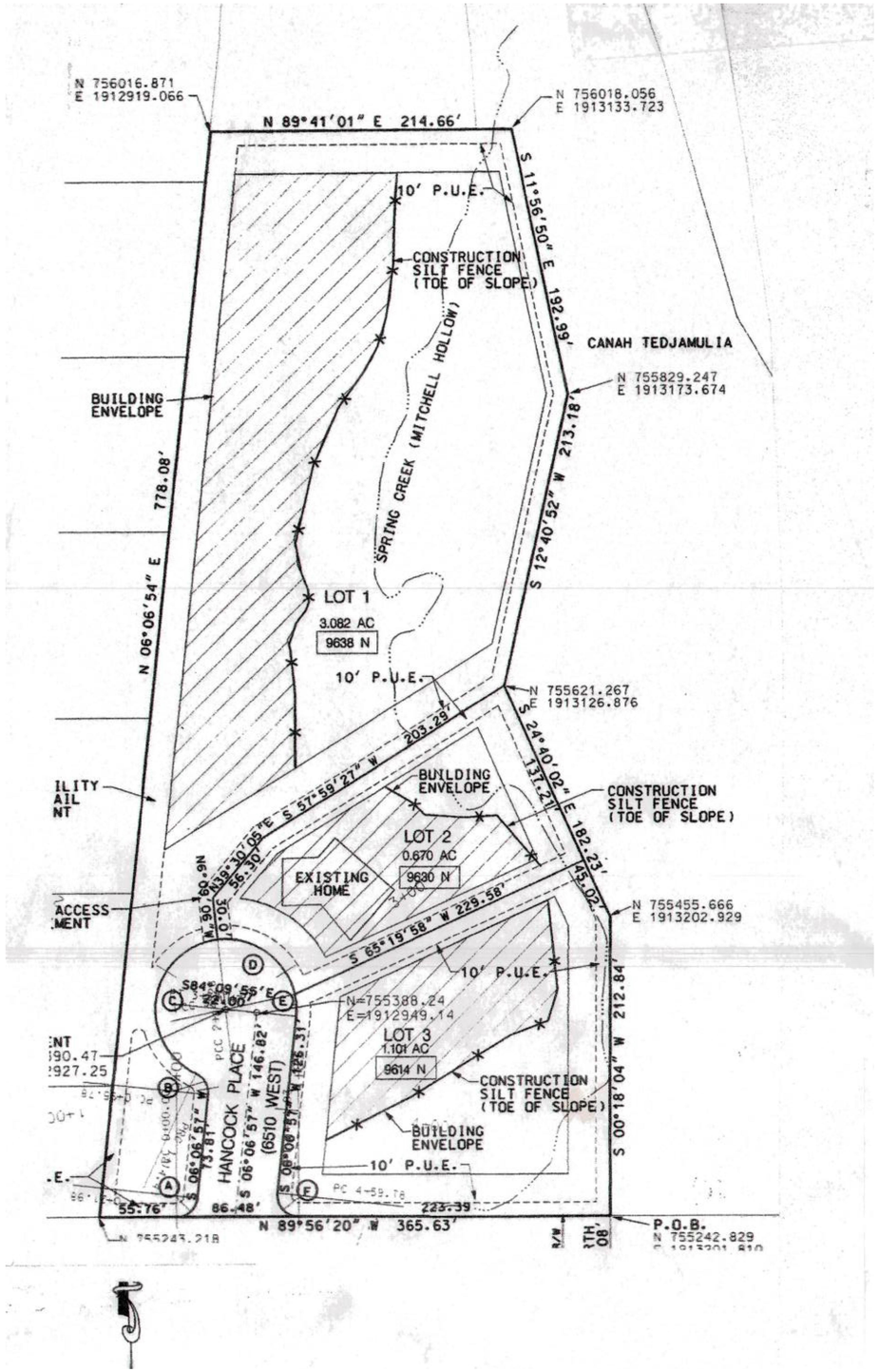
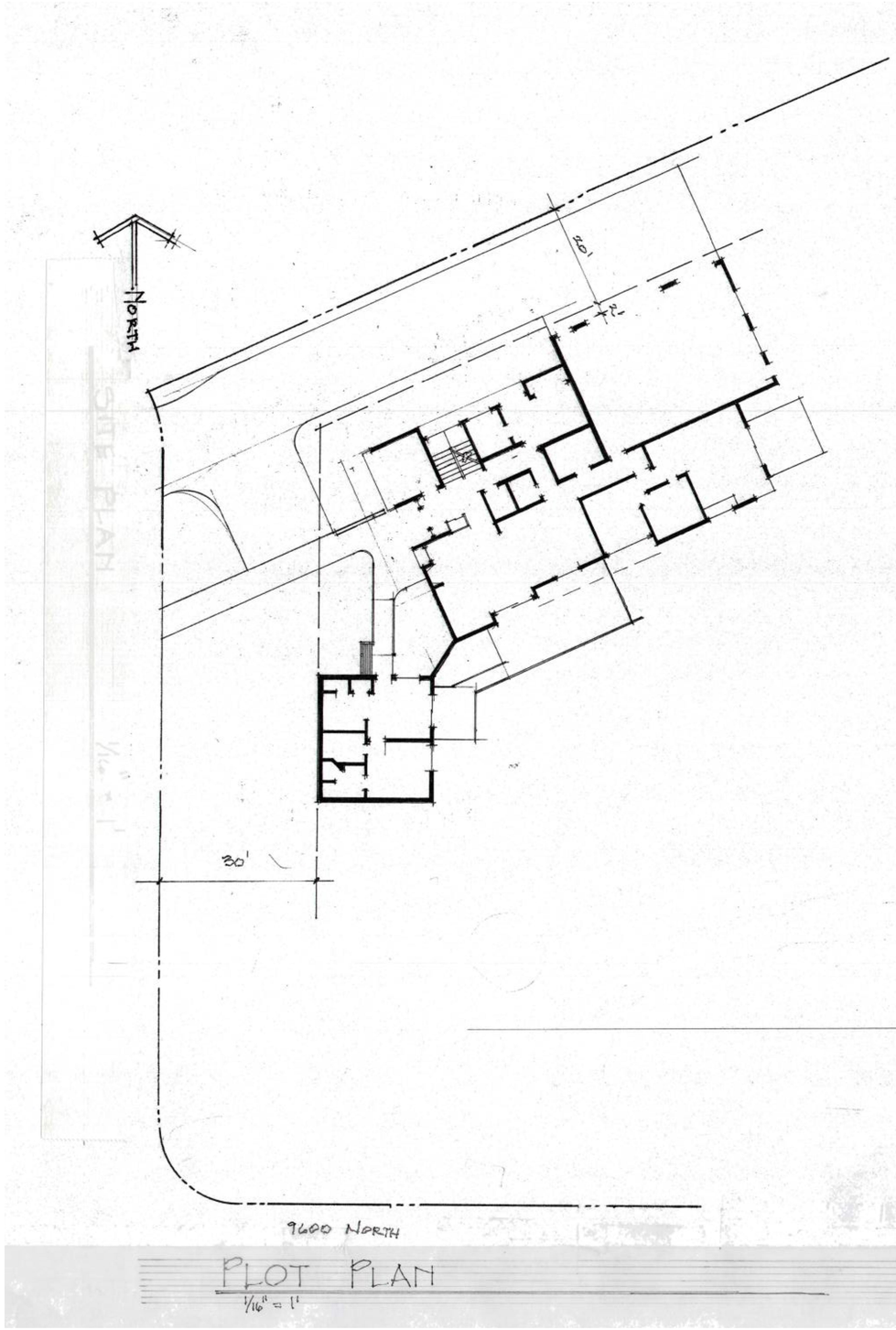
Plot Plan and notes

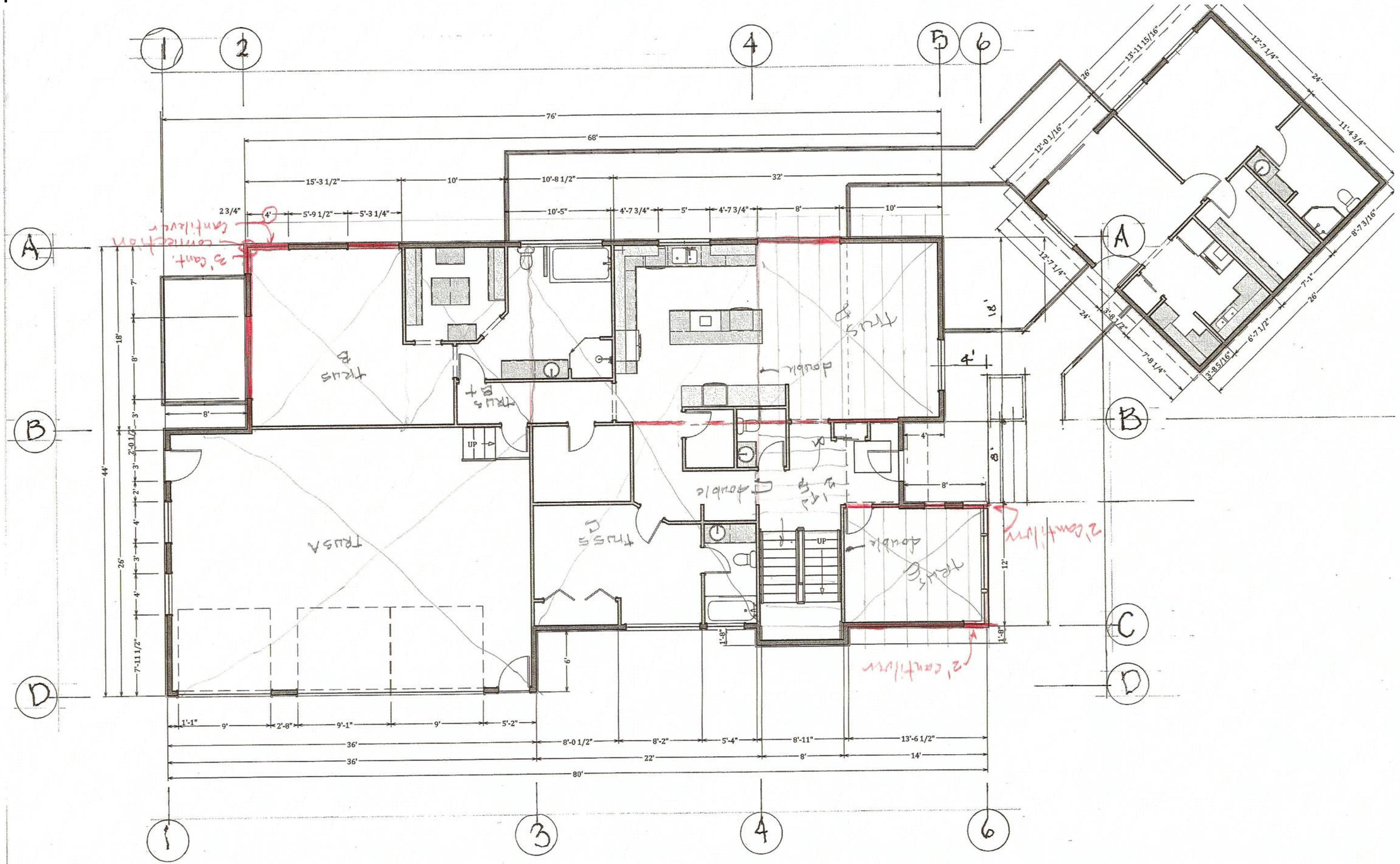


Plot Plan and notes

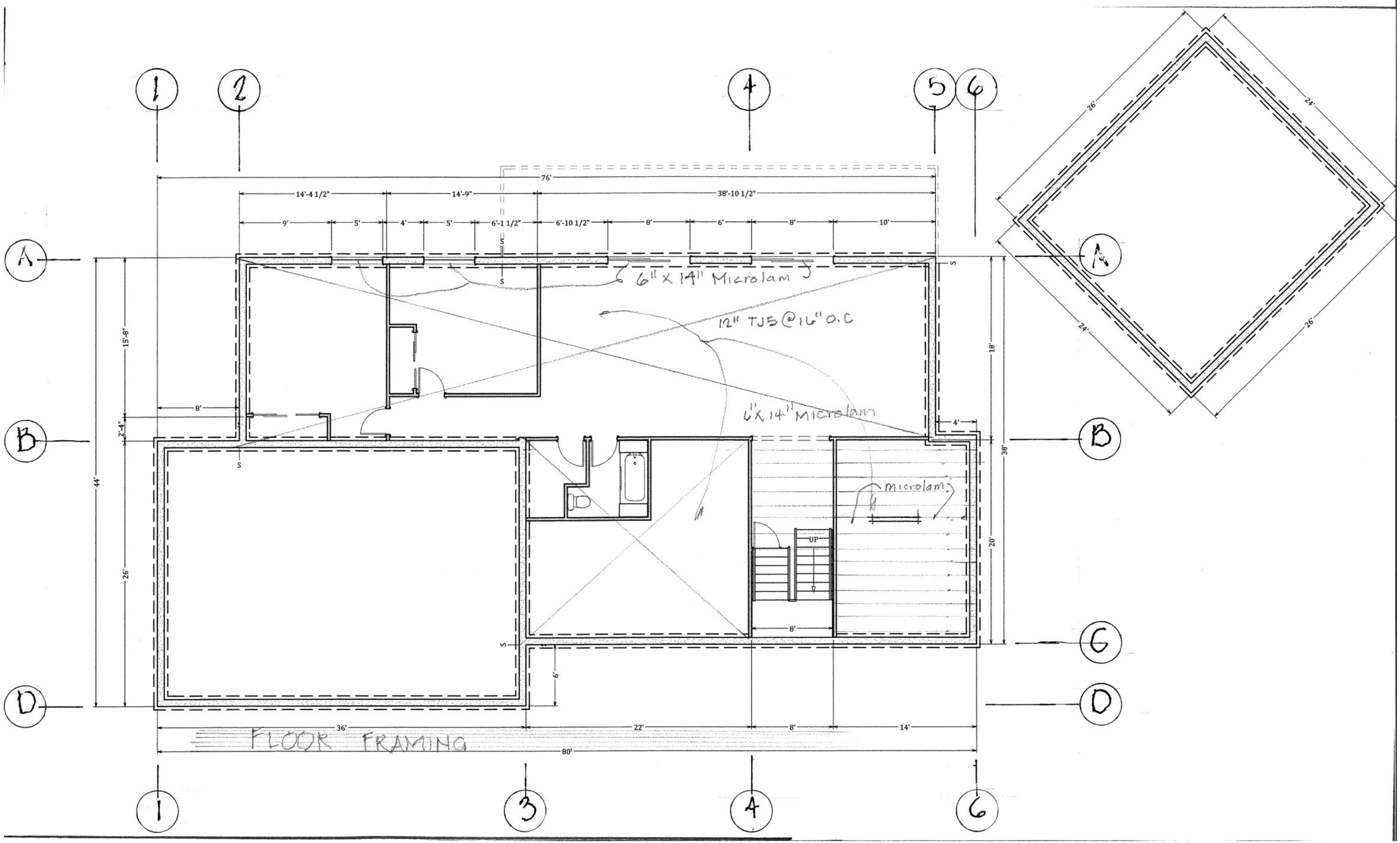




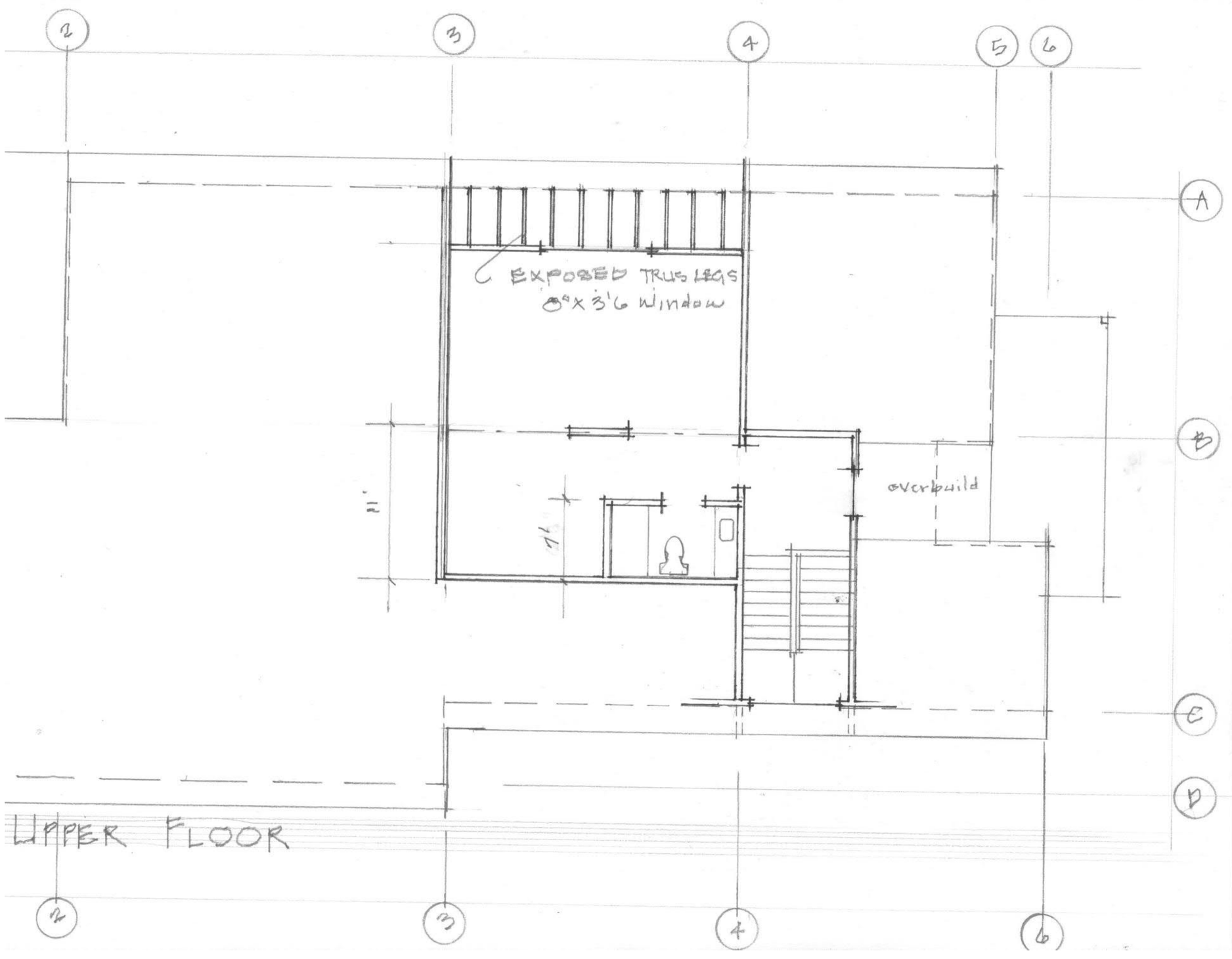
Main Floor Plan

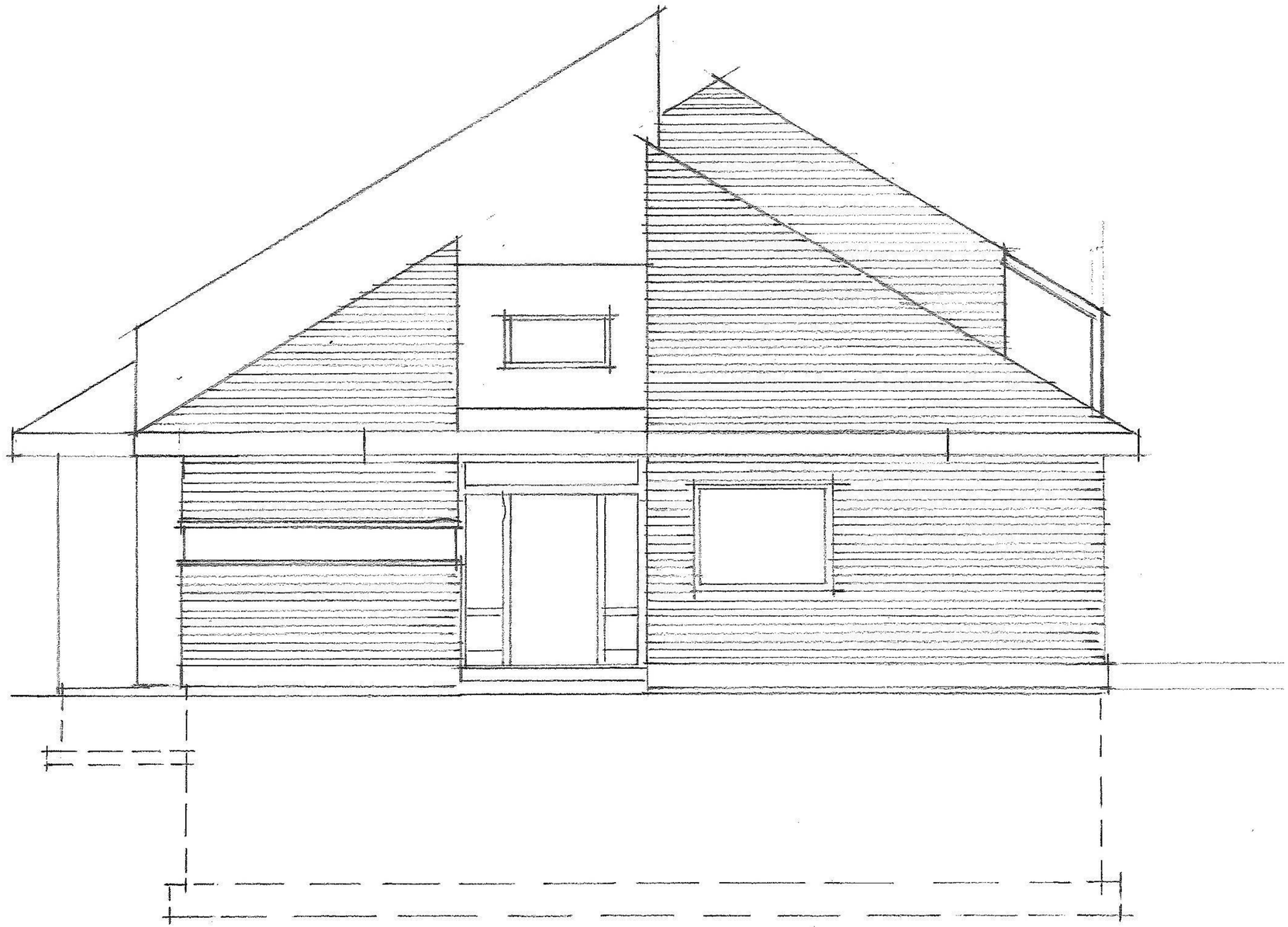


Basement Floor Plan



Second Story Layout

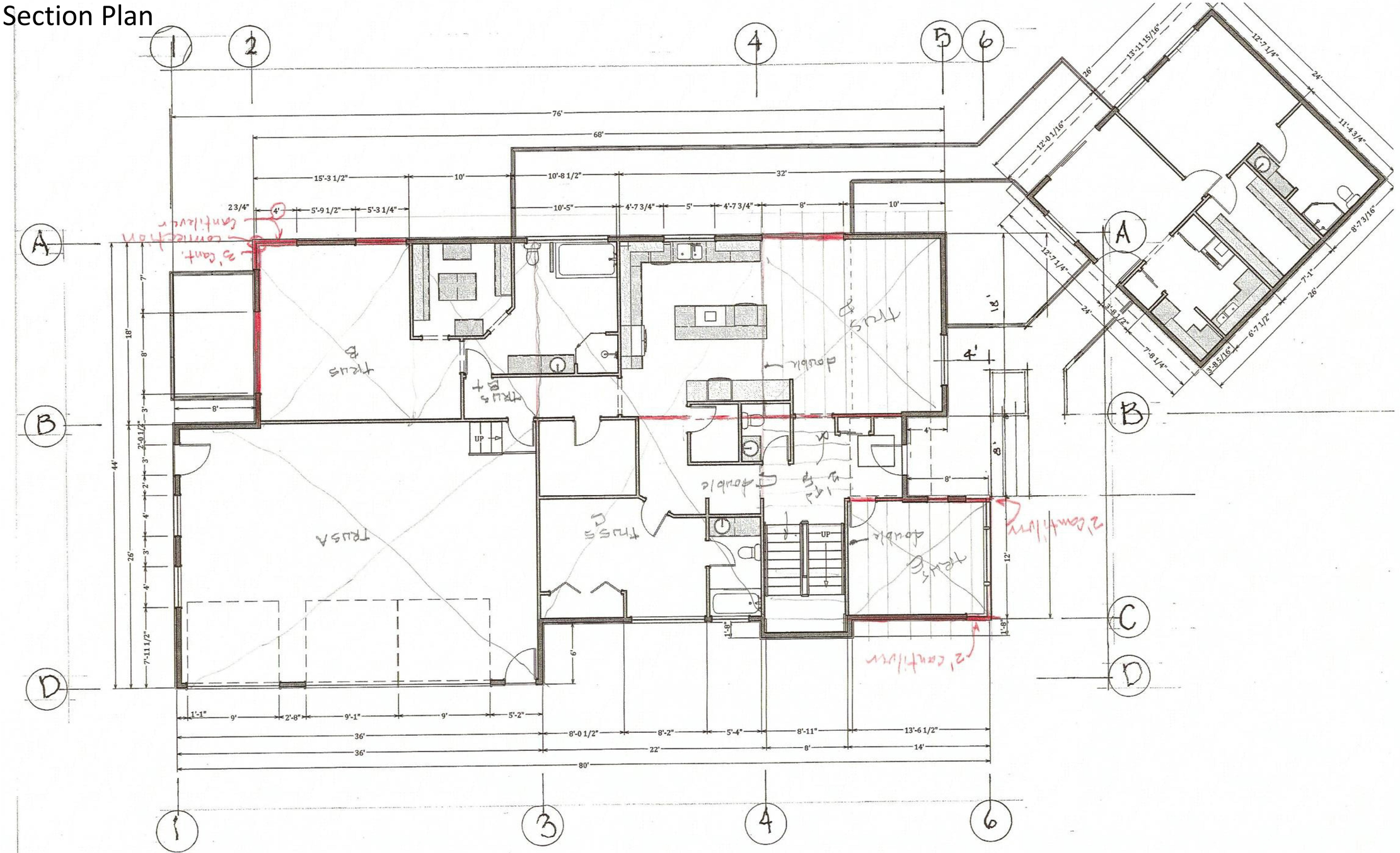




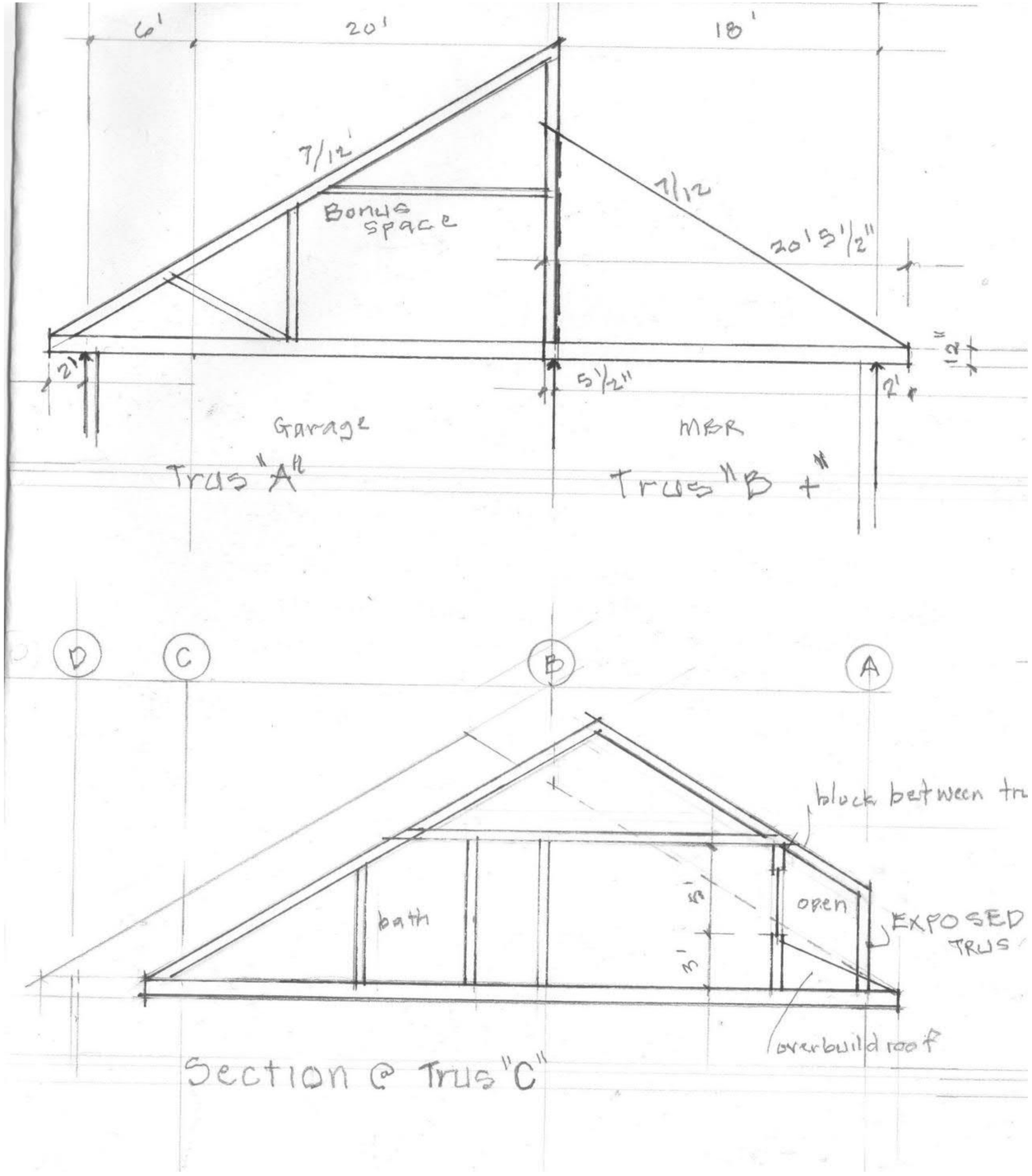
WEST ELEV.

SOUTH ELEVATION

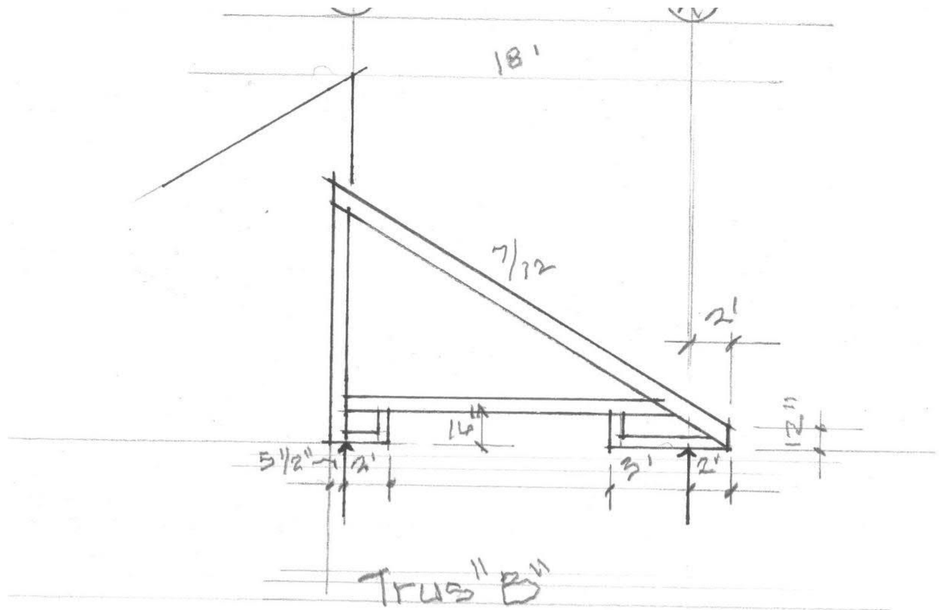
Roof Section Plan

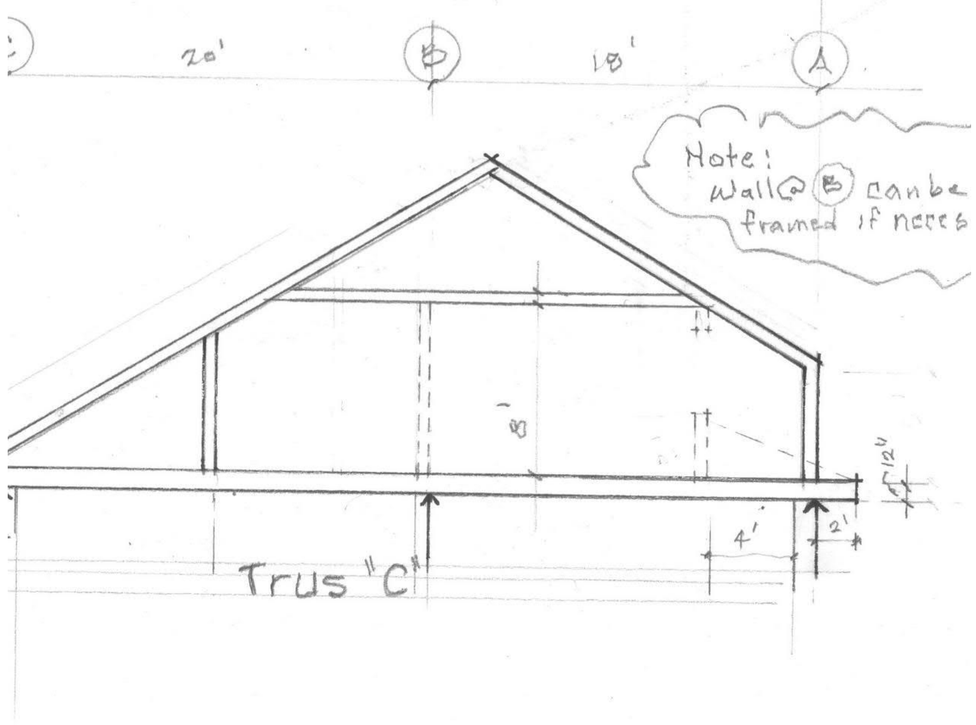


Trus A, B and C

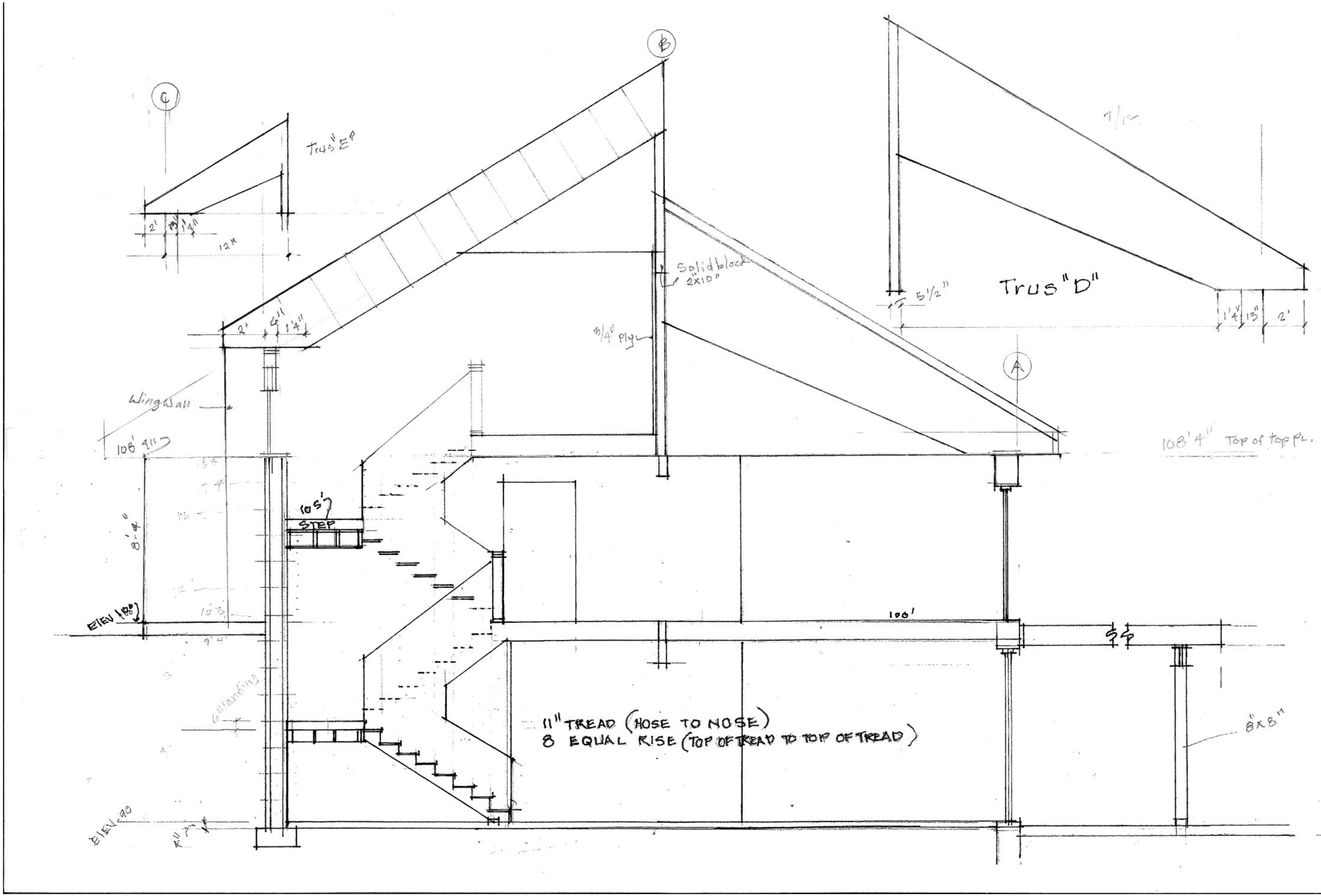

6'
20'
18'
7/12
Bonus space
7/12
20'5 1/2"
2'
5 1/2"
2'
Garage
MBR
Trus "A"
Trus "B"
D
C
B
A
block between tru
bath
open
EXPOSED TRUS
overbuild roof
Section @ Trus "C"

Trus B and C

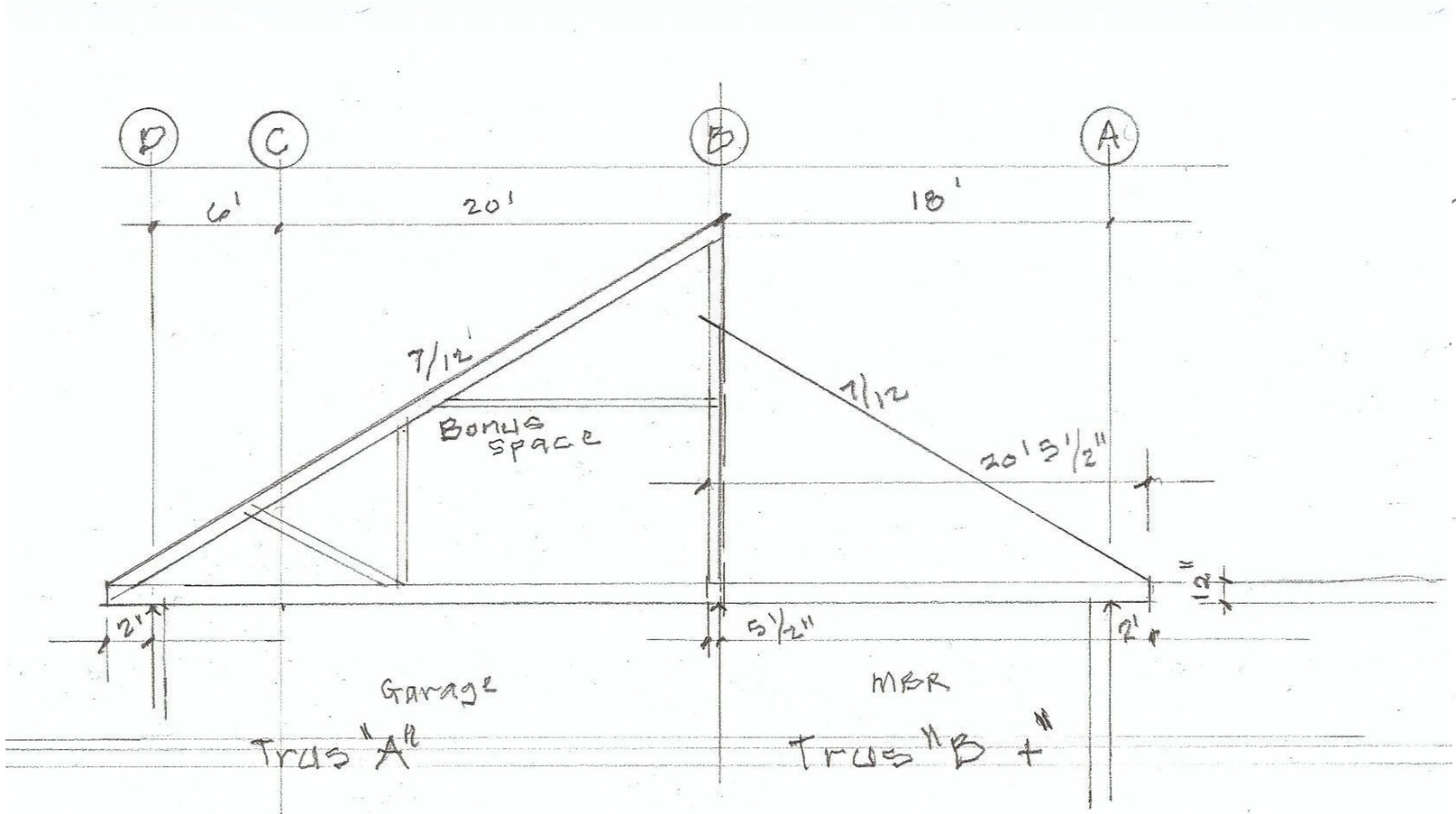

18'
7/12
2'
14"
5 1/2"
2'
3'
2'
Truss "B"

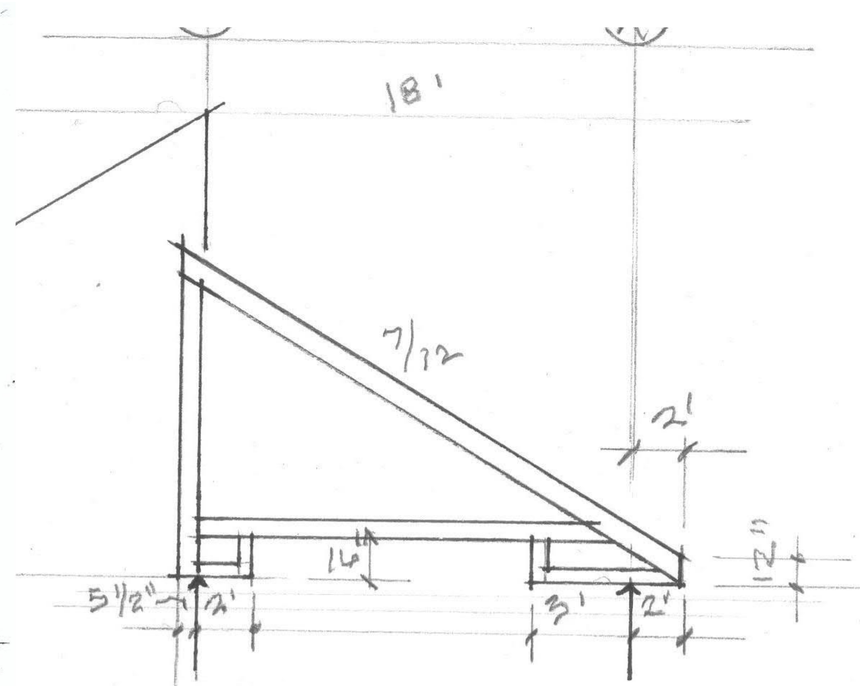

20'
B
18'
A
Note:
Wall @ B can be
framed if neces
B
4'
2'
Truss "C"

Stair Section
Trus D and E

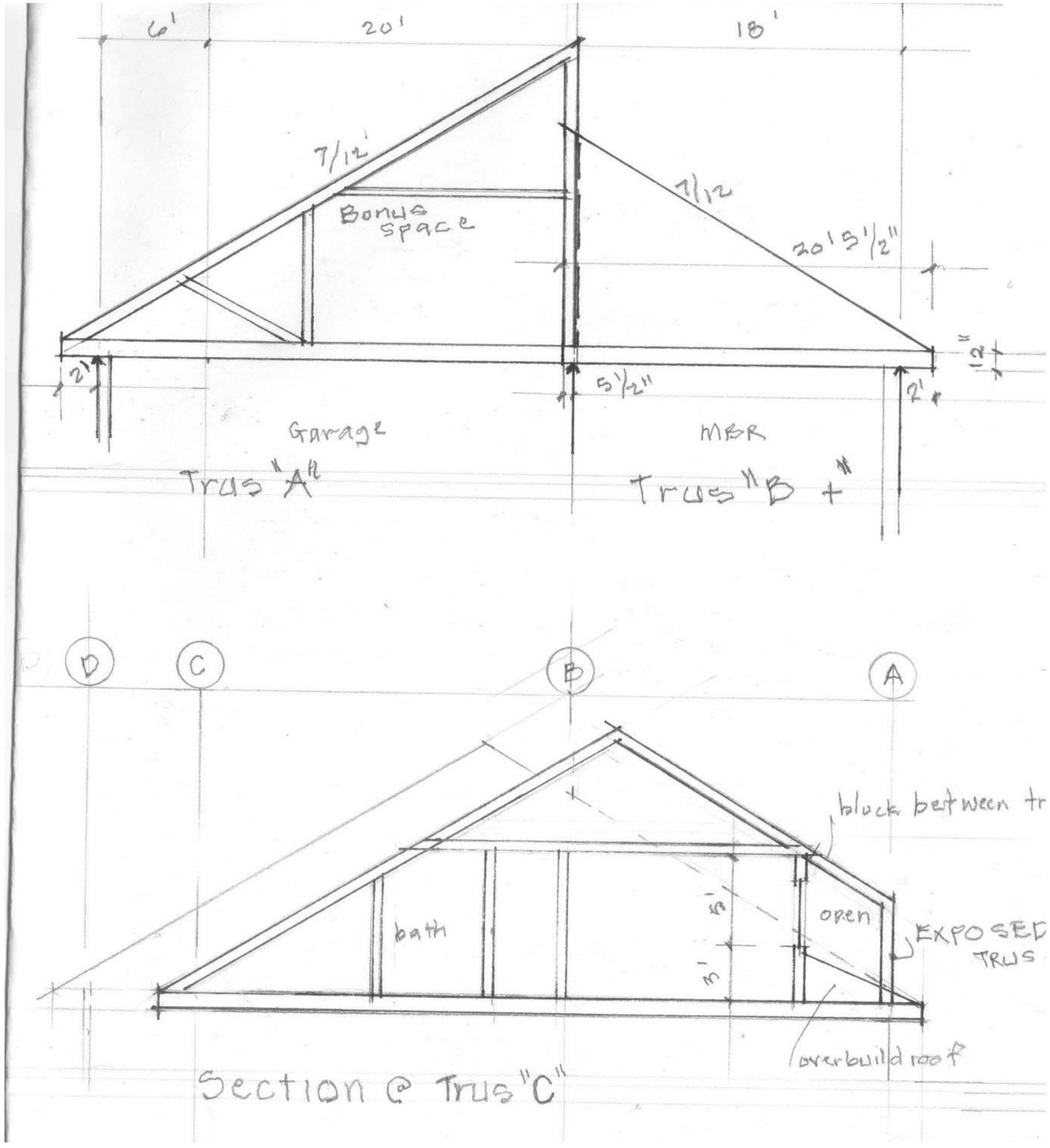


Trus A and B

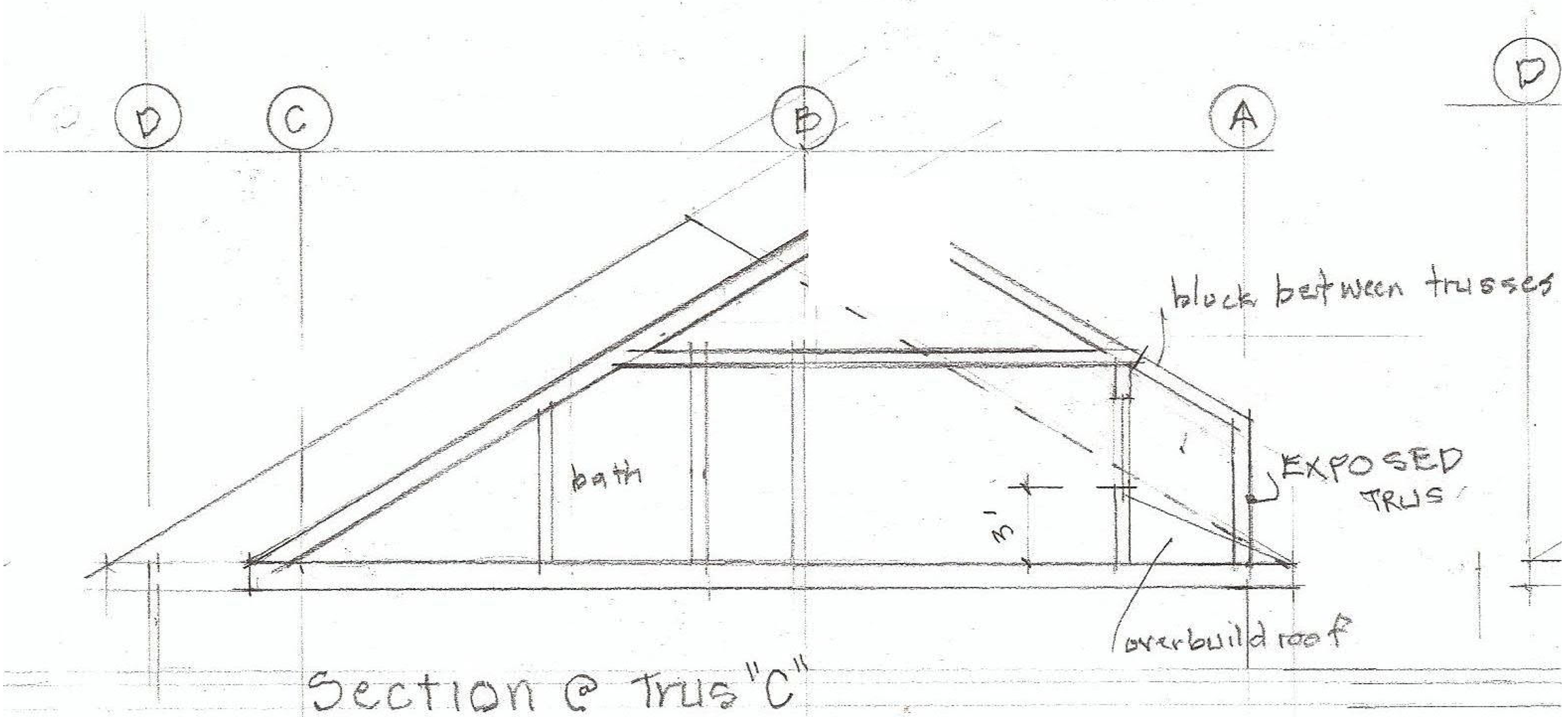

D
C
B
A
6'
20'
18'
7/12
Bonus space
7/12
20'5 1/2"
12"
2'
5 1/2"
2'
Garage
MBR
Trus "A"
Trus "B + "


18'
7/12
2'
5 1/2"
2'
16'
3'
2'
12"
Trus "B"

Trus A and B

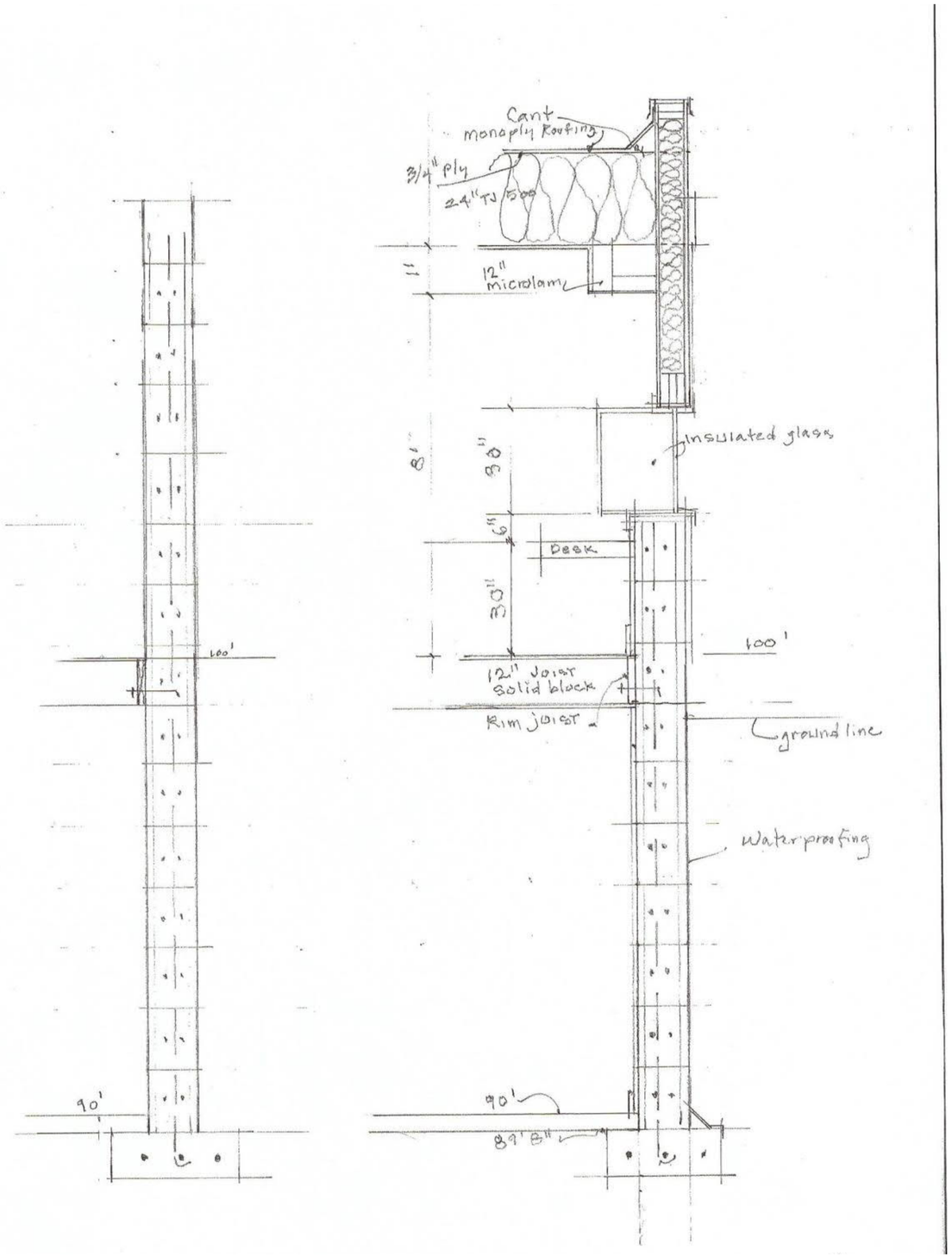

6'
20'
18'
7/12
Bonus space
7/12
20'5 1/2"
2'
5 1/2"
2'
Garage
MBR
Trus "A"
Trus "B + "
D
C
B
A
block between tr
bath
open
EXPOSED TRUS
overbuild roof
Section @ Trus "C"

Trus C

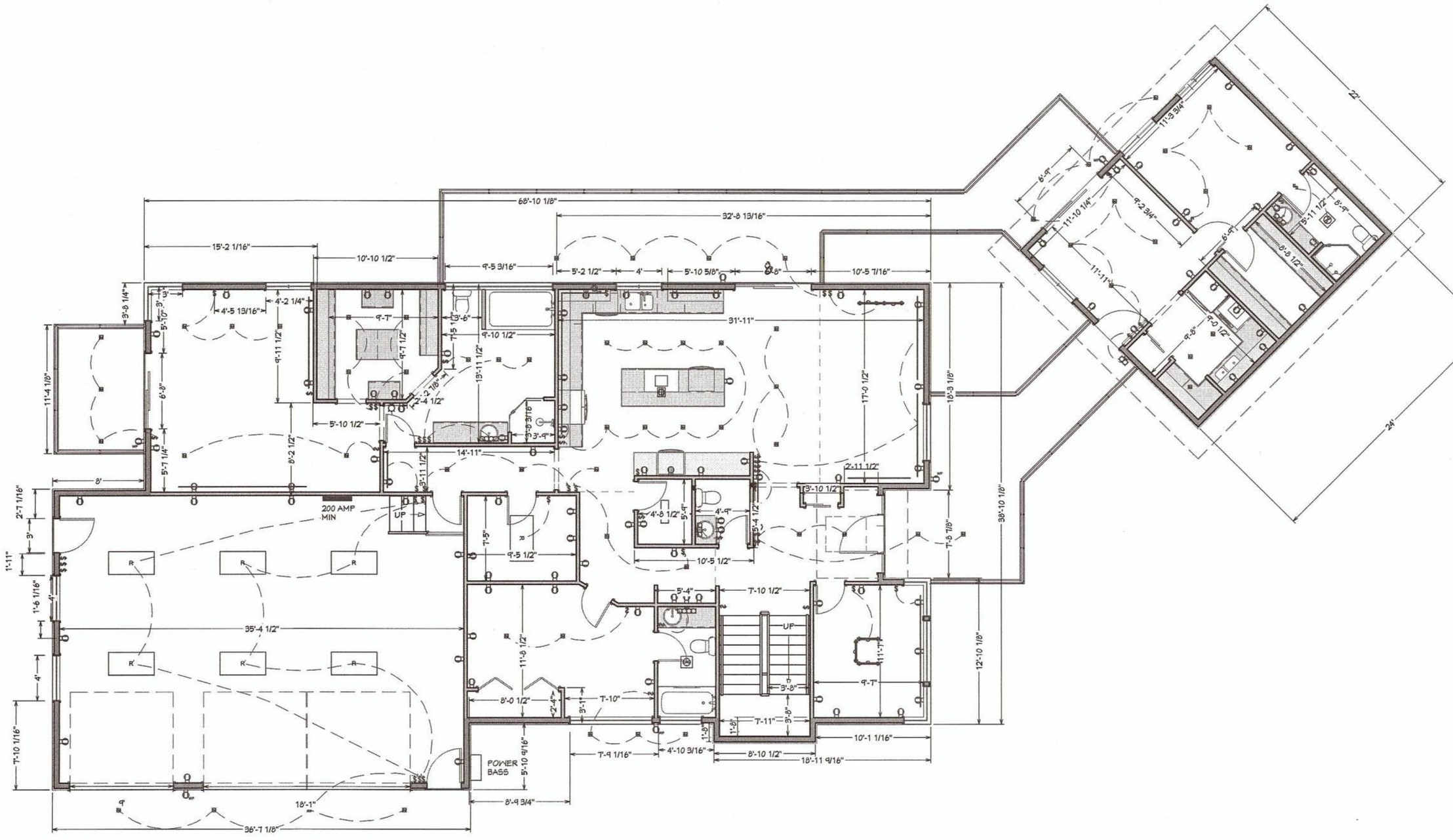


Section @ Trus "C"

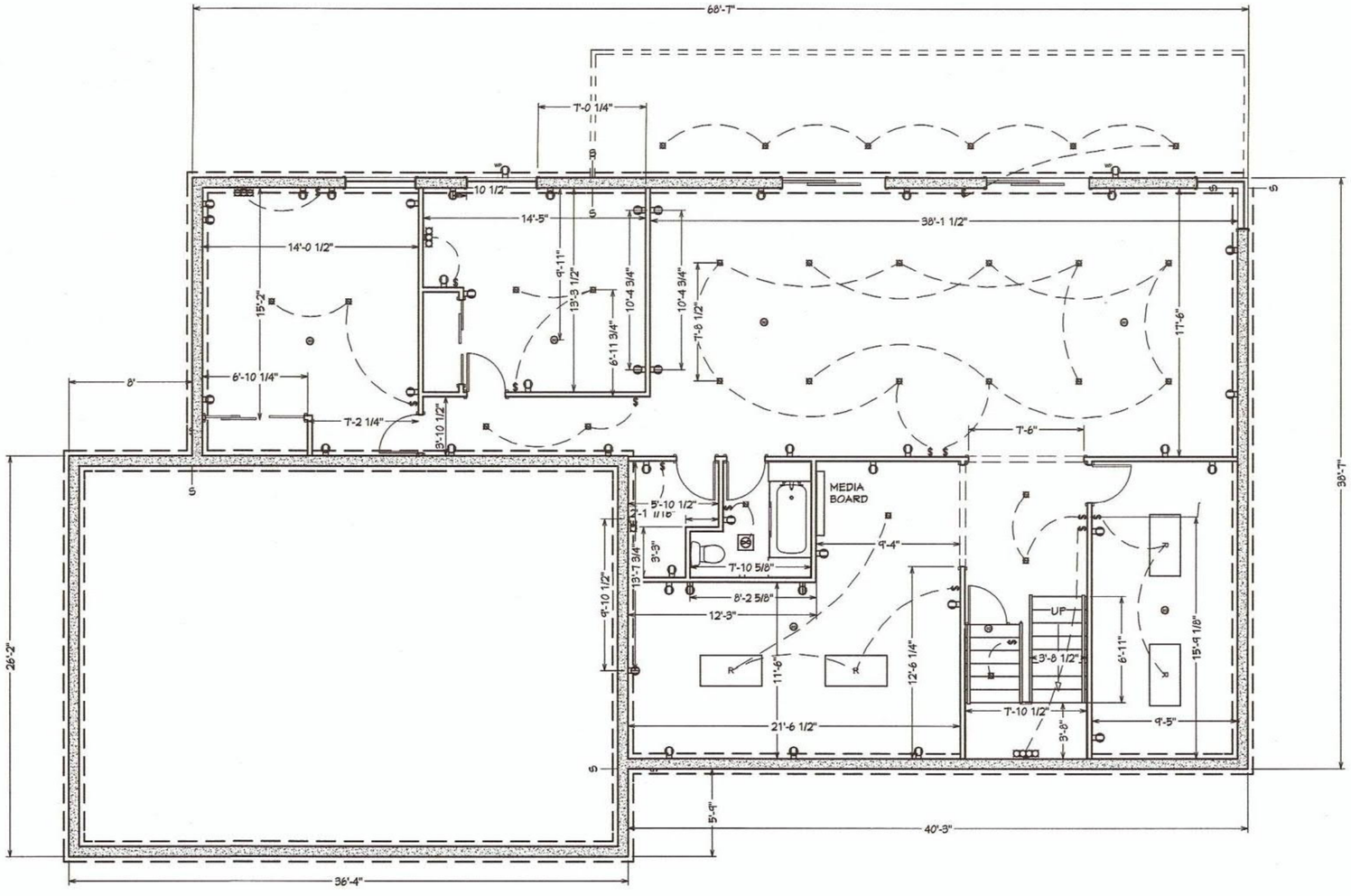
Wall Section

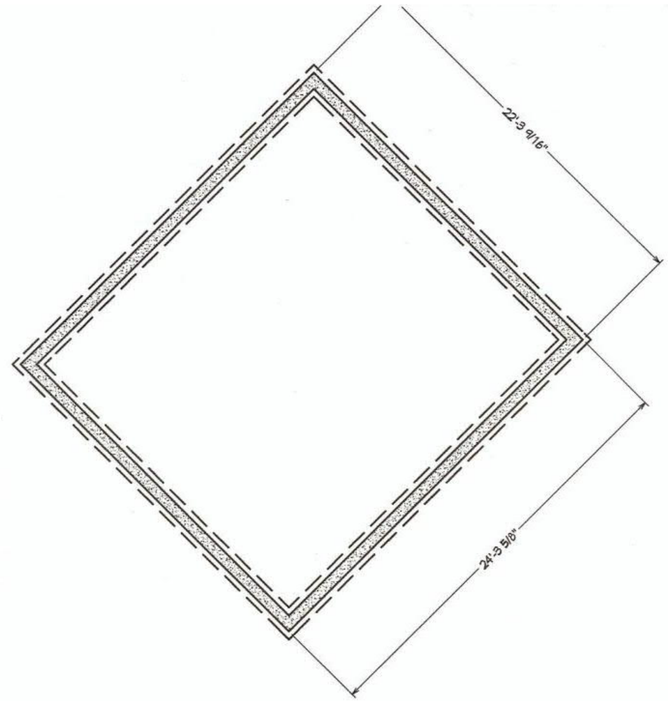


Electrical Main Floor



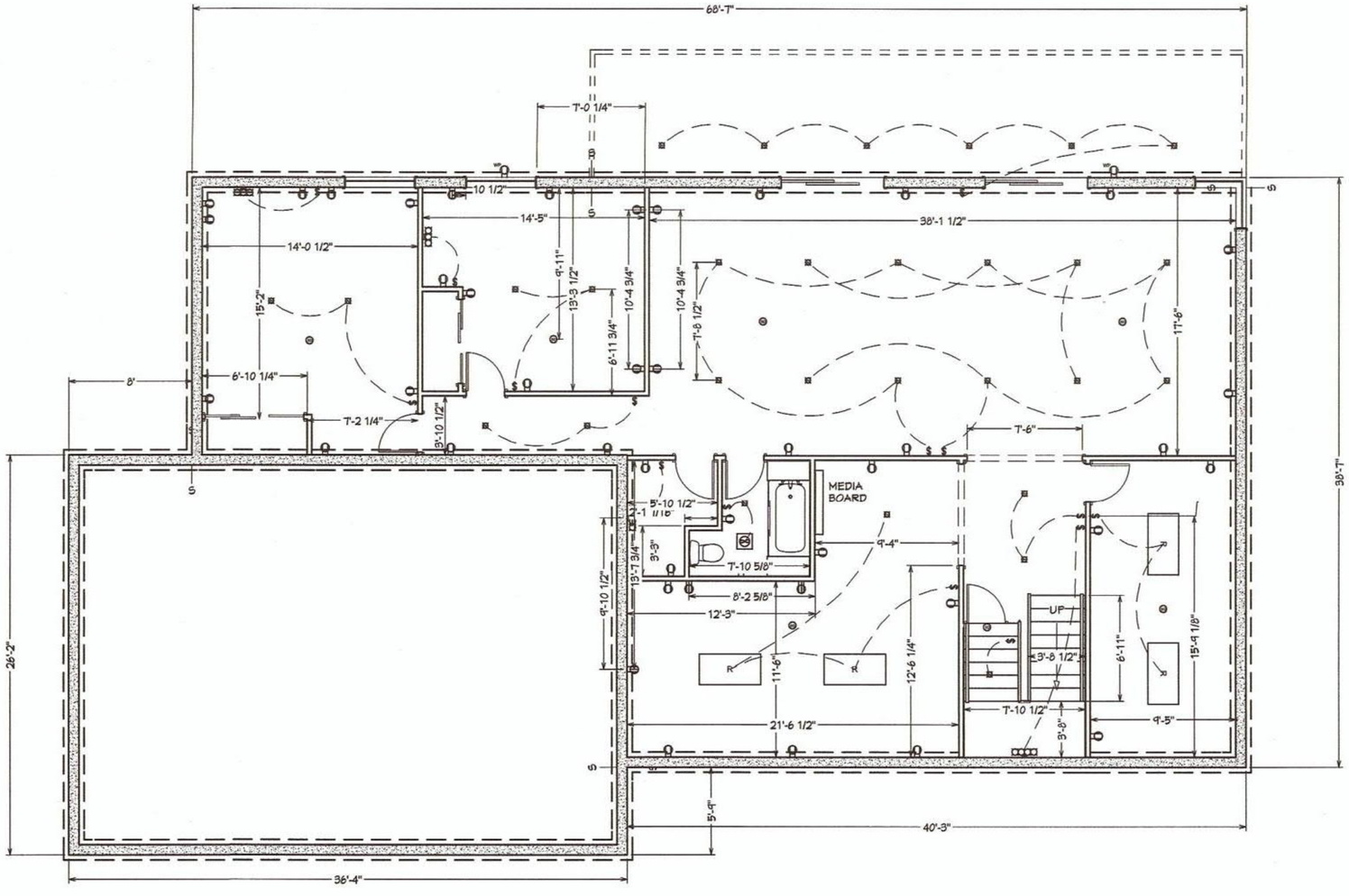
Basement
Electrical

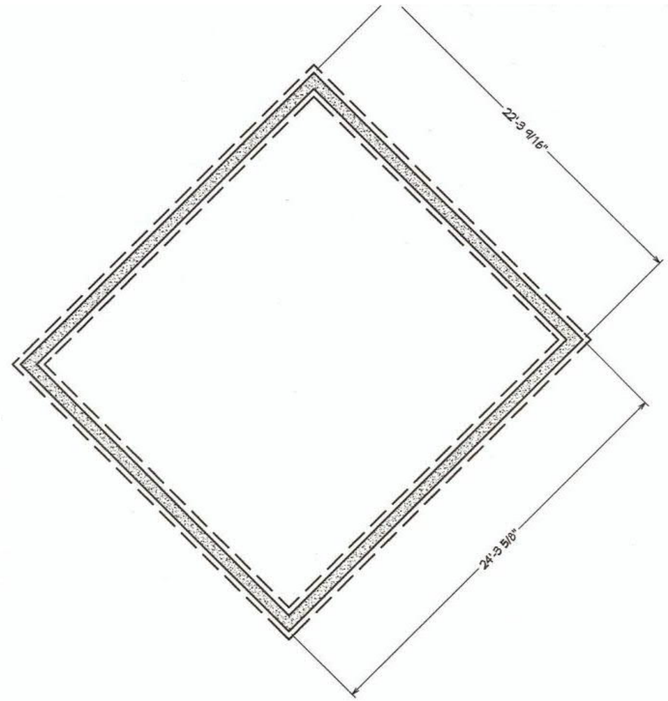




Foundation

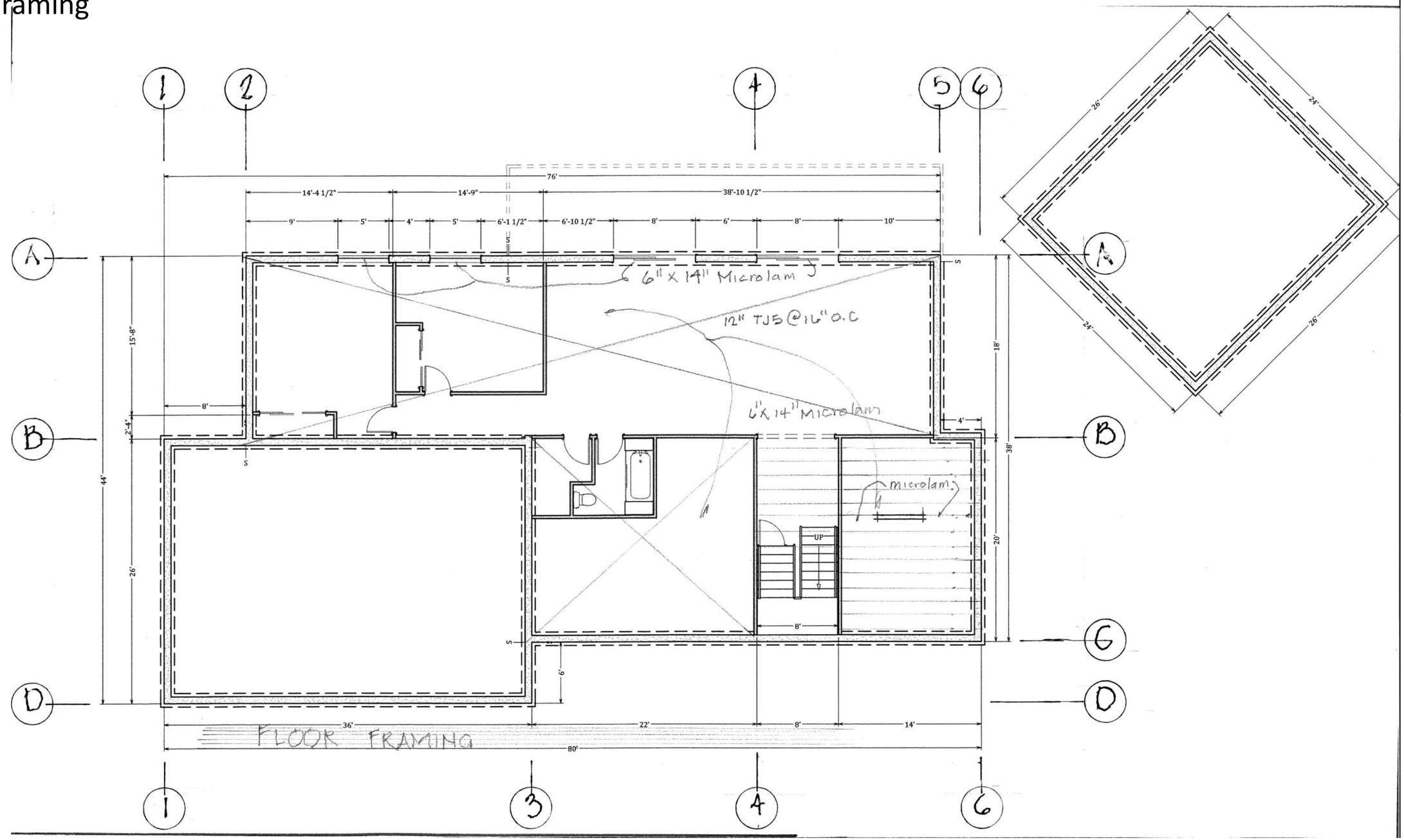
Footing and Foundation



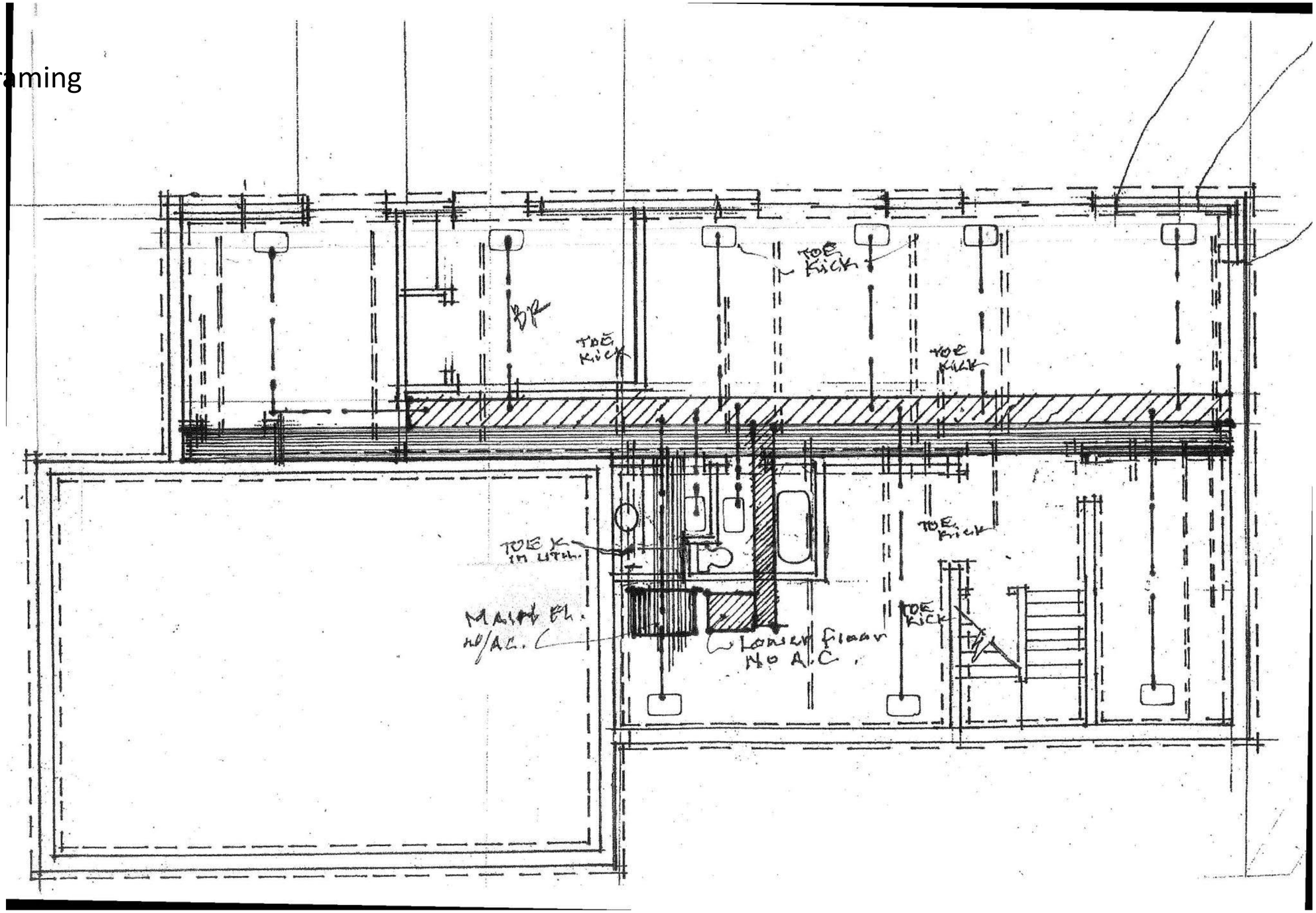


Foundation

Floor Framing



Floor Framing



Architectural Notes

1. CEILING HEIGHTS. HABITABLE ROOMS, HALLWAYS, CORRIDORS, LAUNDRY ROOMS AND BASEMENTS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7' MEASURED FROM FINISHED FLOOR TO FINISHED CEILING. BATHROOMS CAN BE 6'–8" MINIMUM. NOT MORE THAN 50% OF THE REQUIRED FLOOR AREA IS PERMITTED TO HAVE A SLOPED CEILING LESS THAN 7' WITH NO PORTION OF THE REQUIRED FLOOR AREA LESS THAN 5' IN HEIGHT – SEE EXCEPTIONS. OTHERWISE TYPICAL CEILING HEIGHTS ARE SHOWN ON DRAWINGS. IRC R305.1
2. LIGHT FRAME WALLS. CONSTRUCT ½" GYP BOARD ON 2x FRAMING, FINISH TAPE AND PAINT.
3. FINISH FLOORS. INSTALL CARPET AND PAD, WOOD FLOORING AND/OR FLOOR TILE WHERE INDICATED, AND AS SELECTED BY OWNER.
4. WINDOWS. INSTALL ALPINE 80–SERIES OR BETTER IN WOOD FRAMED WALLS AND AMSCO LEGACY OR BETTER IN BASEMENT WINDOW WELL INSTALLATIONS. OWNER TO SELECT MANUFACTURER, COLOR AND STYLE. MAXIMUM GLAZING U–FACTOR TO BE 0.32 (IRC TABLE N1102.1). SCREENS TO BE NYLON FABRIC. CONTRACTOR TO INSTALL, SEAL AND WATERPROOF PER MANUFACTURER'S INSTRUCTIONS. MINIMUM WINDOW AREA SHALL EQUAL NOT LESS THAN 8% OF FLOOR AREA OF THE ROOM UNLESS ARTIFICIAL LIGHT IS PROVIDED CAPABLE OF PRODUCING AN AVERAGE ILLUMINATION OF SIX FOOTCANDLES OVER THE AREA OF ROOM AT A HEIGHT OF 30" ABOVE FLOOR. WINDOW VENTILATION SHALL PROVIDE A MINIMUM OF 4% OF FLOOR AREA. ALL WINDOWS EXCEPT GARAGE SHALL BE DOUBLE GLAZED w/ ¼" MINIMUM SPACE. GLAZING IN DOORS AND PANELS OF SHOWERS AND BATHROOM ENCLOSURES AND WALLS ENCLOSING THESE COMPARTMENTS SHALL BE TEMPERED. TEMPERED GLASS SHALL BE PROVIDED IN FRAMELESS GLASS DOORS, GLASS IN DOORS, GLASS WITHIN 24" ARC OF DOORS, GLAZING LESS THAN 60" ABOVE WALKING SURFACE THAT IS WITHIN 5'–0" OF STAIRS, OR GLAZING WITHIN 5'–0" OF SPAS OR POOLS, CERTAIN FIXED GLASS PANELS, AND SIMILAR GLAZED OPENINGS SUBJECT TO HUMAN IMPACT. BASEMENT WINDOWS NOT FULLY 6" ABOVE GRADE SHALL BE PROTECTED BY WINDOW WELLS. WINDOW WELLS SHALL BE DUG TO A DEPTH BELOW THE WINDOW SILL TO ALLOW 10" OF 1" AGGREGATE GRAVEL. TOP OF GRAVEL TO BE 6" BELOW WINDOW SILL. MINIMUM WINDOW SIZE FOR ESCAPE TO BE 5.7 SF (BASEMENT) AND 5.0 SF (GRADE LEVEL), WITH 20 INCH MINIMUM WIDTH AND 24 INCH MINIMUM HEIGHT. ALL OPERABLE WINDOWS AND GLASS DOORS SHALL INCLUDE SCREENS. IRC R303 (w/ EXCEPTIONS), R308, & R310
5. WINDOW WELLS. INSTALL ZINC–COATED METAL WINDOW WELLS OR AS SELECTED BY OWNER, WITH LADDER IF OVER 44" HEIGHT FROM GRAVEL TO TOP – SEE DRAWINGS. WATERPROOF SEAMS. GRAVEL SURFACE AREA TO BE MINIMUM 9 SF AND PROJECTION WIDTH IS MINIMUM 3'. IRC R310
6. DOORS. INSTALL PER DRAWINGS AND MANUFACTURER'S INSTRUCTIONS. DOOR STYLES AND COLORS TO BE SELECTED BY OWNER. EXTERIOR DOORS TO BE SOLID CORE WOOD OR METAL WITH WEATHER–STRIPPING AND GLASS SIDELITES AS INDICATED ON DRAWINGS, WITH IMPACT RESISTANT GLAZING, AND WITH U–FACTOR OF 0.25. PEOPLE DOOR BETWEEN GARAGE AND LIVING SPACE SHALL BE 1–3/8" THICK SOLID WOOD OR HONEYCOMB STEEL CORE, OR 20–MINUTE FIRE RATED WITH A SELF–CLOSING FEATURE PER IRC. STYLE AND TYPE SELECTED BY OWNER. IRC R311
7. STAIRWAYS. PLACE TRIPLE STRINGERS, CUT FOR STEPS, ON EACH SIDE AND IN MIDDLE OF STAIRWAY. PLACE DOUBLE 2x FRAMING AROUND ALL AREAS OF FLOOR OPENINGS. RISERS TO BE 7.75" MAXIMUM HEIGHT AND TREADS TO BE 10" MINIMUM DEPTH. HANDRAIL SHALL BE HARDWOOD AND WILL BE PLACED ON ONE SIDE OF STAIRWAY, TO PROJECT NO MORE THAN 4.5" INTO STAIRS, AND SHALL BE PLACED 34" TO 38" ABOVE SLOPED PLANE ADJOINING TREAD NOSING. INSTALL ⅝" TYPE–X SHEETROCK TO FULLY ENCLOSE UNDER STAIRS. IRC R311.5
8. GARAGE DOORS. INSTALL STEEL–BACK INSULATED GARAGE DOORS, MARTIN, COVINGTON COLLECTION OR BETTER. EACH DOOR TO INCLUDE OPENER, w/ BELT–DRIVE MECHANISM FOR QUIET OPERATION, AND SHALL BE U.L. 325 LISTED. SIZE OPENER TO DOOR WEIGHT AS RECOMMENDED BY MANUFACTURER.
9. ATTIC ACCESS. PROVIDE 22"x30" ATTIC ACCESS DOOR OR COVER, LOCATED IN HALLWAY OR OTHER READILY ACCESSIBLE AREA. PROVIDE WITH 30" MINIMUM UNOBSTRUCTED HEADROOM OVER ACCESS IN ATTIC SPACE, w/ SWITCH OPERATED LIGHT ABOVE. ATTIC ACCESS LOCATED IN GARAGE AREAS MUST BE 1–HOUR FIRE RATED. IRC R807.1 & M1305
10. STUCCO. CONTRACTOR TO INSTALL OWNER SELECTED COLOR AND MATERIAL IN ACCORDANCE WITH IBC / IRC AND MANUFACTURER'S INSTRUCTIONS.
11. FIBER CEMENT SIDING. CONTRACTOR TO INSTALL HARDIPLANK OR EQUIVALENT AS SELECTED BY OWNER. HARDIPLANK TO BE CAULKED, SEALED, FLASHED AND PAINTED AS RECOMMENDED BY MANUFACTURER – JAMES HARDIE SIDING PRODUCTS. MANUFACTURER'S INSTALLATION INSTRUCTIONS TO BE ON JOB SITE AT ALL TIMES. SEALANT TO BE MARKED "PERMANENT FLEXIBLE" ON CONTAINER OR IN LITERATURE. COLOR SELECTED BY OWNER. IRC R703.10
12. DECAY PROTECTION. WOOD INCLUDING GLULAM BEAMS EXPOSED TO GROUND OR NATURAL ELEMENTS SHALL BE PREPARED WITH APPROVED PRESSURE–PRESERVATIVE TREATMENT. IRC R317
13. TERMITE PROTECTION. PROVIDE TERMITE PROTECTION IN ALL REQUIRED AREAS PRIOR TO CONSTRUCTION. IRC SECTION R318
14. MOISTURE PROTECTION. INSTALL FLASHING AND SEALANT IN EXTERIOR JOINTS AS REQUIRED / RECOMMENDED BY MANUFACTURER.
15. INSULATION. NON–ICF LOCATIONS. INSTALL FIBERGLASS BATT OR LOOSE FILL. MINIMUM R–VALUES TO BE CEILING R–49, WALLS R–20 OR R–13+5, FLOOR OVER UNHEATED SPACE R–30 (USE R–19 MIN. IF LIMITED SPACE AVAILABLE), BASEMENT WALLS R–15/19, AND CRAWL SPACE WALLS R–15/19, UNLESS OTHERWISE NOTED ON DRAWINGS, OTHERWISE DETERMINED BY RESCHECK, SUBJECT TO IRC EXCEPTIONS. INSULATION FOR GARAGE EXTERIOR WALLS AND GARAGE CEILING UNDER UNOCCUPIED SPACE IS AT HOMEOWNER'S DISCRETION. IRC N1102 & TABLE N1101.10 (CLIMATE ZONE 5)
16. VAPOR BARRIER. AS REQUIRED BY ICF MANUFACTURER. ENTIRE LIVING SPACE ENVELOPE TO BE ENCLOSED WITH 4–MIL PLASTIC VAPOR BARRIER, PLACED ON WARM–IN–WINTER SIDE OF INSULATION. IRC R702
17. PAINT. JOINTS AND TRIM TO BE FULLY CAULKED. PAINT SHALL BE A TWO–TONE SYSTEM OF LATEX BASED SEALER, PRIMER AND TWO COATS ALKYD FINISH, OR AS SELECTED BY OWNER. COLORS AND TINTING TO BE AS SELECTED BY OWNER.
18. SHINGLES. CONTRACTOR TO FURNISH AND INSTALL 30–YEAR ARCHITECTURAL GRADE ASPHALT SHINGLES. INSTALL IAW IRC SECTION 905 AND MANUFACTURER'S INSTRUCTIONS, COMPLETE WITH UNDERLAYMENT, FLASHING, SEALANT AND OTHER MATERIALS. USE DOUBLE UNDERLAYMENT FOR SHINGLES PLACED ON ROOF SLOPES BETWEEN 2"–4" IN 12" SLOPES. WHEN DESIGN WIND SPEED IS OVER 110 MPH, USE CORROSION–RESISTANT FASTENERS. IRC R905
19. RAIN GUTTERS AND DOWNSPOUTS. INSTALL HIGH–GRADE VINYL PER IBC / IRC, WITH COLOR AND STYLE SELECTED BY OWNER.
20. SOFFIT AND FASCIA. TO BE CONSTRUCTED OF EXTERIOR GRADE PLYWOOD OR ALUMINUM AS SELECTED BY OWNER, AND TO BE INSTALLED BY CONTRACTOR PER MANUFACTURER'S INSTRUCTIONS.
21. EXTERIOR BRICK / FACE ROCK. CONTRACTOR TO INSTALL BRICK AND / OR FACE ROCK AS SELECTED BY OWNER. INSTALL PER IBC / IRC AND MANUFACTURER'S INSTRUCTIONS.
22. FOUNDATION DRAINAGE. INSTALL FOUNDATION DRAINAGE SYSTEM WHERE REQUIRED BY BUILDING OFFICIAL FOR THE BUILDING SITE. IRC R405.1
23. RADON CONTROL. WHILE THE CONSTRUCTION SITE IS NOT LOCATED IN A COUNTY OF RECOGNIZED HIGH RADON POTENTIAL, WHERE RADON IS DEEMED TO BE AN ISSUE AS DETERMINED BY LOCAL BUILDING OFFICIAL OR OWNER, THE CONTRACTOR SHALL INSTALL A PASSIVE SUB–SLAB DEPRESSURIZATION RADON EXHAUST SYSTEM WITH GRADE GRAVEL SIMILAR TO THAT SHOWN IN IRC APPENDIX F AND SHALL INCORPORATE OTHER MEASURES OUTLINED IN IRC. RADON TEST METER IS AVAILABLE ON LOAN FROM ENGINEER. IRC APPENDIX F
24. NO STUMPS, ROOTS, OR ORGANIC MATERIAL SHALL BE PRESENT IN SOIL AT THE AREA OF JOB SITE.
25. APPROVED BUILDING ADDRESS NUMBERS SHALL BE PROVIDED AND PLACED IN A POSITION WHICH IS PLAINLY VISIBLE AND LEGIBLE FROM FRONTAGE STREET OF PROPERTY.
26. CONSTRUCTION MATERIAL AND DEBRIS SHALL BE SECURED AT ALL STAGES OF CONSTRUCTION TO PREVENT TRAVELING FROM JOB SITE. CONSTRUCTION MATERIALS AND DEBRIS SHALL REMOVED FOR FINAL INSPECTION.
27. THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE IAW THE REQUIREMENTS OF IRC SECTIONS N1102.4.1 THROUGH N1102.4.5. COMPLIANCE WILL BE IAW THE PRESCRIPTIVE METHOD OF IRC N1102.4.1.1 UNLESS OWNER IDENTIFIES TO BUILDING OFFICIAL THAT COMPLIANCE WILL BE DEMONSTRATED BY TEST IAW N1102.4.1.2.
28. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL NOT FEWER THAN 6 INCHES WITHIN THE FIRST 10 FEET. IRC R401.3

General Framing Notes

1. USE DOUGLAS FIR / HEMLOCK FIR FOR FRAMING––STUD GRADE FOR WALLS, NO. 2 FOR ALL OTHER, OR AS OTHERWISE SPECIFIED IN DRAWING SCHEDULES. SPACE STUDS 16" O.C. MAX. DEEPER, WIDER, OR BETTER GRADES OF LUMBER MAY BE SUBSTITUTED, ANY OTHER CHANGES MUST BE APPROVED BY THE ENGINEER.
2. USE (2) 2"x10" DF #2 OR BETTER WITH FILLER FOR LIGHT FRAMED LOADBEARING WINDOW AND DOOR HEADERS UP TO 6'–0" WIDTH UNLESS NOTED OTHERWISE ON DRAWING. USE NUMBER OF JACK STUDS AND KING STUDS AS REQUIRED IN IRC TABLES R602.7(1)/(2); MINIMUM 2 KINGS AND 2 TRIMS FOR EACH END.
3. USE SIMPSON OR EQUIVALENT HARDWARE TO CONNECT GIRDERS OR BEAMS 6' AND LONGER TO STUDS OR POSTS.
4. RAKE OVERHANGS ON GABLE ROOF ENDS SHALL BE PROVIDED WITH LOOKOUT BLOCKS (LESS THAN OR EQUAL TO 1' OVERHANGS) OR OUTLOOKERS (MORE THAN 1' AND LESS THAN OR EQUAL TO 2' OVERHANG), SPACED 2' O.C. ALONG ROOF LINE PER WFCM.
5. ALL MULTIPLE BEAMS AND HEADERS SHALL BE NAILED USING 2 ROWS OF 16d NAILS @ 12" O.C.
6. RIM BOARD TO BE BCI 1–1/8" BY DEPTH OF JOIST, APA PERFORMANCE RATED OSB, OR EQUAL. CONSTRUCT RIM BOARD, FULL PERIMETER AND DOUBLED AT PENETRATIONS SUCH AS STAIRWAY AND MECHANICAL VENT PASSAGEWAYS. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
7. ALL POINT LOADS SHALL BE SOLID BLOCKED THROUGH TO THE FOUNDATION.
8. CONTRACTOR SHALL FOLLOW THE MINIMUM FASTENING SCHEDULE LISTED IN IRC TABLE R602.3(1).
9. STAIR STRINGERS SHALL BE 1–1/4" VERSA–LAM 1.4 1800 OR EQUAL. USE 3–STRINGER CONFIGURATION AND INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
10. FLOOR SHEATHING SHALL BE ¾" T&G WAFER BOARD OR OSB, APA RATED 24/16 MINIMUM, NAILED w/ 8d NAILS @ 3" O.C. ON DIAPHRAGM EDGES, 6" O.C. ON OTHER PANEL EDGES, AND @ 12" O.C. ALONG INTERMEDIATE FRAMING MEMBERS. GLUE ALONG ALL JOISTS, LEDGERS AND RIMBOARDS. IRC R503
11. INSTALL SOLID JOIST BLOCKING AT ALL BEARING LOCATIONS.
12. BASE PLATES TO BE TREATED LUMBER OR REDWOOD, PLACED OVER FOAM, w/ NOT MORE THAN 2 EA. 2x4 OR 3 EA. 2x6 STACKED PLATES.
13. INSTALL FLOOR SHEATHING WITH FACE GRAIN AT RIGHT ANGLES TO FRAMING WITH END JOINTS STAGGERED.
14. INSTALL DOUBLE FLOOR JOISTS UNDER ALL LOAD BEARING WALLS RUNNING PARALLEL WITH FLOOR JOISTS.

Truss & Roof Sheathing Notes

1. ROOF AND FLOOR TRUSSES SHALL BE DESIGNED TO MEET THE LOADS SPECIFIED IN THE DESIGN CRITERIA. ALL TRIBUTARY, DRIFT, UNBALANCED SNOW, MECHANICAL, ETC., LOADS SHALL BE CONSIDERED IN THE DESIGN. IRC R502.11 & R802.10
2. ENGINEERED TRUSS SUBMITTALS SHALL BE STAMPED BY AN ENGINEER LICENSED IN THE STATE OF UTAH. IRC R802.10
3. IN GENERAL, ROOF TRUSSES SHALL GENERAL BE SPACED AT 24" O.C. FLOOR TRUSSES SHALL BE SPACED AT 16" O.C. TRUSS SPACING MAY BE DECREASED AT THE DISCRETION OF THE TRUSS ENGINEER.
4. CONTRACTOR SHALL BLOCK BETWEEN TRUSSES AND CONNECT EACH TRUSS TO WALL TOP PLATE WITH (SEE ICF NOTE 18) OR AS OTHERWISE SPECIFIED ON DRAWINGS.
5. ANY CHANGES TO THE TRUSS CONFIGURATION SHOWN ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.
6. FASTEN OUTLOOKERS TO GABLED WALLS WITH (SEE ICF NOTE 18) CONNECTORS.
7. ROOF SHEATHING SHALL BE MULTI–SPAN, 4'x8', APA RATED, EXTERIOR GRADE, OSB OR PLYWOOD SHEETS. APA RATINGS AND EXPOSURE TYPE SHALL BE STAMPED ON EACH SHEET DELIVERED TO JOB SITE. NAIL SHEATHING w/ 8d @ 4" O.C., ⅜" FROM EDGE OF PANEL AT ALL PANEL ENDS, SUPPORTED EDGES, SHEARWALL EDGES, SHEARWALL TOPS AND ALL BLOCKING MEMBERS. NAIL @ 12" O.C. ALONG INTERMEDIATE FRAMING MEMBERS (FIELD). EDGE SUPPORT (e.g., H–CLIPS) IS RECOMMENDED BUT NOT REQUIRED FOR 24" TRUSS SPACING. FOLLOWING SHEATHING SELECTIONS ARE BASED UPON TRUSS SPACING OF 24" O.C., 10 PSF MAXIMUM ROOFING MATERIAL WEIGHT, AND PROJECT SNOW LOADS SHOWN IN DESIGN CRITERIA. IT IS SUGGESTED THAT THE LARGER THICKNESS IN EACH CATEGORY BE USED FOR BEST LONG–TERM ROOF APPEARANCE. OTHER MATERIAL OPTIONS MAY BE SUBMITTED BY CONTRACTOR AND APPROVED BY ENGINEER. LARGER DIMENSION MATERIALS MAY BE USED AT CONTRACTOR'S DISCRETION. IRC R503.2 & IBC 2303
   - 7.1. Up to 45 PSF SL – USE APA 24/16 (7/16", 1/2") MINIMUM
   - 7.2. 46–70 PSF SL – USE APA 32/16 (15/32", 1/2", 5/8") MINIMUM
   - 7.3. 71–90 PSF SL – USE APA 40/20 (19/32", 23/32") MINIMUM
8. LAY SHEATHING WITH FACE GRAIN AT RIGHT ANGLES TO FRAMING WITH STAGGERED END JOINTS.

Footings, Foundation & Slabs

1. HOME IS DRAWN AS CONCRETE BASEMENT AND LIGHT FRAME MAIN LEVEL. LIGHT FRAME EXTERIOR WALLS ARE TO BE REPLACED WITH 6" NOMINAL INSULATED CONCRETE FORM WALLS. REINFORCEMENT PER ENGINEERING SCHEDULE.
2. FOOTINGS AND FOUNDATIONS SHALL BE PLACED ON UNDISTURBED SOIL AND SHALL BE CONSTRUCTED WITH A MINIMUM OF 2,500 PSI (FOOTINGS) AND 3,000 PSI (FOUNDATIONS) CONCRETE. BOTTOM OF FOOTINGS SHALL BE PLACED BELOW DEPTH OF FROST LINE.
3. SLABS ON GRADE. BASEMENT AND INTERIOR SLABS ON GRADE (EXCEPT GARAGE) TO BE 2500 PSI 28–DAY STRENGTH. GARAGE SLABS ON GRADE AND STEPS EXPOSED TO WEATHER SHALL BE 3000 PSI 28–DAY STRENGTH, WITH 5–7% AIR ENTRAINMENT BY VOLUME. SLABS PLACED IN HEATED SPACES SHALL HAVE 6 MIL. (1 PERM) POLYETHYLENE VAPOR BARRIER WITH JOINTS LAPPED NOT LESS THAN 6 INCHES, PLACED BETWEEN CONCRETE FLOOR AND BASE COURSE OR PREPARED SUBGRADE. SLAB ON GRADE TO BE 3–1/2 INCH MINIMUM AND BASE COURSE TO BE 4 INCH MINIMUM OF 1–1/2" COMPACTED AGGREGATE OR SAND UNLESS SHOWN OTHERWISE ON DRAWINGS. IRC R402.2 & R506
4. GARAGE FLOOR. SLOPE GARAGE FLOOR A MINIMUM ⅛" PER FOOT TO FACILITATE LIQUID FLOWS TO A DRAIN OR TO MAIN VEHICLE ENTRY DOORWAY. PROVIDE 6" CONCRETE CRICKET 1" UPSLOPE IN FORWARD CORNERS OF GARAGE TO PREVENT LIQUID ACCUMULATION NEAR MAIN VEHICLE DOOR. IRC R309
5. TOP EDGE OF 6' AND TALLER WALLS TO BE SUPPORTED BY ROOF/FLOOR FRAMING/SLAB BEFORE BACKFILLING.
6. THE TOP HORIZONTAL BAR IS TO BE LOCATED IN THE TOP 4", AND ONE HORIZONTAL BAR IN THE BOTTOM 4", AND ALL OTHER BARS ARE TO BE EQUALLY SPACED BETWEEN.
7. ANY EARTH FILL TO SUPPORT CONCRETE FLOORS, WALKS, DRIVEWAYS, ETC., MUST BE COMPACTED TO 95% PRIOR TO CONSTRUCTION.
8. ALL REINFORCEMENT IS TO BE PLACED IN THE CENTER OF THE WALL UNLESS OTHERWISE NOTED.
9. VERTICAL BARS MAY TERMINATE 3" FROM THE TOP OF THE CONCRETE WALL.
10. CORNER AND DOWEL REINFORCING IS TO HAVE A MINIMUM LAP LENGTH OF 24".
11. ALL REINFORCEMENT @ OPENINGS IS TO BE PLACED WITHIN 2" OF THE OPENINGS AND EXTEND A MINIMUM OF 24" BEYOND THE EDGE OF THE OPENING.
12. THE MINIMUM LINTEL DEPTH IS TO BE 2" FOR EACH FOOT OF OPENING WIDTH. THE MINIMUM LINTEL DEPTH IS 8". THE MAXIMUM LINTEL LENGTH IS 6' WITHOUT A SPECIFIC LINTEL CALL–OUT.
13. FOUNDATION WALLS IN SEISMIC ZONES D AND ABOVE, SUPPORTING MORE THAN 4' UNBALANCED BACKFILL OR MORE THAN 8' IN HEIGHT SHALL HAVE 2–#4 HORIZONTAL BARS LOCATED IN UPPER 12" OF WALL. IRC R404.1.4
14. ANCHOR BOLTS SHALL BE ½" MINIMUM (⅝" IN SEISMIC CATEGORY E & F) OR AS SHOWN ON SCHEDULE, EMBEDDED INTO CONCRETE FOUNDATION AT LEAST 7", AND SHALL BE PLACED NOT MORE THAN 32" O.C. OR AS INDICATED ON SCHEDULES, AND WITHIN 12" OF SILL PLATE ENDS. INSTALL 3"x3"x0.229" WASHERS ON ANCHOR BOLTS w/ STANDARD WASHERS BETWEEN PLATE WASHER AND NUT IN SEISMIC ZONE D, E & F AREAS. IBC 2308.3
15. WATERPROOF ENTIRE EXTERIOR OF FOUNDATION SURFACE BELOW GRADE WITH 2 COATS OF ASPHALT EMULSION. REFER TO ICF NOTES FOR ICF DAMP PROOFING REQUIREMENTS. IRC R406.1
16. SUSPENDED SLABS. ENGINEERING DESIGN IS REQUIRED SPECIFIC TO EACH APPLICATION. SUSPENDED SLABS SHALL BE 4000 PSI 28–DAY STRENGTH CONCRETE. SHORING INSTALLATION AND REMOVAL SHALL BE AS SPECIFIED BY FORM MANUFACTURER. PROTECTIVE EPOXY FINISH SHALL BE PROVIDED IN CORROSIVE ENVIRONMENTS TO INCLUDE VEHICLE STORAGE LOCATIONS.

Electrical-Mechanical Notes

1. HEATING, VENTILATING & AIR CONDITIONING (HVAC). CONTRACTOR TO PROVIDE COMPLETE DESIGN AND INSTALLATION SERVICES TO INSTALL LATEST MARKET TECHNOLOGY HEATER–AIR CONDITIONER. WORK TO COMPLY WITH IRC, INTERNATIONAL MECHANICAL CODE, CURRENT EDITIONS, AND GOOD CONSTRUCTION PRACTICES. PROVIDE COMFORT HEATING SYSTEM CAPABLE OF MAINTAINING 68 DEGREES F AT A POINT 36" ABOVE FINISH FLOOR IN ALL ROOMS. GENERALLY, DO NOT INSTALL EQUIPMENT IN SLEEPING ROOMS OR BATHROOMS–SEE IRC EXCEPTIONS. CONTRACTOR TO PROVIDE HVAC DESIGN AND REScheck TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. LOCATIONS SHOWN ON DRAWINGS ARE FOR CONCEPT ONLY AND MAY BE MOVED SUBJECT TO OWNER'S APPROVAL. SUPPLY HEATER–AIR CONDITIONER WITH A SEPARATE BRANCH CIRCUIT.
2. SUPPLY/RETURN GRILLES. LOCATE AS DETERMINED BY MECHANICAL SUBCONTRACTOR AND SELECTED BY OWNER.
3. DUCTS. INSULATE HEATING TRUNK AND BRANCH SUPPLY DUCTS IN UNFINISHED AREAS, CRAWL SPACES, ATTICS, UNHEATED GARAGES, ETC. DUCTS TO BE PROPERLY SIZED, SEALED, HIDDEN, INSULATED, WELL FASTENED TO STRUCTURE, AND TO HAVE MINIMAL BENDS. DUCT AIR LEAKAGE TESTING SHALL BE REQUIRED IAW IRC N1103.3.3, UNLESS ALL AIR HANDLERS AND AT LEAST 75% OF ALL DUCTS (MEASURED BY LENGTH) ARE LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE (AS EXCEPTED BY UTAH STATE CODE AMMENDMENT). IRC N1103.3
4. WASHER & DRYER. PROVIDE BOTH GAS AND ELECTRIC (220 VAC) CONNECTIONS FOR DRYER. INSTALL VINYL OR TILED FLOOR PAN TO CAPTURE WATER UNDER WASHER. VENT DRYER TO NEAREST EXTERIOR SIDE OR REAR WALL. IRC M1502
5. FURNISH AND INSTALL FIREPLACE SELECTED BY OWNER. VENT IAW MANUFACTURER'S INSTRUCTIONS AND IRC.
6. INSTALL ELECTRICAL RECEPTACLES, SWITCHES (1–WAY/3–WAY), LIGHTS AND OTHER REQUIRED ELEMENTS TO COMPLY WITH NATIONAL ELECTRIC CODE (NFPA 70), CURRENT EDITION. LOCATIONS SHOWN ON DRAWINGS ARE FOR CONCEPT ONLY. ALL ELECTRICAL WORK AND LIGHTING FIXTURES TO BE U.L. APPROVED. OWNER TO SELECT LIGHTING FIXTURES, SWITCHES, ETC., DURING CONSTRUCTION. INSTALL SWITCH CONTROLLED LIGHTS IN ALL HALLWAYS, STAIRWAYS, EXITS, AND IN EACH ROOM. INSTALL EAVE–MOUNTED "CHRISTMAS TREE LIGHTING" RECEPTACLES, NUMBER AND LOCATIONS AS DIRECTED BY OWNER.
7. CABLE TV, PHONE AND DATA DROPS. CONTRACTOR TO INSTALL PORTS FOR THESE SYSTEMS AS SHOWN ON DRAWINGS OR AS DIRECTED BY OWNER. PROVIDE CONNECTION ABILITY IN BASEMENT FOR FUTURE SYSTEMS ADDITIONS.
8. APPLIANCE HEIGHT. APPLIANCES HAVING AN IGNITION SOURCE SHALL BE ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN 18" ABOVE THE FLOOR IN GARAGES. ROOMS OR SPACES THAT ARE NOT PART OF THE LIVING SPACE OF A DWELLING UNIT AND THAT COMMUNICATE WITH PRIVATE GARAGE THROUGH OPENINGS SHALL BE CONSIDERED TO BE PART OF THE GARAGE. IRC M1307.3
9. APPLIANCE IN GARAGE OR CARPORT. SHALL BE PROTECTED FROM IMPACT BY AUTOMOBILES.
10. RANGE HOOD. INSTALL VENTED HOOD w/ 4" METAL VENT TO OUTSIDE, OR UL & OWNER APPROVED VENTLESS HOOD.
11. PROVIDE SMOKE DETECTORS IN ALL LEVELS, ALL BEDROOMS, ACCESS TO BEDROOMS. DETECTORS SHALL BE HARD–WIRED, INTERCONNECTED, AND HAVE BATTERY BACKUP. INSTALL AS SHOWN AND REQUIRED BY NFPA 72. IRC R314
12. CARBON MONOXIDE (CO) DETECTOR. INSTALL ONE CO DETECTOR ON EACH HABITABLE LEVEL EQUIPPED WITH FUEL BURNING APPLIANCES. CO DETECTORS SHALL BE UL LISTED, COMPLY WITH UL–2034, SHALL BE INSTALLED IAW NFPA 720, AND SHALL BE INTERCONNECTED WITH OTHER ALARM SYSTEMS. IRC R315 AND UTAH AMENDMENT
13. RECEPTACLES SERVING KITCHEN COUNTERTOPS, GARAGES, BATH ROOMS, UNFINISHED BASEMENTS, OUTSIDE AREAS AND OTHER AREAS REQUIRED BY IRC (TO INCLUDE ALL 125–VOLT, SINGLE PHASE, 15 AND 20 AMPERE RECEPTACLES INSTALLED IN LAUNDRY AREAS AND FOR DISHWASHERS) SHALL BE GFCI PROTECTED. IF THE DISHWASHER IS HARDWIRED, THEN GFCI PROTECTION IS STILL REQUIRED, WITH A DISCONNECTING MEANS IN COMPLIANCE WITH TABLE E4101.5. PROVIDE AT LEAST TWO GFCI PROTECTED OUTSIDE–RECEPTACLES AT GRADE LEVEL – ONE IN FRONT AND ONE IN BACK. IRC E3901 & E3902
14. LIGHTS IN BATHTUB AND SHOWER AREAS TO COMPLY WITH WET ZONE REQUIREMENTS OF IRC. LIGHTS IN CLOSETS AND CORDED LIGHTS NEAR BATHS AND SHOWERS SHALL COMPLY WITH IRC CLEARANCE DIMENSIONS. IRC E4003.10 & E4003.11 & E4003.12.
15. CEILING FANS TO RECEIVE 2x4 WOOD BLOCK BETWEEN CEILING JOISTS OR TRUSSES ABOVE TO ATTACH AND SECURE ELECTRIC BOX.
16. LIGHT FIXTURES IN SHOWER AREAS SHALL BE CONSIDERED AS BEING IN WET OR DAMP LOCATIONS AND SHALL BE MARKED "SUITABLE FOR WET LOCATIONS." IRC E4003.9
17. INSTALL 200–AMP ELECTRICAL PANEL MINIMUM, WITH WORKING SPACE OF 30"x36", WITH 6'–6" HEADROOM AND ARTIFICIAL ILLUMINATION. WORKING SPACE SHALL NOT BE DESIGNATED FOR STORAGE. DO NOT INSTALL IN CLOTHES CLOSETS, BATHROOMS, OR OVER STEPS OF STAIRWAYS. IRC E3405
18. PROVIDE EXHAUST SYSTEMS FOR BATHROOMS, KITCHENS AND LAUNDRY FACILITIES AS SPECIFIED IN IRC. EXHAUST SYSTEMS WILL NOT BE RECIRCULATED WITHIN RESIDENCE AND WILL NOT BE VENTED TO ENCLOSED ATTIC SPACE, CRAWL SPACE, ETC., BUT WILL BE VENTED TO THE OUTSIDE. SEE IRC FOR EXCEPTIONS. IRC SECTION M1501
19. PACIFICORP REQUIRES THAT MAIN ELECTRICAL SERVICE ENTRANCE MUST BE LOCATED ON SIDE OF HOUSE AND WITHIN 10' OF FRONT CORNER. SERVICE ENTRANCE CANNOT BE LOCATED OVER A WINDOW WELL OR WITHIN 3' OF GAS METER. PROVIDE A LOCATION FOR GAS AND ELECTRIC METERS IN AN AREA THAT IS PROTECTED FROM SNOW AND ICE DAMAGE.

Plumbing

1. ALL PLUMBING INSTALLATIONS SHALL COMPLY WITH CURRENT EDITION OF THE INTERNATIONAL PLUMBING CODE AND UTAH AMMENDMENTS.
2. PROVIDE WATER CLOSETS WITH A FLOW RATE OF NOT MORE THAN 1.6 GALLONS PER FLUSH. IRC P2903.2
3. PROVIDE SHOWER HEADS WITH A FLOW RATE OF NOTE MORE THAN 2.5 GPM @ 80 psi. IRC P2903.2
4. PROVIDE NON–FREEZE TYPE BACKFLOW PREVENTER HOSE BIBS w/ STOP–AND–WASTE–TYPE VALVE AS REQUIRED. MINIMUM TWO PER STRUCTURE, ONE FRONT & ONE REAR. IRC P2902.3 & P2903.10
5. ALL PLUMBING VENTS PASSING THROUGH THE ROOF TO BE MINIMUM 1–1/4" PIPE, OR AS SIZED BY IRC, AS DIRECT AS POSSIBLE FROM THE MAIN DRAIN TO THE OPEN AIR ABOVE THE ROOF, AND SHALL BE FLASHED. VENTS, STACKS, AND ALL OTHER ROOF PENETRATIONS SHALL BE INSTALLED ON "BACK SIDE" OF ROOF AREA, NOT "FLAG POLED," AND TO THE EXTENT PRACTICAL SHALL NOT BE VISIBLE FROM STREET. IRC CHAPTER 31
6. PROVIDE EXPANSION TANK ON THE CULINARY WATER SYSTEM. IRC P2903
7. PROVIDE LOCATION OF ACCESS AND DISCONNECT SWITCH FOR WHIRLPOOL TYPE TUBS. NO GROUTED TILE ACCESS. IRC P2720 & E4101
8. INSTALL ROUGH–IN SEWER PLUMBING AND CAPS / PLUGS IN BASEMENT FOR FUTURE BATHROOM, KITCHEN AND LAUNDRY FACILITIES SHOWN ON DRAWINGS, OR AS DIRECTED BY OWNER.
9. SHOWERS SHALL BE FINISHED TO A HEIGHT OF NOT LESS THAN 72 INCHES ABOVE FINISHED FLOOR WITH NON–ABSORBENT SURFACE MATERIAL. IRC R307.2
10. PROVIDE A FLOOR DRAIN BY THE WATER HEATER. PROVIDE A METAL PAN UNDER WATER HEATERS ON FLOORS THAT CAN BE DAMAGED. INSTALL SEISMIC STRAPS AS REQUIRED BY IRC AND BUILDING OFFICIAL. IRC CHAPTERS M20 & P28
11. PROVIDE 21" CLEARANCE IN FRONT OF WATER CLOSET. SHOW A FULL 30"–WIDE FINISHED SPACE FOR WATER CLOSET. IRC P307.1 & P2705
12. FLOOR DRAINS. SHALL HAVE MINIMUM 2" DIAMETER DRAIN LINE, WITH REMOVABLE STRAINER WITH OPEN AREA OF AT LEAST 2/3(s) CROSS–SECTIONAL AREA OF DRAIN LINE.

GENERAL: WHERE CONFLICT EXISTS BETWEEN ARCHITECTURAL SHEETS AND NOTES ON THIS SHEET OR STAMPED STRUCTURAL SHEETS, THE REQUIREMENTS ON THIS SHEET AND/OR STAMPED STRUCTURAL SHEETS WILL GOVERN.

Client Information
Name: Jerry Hancock
Project No.: 202005–04
Address/Location: 6508 W 9600 N
Highland, Utah

Issued – 20200626

VALID ONLY FOR
JERRY HANCOCK MAIN RESIDENCE
6508 W 9600 N, HIGHLAND
PROFESSIONAL STRUCTURAL ENGINEER
J. McREAKEN
4776657–2203
20200626
STATE OF UTAH

Valid only for the home being built on this lot, and when signed by engineer in blue ink and stamped.

McREAKEN ENGINEERING
2107 East 25 South, Layton, Utah 84040
801–309–5145 / 801–641–9150

Revisions

NOTES
General Notes

General Notes & Conditions

1. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY TO VERIFY THE CONDITIONS, DIMENSIONS, AND STRUCTURAL DETAILS OF THE BUILDING PROJECT PRIOR TO STARTING ANY STAGE OF CONSTRUCTION. THE CONTRACTOR ASSUMES RESPONSIBILITY FOR PROBLEMS THAT MAY ARISE DUE TO POSSIBLE ERRORS ON THESE PLANS AND SHALL BRING THESE ISSUES TO THE ARCHITECT-ENGINEER'S ATTENTION IN A TIMELY MANNER FOR RESOLUTION. USE OF THESE PLANS CONSTITUTES ACKNOWLEDGMENT AND ACCEPTANCE OF THESE TERMS
2. WORKMANSHIP THROUGHOUT SHALL BE OF THE BEST QUALITY OF THE TRADE INVOLVED AND GENERAL CONTRACTOR SHALL COORDINATE THE WORK OF THE VARIOUS TRADES TO EXPEDITE THE JOB IN A SMOOTH AND CONTINUOUS PROCESS.
3. UNLESS OTHERWISE NOTED, ALL DETAILS, SECTIONS AND NOTES SHOWN ON THE CONTRACT DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR CONDITIONS ELSEWHERE.
4. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE CONTRACT DRAWINGS AND / OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE THE INTERNATIONAL RESIDENTIAL CODE (IRC), CURRENT EDITION; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318-08; PRESCRIPTIVE DESIGN OF EXTERIOR CONCRETE WALLS FOR ONE- AND TWO-FAMILY DWELLINGS, PCA-100; AND THE WOOD FRAME CONSTRUCTION MANUAL (WFCM), AS APPLICABLE.
6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND THE SAFETY IN AND AROUND THE JOB SITE AND ON ADJACENT PROPERTIES.
7. THE GENERAL CONTRACTOR SHALL AT ALL TIMES KEEP LOADS ON THE STRUCTURE WITHIN THE LIMITS OF THE DESIGN.
8. COMPLIANCE WITH CODES AND ORDINANCES GOVERNING THE WORK SHALL BE PROVIDED AND ENFORCED BY THE GENERAL CONTRACTOR.
9. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE.
10. MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION OF MATERIALS AND EQUIPMENT SHALL BE FOLLOWED.
11. CONTRACTOR SHALL ASCERTAIN WHETHER SPECIAL ENGINEERING STUDIES, SUCH AS GEOTECHNICAL STUDIES, ARE REQUIRED FOR THE LOT TO BE BUILT UPON FROM THE BUILDING OFFICIAL AND SHALL OBTAIN SUCH STUDIES AS PART OF THE BUILDING PERMIT PROCESS.
12. CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND REROUTING EXISTING UTILITY LINES AS REQUIRED.
13. ALL WORK TO BE IN ACCORDANCE WITH CITY OR COUNTY ZONING ORDINANCE AND PUBLIC WORKS ENGINEERING DIRECTIVES, CURRENT EDITIONS.

GENERAL: WHERE CONFLICT EXISTS BETWEEN ARCHITECTURAL SHEETS AND NOTES ON THIS SHEET OR STAMPED STRUCTURAL SHEETS, THE REQUIREMENTS ON THIS SHEET AND/OR STAMPED STRUCTURAL SHEETS WILL GOVERN.

STRUCTURAL SHEETS, MAIN RESIDENCE

NOTES	ENGINEERING NOTES
S1	STRUCTURAL NOTES AND DETAILS
S2	STRUCTURAL NOTES AND DETAILS
S3	FOOTING PLAN
S4	FOUNDATION PLAN
S5	MAIN LEVEL PLAN
S6	MAIN FLOOR FRAMING PLAN
S7	ROOF FRAMING PLAN

ARCHITECTURAL SHEETS, MAIN RESIDENCE

AS PROVIDED BY OWNER 16 JUNE 2020
ARCHITECT MODIFICATION PROVIDED 17 JUNE 2020
TRUSS LAYOUT PROVIDE 19 JUNE 2020

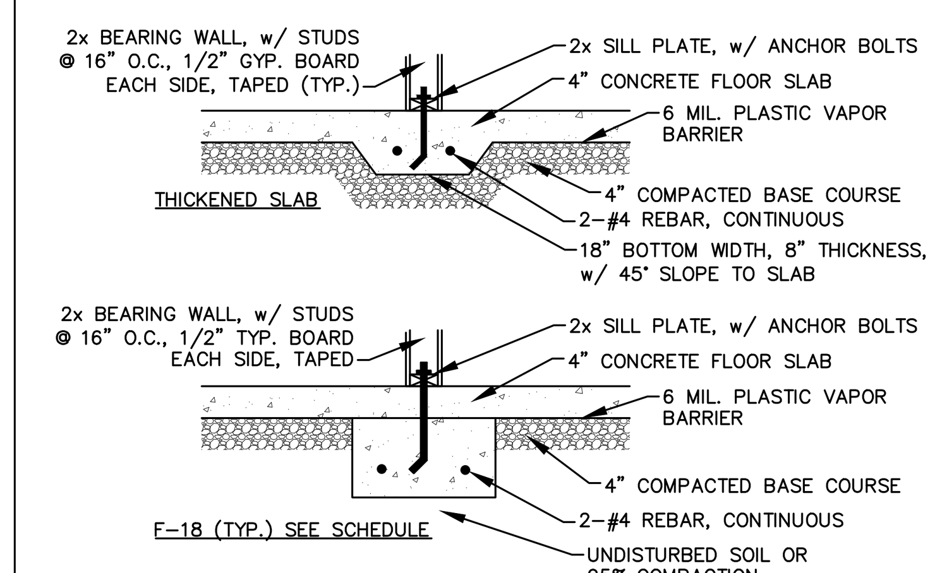
COVER SHEET
PLOT PLAN AND NOTES 1
PLOT PLAN AND NOTES 2
MAIN FLOOR PLAN
BASEMENT FLOOR PLAN
SECOND STORY LAYOUT
WEST ELEVATION
SOUTH ELEVATION
ROOF SECTION PLAN
TRUS A, B AND C
TRUS B AND C
STAIR SECTION, TRUS D AND E
TRUS A AND B 1
TRUS A AND B 2
TRUS C
WALL SECTION
ELECTRICAL MAIN FLOOR
BASEMENT ELECTRICAL
FOOTING AND FOUNDATION
FLOOR FRAMING 1
FLOOR FRAMING 2

EXTRA MAIN RESIDENCE TRUSS LAYOUT BY OTHERS

POST SCHEDULE

MARK	POST SIZE	OPTIONAL MULTI-POST SIZE	GRADE
P1(..)	MULTIPLE STUDS (# STUDS)		DF#2 OR BTR
P2	4" x 4"	2 EACH 2x4s or 2x6s	DF#2
P3	4" x 6"	2 EACH 2x6s	DF#2
P4	N.A.	3 EACH 2x6s	DF#2
P5	6" x 6"	4 EACH 2x6s	DF#2
P6	6" x 8"	4 EACH 2x8s	DF#2
P7	8" x 8"	5 EACH 2x8s	DF#2
P8	HSS3.5x3.5x1/4		Fy = 46 KSI TS
P9	HSS4x4x1/4		Fy = 46 KSI TS
P10	HSS4.000x0.250		Fy = 46 KSI TS

USE P-1(2) IF NOT INDICATED OTHERWISE ON DRAWINGS. OPTIONAL MULTI-POST TYPES TO BE USED WITHIN WALLS ONLY, NOT AS STAND-ALONE POSTS, AND TO BE NAILED TO WALL SHEATHING w/ 2 EA. 20d NAILS @ 16" O.C. DEEPER, WIDER, OR BETTER GRADES OF LUMBER OR MULTIPLE STUDS OF EQUIVALENT OR GREATER WIDTH MAY BE SUBSTITUTED. OTHER SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER. EXTERIOR POSTS TO BE TREATED. FOR P2, USE 2x4s OR 2x6s, DEPENDENT UPON WALL THICKNESS.



INTERIOR FOOTING DETAILS
NOT TO SCALE

FOOTING SCHEDULE

fc = 2500 PSI   fy = 60000 PSI

MARK	WIDTH	LENGTH	THICK	CROSSWISE REINFORCING No.	Size	Length	Spacing	LENGTHWISE REINFORCING No.	Size	Length	Spacing
F-12*	12"	CONT	–					2	#4	CONT	6" O.C.
F-18	18"	CONT	9"					2	#4	CONT	12" O.C.
F-20	20"	CONT	10"					2	#4	CONT	14" O.C.
F-22	22"	CONT	10"					2	#4	CONT	16" O.C.
F-24	24"	CONT	10"					3	#4	CONT	9" O.C.
F-28	28"	CONT	12"					3	#4	CONT	11" O.C.
F-30	30"	CONT	12"	1	#4	24"	9" O.C.	4	#4	CONT	8" O.C.
F-32	32"	CONT	12"	1	#5	26"	12" O.C.	3	#5	CONT	13" O.C.
F-36	36"	CONT	14"	1	#5	30"	12" O.C.	3	#5	CONT	15" O.C.
F-42	42"	CONT	14"	1	#5	36"	12" O.C.	4	#5	CONT	12" O.C.
F-48	48"	CONT	14"	1	#5	42"	12" O.C.	4	#5	CONT	14" O.C.
F-54	54"	CONT	14"	1	#5	48"	12" O.C.	5	#5	CONT	12" O.C.

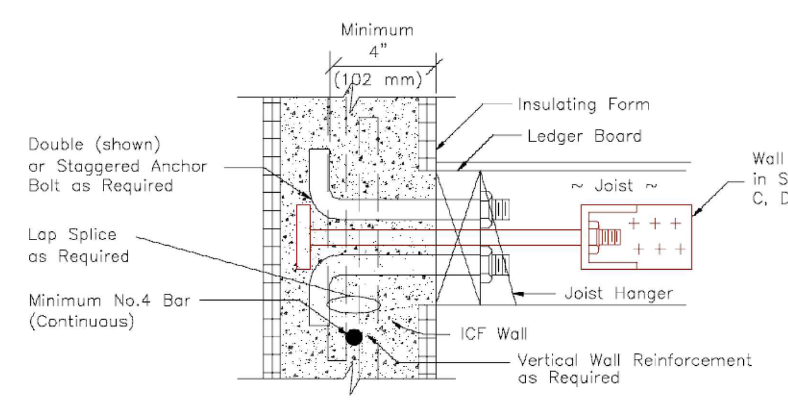
*NOTE: MONOLITHIC SLAB w/ INTEGRAL FOOTING, PER IRC

CONCRETE WALL SCHEDULE

fc=3000 PSI   fy=60000 PSI

CALL-OUT	STEEL AT OPENINGS	HORIZONTAL STEEL	VERTICAL STEEL 3	MIN. THICKNESS	TOP EDGE SUPPORT 1,2,5	MAX. HEIGHT	LOCATION
	2-#4 BARS TOP; 2-#4 BAR EACH SIDE; 1-#4 BAR BOTTOM	3-#4 BARS	#4 @ 32"	8"	NONE	2 FT	
		4-#4 BARS	#4 @ 32"			4 FT	
		5-#4 BARS	#4 @ 24"		FLOOR OR ROOF DIAPHRAGM	6 FT	
		6-#4 BARS				8 FT	
		7-#4 BARS	#4 @ 16"			9 FT	
ICF-6"	2-#5 BARS EACH SIDE	#5 @ 18"	#5 @ 18"	5.5" FLAT		10'-8"	MAIN LEVEL, ABOVE GRADE ONLY
ICF-8"		#5 @ 18"	#5 @ 12"	7.5" FLAT		9'-4"	BASEMENT, ALL BELOW GRADE

WALL BOLTS:
1. USE 5/8"x12" ABs @ 32" O.C. AT ALL CONCRETE TO LIGHT FRAMING SHEAR-WALL CONNECTIONS
2. REFER TO ICF SPECIFIC NOTES FOR ICF TOP PLATE AB REQUIREMENTS
3. CONNECT FLOOR JOISTS TO TOP OF FOUNDATION PER IRC R404.1, METHOD D
4. INSTALL 5/8"X10" J-BOLT AT ALL ICF GIRDER LOCATIONS FOR USE BY TRUSS DESIGNER
5. ANCHOR BOLTS (ABs) TO EXTEND A MINIMUM OF 5 INCHES BELOW TOP BAR



NOTES:
1. INTERIOR LEDGERS FOR I-JOISTS OR TRUSSES: INSTALL 1.75"x9.25" LVL FLOOR/DECK LEDGER AT ALL WALLS USING DOUBLE (2) 5/8" ABs @ 20" OC. MINIMUM EDGE DISTANCE IS 2-1/2". MINIMUM VERTICAL CLEAR DISTANCE BETWEEN BOLTS IS 2". PROVIDE TREATED WOOD OR PROTECT FROM CONTACT WITH CONCRETE WITH GALVANIZED STEEL FLASHING.
2. ALTERNATE INTERIOR LEDGER ABs: SIMPSON ICFVL @ 44" OC
3. EXTERIOR DECK LEDGERS: MAX DECK DEPTH IS 12-FT. INSTALL 2x10 DFL#2 FLOOR/DECK LEDGER AT ALL WALLS USING DOUBLE (2) 5/8" ABs @ 36" OC. MINIMUM EDGE DISTANCE IS 2-1/2". MINIMUM VERTICAL CLEAR DISTANCE BETWEEN BOLTS IS 2". PROVIDE TREATED WOOD OR PROTECT FROM CONTACT WITH CONCRETE WITH GALVANIZED STEEL FLASHING.
4. JOISTS TO BE INSTALLED TO LEDGER WITH SIMPSON HANGERS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION REQUIREMENTS.
5. MAIN LEVEL OUT-OF-PLANE FLOOR CONNECTION: INSTALL OUT-OF-PLANE ANCHOR CAPABLE OF RETAINING 837 LB/FT. THIS REQUIREMENT CAN BE MET WITH SIMPSON HTT4, MSTD, w/ 5/8" x 5-1/2" TITEN HD, AT 48" OC MAXIMUM SPACING AROUND THE FULL PERIMETER OF THE FLOOR SYSTEM. INSTALL BLOCKING AS REQUIRED. (ALTERNATE: SIMPSON PAI28 @ 40" OC).
6. SECOND LEVEL OUT-OF-PLANE FLOOR CONNECTION: NOT REQUIRED.
7. FASTEN FLOOR SHEATHING WITH 0.113 NAILS. EDGE FASTENER SPACING SHALL BE 3".

LAP SPLICE AND TENSION DEVELOPMENT LENGTHS

fy = 60000 PSI

LAP SPLICE LENGTH – TENSION	4	32
	5	39
	6	47
TENSION DEVELOPMENT LENGTH FOR STRAIGHT BAR	4	24
	5	30
	6	36
TENSION DEVELOPMENT LENGTH FOR: A. 90-DEG AND 180-DEG STANDARD HOOKS WITH NOT LESS THAN 2-1/2" OF SIDE COVER PERPENDICULAR TO THE PLANE OF THE HOOK, AND B. 90-DEG STANDARD HOOKS WITH NOT LESS THAN 2" OF COVER ON THE BAR EXTENSION BEYOND THE HOOK	4	9
	5	11
	6	13
TENSION DEVELOPMENT LENGTH FOR BAR WITH 90-DEG OR 180-DEG STANDARD HOOK HAVING LESS COVER THAN REQUIRED ABOVE	4	12
	5	15
	6	18

CONCRETE LINTEL SCHEDULE

fc = 3000 PSI   fy = 60000 PSI

MARK	DEPTH	REINFORCEMENT HORZ T&B	TIES/STIRRUPS
CL-1	12"	(1) #5	NONE
CL-2	12"	(2) #5	#3 STIRRUPS @ 4-1/2" OC
CL-3	12"	(1) #6	#3 STIRRUPS @ 4-1/2" OC
CL-4	12"	(2) #6	#3 STIRRUPS @ 4-1/2" OC
CL-5	16"	(1) #5	NONE
CL-6	16"	(1) #5	#3 STIRRUPS @ 6" OC
CL-7	16"	(2) #5	#3 STIRRUPS @ 6" OC
CL-8	16"	(1) #6	#3 STIRRUPS @ 6" OC
CL-9	16"	(2) #6	#3 STIRRUPS @ 6" OC
CL-10	–	–	–
CLS-11	24"	(1) #5	NONE
CLS-12	24"	(2) #6	#3 STIRRUP @ 11" OC
CLS-13	20"	(1) #5	#3 STIRRUP @ 9" OC
CLS-14	20"	(2) #6	#3 STIRRUP @ 9" OC

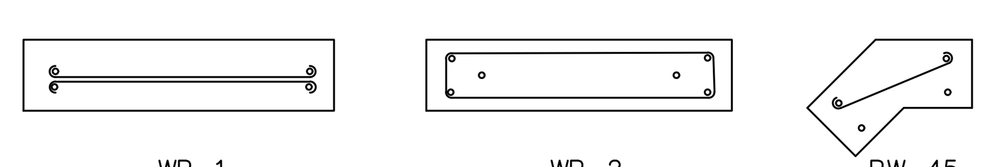
NOTES:
1. LARGER LINTELS AND/OR REINFORCEMENT MAY BE SUBSTITUTED PER PCA-100. DO NOT SUBSTITUTE FOR LESSER DEPTH LINTELS OR FORGO STIRRUPS WITHOUT CONSULTING ENGINEER OF RECORD.

CONCRETE WALL PIER SCHEDULE

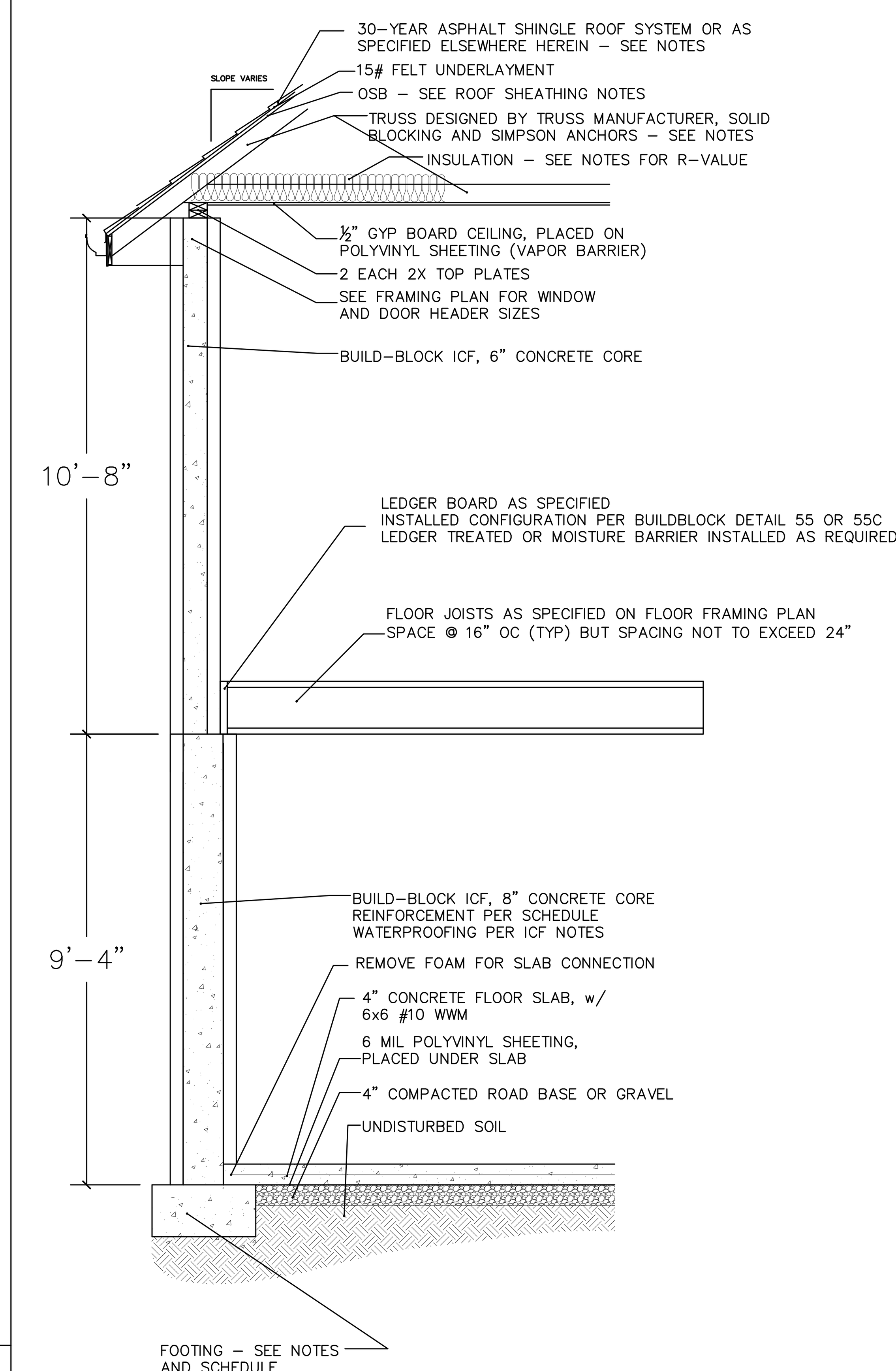
fc = 3000 PSI   fy = 60000 PSI

MARK	THICK	REINFORCEMENT VERTICAL	STIRRUPS	NOTES
				–
WP-1	–	(1) #5	(1) #3 @ 4" OC	2 VERTICAL BARS TOTAL
WP-2	–	(2) #5	(1) #3 @ 3" OC BOTH FACES	4 VERTICAL BARS TOTAL
WP-45	–	(2) #4	(2) #3 @ 6" OC CENTERED	4 VERTICAL BARS TOTAL

NOTES:
1. WALL PIERS EXTEND 12" ABOVE AND BELOW THE ADJACENT OPENING.
2. VERTICAL BARS AND TIES ARE CONTINUOUS FOR THE FULL WALL HEIGHT UNLESS NOTED OTHERWISE.
3. VERTICAL BARS SHALL EXTEND 24" BEYOND THE OPENING. IF 24 INCHES IN A STRAIGHT LINE IS NOT POSSIBLE, TERMINATE WITH A STANDARD HOOK.
4. HORIZONTAL BARS SHALL TERMINATE WITH A STANDARD HOOK.
5. STIRRUPS AT MIDDLE OF WALL SHOWN AT LEFT; STIRRUPS AT OUTSIDE FACE OF WALL OR CLOSED LOOP TIES ARE OPTIONAL AND SHOWN AT CENTER. CENTER ALSO SHOWS THIRD VERTICAL REINFORCEMENT AS REQUIRED BY SCHEDULE.
6. 45° PIER WALL SHOWN AT RIGHT; 6" MINIMUM LEG LENGTH



WP-1   WP-2   PW-45



DESIGN CRITERIA

Established in conference with and approval of Building Official

Governing Code		2015 IRC & UT Amendments
Load Duration Factors	Dead	0.90
	Snow	1.00
	Wind	1.40
	Seismic	1.60
Seismic Criteria		ZONE D2
		OCC. CAT. = II
		R = 6.0
		Fa = 1.26
		Ss = 131.4%
Wind Speed (Ultimate)		115 MPH
		Exposure C
		I = 1.00
Roof Loads	Dead	15 PSF
	Snow	30 PSF
Floor Loads	Dead	10 PSF
	Live	40 PSF
	Attic storage	20 PSF
Deck Loads	Dead	10 PSF
	Live	40 PSF
Ground Snow Load		43 PSF
Soil Bearing Pressure		1500 PSF
Frost Depth		30 inch

BEAM SCHEDULE

MARK	BEAM SIZE	GRADE
B-1	2-2x10s	DF No. 2 1.6E
B-2	3-2x10s	DF No. 2 1.6E
B-3	DBL 1-3/4"x 9-1/2" or 3-1/2"x 9-1/2"	VERSA-LAM 2.0 2800 DF VERSA-LAM 2.0 3100 DF
B-4	DBL 1-3/4"x 11-7/8" or 3-1/2"x 11-7/8"	VERSA-LAM 2.0 2800 DF VERSA-LAM 2.0 3100 DF
B-5	TRIPLE 1-3/4x 9-1/2" or 5-1/4x 9-1/2"	VERSA-LAM 2.0 2800 DF VERSA-LAM 2.0 3100 DF
B-6	TRIPLE 1-3/4"x 11-7/8" or 5-1/4"x 11-7/8"	VERSA-LAM 2.0 2800 DF VERSA-LAM 2.0 3100 DF
B-7	3-1/2"x 14"	VERSA-LAM 2.0 3100 DF
B-8	3-1/2"x 16"	VERSA-LAM 2.0 3100 DF
B-9	3-1/2"x 18"	VERSA-LAM 2.0 3100 DF
B-10	5-1/4"x 14"	VERSA-LAM 2.0 3100 DF
B-11	5-1/4"x 16"	VERSA-LAM 2.0 3100 DF
B-12	3-1/8"x 13-1/2"	GLULAM 24F-V4/DF
B-13	5-1/8"x 13-1/2"	GLULAM 24F-V4/DF
B-14	5-1/8"x 18"	GLULAM 24F-V4/DF
B-15	not used	
B-16	not used	
B-17	not used	
B-18	not used	
B-19	5-1/8" X 11-7/8"	GLULAM 24F-V4/DF
B-20	5-1/2" x 11-7/8"	KING BEAM 30F-E4 DF

Use B-1 if not otherwise indicated.
Deeper, wider, better grades or larger members may be substituted. Other substitutions must be approved by the engineer.
Substitution of LVLs for LSLs is acceptable!
Substitution of LVLs for PSLs is not permissible!

FRAMING SCHEDULE – 115 MPH WIND EXP. C, 43 PSF GSL

MAIN LEVEL
EXTERIOR: 0 TO 8' – USE 2x4 No. 2 (NO INSULATION) OR 2x6 STUD GRADE (INSULATED)
> 8' TO 10' – USE 2x4 S.S. (NO INSULATION) OR 2x6 STUD (INSULATED)
> 10' TO 12' – USE 2x6 No. 2
INTERIOR BEARING: 0 TO 10' – USE 2x4 STUD
INTERIOR NON-BEARING: 0 TO 14' – USE 2X4 STUD
> 14' TO 20' – USE 2X6 STUD

BASEMENT
BEARING: 0 TO 10' – USE 2x4 NO. 2
NON-BEARING: 0 TO 14' – USE 2x4 STUD

NOTES:
1. OWNER TO SELECT FRAMING SIZE WHEN A CHOICE IS PROVIDED.
2. DRAWINGS ARE BASED ON EITHER 2x4 OR 2x6 DIMENSIONED LUMBER. CONTRACTOR TO MODIFY FLOOR DIMENSIONS WHEN REQUIRED TO PROVIDE FOR SELECTION OF ALTERNATE FRAMING SIZE.
3. ALL FRAMING @ 16" O.C. UNLESS NOTED OTHERWISE.
4. HIGHER GRADED FRAMING AND LARGER SIZES MAY BE USED AT CONTRACTOR'S DISCRETION.
5. CONTACT ENGINEER TO DETERMINE FRAMING REQUIREMENTS FOR WALLS NOT INDICATED.
6. FRAMING HEIGHT REFERS TO DISTANCE BETWEEN LATERAL BRACING.
7. REFERENCE – WFCM T2.9A-T2.11, IBC T2308.9.1 AND IRC R602.3(5)

ATTIC VENTILATION REQUIREMENTS

SQUARE FOOTAGE OF ROOF = 3420 SF (approx.)
SOFFIT VENTING = YES – REQUIRED
REQUIRED ROOF TOP VENTING = 1/300 OR 11.4 SQ. FT.
THIS AMOUNT TO BE PROVIDED BY GABLE VENTS OR TURTLE STYLE ROOF VENTS PLACED ON BACK SIDE OF ROOF TO BE NOT VISIBLE FROM STREET

TABLE OF EQUIVALENT FASTENERS

STAPLES, NAILS AND T-NAILS – VALID FOR LATERAL LOADS ONLY

COMMON NAIL SPACING	GAUGE / PENETRATION	STAPLES 16" / 1"	STAPLES 15" / 1"	STAPLES 14" / 1"	NAILS/T-NAILS 113 / 1 1/4"	NAILS/T-NAILS 131 / 1/2"
6d @	4"	3 1/2"	4"	5"	4"	5"
	6"	5"	6"	7"	6"	7 1/2"
	8"	6 1/2"	8"	9 1/2"	8"	10"
	10"	8 1/2"	10"	12"	10"	12"
	12"	10"	12"	14 1/2"	12"	14 1/2"
8 @	3"	2"	2 1/2"	3"	2 1/2"	3"
	4"	2 1/2"	3 1/2"	4"	3 1/2"	4"
	6"	4"	5"	6"	5"	6"
	8"	5 1/2"	6 1/2"	8"	6 1/2"	8"
	10"	6 1/2"	8"	10"	8"	10"
	12"	8"	10"	12"	9 1/2"	12"
10d @	4"	2"	2 1/2"	3"	2 1/2"	3 1/2"
	6"	3 1/2"	4"	5"	4"	5"
	8"	4 1/2"	5 1/2"	6 1/2"	5 1/2"	7"
	10"	5 1/2"	7"	8"	6 1/2"	8 1/2"
	12"	6 1/2"	8"	9 1/2"	8 1/2"	10"

NOTE: PENETRATION IS THE DEPTH OF EMBEDMENT OF THE STAPLE OR NAIL INTO THE MAIN MEMBER REQUIRED TO ATTAIN ITS FULL CAPACITY (SHEAR VALUE) FOR LATERAL LOADING.

MINIMUM NAILING SCHEDULE

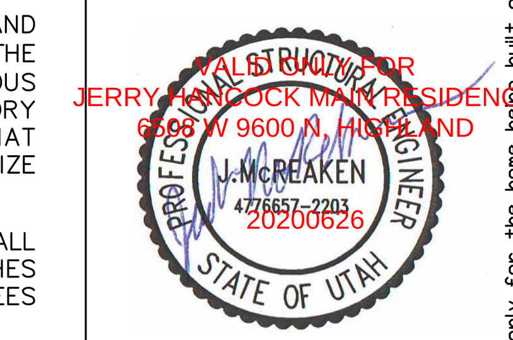
JOIST TO SILL GIRDER, TOENAIL............3-8d
BRIDGING TO JOIST, TOENAIL EACH END.........2-8d
SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL 16d @ 16" O.C.
TOP PLATE TO STUD, END NAIL.................2-16d
DOUBLE STUDS, FACE NAIL......................16d @ 24" O.C.
DOUBLE TOP PLATES, FACE NAIL................16d @ 16" O.C.
TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL.....2-16"O.C.
CONTINUOUS HEADERS TWO PIECES, ALONG EACH EDGE...16d @ 16" O.C.
CEILING JOISTS TO PLATE, TOENAIL......................3-8d
CONTINUOUS HEADERS TO STUD, TOENAIL.............4-8d
CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL....2-16d
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL......3-16d
RAFTER TO PLATE, TOENAIL....................................3-8d
BUILT-UP CORNER STUDS........................16d @ 24" O.C.
BUILT-UP GIRDER AND BEAMS..................20d @ 32" O.C. TO BE STAGGERED
ENDS AND SPLICES....................................2-20d

ICF NOTES:

1. THIS INSULATED CONCRETE FORM (ICF) DESIGN IS DERIVED FROM APPLICABLE PORTIONS OF THE IBC, IRC, PCA 100-2017, MANUFACTURER ENGINEERING DATA AND ENGINEERING ANALYSIS SPECIFIC TO STRUCTURAL ELEMENTS FOR THIS APPLICATION. THE HUD PRESCRIPTIVE METHOD FOR ICF IN RESIDENTIAL CONSTRUCTION 2ND ED (HPMFIRC) IS USED TO ILLUSTRATE CONSTRUCTED ELEMENTS. GENERAL REQUIREMENTS AND BEST PRACTICES FROM THESE DOCUMENTS ARE APPLICABLE. BUILD BLOCK DETAILS PROVIDED IN THIS DRAWING ARE FOR REFERENCE AND ALL MAY NOT BE APPLICABLE. REFER TO MANUFACTURE'S LITERATURE FOR DETAILS NOT FOUND HEREIN. FIGURES AND TABLES REFERENCED IN THIS DRAWING ARE FOUND IN PCA 100-2012 AND THE HPMFIRC. THIS APPLICATION REQUIRES THE USE OF FLAT ICF'S.
2. ICF CONSTRUCTED OF RIDGID FOAM PLASTICS SHALL BE PROTECTED FROM SUNLIGHT AND PHYSICAL DAMAGE BY THE APPLICATION OF AN APPROVED EXTERIOR COVERING. THE USE OF VAPOR RETARDERS AND AIR BARRIERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND THE AUTHORITY HAVING JURISDICTION.
3. ICF FOUNDATION WALLS ENCLOSING HABITABLE OR STORAGE SPACE SHALL BE DAMPPROOFED FROM THE TOP OF THE FOOTING TO THE FINISHED GRADE. DAMPPROOFING AND WATERPROOFING MATERIALS FOR ICF FORMS SHALL BE NONPETROLEUM-BASED, COMPATIBLE WITH THE FORM AND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
4. LATERAL SUPPORT FOR ABOVE-GRADE ICF WALLS SHALL BE PROVIDED BY THE ROOF AND FLOOR FRAMING SYSTEMS. THE MINIMUM WALL THICKNESS SHALL BE GREATER THAN OR EQUAL TO THE WALL THICKNESS OF THE WALL ABOVE.
5. FOUNDATION VERTICAL REINFORCEMENT SHALL BE CONTINUOUS WITH ABOVE-GRADE CONCRETE WALL VERTICAL REINFORCEMENT. ALTERNATIVELY, THE REINFORCEMENT SHALL BE EXTENDED INTO THE ABOVE GRADE WALL FAR ENOUGH TO BE LAP-SPLICED WITH THE ABOVE GRADE WALL REINFORCEMENT, OR SHALL EXTEND INTO THE ABOVE-GRADE WALL FAR ENOUGH TO DEVELOP THE BAR IN TENSION.
6. ALL VERTICAL WALL REINFORCEMENT IN THE TOP-MOST ICF STORY SHALL BE TERMINATED WITH A 90 DEGREE BEND. THE BEND SHALL RESULT IN A MINIMUM LENGTH OF 6 INCHES PARALLEL TO THE HORIZONTAL WALL REINFORCEMENT AND LIE WITHIN 4 INCH OF THE TOP SURFACE OF THE ICF WALL. IN ADDITION, HORIZONTAL WALL REINFORCEMENT AT EXTERIOR BUILDING CORNERS SHALL BE TERMINATED WITH A 90 DEGREE BEND RESULTING IN A MINIMUM LAP SPLICE LENGTH OF 40d WITH THE HORIZONTAL REINFORCEMENT IN THE INTERSECTING WALL. THE RADIUS OF BENDS SHALL NOT BE LESS THAN 4 INCHES. EXCEPTION: IN LIEU OF BENDING HORIZONTAL OR VERTICAL REINFORCEMENT, SEPARATE BENT REINFORCEMENT BARS SHALL BE PERMITTED PROVIDED THAT THE MINIMUM LAP SPLICE WITH VERTICAL AND HORIZONTAL WALL REINFORCEMENT IS NOT LESS THAN 40d.
7. RIGID FOAM PLASTIC ON THE INTERIOR OF HABITABLE SPACES SHALL BE COVERED WITH A MINIMUM OF 1/2-INCH GYPSUM BOARD OR AN APPROVED FINISH MATERIAL THAT PROVIDES A THERMAL BARRIER TO LIMIT THE AVERAGE TEMPERATURE RISE OF THE UNEXPOSED SURFACE TO NO MORE THAN 250 DEGREES F AFTER 15 MINUTES OF FIRE EXPOSURE.
8. OPENINGS IN ICF WALLS SHALL BE REINFORCED IN ACCORDANCE WITH SCHEDULES, NOTES AND DETAIL VIEWS. WALL OPENINGS SHALL HAVE A MINIMUM DEPTH OF CONCRETE (LINTEL) OVER THE LENGTH OF THE OPENING OF 12 INCHES UNLESS NOTED OTHERWISE. EXCEPTION: CONTINUOUS HORIZONTAL WALL REINFORCEMENT PLACED WITHIN 12 INCHES OF THE TOP OF THE WALL STORY IS PERMITTED TO BE USED IN LIEU OF TOP OR BOTTOM LINTEL REINFORCEMENT PROVIDED THAT THE CONTINUOUS HORIZONTAL WALL REINFORCEMENT MEETS THE SPECIFIED LOCATION AND SIZE REQUIREMENTS.
9. ALL OPENING REINFORCEMENT PLACED HORIZONTALLY ABOVE OR BELOW AN OPENING SHALL EXTEND A MINIMUM OF 24 INCHES BEYOND THE LIMITS OF THE OPENING. WHERE 24 INCHES CANNOT BE OBTAINED BEYOND THE LIMIT OF THE OPENING, THE BAR SHALL BE BENT 90 DEGREES IN ORDER TO OBTAIN A MINIMUM 12-INCH EMBEDMENT.
10. LINTELS SHALL BE PROVIDED IN LOAD-BEARING WALLS OVER ALL OPENINGS GREATER THAN OR EQUAL TO 2 FEET IN WIDTH.
11. BUNDLED LINTEL BARS SHALL BE ORIENTED IN A VERTICAL PLANE. (PCA-100 7.2.3)
12. WHEN REQUIRED, NO. 3 STIRRUPS SHALL BE INSTALLED IN LINTELS AT A MAXIMUM SPACING OF d/2 WHERE d EQUALS THE DEPTH OF THE LINTEL, D, LESS THE BOTTOM COVER OF THE CONCRETE (REF HPMFIRC FIG 5.3). STIRRUPS SHALL NOT BE REQUIRED IN THE MIDDLE PORTION OF THE SPAN, A, IN ACCORDANCE WITH THE LINTEL SCHEDULE.
13. REQUIREMENTS FOR INSTALLATION OF BRICK VENEER AND OTHER FINISHES ON EXTERIOR ICF WALLS AND OTHER CONSTRUCTION DETAILS NOT COVERED IN THIS DRAWING SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATIONS, APPLICABLE BUILDING CODE REQUIREMENTS, AND ACCEPTED PRACTICE.
14. FLOOR ON ICF WALL CONNECTION (TOP-BEARING CONNECTION): WOOD SILL PLATES ATTACHED TO ICF WALLS SHALL BE ANCHORED WITH ASTM A307 GRADE A, 5/8-INCH DIAMETER ANCHOR BOLTS EMBEDDED A MINIMUM OF 7 INCHES AND PLACED AT A MAXIMUM SPACING OF 32 INCHES ON CENTER. THE MINIMUM EDGE DISTANCE FROM THE EDGE OF CONCRETE TO EDGE OF ANCHOR BOLT SHALL BE 2.5 INCHES. EACH FLOOR JOIST SHALL BE ATTACHED TO THE SILL PLATE WITH AN 18-GAUGE ANGLE BRACKET USING 6 - 8D COMMON NAILS PER LEG OR EQUIVALENT SIMPSON HARDWARE.
15. FLOOR LEDGER-ICF WALL CONNECTION (SIDE-BEARING CONNECTION): WOOD LEDGER BOARDS SHALL BE ANCHORED TO ICF WALLS WITH A MINIMUM THICKNESS OF 5.5 INCHES.
16. ADDITIONAL OUT-OF-PLANE FLOOR ANCHORAGE MECHANISMS (HTT4, MSTD, w/ 5/8" x 5-1/2" TITEN HD) SHALL BE INSTALLED AT A MAXIMUM SPACING OF 48-INCHES OC AT THE MAIN LEVEL. THE ADDITIONAL ANCHORAGE MECHANISMS SHALL BE ATTACHED TO THE ICF WALL REINFORCEMENT AND JOIST, RAFTERS, OR BLOCKING AS ILLUSTRATED IN FPMHIRC FIGURES 6.4 THROUGH 6.7. THE BLOCKING SHALL BE ATTACHED TO FLOOR OR ROOF SHEATHING IN ACCORDANCE WITH SHEATHING PANEL EDGE FASTENER SPACING. THE DIAPHRAGM SHEATHING FASTENERS APPLIED DIRECTLY TO A LEDGER SHALL NOT BE CONSIDERED EFFECTIVE IN PROVIDING THE ADDITIONAL ANCHORAGE REQUIRED BY THIS SECTION. SEE OUT-OF-PLANE DETAIL ON ENGINEERING SHEETS.
17. FOUNDATION WALL-TO-FOOTING CONNECTION: FOR BUILDINGS ASSIGNED TO SEISMIC DESIGN CATEGORY D0, D1 OR D2, THE VERTICAL REINFORCEMENT REQUIRED FOR THE CONNECTING WALL SHALL EXTEND INTO THE FOOTING A MINIMUM OF 8 INCHES OR BE LAP-SPLICED WITH DOWELS THAT ARE EMBEDDED IN THE FOOTING IN ACCORDANCE WITH PCA 100-2012, FIGURE 6.1.
18. FLOOR AND ROOF DIAPHRAGM CONSTRUCTION: TOP EDGE OF ALL ICF WALLS SHALL BE PROVIDED WITH SHEAR TRANSFER TO ROOF OR FLOOR. EDGE SPACING OF FASTENERS IN FLOOR AND ROOF SHEATHING SHALL BE 4 INCHES ON CENTER FOR SEISMIC DESIGN CATEGORIES C/D1 AND 3 INCHES ON CENTER FOR SEISMIC DESIGN CATEGORY D2. ALL SHEATHING EDGES SHALL BE ATTACHED TO FRAMING OR BLOCKING. MINIMUM SHEATHING FASTENER SIZE SHALL BE 0.113 INCH DIAMETER WITH A MINIMUM PENETRATION OF 1-3/8 INCHES INTO FRAMING MEMBERS SUPPORTING THE SHEATHING.
19. ICF WALL-TO-ROOF CONNECTION: INSTALL DOUBLE 2X TOP-PLATES TO TOP OF ICF WALL WITH A MINIMUM ASTM A307 GRADE A, 1/2 INCH DIAMETER ANCHOR BOLT EMBEDDED A MINIMUM OF 7 INCHES WITH 1/4"x3"x3" WASHER, PLACED AT MAXIMUM SPACING OF 36 INCHES ON CENTER FOR SEISMIC DESIGN CATEGORY C, 24 INCHES ON CENTER FOR SEISMIC DESIGN CATEGORY D1, AND 16 INCHES ON CENTER FOR SEISMIC DESIGN CATEGORY D2. THE MINIMUM EDGE DISTANCE FROM THE EDGE OF CONCRETE TO EDGE OF ANCHOR BOLT SHALL BE 2.5 INCHES. ROOF FRAMING ATTACHMENT TO WOOD SILL PLATES SHALL BE IN ACCORDANCE WITH THE GENERAL NOTES OF THIS DRAWING.
20. TRUSS TO ICF WALL CONNECTION: USE SIMPSON HS24 FOR SINGLE-PLY TRUSSES OR DOUBLE TBE4/6 FOR DOUBLE-PLY TRUSSES. FOR TRUSSES INSTALLED ADJACENT AND PARALLEL TO ICF WALLS, INSTALL 2X BLOCKING WITH TENSION TIES AT 32" OC IAW PCA100-2017 FIGURE 6.12.
21. GIRDER TRUSS CONNECTION: TRUSS DESIGNER IS RESPONSIBLE FOR SPECIFYING GIRDER TIE-DOWNS. IF HIGHER STRENGTH BRACKET NOT SPECIFIED BY TRUSS DESIGNER, FASTEN GIRDER TO WALL WITH SIMPSON FGTR FACE MOUNT GIRDER TIEDOWN. REFERENCE TRUSS MANF DRAWING.
22. DIAPHRAGM BLOCKING IN SIESMIC DESIGN CATEGORIES D1 AND D2: ALL ROOF AND CEILING SHEATHING EDGES SHALL BE ATTACHED TO FRAMING OR BLOCKING. FLOOR SHEATHING EDGES SHALL BE ATTACHED TO FRAMING OR BLOCKING LOCATED WITHIN 48 INCHES OF AN ICF WALL. EDGE FASTENER SPACING SHALL BE 4 INCHES FOR SEISMIC DESIGN CATEGORY D1 AND 3 INCHES FOR SEISMIC DESIGN CATEGORY D2.
23. BEFORE PLACING CONCRETE, FORMWORK SHALL BE CLEANED OF DEBRIS AND SHALL BE FREE FROM FROST. CONCRETE SHALL NOT BE DEPOSITED INTO FORMWORK CONTAINING SNOW, MUD, OR STANDING WATER OR ON OR AGAINST ANY FROZEN MATERIAL.
24. BEFORE PLACING CONCRETE, VERTICAL AND HORIZONTAL REINFORCEMENT SHALL BE SECURED IN PLACE WITHIN THE INSULATING CONCRETE FORM AS DIRECTED BY MANUFACTURER. CONCRETE PLACING METHODS AND EQUIPMENT SHALL BE SUCH THAT THE CONCRETE IS CONVEYED AND DEPOSITED AT THE SPECIFIED SLUMP, WITHOUT SEGREGATION AND WITHOUT SIGNIFICANTLY CHANGING ANY OF THE OTHER SPECIFIED QUALITIES OF THE CONCRETE.
25. AN ADEQUATE METHOD SHALL BE FOLLOWED TO PREVENT FREEZING OF CONCRETE IN COLD-WEATHER DURING THE PLACEMENT AND CURING PROCESS. THE INSULATING FORM SHALL BE CONSIDERED AS ADEQUATE PROTECTION AGAINST FREEZING WHEN APPROVED.
26. DECAY PROTECTION: WOOD, INCLUDING GLULAM BEAMS, IN CONTACT WITH CONCRETE SHALL BE PREPARED WITH IRC APPROVED PRESSURE-PRESERVATIVE TREATMENT.
27. ENERGY CODE COMPLIANCE: THE INSULATION VALUE (R-VALUE) OF ALL ICF WALL SYSTEMS SHALL MEET OR EXCEED THE APPLICABLE PROVISIONS OF THE LOCAL ENERGY CODE OR THE MODEL ENERGY CODE.
28. VENTILATION: THE NATURAL VENTILATION RATE OF ICF BUILDINGS SHALL NOT BE LESS THAN THAT REQUIRED BY LOCAL CODE OR 0.35 ACH. WHEN REQUIRED, MECHANICAL VENTILATION SHALL BE PROVIDED TO MEET THE MINIMUM AIR EXCHANGE RATE OF 0.35 ACH IN ACCORDANCE WITH THE MODEL ENERGY CODE OR ASHRAE 62.

Client Information
Name: Jerry Hancock
Project No.: 202005-04
Address/Location: 6508 W 9600 N Highland, Utah

Issued – 20200626

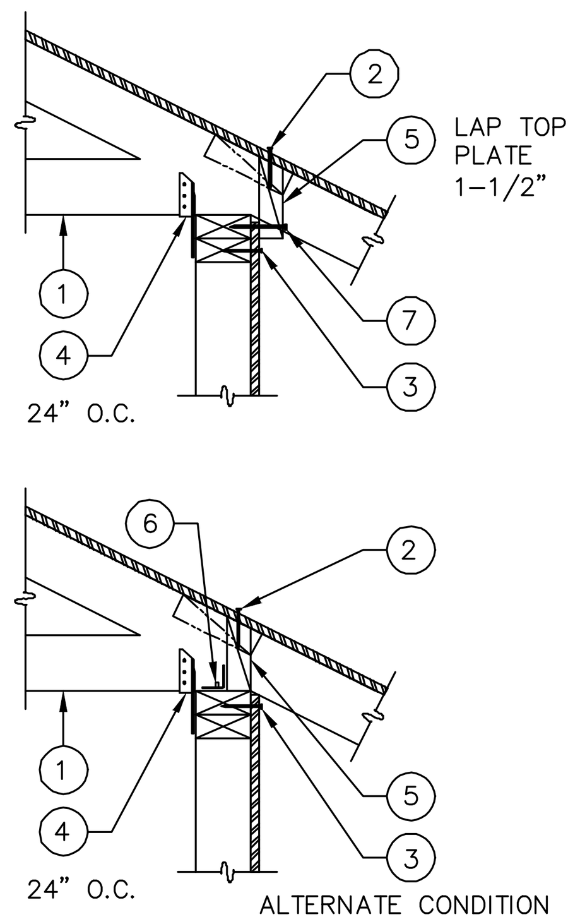


Valid only for the home being built on this lot, and when signed by engineer in blue ink and stamped.

McREAKEN ENGINEERING
2107 East 25 South, Layton, Utah 84040
801-309-5145 / 801-641-9150

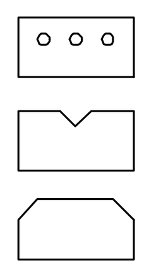
Revisions

S-1
Structural Notes & Details



NOTES:

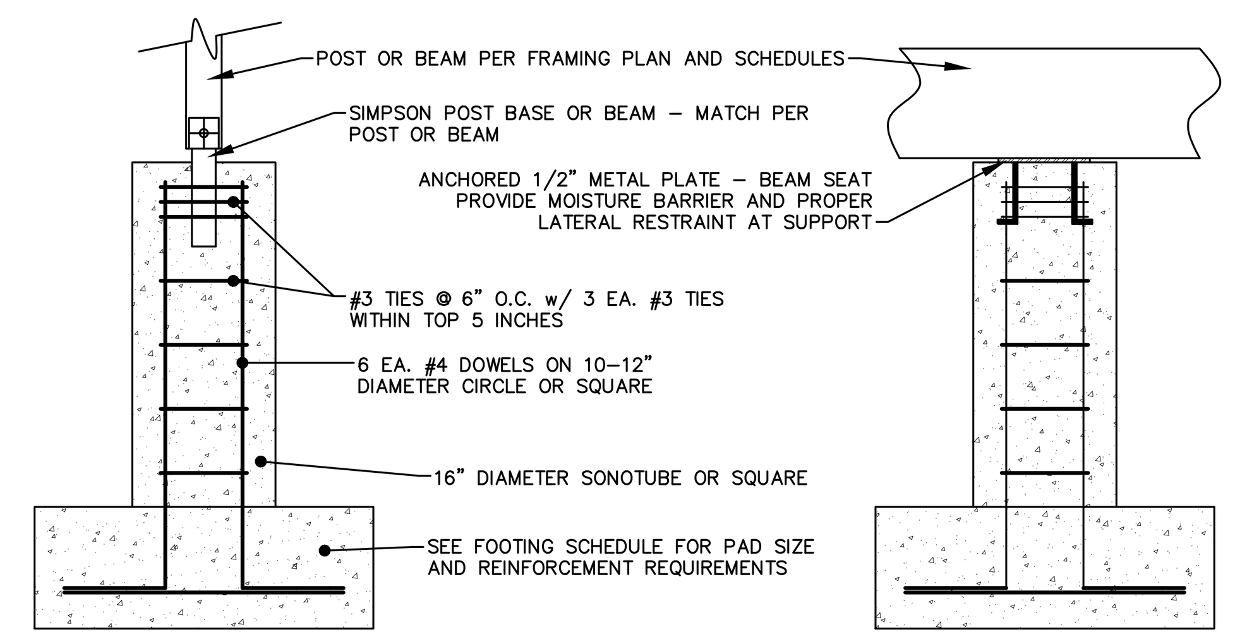
1. ENGINEERED TRUSS PER FRAMING PLAN
2. EDGE NAILING PER ROOF SHEATHING REQUIREMENTS UNO
3. EDGE NAILING PER SHEAR WALL REQUIREMENTS WHERE REQUIRED
4. SIMPSON TIES AS SPECIFIED IN NOTES, INSTALL ON OPPOSITE SIDE OF WALL
5. 2x BLOCKING EACH SPACE, TIP UP EVERY 4TH BLOCK FOR VENTILATION OR MODIFY BLOCK FOR VENT PER OPTIONS BELOW
6. SIMPSON A35 ANCHOR EACH BLOCK OR USE NAILS PER IRC
7. 3 EA. 16d NAILS EACH BLOCK



ACCEPTABLE VENTILATION METHODS AT SHEAR BLOCKING

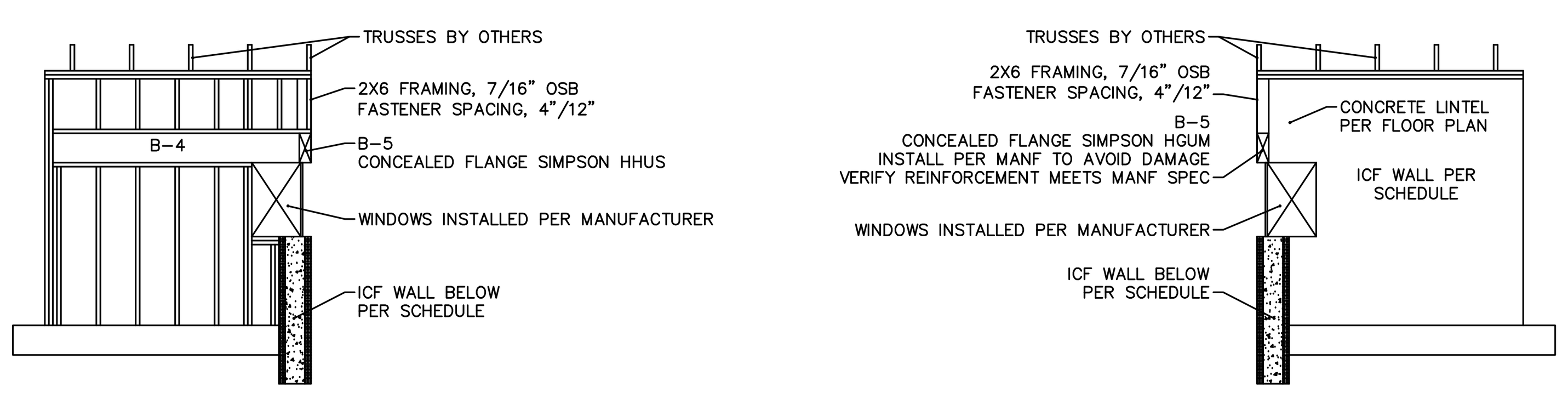
TRUSS BLOCKING DETAILS
NO SCALE

fc = 2500 PSI				PAD SCHEDULE							fy = 60000 PSI
MARK	WIDTH	LENGTH	THICK	CROSSWISE REINFORCING				LENGTHWISE REINFORCING			
				No.	Size	Length	Spacing	No.	Size	Length	Spacing
P-24	24"	24"	10"	2	#4	18"	EQ.	2	#4	18"	EQ.
P-30	30"	30"	12"	3	#4	24"	EQ.	3	#4	24"	EQ.
P-36	36"	36"	12"	4	#4	30"	EQ.	4	#4	30"	EQ.
P-42	42"	42"	12"	5	#4	36"	EQ.	5	#4	36"	EQ.
P-48	48"	48"	12"	6	#4	42"	EQ.	6	#4	42"	EQ.
P-60	60"	60"	14"	8	#6	54"	EQ.	8	#6	54"	EQ.



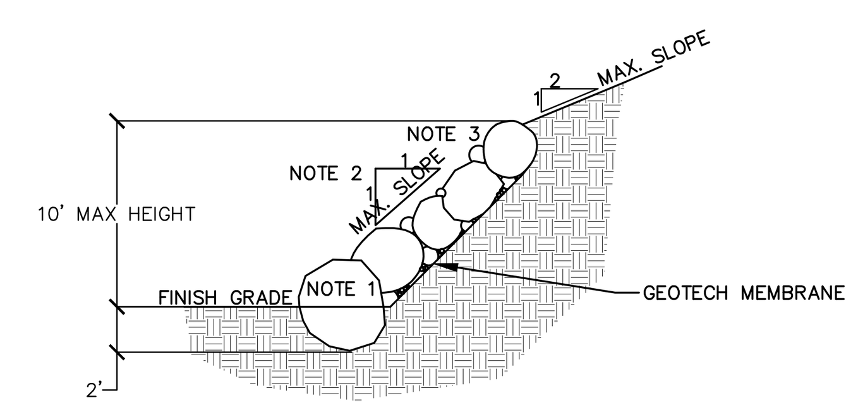
POST OR BEAM PER FRAMING PLAN AND SCHEDULES
SIMPSON POST BASE OR BEAM – MATCH PER POST OR BEAM
ANCHORED 1/2" METAL PLATE – BEAM SEAT PROVIDE MOISTURE BARRIER AND PROPER LATERAL RESTRAINT AT SUPPORT
#3 TIES @ 6" O.C. w/ 3 EA. #3 TIES WITHIN TOP 5 INCHES
6 EA. #4 DOWELS ON 10–12" DIAMETER CIRCLE OR SQUARE
16" DIAMETER SONOTUBE OR SQUARE
SEE FOOTING SCHEDULE FOR PAD SIZE AND REINFORCEMENT REQUIREMENTS

CONCRETE PIER DETAIL
NOT TO SCALE



TRUSSES BY OTHERS
2X6 FRAMING, 7/16" OSB FASTENER SPACING, 4"/12"
B-4
B-5
CONCEALED FLANGE SIMPSON HHUS
WINDOWS INSTALLED PER MANUFACTURER
ICF WALL BELOW PER SCHEDULE
TRUSSES BY OTHERS
2X6 FRAMING, 7/16" OSB FASTENER SPACING, 4"/12"
B-5
CONCEALED FLANGE SIMPSON HGUM INSTALL PER MANF TO AVOID DAMAGE VERIFY REINFORCEMENT MEETS MANF SPEC
CONCRETE LINTEL PER FLOOR PLAN
ICF WALL PER SCHEDULE
WINDOWS INSTALLED PER MANUFACTURER
ICF WALL BELOW PER SCHEDULE

LIBRARY CANTILEVERED WALL DETAIL
SCALE: NONE



NOTES:

1. ROCKS SHALL BE HARD, DURABLE, ANGULAR, FIELD STONES AND SHALL INTERLOCK WITH ADJACENT ROCKS..
2. ROCKS SHALL BE SET TO NOT EXCEED SLOPE OF 1 TO 1, AS SHOWN.
3. LARGE IRREGULARITIES BETWEEN STONES SHALL BE FILLED WITH ROCK SPALLS OF SUITABLE SIZE RAMMED TIGHTLY INTO PLACE.
4. SOIL SHALL BE COMPACTED WITH MECHANICAL EQUIPMENT TO SATISFACTION OF BUILDING OFFICIAL.

*** ANY DEVIATION SHALL REQUIRE THE WALL TO BE ENGINEERED.

*** EXCAVATION GRADING PERMIT MUST BE OBTAINED. INSPECTION TO BE MADE ON FIRST ROW AND SUBSEQUENTLY THEREAFTER AS DIRECTED BY BUILDING OFFICIAL.

ROCK RETAINING DETAIL
NOT TO SCALE

Client Information
Name: Jerry Hancock
Project No.: 202005-04
Address/Location: 6508 W 9600 N Highland, Utah

Issued – 20200626

PROFESSIONAL STRUCTURAL ENGINEER
J. McREAKEN
4776657-2203
STATE OF UTAH
VALID ONLY FOR
JERRY HANCOCK MAIN RESIDENCE
6508 W 9600 N, HIGHLAND
20200626

Valid only for the home being built on this lot, and when signed by engineer in blue ink and stamped.

McREAKEN ENGINEERING
2107 East 25 South, Layton, Utah 84040
801-309-5145 / 801-641-9150

Revisions

Further, contractor and subcontractors shall assume full liability for plans, assuring accuracy of dimensions, constructability, locations, notes, etc., and shall conform to International Building Code requirements in all respects. Any questions shall be directed to McReaken Engineering.

SHEET S-2
Structural Notes & Details

ARCHITECT REQUIRED TO VALIDATE LOCATION OF ALL FEATURES,
INCLUDING INTERNAL BEARING LOCATIONS, PRIOR TO CONSTRUCTION.

1 2 3 4 5 6

A B C D

F-30 F-30 F-42 F-42 F-30 F-30

F-24 F-24 F-24 F-24 F-24 F-24 F-24 F-24 F-24

F-36 F-36 F-36

F-20 F-20

F-18 F-18 F-18 F-18

F-28 F-28

F-36 F-36

18' - 0" 18' - 0"

25' - 4" 25' - 4"

17' - 4" 17' - 7"

22' - 0" 24' - 0"

49' - 5 1/2" 8' - 5" 9' - 5 1/2"

4' - 2 1/2" 4' - 2 1/2"

10' - 0" 4' - 0"

35' - 4" 22' - 1 1/2" 8' - 5" 13' - 5 1/2"

37' - 2" 44' - 0"

1 Footing Plan
1/4" = 1'-0"

Project Name

Owner: Jerry Hancock
Location: 6508 W 9600 N
Highland, Utah

Project Number: 202005-04
Issue Date: 6/26/2020

McReaken Engineering
Architectural Designers & Structural Engineers
Custom Residential & Stock Plans
2107 East 25 South, Layton, Utah // 801-309-5145

Revisions

Sheet S-3
Footing Plan

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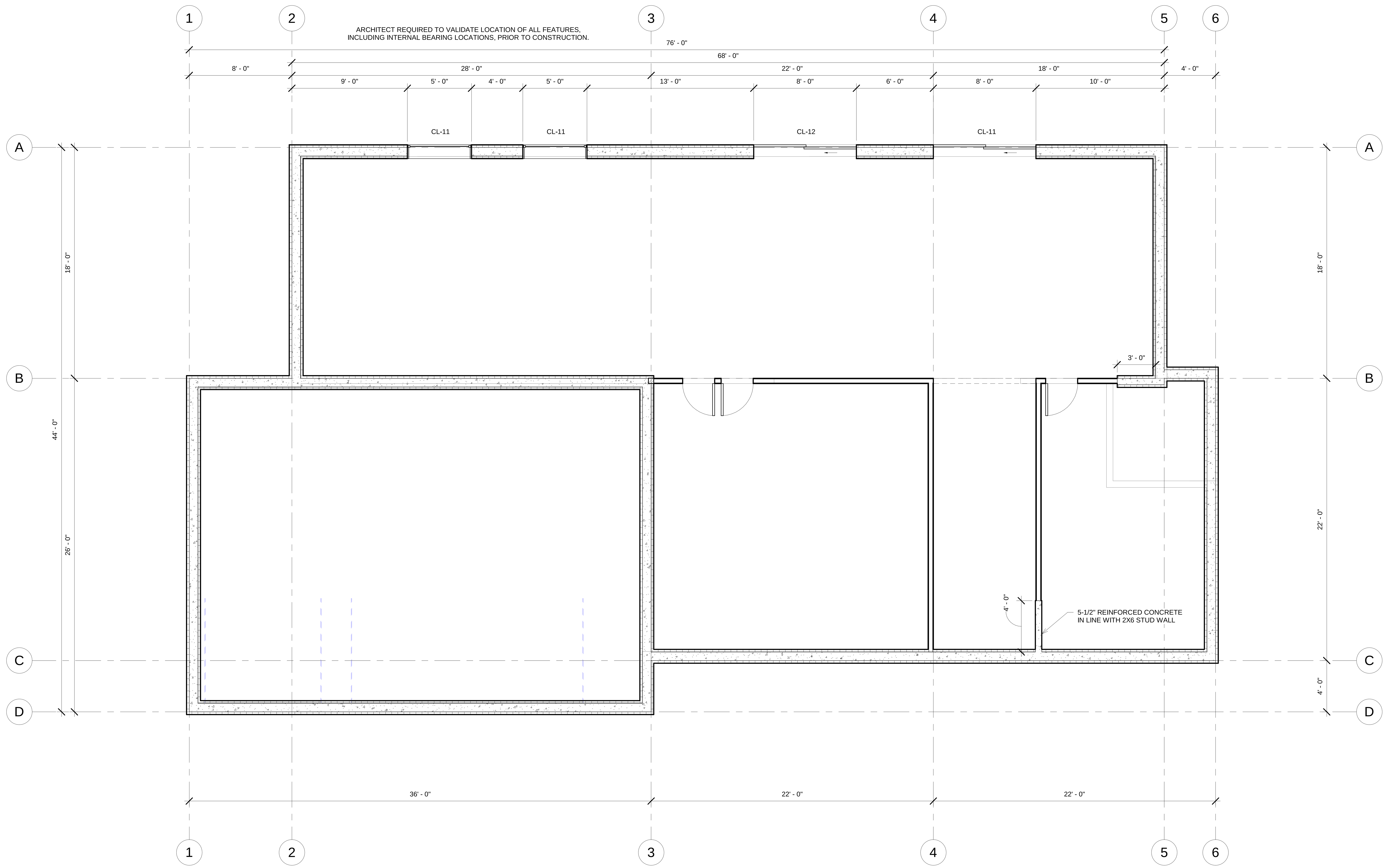

1 Foundation Plan
1/4" = 1'-0"

Project Name
Owner: Jerry Hancock
Location: 6508 W 9600 N
Highland, Utah

Project Number: 202005-04
Issue Date: 6/26/2020

VALID ONLY FOR
JERRY HANCOCK MAIN RESIDENCE
6508 W 9600 N, HIGHLAND
PROFESSIONAL STRUCTURAL ENGINEER
J. McREAKEN
4776657-2203
20200626
STATE OF UTAH

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McReaken Engineering
Architectural Designers & Structural Engineers
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Revisions

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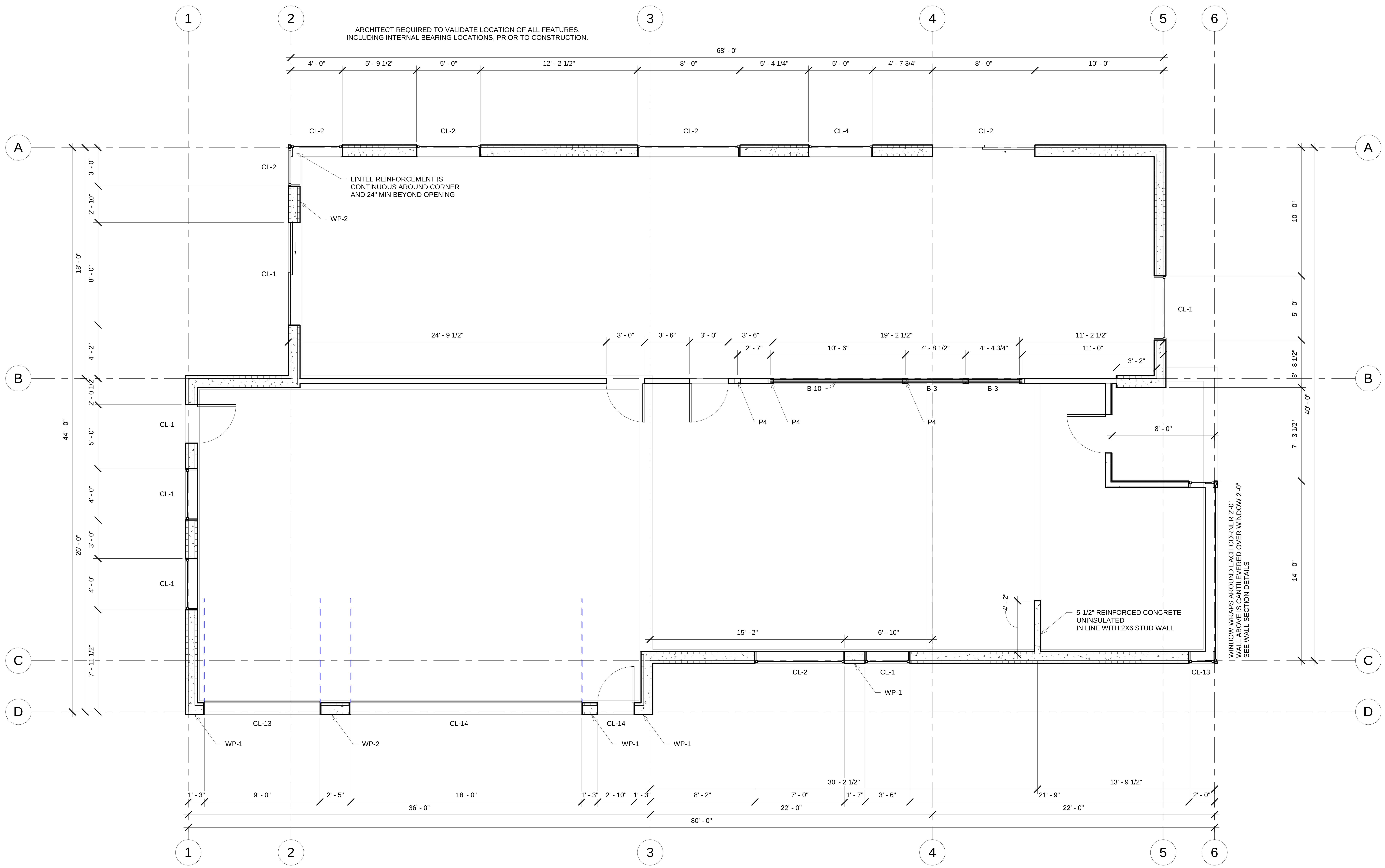
Sheet S-4
Foundation Plan

6/26/2020 3:08:19 PM



1 Main Level Plan
1/4" = 1'-0"

Project Name
Owner: Jerry Hancock
Location: 6508 W 9600 N
Highland, Utah

Project Number: 202005-04
Issue Date: 6/26/2020

PROFESSIONAL STRUCTURAL ENGINEER
J. McREAKEN
4776657-2203
STATE OF UTAH

VALID ONLY FOR
JERRY HANCOCK MAIN RESIDENCE
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McReaken Engineering

Architectural Designers & Structural Engineers

Custom Residential & Stock Plans

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Revisions

Further, contractor and subcontractors shall assume full liability for plans, assuring accuracy of dimensions, constructability, locations, notes, etc., and shall conform to International Building Code requirements in all respects. Any questions shall be directed to Heritage Home Designs.

Sheet S-5
Main Level Plan

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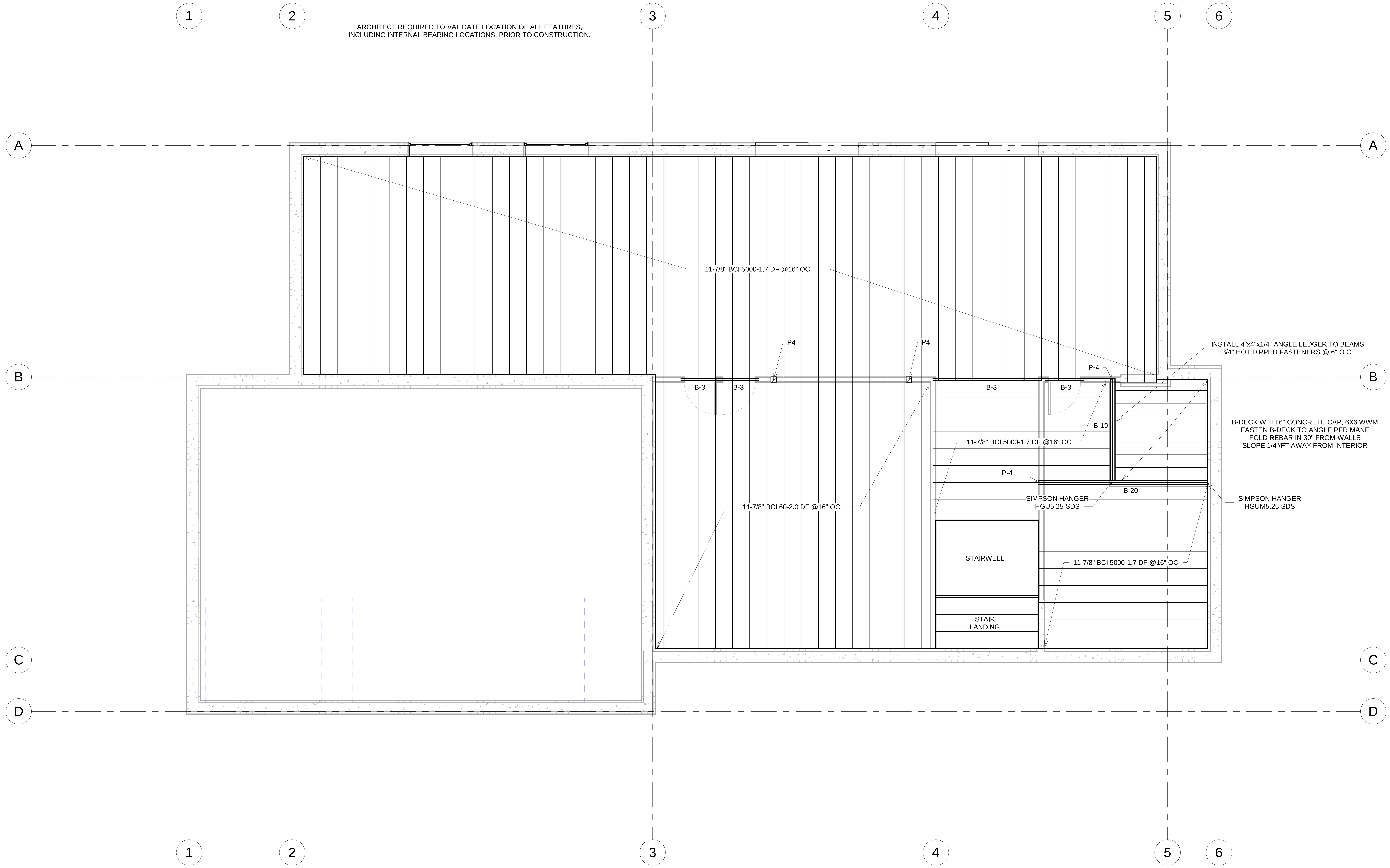

1 Floor Framing Plan
1/4" = 1'-0"

Project Name
Owner: Jerry Hancock
Location: 6508 W 9600 N
Highland, Utah

Project Number: 202005-04
Issue Date: 6/26/2020

VALID ONLY FOR
JERRY HANCOCK MAIN RESIDENCE
6508 W 9600 N, HIGHLAND
PROFESSIONAL STRUCTURAL ENGINEER
J. McREAKEN
4776657-2203
20200626
STATE OF UTAH

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Revisions

Sheet S-6
Main Floor
Framing Plan

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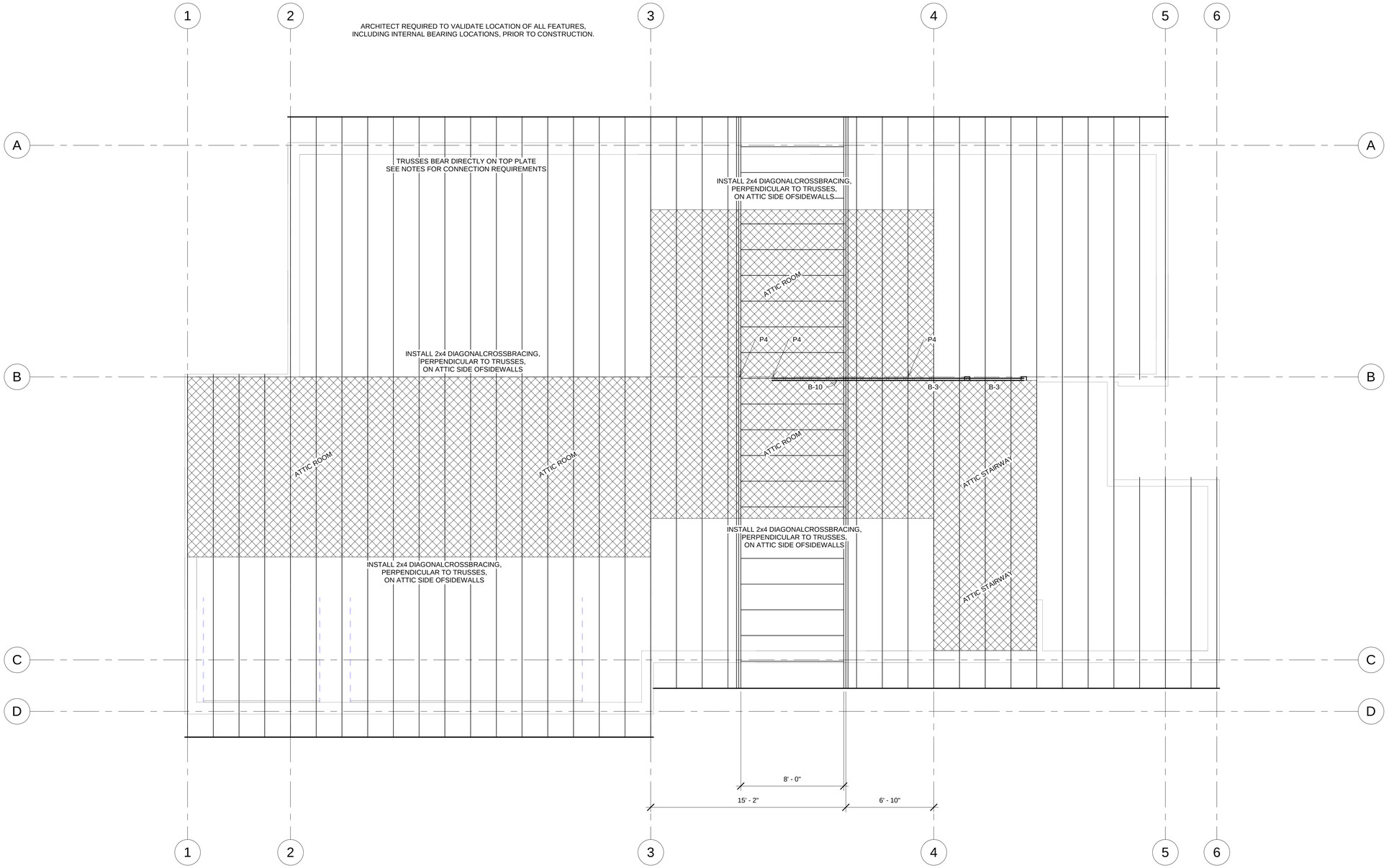

1 Roof
1/4" = 1'-0"

Project Name
Owner: Jerry Hancock
Location: 6508 W 9600 N
Highland, Utah

Project Number: 202005-04
Issue Date: 6/26/2020

McReaken Engineering
Architectural Designers & Structural Engineers
Custom Residential & Stock Plans
2107 East 25 South, Layton, Utah // 801-309-5145

Revisions

Sheet S-7
Roof Framing Plan

6/26/2020 3:08:19 PM