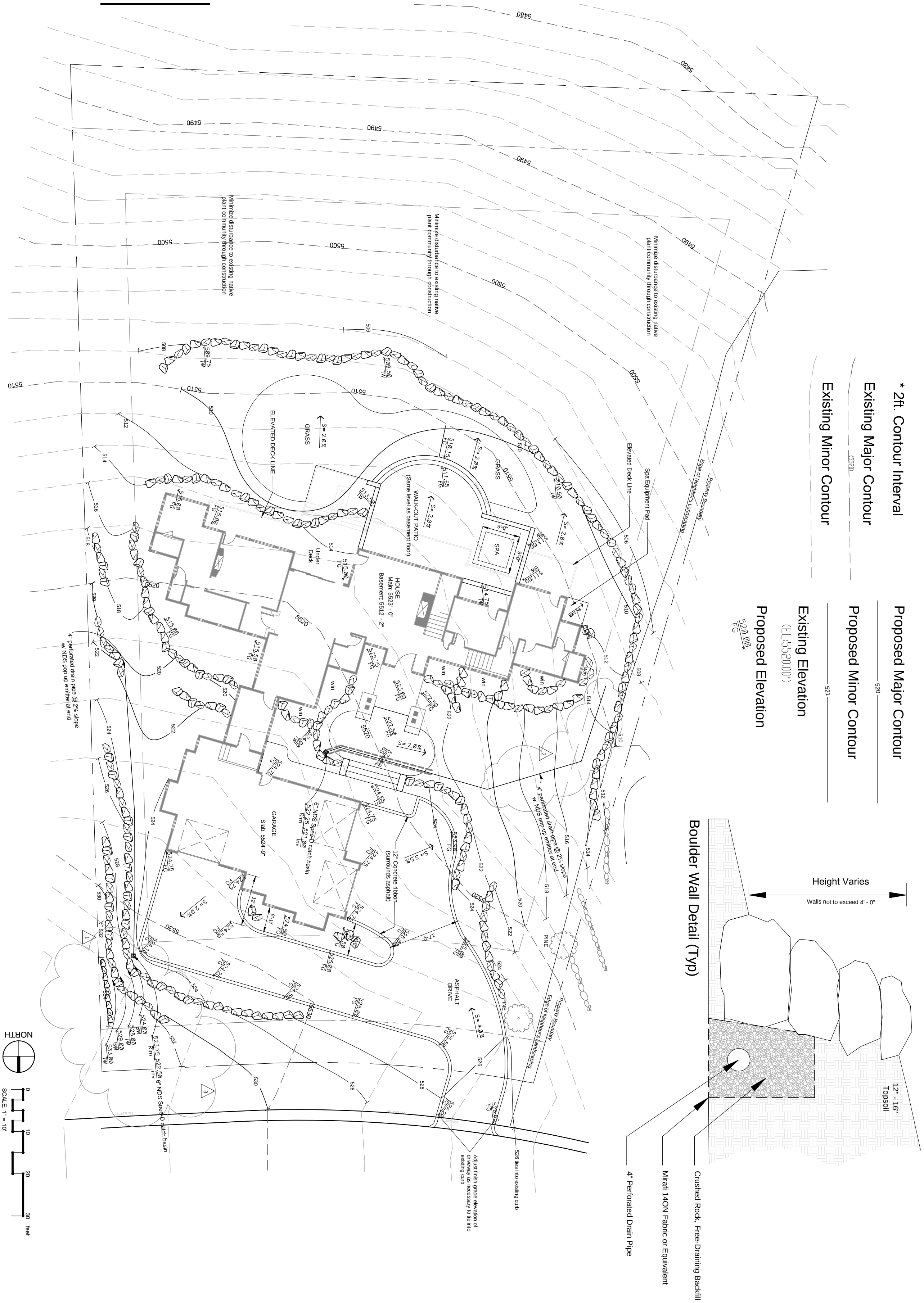
# Exhibit A




| | |
|---|---|
| PROJECT: | Hannoy Residence |
| | Lot 127, The Highlands at Wolf Creek, 3563 Pineview Court, Eden, UT |
| SHEET TITLE: | Landscape Grading & Drainage Plan |
| Owner(s): | Doug & Ann Hannoy |

| | |
|---|---|
| DATE: | Jan 24, 2016 |
| PROJECT NUMBER: | 1501 |
| DRAWING SCALE: | 1" = 10' |
| DESIGNED BY: | KJ |
| DRAWN BY: | KJ |
| PROJ. STATUS: | AC Submission |
| NOTES: | |

| REVISIONS | DESCRIPTION | DATE |
|---|---|---|
| 1 | Terrace NE Wall | 8-30-15 |
| 2 | Extend perforated pipe around house | 9-29-15 |
| 3 | Removed walls from utility easement area | 1-24-16 |
| 4 | | |
| 5 | | |
| 6 | | |



Written dimensions shall have precedence over scaled dimensions. Contractors to verify and be responsible for all dimensions and conditions on the job. The architect must be notified of any variations from the dimensions and conditions shown on the drawing.

State of Utah — Licensed Landscape Architect — Kevin S Jensen — 8229782-5301 — 01/24/2016

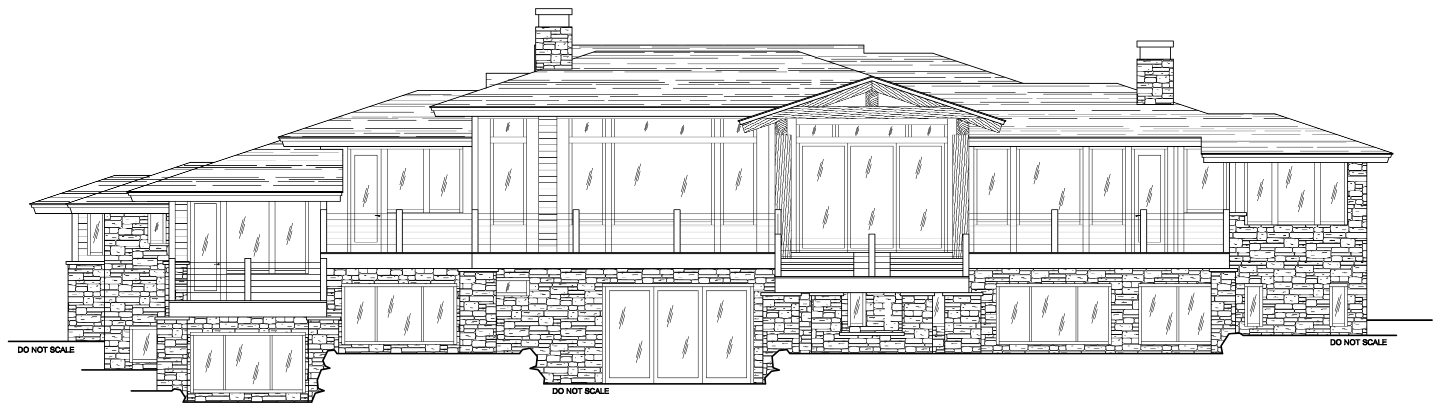
FIRMROOTS Landscape Architecture
Connecting People to Place
Kevin@FirmRootsLand.com

Sheet L200

Exhibit A

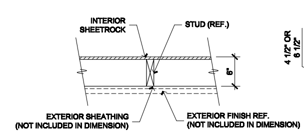
# MARK DESIGN INC

P.O. Box 339 Huntsville, Utah 84317
801.745.2711

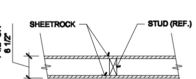



# HANNOY

## WEBER COUNTY, UTAH




PLAN VIEW EXTERIOR WALL DIMENSIONING REF.




PLAN VIEW INTERIOR WALL DIMENSIONING REF.

## DRAWING SCHEDULE

| SHEET | DESCRIPTION |
|---|---|
| CV | COVER SHEET |
| NT | NOTES SHEET |
| SP | SITE PLAN |
| GP | GRADING PLAN |
| LP | LANDSCAPE PLAN |
| P1 | MAIN LEVEL FLOOR PLAN (3/16" = 1'-0") |
| P2 | LOWER LEVEL FLOOR PLAN (3/16" = 1'-0") |
| P3 | MAIN LEVEL FLOOR PLAN (1/4" = 1'-0") |
| P4 | MAIN LEVEL FLOOR PLAN (CONTINUED) |
| P5 | LOWER LEVEL FLOOR PLAN (1/4" = 1'-0") |
| P6 | LOWER LEVEL FLOOR PLAN (CONTINUED) |
| L1 | SOUTH ELEVATION, WEST ELEVATION |
| L2 | NORTH ELEVATION, EAST ELEVATION |
| L3 | NORTH ELEVATION (UNOBSCURED BY GARAGE) |
| F1 | FOOTING/FOUNDATION PLAN |
| D1 | WALL SECTIONS |
| D2 | WALL SECTIONS, DECK POST DETAIL |
| D3 | STAIR SECTIONS |
| D4 | BUILDING SECTIONS |
| D5 | BUILDING SECTIONS |
| D6 | BUILDING SECTIONS |
| C1 | REFLECTED CEILING PLAN, CEILING PLAN |
| C2 | CEILING DETAILS |
| E1 | MAIN LEVEL ELECTRICAL PLAN |
| E2 | LOWER LEVEL ELECTRICAL PLAN |
| S1 | MAIN LEVEL SHEAR PLAN |
| S2 | ROOF FRAMING PLAN |
| S3 | MAIN FLOOR FRAMING PLAN |
| SD.1 | STRUCTURAL DETAILS |
| SD.2 | STRUCTURAL DETAILS |

## CONSTRUCTION SITE

LOT #127, THE HIGHLANDS AT WOLF CREEK
3563 PINEVIEW COURT
EDEN, WEBER COUNTY, UTAH

## AREA

| | | |
|---|---|---|
| MAIN LEVEL FLOOR AREA | = | 2,483 S.F. |
| LOWER LEVEL FLOOR AREA | = | 2,483 S.F. |
| GARAGE FLOOR AREA | = | 1,235 S.F. |
| STORAGE AREA BELOW GARAGE | = | 411 S.F. |

## CONTRACTOR NOTE:

CONTRACTOR AND ALL SUB-CONTRACTORS SHALL THOROUGHLY REVIEW AND UNDERSTAND ALL SECTIONS, DETAILS, AND PLANS AS SHOWN IN THIS PLAN SET BEFORE UNDERTAKING TO PERFORM ANY WORK ON THIS RESIDENCE.

THE SPECIFICATIONS WITHIN THIS PLAN SET ARE ACCURATE AS OF THE MOST RECENT DATE IN THE TITLE BLOCK. HOWEVER, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM AND VERIFY ALL SPECIFICATIONS w/ THE OWNER PRIOR TO CONSTRUCTION. ALL DIMENSIONS AND INFORMATION CONTAINED HEREIN MUST BE FIELD VERIFIED. MARK DESIGN, INC. ASSUMES NO RESPONSIBILITY FOR FAILURE TO PERFORM THE ABOVE.

| REVISION | DATE |
|---|---|
| | |



MARK DESIGN INC
P.O. Box 339 Huntsville, Utah 84317
801.745.2711

CLIENT: HANNOY
DRAFTER: MDL
DATE: 09-29-15
SHEET: CV

Exhibit A

# 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. 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 0.35 (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/ ½" 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 & TABLE R308.3, & 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. HARDWARE. TO BE BRUSHED NICKEL WITH WHITE, PAINTABLE HINGES ON INTERIOR DOORS. STYLE AND TYPE OF ALL HARDWARE TO BE SELECTED BY OWNER.
8. TRIM. WOOD FOR DOOR / WINDOW CASINGS, BASEBOARDS, CHAIR RAIL AND CROWN MOLDING TO BE PAINT-GRADE. TYPE AND STYLE SELECTED BY OWNER.
9. 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
10. GARAGE SEPARATION. GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NOT LESS THAN ½" GYPSUM BOARD APPLIED TO THE GARAGE SIDE AND THE HOUSE SIDE OF WALL. GARAGES BENEATH HABITABLE ROOMS SHALL BE SEPARATED FROM ALL HABITABLE ROOMS BY NOT LESS THAN ⅝" TYPE-X GYPSUM BOARD OR EQUIVALENT.
11. 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.
12. 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 & M1305
13. GRAB BARS AND SHOWER SEATS. SHALL BE CAPABLE OF WITHSTANDING A POINT LOAD OF 250 LBS. IN ANY DIRECTION. IBC 1607.7.2
14. STUCCO. CONTRACTOR TO INSTALL OWNER SELECTED COLOR AND MATERIAL IN ACCORDANCE WITH IBC / IRC AND MANUFACTURER'S INSTRUCTIONS.
15. EXTERIOR SIDING. CONTRACTOR TO INSTALL EXTERIOR SIDING AS SELECTED BY OWNER. SIDING TO BE CAULKED, SEALED, FLASHED AND PAINTED AS RECOMMENDED BY MANUFACTURER. 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
16. DECAY PROTECTION. WOOD INCLUDING GLULAM BEAMS EXPOSED TO GROUND OR NATURAL ELEMENTS SHALL BE PREPARED WITH APPROVED PRESSURE-PRESERVATIVE TREATMENT. IRC R317
17. TERMITE PROTECTION. PROVIDE TERMITE PROTECTION IN ALL REQUIRED AREAS PRIOR TO CONSTRUCTION. IRC SECTION R318
18. MOISTURE PROTECTION. INSTALL FLASHING AND SEALANT IN EXTERIOR JOINTS AS REQUIRED / RECOMMENDED BY MANUFACTURER.
19. INSULATION. INSTALL FIBERGLASS BATT OR LOOSE FILL. MINIMUM R-VALUES TO BE CEILING R-49, WALLS R-20, FLOOR OVER UNHEATED SPACE R-30 (USE R-19 MIN. IF LIMITED SPACE AVAILABLE), AND BASEMENT 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)
20. VAPOR BARRIER. ENTIRE LIVING SPACE ENVELOPE TO BE ENCLOSED WITH 4-MIL PLASTIC VAPOR BARRIER, PLACED ON WARM-IN-WINTER SIDE OF INSULATION. IRC CHAPTER 11 & IECC 502.1.1
21. 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.
22. ROOFING SYSTEM. PROVIDE METAL ROOF DECK IAW REQUIREMENTS OF IRC R905.10. OWNER TO SELECT COLOR AND PATTERN.
23. ROOF ICE BARRIER. IN AREAS WHERE THERE IS A HISTORY OF ICE FORMING ALONG EAVES, AS DETERMINED BY BUILDING OFFICIAL, AN ICE BARRIER SHALL BE INSTALLED IN ACCORDANCE WITH IRC 905, EXTENDING INTO ROOF AT LEAST 24 INCHES FROM EXTERIOR WALL LINE.
24. RAIN GUTTERS AND DOWNSPOUTS. INSTALL HIGH-GRADE VINYL PER IBC / IRC, WITH COLOR AND STYLE SELECTED BY OWNER.
25. 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.
26. EXTERIOR BRICK / FACE ROCK. CONTRACTOR TO INSTALL BRICK AND / OR FACE ROCK AS SELECTED BY OWNER. INSTALL PER IBC / IRC AND MANUFACTURER'S INSTRUCTIONS.
27. FOUNDATION DRAINAGE. INSTALL FOUNDATION DRAINAGE SYSTEM WHERE REQUIRED BY BUILDING OFFICIAL FOR THE BUILDING SITE. IRC R405
28. WHERE REQUIRED BY LOCAL BUILDING OFFICIAL, FIRE SPRINKLERS SHALL BE INSTALLED AND BUILT PER APPROPRIATE NFPA DESIGN AND CONSTRUCTION CRITERIA. LAYOUT TO BE DESIGNED BY OTHERS AND IS THEREFORE A DEFERRED SUBMITTAL.
29. 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
30. NO STUMPS, ROOTS, OR ORGANIC MATERIAL SHALL BE PRESENT IN SOIL AT THE AREA OF JOB SITE.
31. APPROVED BUILDING ADDRESS NUMBERS SHALL BE PROVIDED AND PLACED IN A POSITION WHICH IS PLAINLY VISIBLE AND LEGIBLE FROM FRONTAGE STREET OF PROPERTY.
32. CURB, GUTTER AND SIDEWALK ALONG LOT FRONTAGE SHALL BE INSTALLED AT TIME OF HOME CONSTRUCTION. CURB, GUTTER AND SIDEWALK TO BE CLEAN AND IN NEW CONDITION AT TIME OF FINAL INSPECTION BY BUILDING OFFICIAL.
33. 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.

# General Framing Notes

1. USE DOUGLAS FIR OR SIMILAR 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 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 R502.5(1)/(2); MINIMUM 2 KINGS AND 2 TRIMS FOR EACH END.
3. USE SIMPSON OR EQUIVALENT HARDWARE TO CONNECT BEAMS 6' AND LONGER TO STUDS OR POSTS.
4. WHERE STEEL STRONG WALLS (SSW) ARE SPECIFIED, CONTRACTOR TO USE HEIGHT INDICATED, BUT IS RESPONSIBLE FOR PROPER FIT. THAT IS, IF TALLER SSWs ARE REQUIRED, OR IF SHIMS ARE NEEDED, CONTRACTOR TO PROVIDE AS REQUIRED AND SHALL PROCURE BASED ON SIZE REQUIRED FOR ACTUAL CONSTRUCTION MEASUREMENTS.
5. STEEL CONNECTIONS TO BE AS SHOWN ON DETAIL SHEETS HEREIN OR AS PRESCRIBED BY STEEL PROVIDER / FABRICATOR. MINIMUM CONNECTIONS TO BE FULL PERIMETER ¼" FILLET WELD OR BOLTED PER MANUFACTURER'S DIRECTION.
6. 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.
7. ALL MULTIPLE BEAMS AND HEADERS SHALL BE NAILED USING 2 ROWS OF 16d NAILS @ 12" O.C.
8. 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.
9. ALL POINT LOADS SHALL BE SOLID BLOCKED THROUGH TO THE FOUNDATION.
10. CONTRACTOR SHALL FOLLOW THE MINIMUM FASTENING SCHEDULE LISTED IN IRC TABLE R602.3(1).
11. 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.
12. FLOOR SHEATHING SHALL BE ¾" T&G WAFER BOARD OR OSB, APA RATED 24/16 MINIMUM, NAILED w/ 8d NAILS @ 6" O.C. ON EDGES, AND @ 12" O.C. ALONG INTERMEDIATE FRAMING MEMBERS. GLUE ALONG ALL JOISTS AND RIMBOARDS. IRC R503
13. INSTALL SOLID JOIST BLOCKING AT ALL BEARING LOCATIONS.
14. BASE PLATES TO BE TREATED LUMBER OR REDWOOD, PLACED OVER FOAM, w/ NOT MORE THAN 2 EA. 2x4 OR 3 EA. 2x6 STACKED PLATES.
15. INSTALL FLOOR SHEATHING WITH FACE GRAIN AT RIGHT ANGLES TO FRAMING WITH END JOINTS STAGGERED.
16. INSTALL DOUBLE FLOOR JOISTS UNDER ALL LOAD BEARING WALLS RUNNING PARALLEL WITH FLOOR JOISTS.

# Truss & Roof Sheathing Notes

1. ROOF TRUSSES SHALL BE DESIGNED TO MEET LOADS SPECIFIED IN DESIGN CRITERIA AND SHALL BE STAMPED BY A UTAH LICENSED ENGINEER. ALL TRIBUTARY, DRIFT, UNBALANCED SNOW, MECHANICAL, ETC., LOADS SHALL BE CONSIDERED IN THE DESIGN. TRUSSES SHALL IN GENERAL BE 24" O.C. TRUSS DESIGN SHALL BE A DEFERRED SUBMITTAL AND SHALL BE PROVIDED TO ENGINEER OF RECORD FOR REVIEW PRIOR TO SUBMISSION TO BUILDING OFFICIAL. IRC R502, R802 & IBC 107.3.4.2
2. CONTRACTOR SHALL BLOCK BETWEEN TRUSSES AND CONNECT EACH TRUSS TO WALL TOP PLATE WITH SIMPSON H1 CONNECTORS OR AS OTHERWISE SPECIFIED ON DRAWINGS.
3. ANY CHANGES TO THE TRUSS CONFIGURATION SHOWN ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.
4. FASTEN OUTLOOKERS TO GABLED WALLS WITH SIMPSON H1 CONNECTORS.
5. 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 @ 6" 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 CHAPTER 23

   5.1. 40-70 PSF SL - USE APA 32/16 (15/32", ½", ⅝") MINIMUM
6. LAY SHEATHING WITH FACE GRAIN AT RIGHT ANGLES TO FRAMING WITH STAGGERED END JOINTS.

# Footings, Foundation & Slabs

1. 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.
2. SLABS ON GRADE. BASEMENT AND INTERIOR SLABS ON GRADE (EXCEPT GARAGE) TO BE 2500 PSI 28-DAY STRENGTH. GARAGE SLABS ON GRADE, ELEVATED STRUCTURAL SLABS, 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. CONCRETE FLOOR 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 & R506
3. 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
4. ELEVATED GARAGE FLOOR SLAB. USE HANSON STRUCTURAL PRECAST HOLLOW-CORE FORM DECKING, AS PROVIDED BY HANSON CORP. PROVIDE 12" HIGH w/ 4.5" CONCRETE TOPPING (3,000 psi), WITH DEAD LOAD OF 133 PSF. INSTALL AS PER DETAILS SHOWN IN HANSON HOLLOW-CORE DECK INSTALLATION DRAWINGS FOR 8" THICK FOUNDATION WALLS, w/ #4-24"x24" BEND BARS PLACED AT 24" O.C. CONTRACTOR TO CONSULT WITH ENGINEER OR HANSON TECH REPS DURING CONSTRUCTION AS REQUIRED.
5. TOP EDGE OF 6', 8' AND 9' WALLS TO BE SUPPORTED BY ROOF/FLOOR FRAMING 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'.
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
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 2305 & 2308
15. HOLDOWNS SHALL BE EMBEDDED IN THE FOUNDATION PER MANUFACTURER'S INSTRUCTIONS. CONTRACTOR SHALL ENSURE THAT THE FASTENER HOOKS THE REBAR AND MEETS MINIMUM EDGE DISTANCE.
16. HOLDOWNS ALIGN WITH SHEAR WALLS. REFER TO MAIN FLOOR PLAN FOR EXACT LOCATIONS OF HOLDOWNS.
17. WATERPROOF ENTIRE EXTERIOR OF FOUNDATION SURFACE BELOW GRADE WITH 2 COATS OF ASPHALT EMULSION. IRC R406

# 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 & COOLING SYSTEM CAPABLE OF MAINTAINING 72°F (HEATING) & 75°F (COOLING) AT A POINT 36" ABOVE FINISH FLOOR IN ALL ROOMS, OR TEMPERATURE REQUIREMENTS AS STATED BY OWNER. 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, HIDDEN, INSULATED, WELL FASTENED TO STRUCTURE, AND TO HAVE MINIMAL BENDS.
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
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 (UTAH AMENDMENT)
13. RECEPTACLES SERVING KITCHEN COUNTERTOPS, GARAGES, BATH ROOMS, UNFINISHED BASEMENTS, OUTSIDE AREAS AND OTHER AREAS REQUIRED BY IRC SHALL BE GFCI PROTECTED. PROVIDE AT LEAST TWO OUTSIDE RECEPTACLES AT GRADE LEVEL - ONE IN FRONT YARD 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 & E4003
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
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. ALL BRANCH CIRCUITS THAT SUPPLY RECEPTACLES IN ROOMS SPECIFIED IN IRC SHALL BE PROVIDED WITH COMBINATION TYPE ARC-FAULT CIRCUIT INTERRUPTERS. IRC E3902
19. 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
20. 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 INTERNATIONAL PLUMBING CODE, 2012 ED.
2. PROVIDE WATER CLOSETS WITH A FLOW RATE OF NOT MORE THAN 1.6 GALLONS PER FLUSH. IRC P2903
3. PROVIDE SHOWER HEADS WITH A FLOW RATE OF NOTE MORE THAN 2.5 GPM @ 80 psi. IRC P2903
4. PROVIDE NON-FREEZE TYPE BACKFLOW PREVENTER HOSE BIBS w/ STOP-AND-WASTE-TYPE VALVE AS REQUIRED. IRC P2902 & P2903
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. SHOWERS SHALL BE FINISHED TO A HEIGHT OF NOT LESS THAN 72 INCHES ABOVE FINISHED FLOOR WITH NON-ABSORBENT SURFACE MATERIAL. IRC R307
9. 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
10. PROVIDE 21" CLEARANCE IN FRONT OF WATER CLOSET. SHOW A FULL 30"-WIDE FINISHED SPACE FOR WATER CLOSET. IRC P307 & P2705
11. 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.
12. INSTALL FREEZELESS, BACKFLOW PREVENTION HOSE BIBS - MINIMUM TWO PER STRUCTURE, ONE FRONT & ONE REAR.

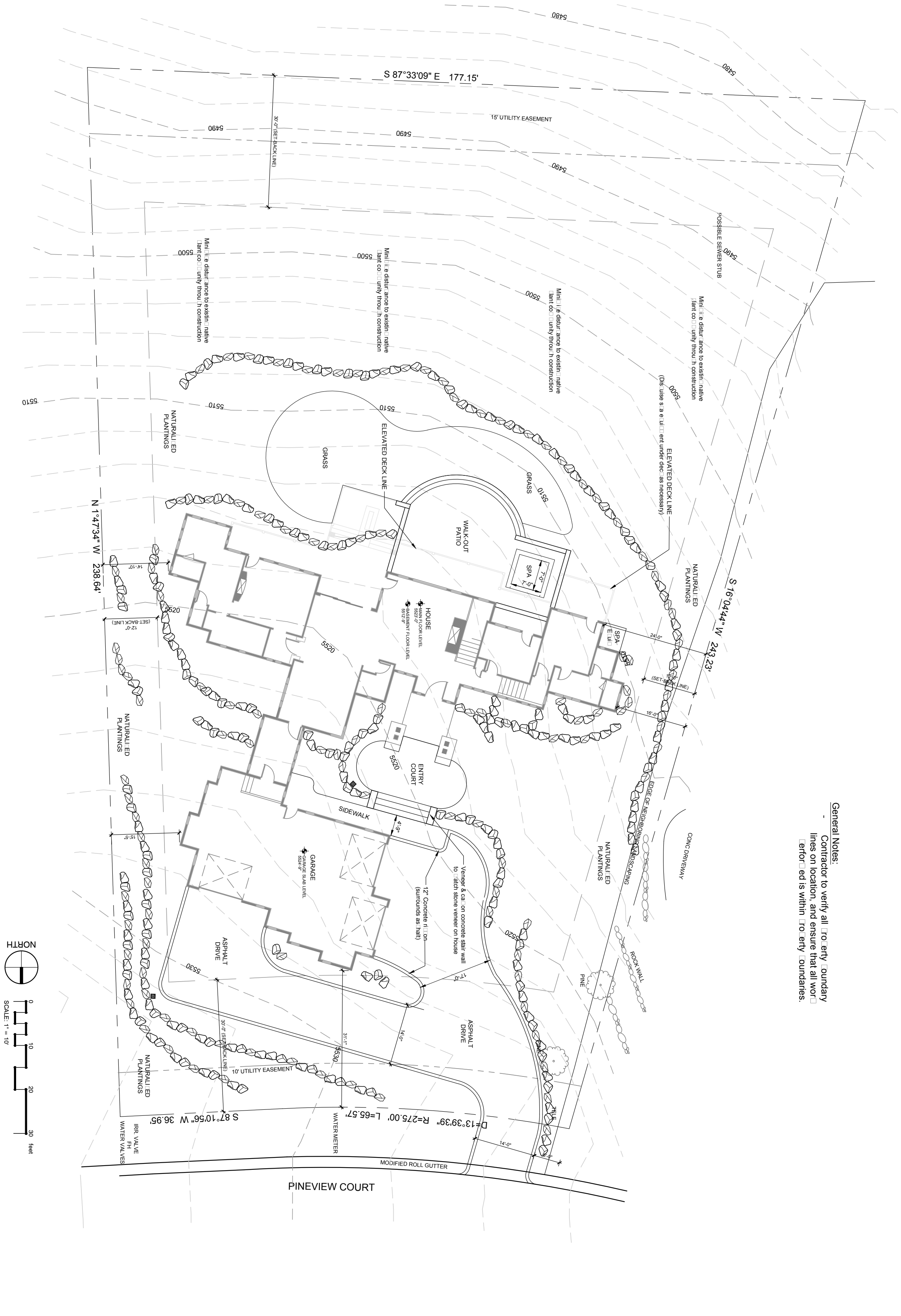
| REVISION | DATE |
|---|---|
| | |



Mark DESIGN INC
P.O. Box 339 Huntsville, Utah 84317
801.745.2711

CLIENT: HANNOY
DRAFTER: MDL
DATE: 08-29-15
SHEET: NT

# Exhibit A




| | |
|---|---|
| Sheet | L100 |
| PROJECT: | Hannoy Residence |
| | Lot 127, The Highlands at Wolf Creek, 3563 Pineview Court, Eden, UT |
| SHEET TITLE: | Landscape Site Plan |
| Owner(s): | Doug & Ann Hannoy |

| | |
|---|---|
| DATE: | Aug 31, 2015 |
| PROJECT NUMBER: | 1501 |
| DRAWING SCALE: | 1" = 10' |
| DESIGNED BY: | KJ |
| DRAWN BY: | KJ |
| PROJ. STATUS: | AC Submission |
| NOTES: | |

| REVISIONS | DESCRIPTION | DATE |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |

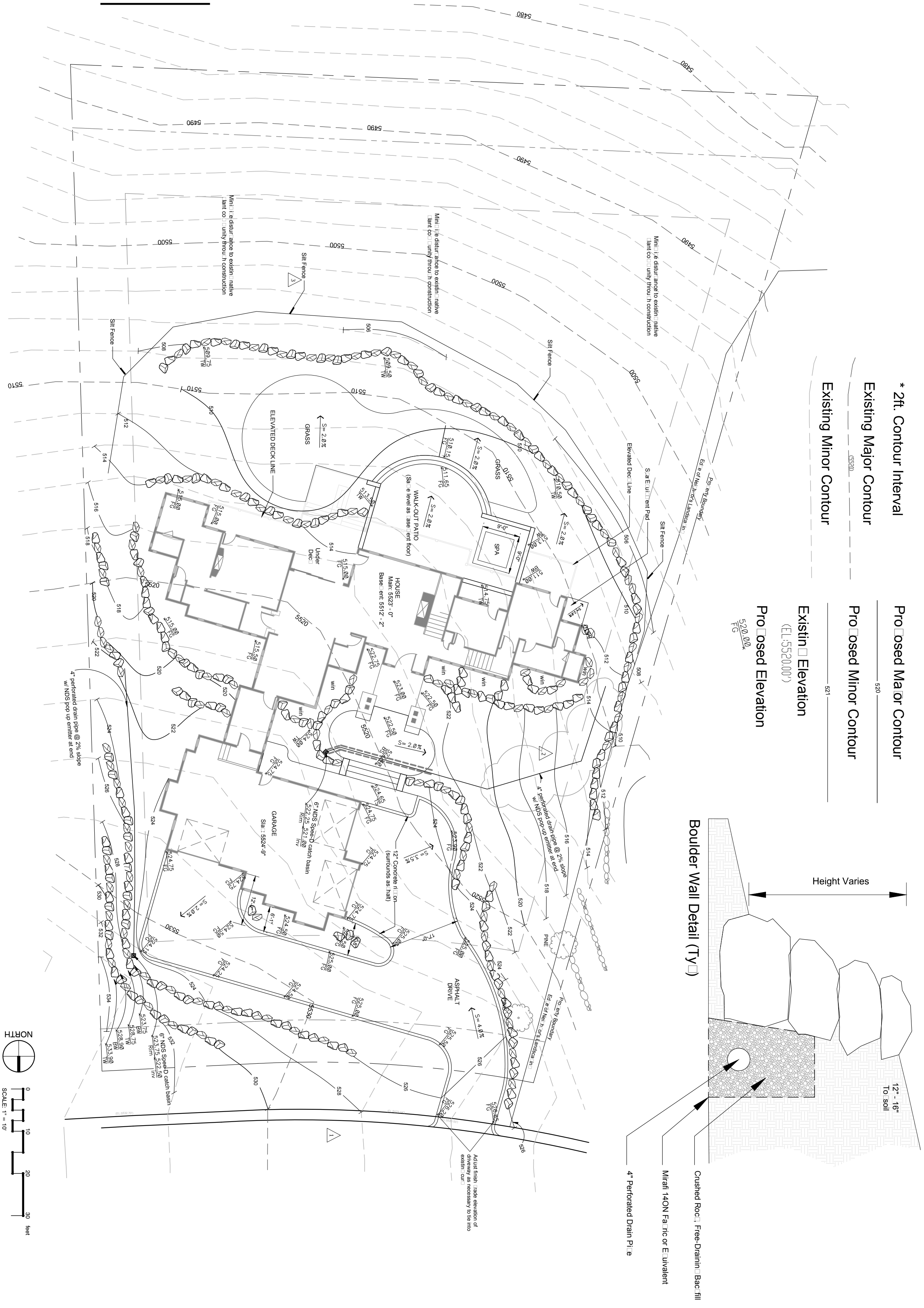


Written dimensions shall have precedence over scaled dimensions. Contractors to verify and be responsible for all dimensions and conditions on the job. The architect must be notified of any variations from the dimensions and conditions shown on the drawing.

State of Utah
Kevin S Jensen
8229782-5301
08/31/2015
Licensed Landscape Architect

FIRMROOTS
Landscape Architecture
Connecting People to Place
Kevin@FirmRootsLand.com

# Exhibit A




Sheet

L200

PROJECT: Hannoy Residence

Lot 127, The Highlands at Wolf Creek, 3563 Pineview Court, Eden, UT

SHEET TITLE: Landscape Grading & Drainage Plan

Owner(s): Doug & Ann Hannoy

| | |
|---|---|
| DATE: | Aug 31, 2015 |
| PROJECT NUMBER: | 1501 |
| DRAWING SCALE: | 1" = 10' |
| DESIGNED BY: | KJ |
| DRAWN BY: | KJ |
| PROJ. STATUS: | AC Submission |
| NOTES: | |

| REVISIONS | DESCRIPTION | DATE |
|---|---|---|
| 1 | Terrace NE Wall | 8-30-15 |
| 2 | Extend perforated pipe around house | 9-29-15 |
| 3 | Added Silt Fence | 11-4-15 |
| 4 | | |
| 5 | | |
| 6 | | |



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State of Utah
Kevin S Jensen
8229782-5301
11/04/2015
Licensed Landscape Architect

FIRMROOTS
Landscape Architecture
Connecting People to Place
Kevin@FirmRootsLand.com

# Exhibit A

## PLANT SCHEDULE

| CONIFERS | BOTANICAL NAME / COMMON NAME | CONT | CAL | SIZE | Q |
|---|---|---|---|---|---|
| BS | Picea pungens glauca 'Hoopsii' / Hoopsi Blue Spruce | B & B | | 10-12' | 2 |
| VW | Pinus flexilis / Limber Pine | B & B | | 12-15' H | 4 |

| DECIDUOUS TREES | BOTANICAL NAME / COMMON NAME | CONT | CAL | SIZE | Q |
|---|---|---|---|---|---|
| FM | Acer ginnala 'Flame' / Flame Amur Maple | B & B | 2"Cal | | 5 |
| AC | Acer platanoides 'Columnare' / Columnar Norway Maple | B & B | 2"Cal | | 1 |
| AB | Amelanchier x grandiflora 'Autumn Brilliance' / 'Autumn Brilliance' Serviceberry | B & B | 2"Cal | | 3 |

| SHRUBS | BOTANICAL NAME / COMMON NAME | SIZE | FIELD2 | FIELD3 | Q |
|---|---|---|---|---|---|
| CM | Chamaebatiaria millefolium 'Fernbush' / Fernbush | 5 gal | | | 3 |
| KL | Cornus sericea 'Kelseyi' / Kelseyi Dogwood | 5 gal | | | 5 |
| HL | Heuchera americana 'Lime Rickey' / American Alumroot | 1 gal | | | 7 |
| MH | Mahonia repens / Creeping Mahonia | 5 gal | | | 6 |
| PR | Perovskia abrotanoides / Russian Sage | 5 gal | | | 4 |
| PYC | Physocarpus opulifolius 'Center Glow' / Center Glow Ninebark | 5 gal | | | 5 |
| PO | Physocarpus opulifolius 'Dart's Gold' / Yellow Ninebark | 5 gal | | | 3 |
| PLD | Physocarpus opulifolius 'Little Devil' TM / Dwarf Ninebark | 5 gal | | | 6 |
| SW | Physocarpus opulifolius 'Summer Wine' / Summer Wine Ninebark | 5 gal | | | 12 |
| MS | Pinus mugo 'Sherwood Compact' / Sherwood Compact Mugo Pine | 5 gal | | | 13 |
| PA | Potentilla fruticosa 'Sunset' / Sunset Potentilla | 5 gal | | | 6 |
| GL | Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac | 5 gal | | | 24 |
| RG | Rudbeckia fulgida sullivantii 'Goldsturm' / Black-eyed Susan | 5 gal | | | 12 |
| SAM | Sambucus canadensis / Elderberry | 5 gal | | | 2 |

| ANNUALS/PERENNIALS | BOTANICAL NAME / COMMON NAME | SIZE | FIELD2 | FIELD3 | QTY |
|---|---|---|---|---|---|
| YA | Achillea filipendulina 'Altgold' / Fernleaf Yarrow | 1 gal | | | 10 |
| AQ | Aquilegia vulgaris 'Blue' / Blue Columbine | 1 gal | | | 8 |
| EP | Echinacea purpurea / Purple Coneflower | 1 gal | | | 8 |
| ES | Echinacea x 'Cheyenne Spirit' / 'Cheyenne Spirit' Coneflower | 1 gal | | | 10 |
| GS | Geranium sanguineum 'New Hampshire Purple' / Bloody Cranesbill | 1 gal | | | 5 |
| GV | Geranium viscosissimum / Sticky Geranium | 1 gal | | | 8 |
| CH | Heuchera x 'Cherry Cola' / Cherry Cola Coral Bells | 1 gal | | | 7 |
| GC | Hosta x 'Guacamole' / Plantain Lily | 1 gal | | | 9 |
| LP | Lupinus polyphyllus / Bigleaf Lupine | 1 gal | | | 4 |
| MC | Monarda fistulosa 'Jacob Cline' / Bergamot | 1 gal | | | 9 |
| NLT | Nepeta x 'Little Trudy' / Catmint | 1 gal | | | 10 |
| PD | Penstemon barbatus 'Prairie Dusk' / PD | 1 gal | | | 3 |
| FP | Penstemon eatonii / Firecracker Penstemon | 1 gal | | | 3 |
| PP | Penstemon pinifolius / Threadleaf Beardtongue | 1 gal | | | 11 |
| PY | Penstemon pinifolius 'Mersea Yellow' / Yellow Threadleaf Beardtongue | 1 gal | | | 6 |
| ST | Penstemon strictus / Mancos Penstemon | 1 gal | | | 7 |
| RF | Rudbeckia fulgida 'Goldsturm' / Goldsturm Black-eyed Susan | 1 gal | | | 8 |
| MN | Salvia x sylvestris 'May Night' / Sage | 1 gal | | | 12 |
| SE | Sedum spectabile 'Autumn Fire' / Showy Stonecrop | 1 gal | | | 3 |
| AU | Sedum spectabile 'Autumn Joy' / Stonecrop | 1 gal | | | 6 |
| GR | Solidago canadensis / Goldenrod | 1 gal | | | 6 |

| GRASSES | BOTANICAL NAME / COMMON NAME | SIZE | FIELD2 | FIELD3 | QTY |
|---|---|---|---|---|---|
| KR | Calamagrostis x acutiflora 'Karl Foerster' / Feather Reed Grass | 1 gal | | | 13 |
| F | Festuca idahoensis 'Siskiyou Blue' / Siskiyou Blue Fescue | 1 gal | | | 15 |
| BT | Helictotrichon sempervirens 'Blue Oats' / Blue Oat Grass | 1 gal | | | 7 |
| PV | Panicum virgatum 'Heavy Metal' / Heavy Metal Switch Grass | 1 gal | | | 14 |

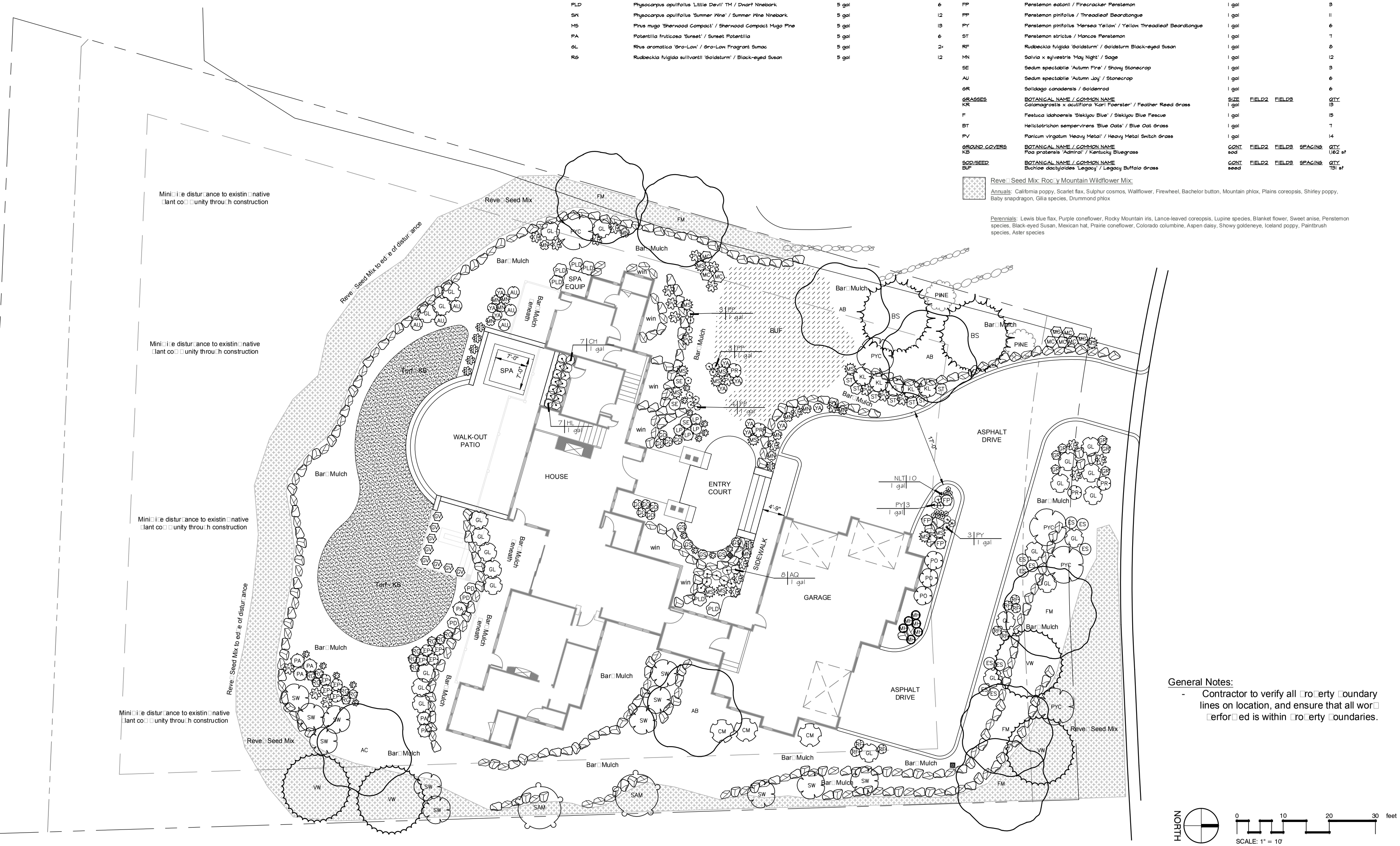
| GROUND COVERS | BOTANICAL NAME / COMMON NAME | CONT | FIELD2 | FIELD3 | SPACING | QTY |
|---|---|---|---|---|---|---|
| KB | Poa pratensis 'Admiral' / Kentucky Bluegrass | sod | | | | 1,162 sf |

| SOD/SEED | BOTANICAL NAME / COMMON NAME | CONT | FIELD2 | FIELD3 | SPACING | QTY |
|---|---|---|---|---|---|---|
| BUF | Buchloe dactyloides 'Legacy' / Legacy Buffalo Grass | seed | | | | 731 sf |

Reve□ Seed Mix: Roc□y Mountain Wildflower Mix:

Annuals: California poppy, Scarlet flax, Sulphur cosmos, Wallflower, Firewheel, Bachelor button, Mountain phlox, Plains coreopsis, Shirley poppy, Baby snapdragon, Gilia species, Drummond phlox

Perennials: Lewis blue flax, Purple coneflower, Rocky Mountain iris, Lance-leaved coreopsis, Lupine species, Blanket flower, Sweet anise, Penstemon species, Black-eyed Susan, Mexican hat, Prairie coneflower, Colorado columbine, Aspen daisy, Showy goldeneye, Iceland poppy, Paintbrush species, Aster species




General Notes:
- Contractor to verify all □ro□erty □oundary lines on location, and ensure that all wor□ □erfor□ed is within □ro□erty □oundaries.

PROJECT: Hannoy Residence
Lot 127, The Highlands at Wolf Creek, 3563 Pineview Court, Eden, UT

SHEET TITLE: Landscape Planting Plan

Owner(s): Doug & Ann Hannoy

| | |
|---|---|
| DATE: | Sept 29, 2015 |
| PROJECT NUMBER: | 1501 |
| DRAWING SCALE: | 1" = 10' |
| DESIGNED BY: | KJ |
| DRAWN BY: | KJ |
| PROJ. STATUS: | Bid Alternate |
| NOTES: | |

| REVISIONS | DESCRIPTION | DATE |
|---|---|---|
| 1 | | |
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State of Utah
Kevin S Jensen
8229782-5301
09/29/2015
Licensed Landscape Architect

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Landscape Architecture
Connectin□ Peo□le to Place
Kevin@Fir□RootsLand.co□

Sheet L300

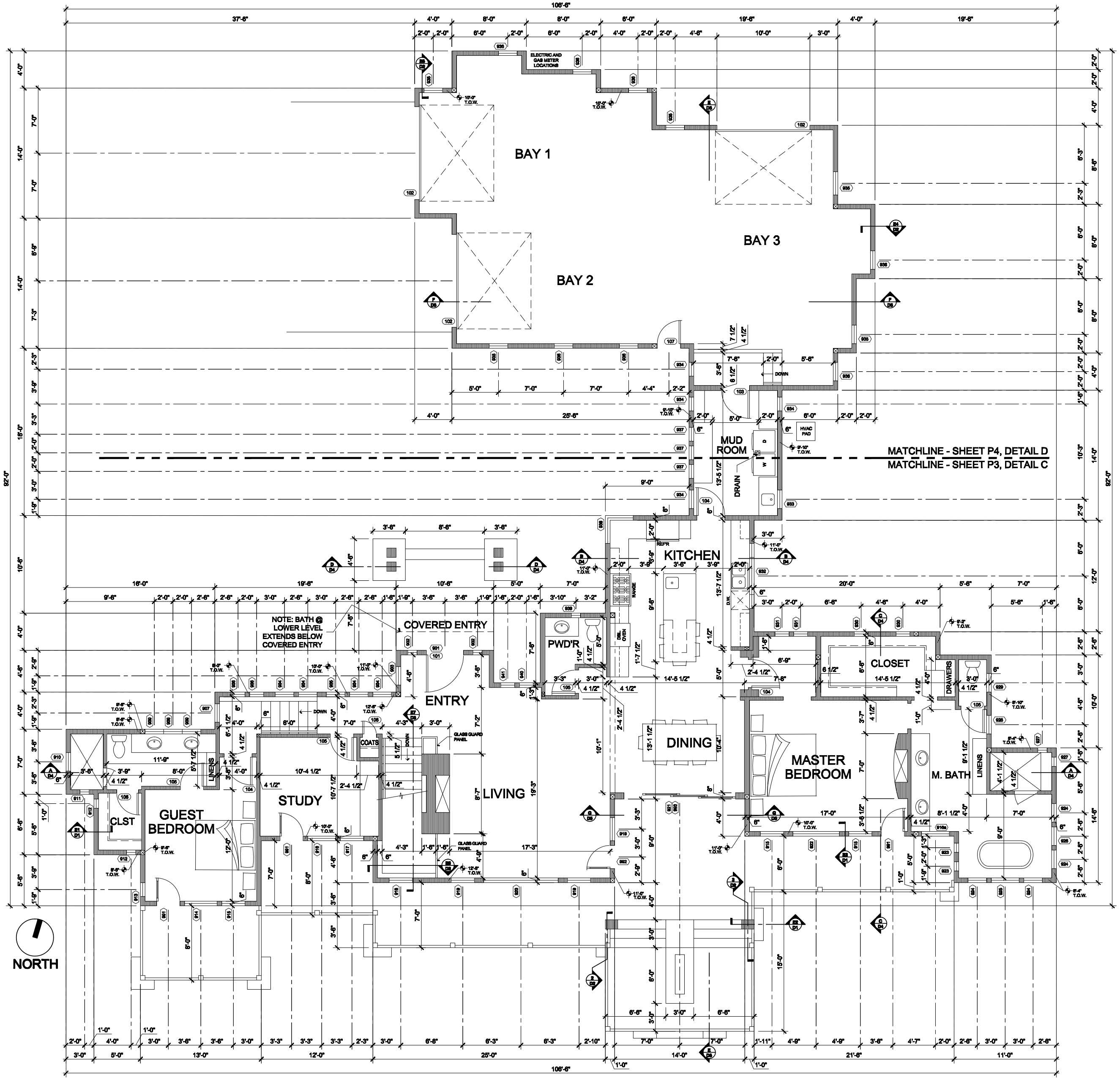
Exhibit A

## DOOR SCHEDULE

| TAG | QTY. | WIDTH | HEIGHT | TYPE | MATERIAL | FINISH | REMARKS |
|---|---|---|---|---|---|---|---|
| 101 | 1 | 4'-0" | 8'-6" | CUSTOM ENTRY DOOR | SOLID-CORE WOOD | | |
| 102 | 3 | 10'-0" | 8'-0" | OVERHEAD SECTIONAL DOOR | SOLID-CORE WOOD | | |
| 103 | 1 | 3'-0" | 8'-0" | FIRE-RATED | SOLID-CORE WOOD | | |
| 104 | 4 | 3'-0" | 8'-0" | | SOLID-CORE WOOD | | |
| 105 | 7 | 2'-6" | 8'-0" | | SOLID-CORE WOOD | | |
| 106 | 3 | 2'-4" | 8'-0" | | SOLID-CORE WOOD | | |
| 107 | 1 | 3'-0" | 8'-0" | EXTERIOR | SOLID-CORE WOOD | | |
| 108 | 1 | 1'-6" | 8'-0" | | SOLID-CORE WOOD | | |
| 109 | | | | | | | |
| 110 | 1 | 3'-0" | 8'-0" | BARN-STYLE SLIDER | SOLID-CORE WOOD | | |
| 111 | 2 | 3'-0" | 8'-0" | TO MECHANICAL ROOM | | | CONTRACTOR TO VERIFY MECHANICAL EQUIPMENT VENTING REQ'S |
| 112 | 1 | 2'-4" | 8'-0" | POCKET-DOOR | SOLID-CORE WOOD | | |

## WINDOW SCHEDULE

| TAG | QTY. | SIZE | TOP OF OPENING | TYPE | REMARKS |
|---|---|---|---|---|---|
| 901 | 1 | 8'-0" X 1'-0" | - | FIXED CASEMENT | TRANSOM ABOVE ENTRY DOOR AND SIDE LIGHTS (SEE ELEVATIONS) |
| 902 | 2 | 1'-0" X 5'-0" | 8'-6" | FIXED CASEMENT | |
| 903 | 1 | 2'-0" X 4'-6" | 8'-0" | CASEMENT | |
| 904 | 4 | 2'-0" X 5'-6" | 8'-6" | FIXED CASEMENT | |
| 905 | 1 | 2'-0" X 5'-6" | 8'-6" | CASEMENT | |
| 906 | 2 | 1'-6" X 3'-6" | 7'-0" | FIXED CASEMENT | |
| 907 | 1 | 2'-0" X 3'-6" | 7'-0" | CASEMENT | |
| 908 | 1 | 2'-0" X 4'-0" | 7'-6" | CASEMENT | |
| 909 | 2 | 2'-0" X 1'-0" | 7'-6" | FIXED CASEMENT | |
| 910 | 1 | 2'-0" X 2'-6" | 7'-6" | FIXED CASEMENT | |
| 911 | 1 | 1'-0" X 3'-6" | 7'-6" | CASEMENT | |
| 912 | 2 | 1'-0" X 2'-6" | 7'-6" | FIXED CASEMENT | |
| 913 | 1 | 1'-6" X 5'-0" | 8'-6" | CASEMENT | |
| 914 | 1 | 3'-6" X 6'-0" | 8'-6" | FIXED CASEMENT | |
| 915 | 3 | 2'-6" X 6'-0" | 8'-6" | CASEMENT | |
| 916 | 1 | 3'-0" X 5'-0" | 8'-6" | FIXED CASEMENT | |
| 916a | 1 | 3'-0" X 5'-0" | 8'-6" | CASEMENT | |
| 917 | 1 | 2'-6" X 5'-0" | 8'-6" | CASEMENT | |
| 918 | 1 | 2'-6" X 6'-6" | 9'-0" (SEE REMARKS) | FIXED CASEMENT | WITH 1'-6" TALL TRANSOM ABOVE (SEE ELEVATIONS) |
| 919 | 2 | 2'-6" X 6'-6" | 9'-0" (SEE REMARKS) | CASEMENT | WITH 1'-6" TALL TRANSOM ABOVE (SEE ELEVATIONS) |
| 920 | 1 | 8'-0" X 6'-6" | 9'-0" (SEE REMARKS) | FIXED CASEMENT | WITH 1'-6" TALL TRANSOM ABOVE (SEE ELEVATIONS) |
| 921 | 1 | 12'-0" X 1'-6" | - | FIXED CASEMENT | TRANSOM ABOVE BI-FOLD GLASS DOOR w/ 2'-6" SIDELIGHTS (SEE ELEV.) |
| 922 | 1 | 5'-0" X 6'-0" | 8'-6" | FIXED CASEMENT | |
| 923 | 2 | 1'-0" X 5'-0" | 7'-6" | CASEMENT | |
| 924 | 4 | 2'-0" X 5'-0" | 7'-6" | CASEMENT | |
| 925 | 1 | 3'-0" X 5'-0" | 7'-6" | FIXED CASEMENT | |
| 926 | 1 | 2'-0" X 5'-0" | 7'-6" | FIXED CASEMENT | |
| 927 | 2 | 1'-0" X 3'-0" | 7'-6" | FIXED CASEMENT | |
| 928 | 1 | 2'-0" X 4'-6" | 8'-0" | CASEMENT | |
| 929 | 1 | 2'-0" X 2'-0" | 8'-0" | FIXED CASEMENT | |
| 930 | 2 | 1'-6" X 2'-0" | 8'-0" | FIXED CASEMENT | |
| 931 | 2 | 1'-6" X 4'-6" | 8'-0" | CASEMENT | |
| 932 | 1 | 7'-0" X 6'-0" | 9'-6" | FIXED AND CASEMENT | WITH VENTED 1'-6" SIDELIGHTS (SEE ELEVATIONS) |
| 933 | 1 | 2'-0" X 5'-6" | 9'-0" | CASEMENT | |
| 934 | 4 | 1'-6" X 5'-6" | 9'-0" | CASEMENT | |
| 935 | 5 | 2'-0" X 4'-6" | 8'-0" | CASEMENT | |
| 936 | 7 | 2'-0" X 4'-6" | 8'-0" | FIXED CASEMENT | |
| 937 | 3 | 1'-6" X 2'-0" | 9'-0" | FIXED CASEMENT | |
| 938 | 1 | SEE REMARKS | 9'-6" | FIXED CASEMENT | MITERED CORNER UNIT - 2 PANES @ 3'-0" X 6'-0" EACH (REFER QUESTIONS TO DESIGNER) |
| 939 | 1 | 1'-0" X 4'-6" | 8'-0" | FIXED CASEMENT | |
| 940 | 1 | 1'-6" X 4'-0" | 7'-6" | CASEMENT | |
| 941 | 1 | 1'-6" X 4'-0" | 7'-6" | FIXED CASEMENT | |
| 942 | | | NOT USED | | |
| 943 | | | NOT USED | | |
| 944 | 6 | 2'-6" X 2'-6" | 8'-6" A.F.F. | FIXED CASEMENT | WINDOW @ LOWER LEVEL |
| 945 | 1 | 2'-6" X 1'-6" | 8'-6" A.F.F. | FIXED CASEMENT | WINDOW @ LOWER LEVEL |
| 946 | 1 | 1'-6" X 2'-6" | 8'-6" A.F.F. | FIXED CASEMENT | WINDOW @ LOWER LEVEL |
| 947 | 3 | 2'-0" X 2'-6" | 8'-6" A.F.F. | FIXED CASEMENT | WINDOW @ LOWER LEVEL |
| 948 | 3 | 9'-0" X 4'-6" | 8'-0" A.F.F. | FIXED AND CASEMENT | WINDOW @ LOWER LEVEL w/ VENTED 2'-6" SIDELIGHTS (EGRESS) (SEE ELEVATIONS) |
| 949 | 1 | 2'-6" X 1'-0" | 8'-6" A.F.F. | FIXED CASEMENT | TEMIPERED - WINDOW @ LOWER LEVEL |
| 950 | 4 | 1'-0" X 3'-0" | 8'-0" A.F.F. | FIXED CASEMENT | WINDOW @ LOWER LEVEL |
| 951 | 1 | 2'-6" X 3'-0" | 8'-0" A.F.F. | CASEMENT | WINDOW @ LOWER LEVEL |
| 952 | 1 | 6'-0" X 4'-6" | 8'-0" A.F.F. | DOUBLE CASEMENT | WINDOW @ LOWER LEVEL w/ BOTH SIDES VENTED (EGRESS) (SEE ELEVATIONS) |
| 953 | 1 | 2'-0" X 2'-6" | 8'-0" A.F.F. | CASEMENT | WINDOW @ LOWER LEVEL |
| 954 | 2 | 3'-0" X 3'-0" | 8'-0" A.F.F. | CASEMENT | WINDOW @ LOWER LEVEL |
| 955 | 1 | 4'-0" X 3'-0" | 8'-0" A.F.F. | DOUBLE CASEMENT | WINDOW @ LOWER LEVEL w/ RIGHT-SIDE VENTED, LEFT-SIDE FIXED (SEE ELEVATIONS) |
| 956 | 2 | 3'-0" X 3'-0" | 8'-0" A.F.F. | FIXED CASEMENT | WINDOW @ LOWER LEVEL |
| 957 | 1 | 6'-0" X 2'-0" | 8'-0" A.F.F. | FIXED CASEMENT | WINDOW @ LOWER LEVEL |
| 958 | 2 | 2'-6" X 2'-0" | 8'-0" A.F.F. | FIXED CASEMENT | WINDOW @ LOWER LEVEL |
| 959 | 1 | 4'-0" X 2'-0" | 8'-0" A.F.F. | FIXED CASEMENT | WINDOW @ LOWER LEVEL |
| 960 | 1 | 2'-6" X 4'-0" | 8'-0" A.F.F. | FIXED CASEMENT | WINDOW @ LOWER LEVEL |
| 961 | | | NOT USED | | |
| 962 | | | NOT USED | | |
| 991 | 3 | 2'-6" X 8'-6" | – | IN-SWING FRENCH DOOR | TEMPERED (SEE ELEV.) |
| 992 | 1 | 2'-6" X 9'-0" | (SEE REMARKS) | IN-SWING FRENCH DOOR | TEMPERED, WITH 1'-6" TALL TRANSOM ABOVE (SEE ELEV.) |
| 993 | 1 | 12'-0" X 9'-0" | (SEE REMARKS) | GLASS SLIDERS | TEMPERED GLASS SLIDER DOOR w/ 3 PANELS @ 48" WIDE EACH (SEE ELEV.) |
| 994 | 1 | 12'-0" X 8'-0" | (SEE REMARKS) | GLASS SLIDERS | TEMPERED GLASS SLIDER DOOR w/ 3 PANELS @ 48" WIDE EACH (SEE ELEV.) |




A MAIN LEVEL FLOOR PLAN
SCALE: 3/16" = 1'-0"

REVISION | DATE

DESIGN INC
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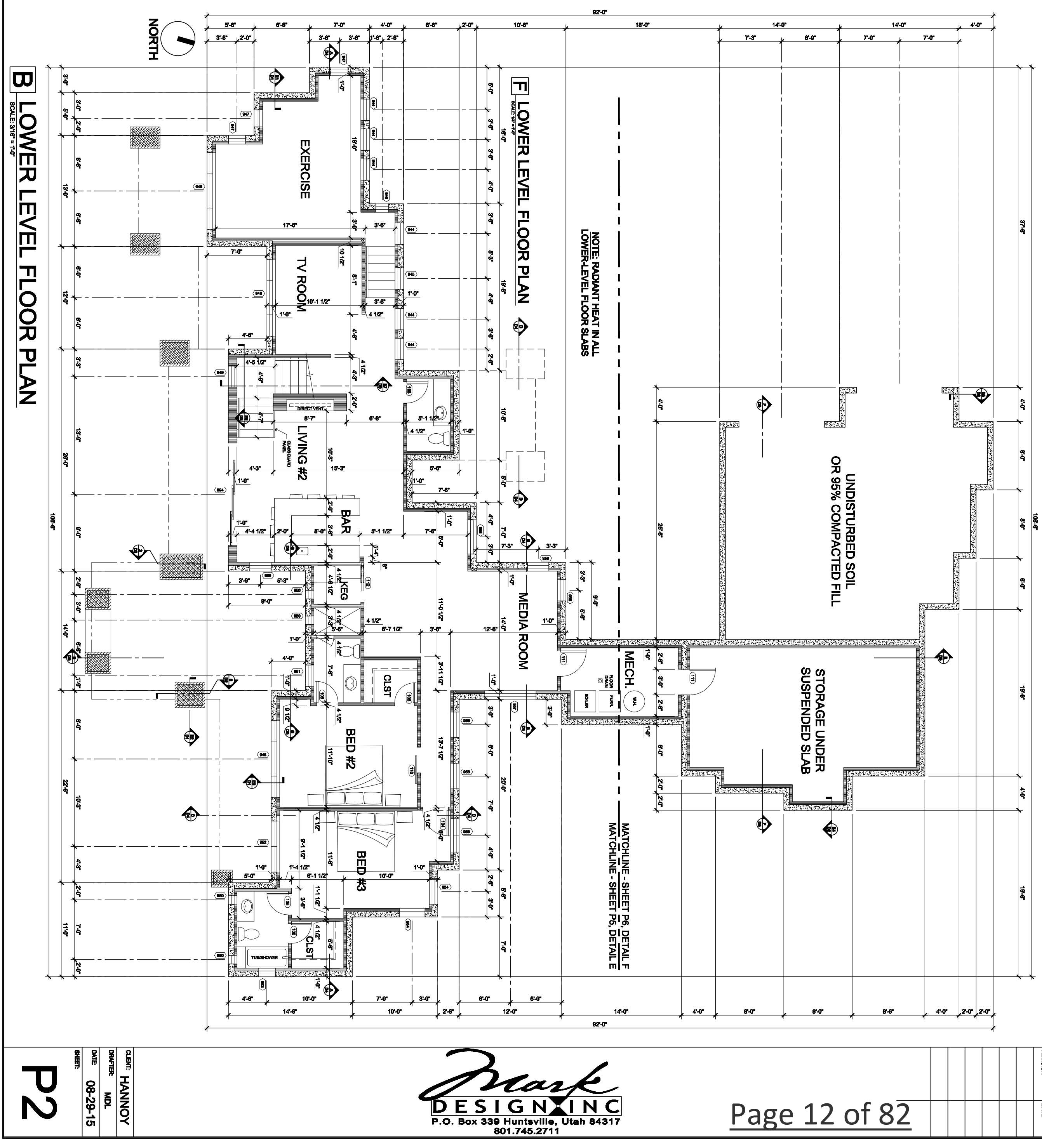
801.745.2711

CLIENT: HANNOY
DRAFTER: MDL
DATE: 08-29-15
SHEET: P1

# Exhibit A


B LOWER LEVEL FLOOR PLAN
SCALE: 3/16" = 1'-0"
F LOWER LEVEL FLOOR PLAN
NORTH
EXERCISE
TV ROOM
LIVING #2
BAR
KEG
MEDIA ROOM
MECH.
BED #2
BED #3
CLST
CLST
TUB/SHOWER
NOTE: RADIANT HEAT IN ALL LOWER-LEVEL FLOOR SLABS
UNDISTURBED SOIL OR 95% COMPACTED FILL
STORAGE UNDER SUSPENDED SLAB
MATCHLINE - SHEET P6, DETAIL F
MATCHLINE - SHEET P5, DETAIL E
92'-0"
106'-6"
CLIENT: HANNOY
DRAFTER: MDL
DATE: 08-29-15
SHEET: P2
Mark DESIGN INC
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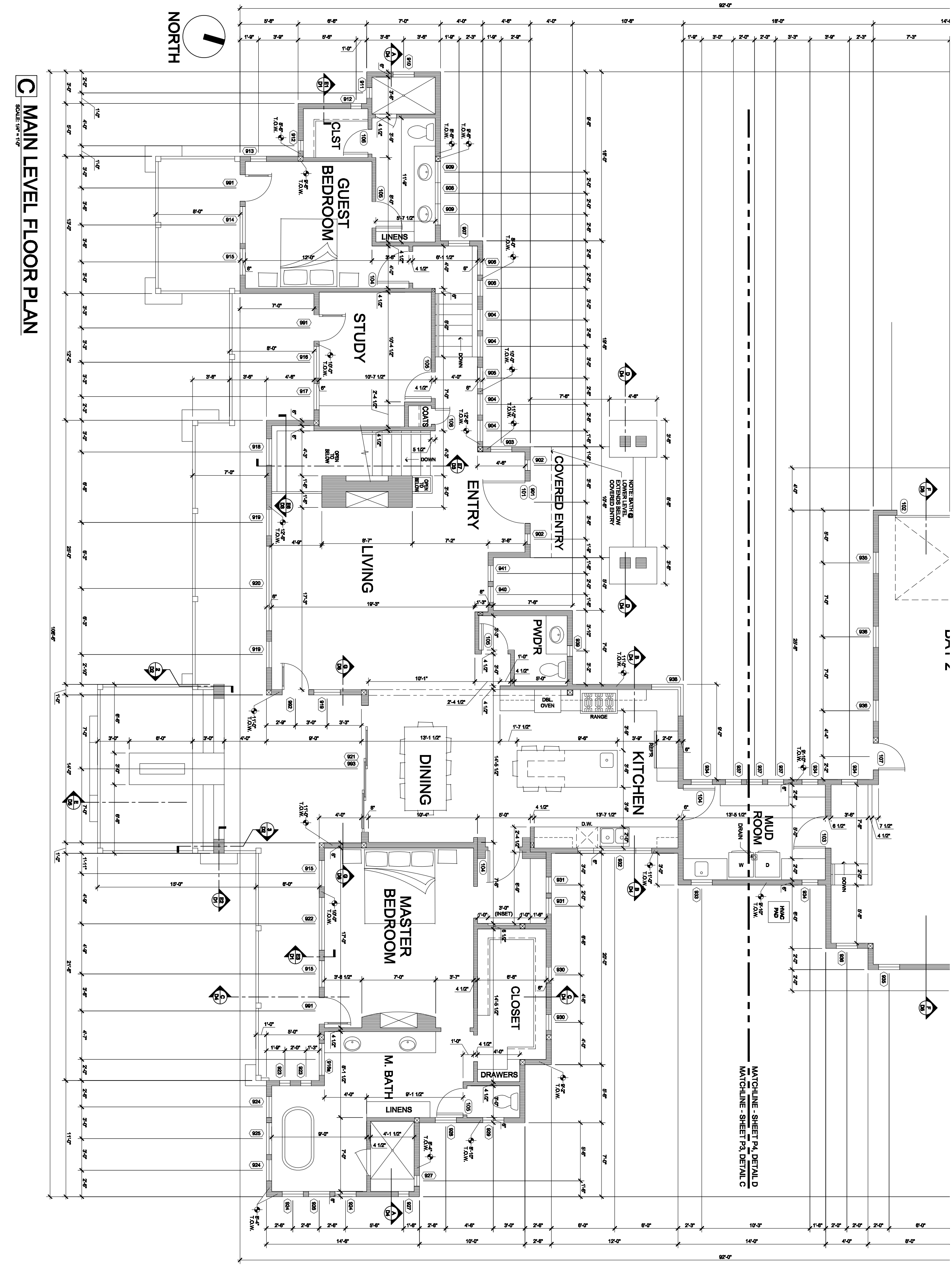
801.745.2711
REVISION
DATE

# Exhibit A




CLIENT: HANNOY
DRAFTER: MDL
DATE: 08-29-15
SHEET: P3

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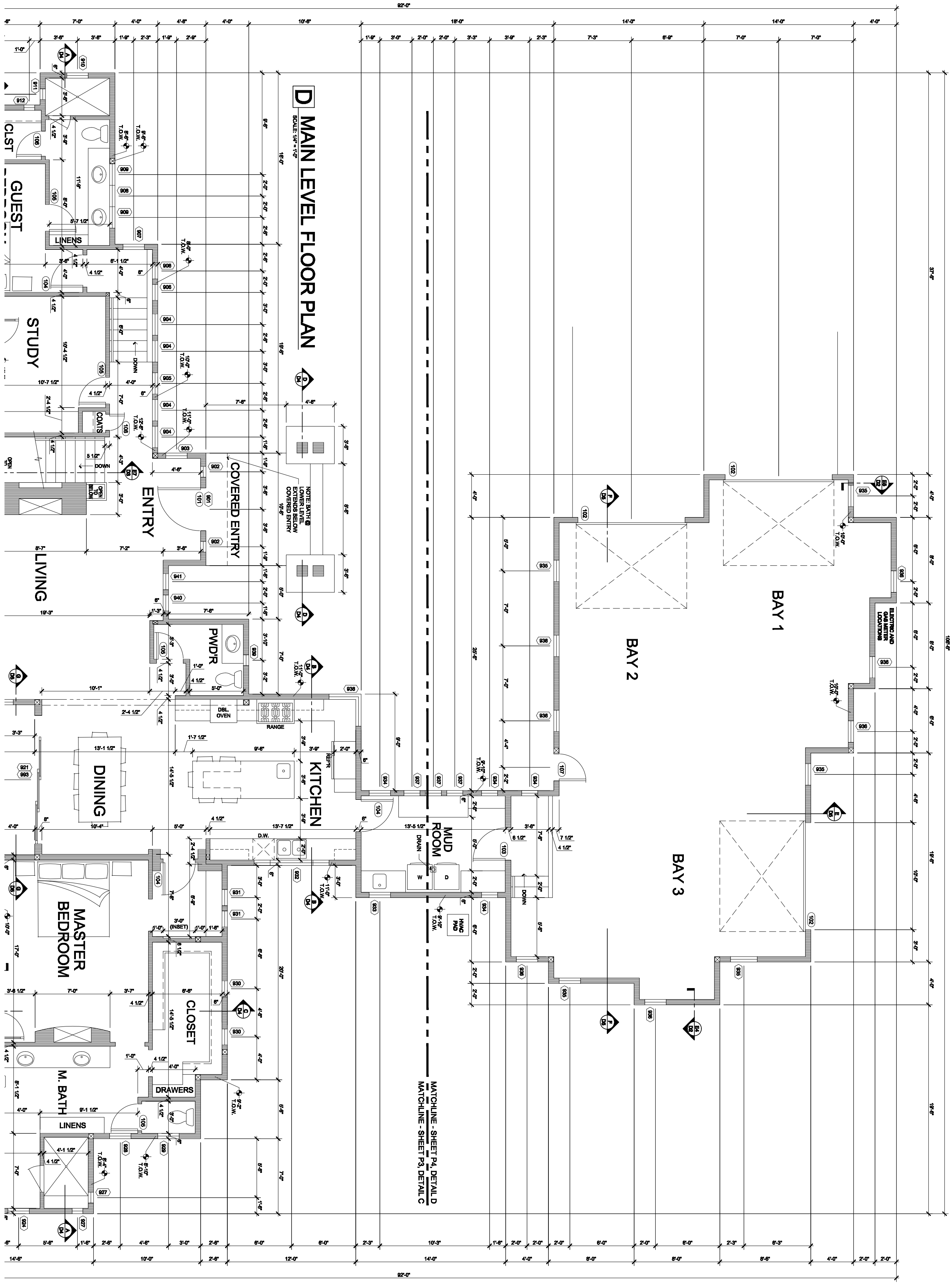
Exhibit A




CLIENT: HANNOY

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DATE: 08-29-15

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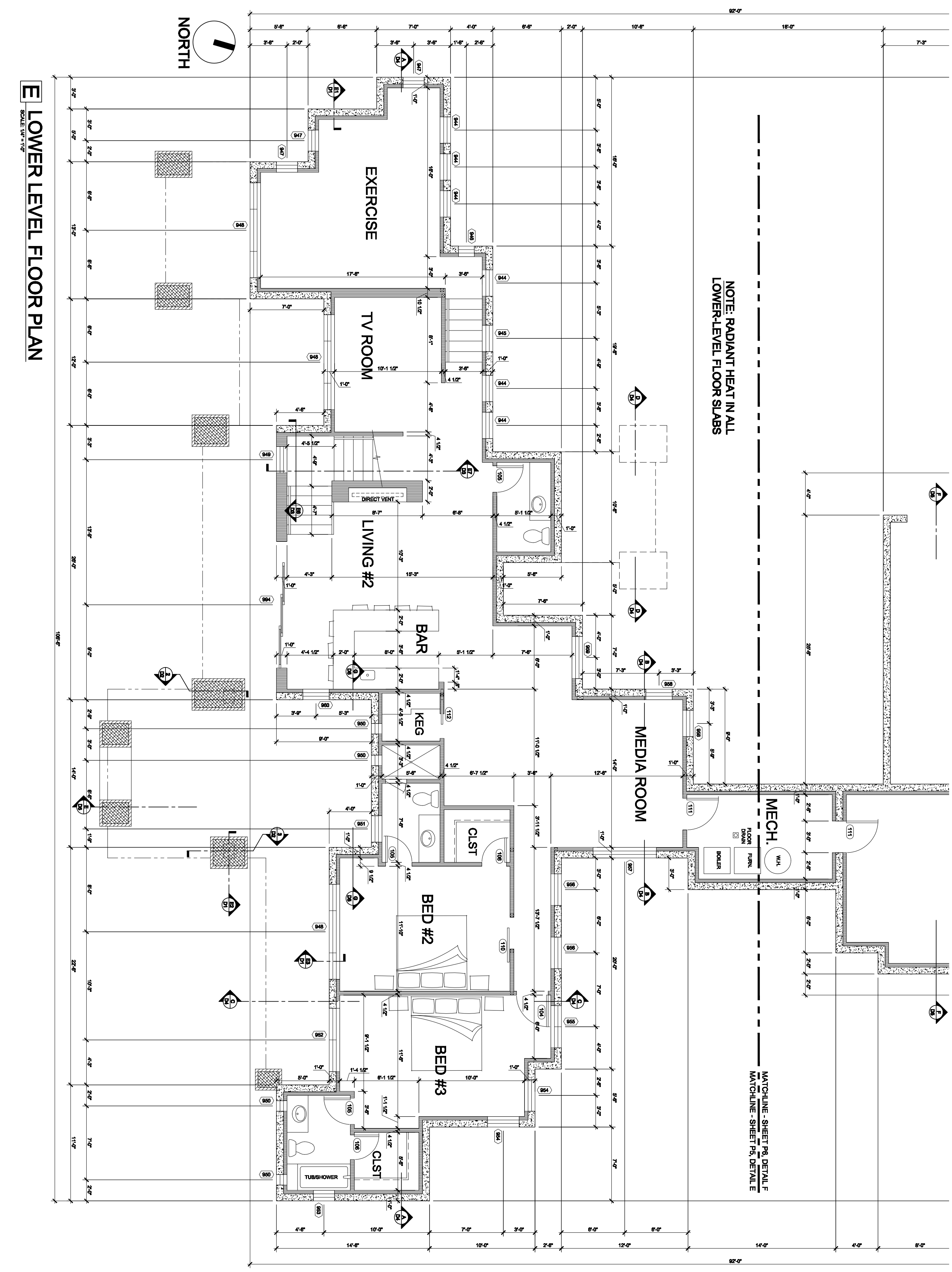
Page 14 of 82

| REVISION | DATE |
|---|---|
| | |

Exhibit A




P5
SHEET:
DATE: 08-29-15
DRAFTER: MDL
CLIENT: HANNOY

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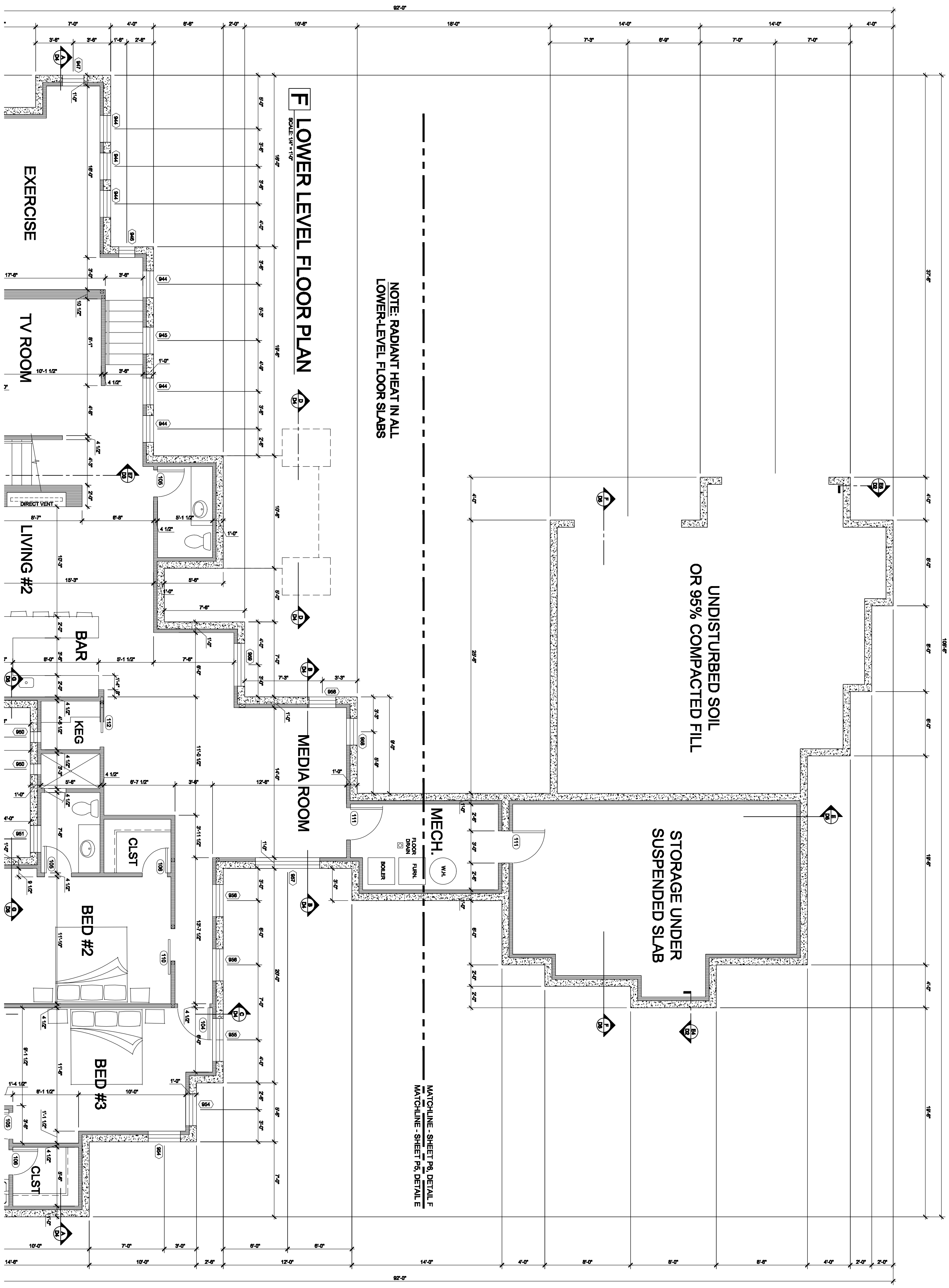
DATE

Exhibit A




CLIENT: HANNOY
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DATE: 08-29-15
SHEET: P6

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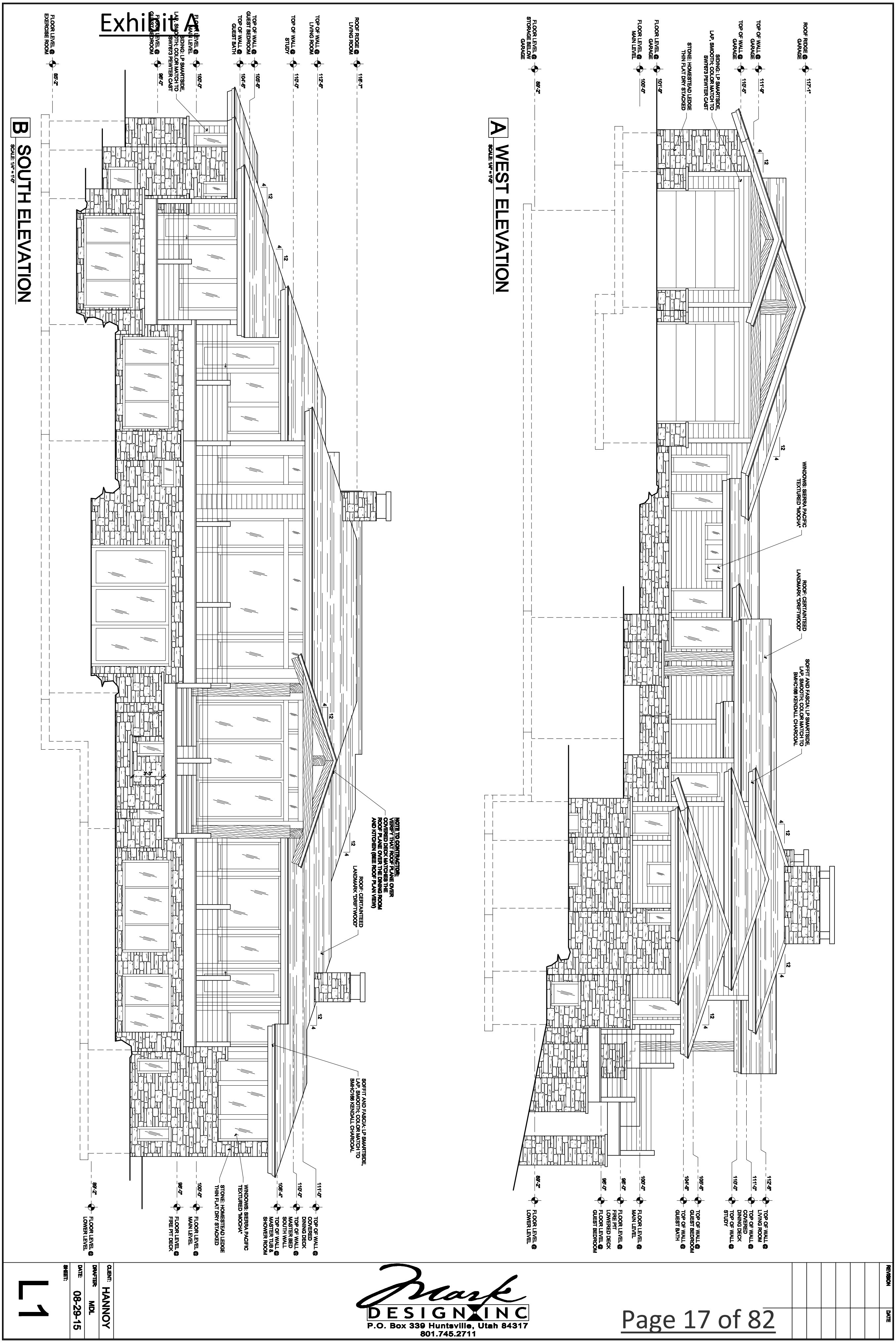
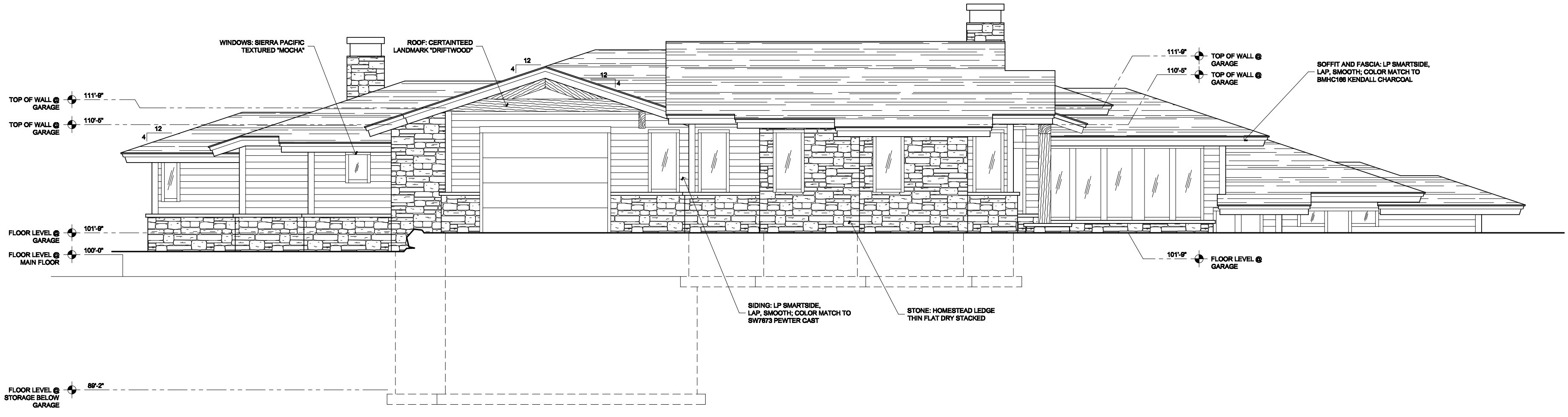
Exhibit A

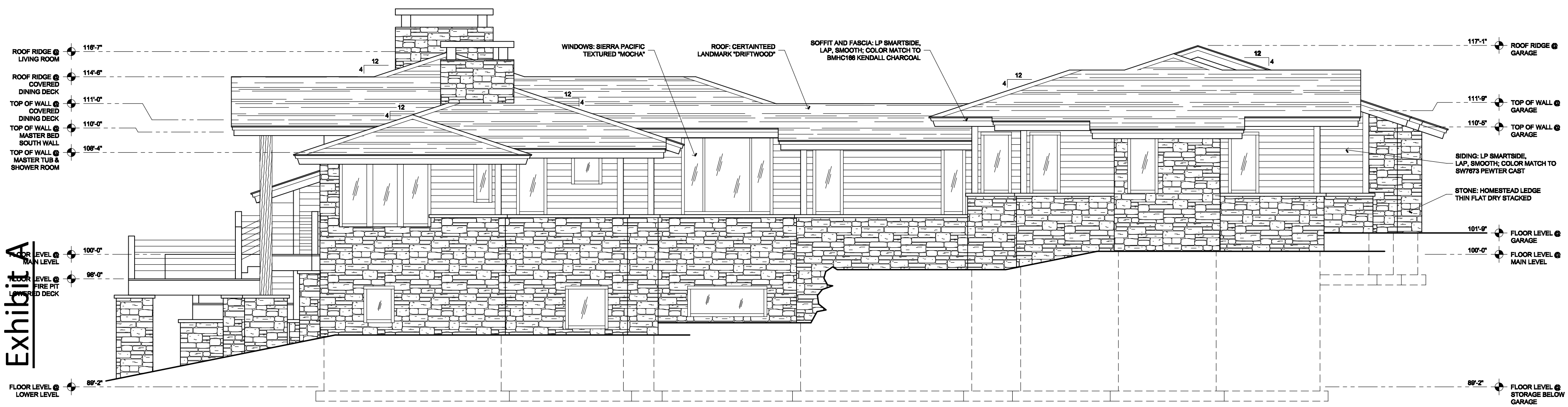


A WEST ELEVATION
SCALE: 1/4" = 1'-0"
B SOUTH ELEVATION
SCALE: 1/4" = 1'-0"
ROOF: CERTAINTEED LANDMARK "DRIFTWOOD"
WINDOWS: SIERRA PACIFIC TEXTURED "MOCHA"
STONE: HOMESTEAD LEDGE THIN FLAT DRY STACKED
CLIENT: HANNOY
DRAFTER: MDL
DATE: 08-29-15
SHEET: L1
DESIGN INC
P.O. Box 339 Huntsville, Utah 84317
801.745.2711
REVISION
DATE

Exhibit A




D NORTH ELEVATION
SCALE: 1/4" = 1'-0"




C EAST ELEVATION
SCALE: 1/4" = 1'-0"

| REVISION | DATE |
| --- | --- |

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CLIENT: HANNOY
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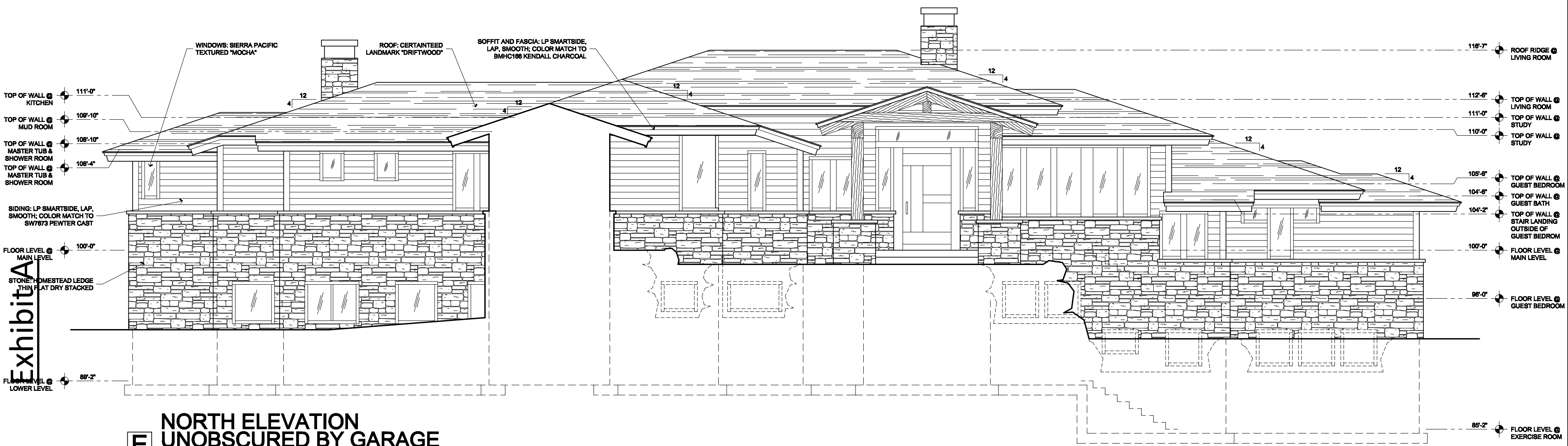
SHEET: L2

Exhibit A




## E NORTH ELEVATION UNOBSCURED BY GARAGE

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

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|---|---|

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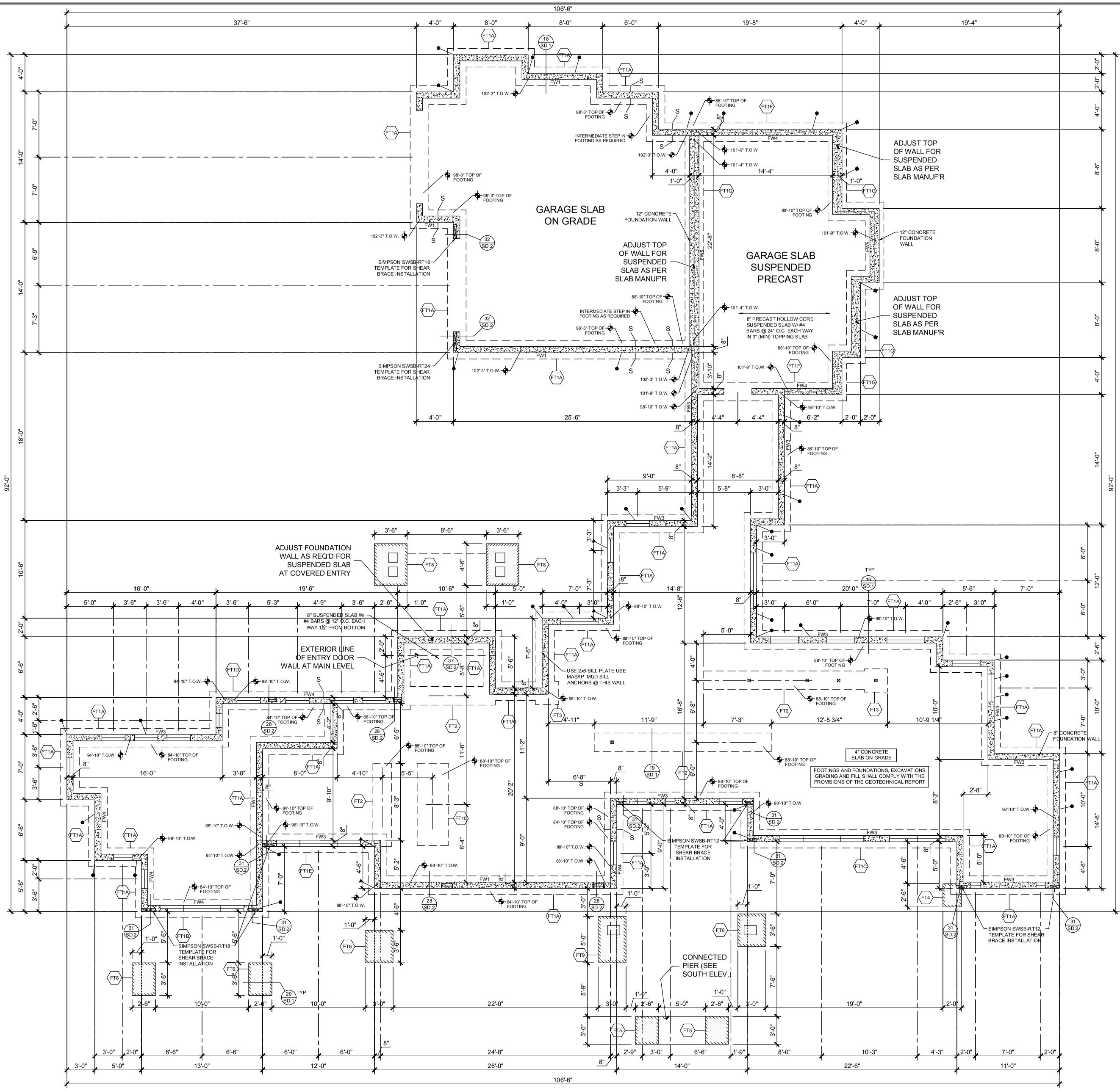
SHEET: L3

# Exhibit A




# B FOOTING / FOUND. PLAN

SCALE: 3/16" = 1'-0"

## FOOTING SCHEDULE

| DESIG. | LENGTH | WIDTH | DEPTH | LENGTHWISE REINFORCEMENT QTY. | SIZE | LENGTH | SPACING | CROSSWISE REINFORCEMENT QTY. | SIZE | LENGTH | SPACING | CAPACITY | NOTE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FT1A | CONT. | 20" | 10" | 2 | #4 | CONT. | EQ. | - | - | - | - | 2500 PLF | |
| FT1B | CONT. | 26" | 10" | 3 | #4 | CONT. | EQ. | - | - | - | - | 3250 PLF | |
| FT1C | CONT. | 28" | 10" | 3 | #4 | CONT. | EQ. | - | - | - | - | 3500 PLF | |
| FT1D | CONT. | 30" | 12" | 4 | #4 | CONT. | EQ. | - | #4 | 24" | 12" O.C. | 3750 PLF | |
| FT1E | CONT. | 42" | 12" | 5 | #4 | CONT. | EQ. | - | #4 | 24" | 12" O.C. | 5250 PLF | |
| FT1F | CONT. | 30" | 14" | 4 | #4 | CONT. | EQ. | - | - | - | - | 3750 PLF | |
| FT1G | CONT. | 66" | 14" | 9 | #4 | CONT. | EQ. | - | - | - | - | 8250 PLF | |
| FT2 | CONT. | 18" | 10" | 2 | #4 | CONT. | EQ. | - | - | - | - | 2250 PLF | SEE DETAIL 19/SD.1 |
| FT3 | 24" | 24" | 10" | 3 | #4 | 18" | EQ. | 3 | #4 | 18" | EQ. | 6000 LBS | |
| FT4 | 30" | 30" | 10" | 3 | #4 | 24" | EQ. | 3 | #4 | 24" | EQ. | 9375 LBS | |
| FT5 | 36" | 36" | 10" | 4 | #4 | 30" | EQ. | 4 | #4 | 30" | EQ. | 13500 LBS | |
| FT6 | 42" | 42" | 10" | 4 | #4 | 36" | EQ. | 4 | #4 | 36" | EQ. | 18375 LBS | |
| FT7 | 48" | 48" | 10" | 5 | #4 | 42" | EQ. | 5 | #4 | 42" | EQ. | 24000 LBS | |
| FT8 | 54" | 42" | 10" | 3 | #4 | 48" | EQ. | 4 | #5 | 30" | EQ. | 23625 LBS | |
| FT9 | 60" | 42" | 10" | 3 | #4 | 54" | EQ. | 4 | #5 | 36" | EQ. | 26250 LBS | |
| FT10 | 108" | 42" | 10" | 4 | #4 | 102" | EQ. | 11 | #4 | 42" | EQ. | 47250 LBS | |

NOTES:
1. f'c=2,500 PSI, fy=60,000 PSI
2. FOOTINGS SHALL BEAR ON UNDISTURBED NATIVE SOILS OR STRUCTURAL COMPACTED FILL (95% COMPACTION), SPECIFIED AND TESTED BY A REGISTERED GEOTECHNICAL ENGINEER.
3. ALL FOOTINGS SHALL BEAR BELOW THE FROST LINE OF THE LOCALITY. (30" U.N.O.) PROVIDE 12" DIAMETER SONO-TUBE AT EXTERIOR SPOT FOOTINGS PER DETAIL 20/SD.1
4. PROVIDE J-BARS TO MATCH VERTICAL FOUNDATION WALL REINFORCEMENT WITH 24" MINIMUM LAP SPLICE INTO FOUNDATION WALL.
5. CENTER FOOTING UNDER FOUNDATION WALL U.N.O.

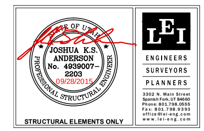
## FOUNDATION WALL SCHEDULE

| DESIG. | THICKNESS | HEIGHT | VERT. REINFORCEMENT SIZE | SPACING | HORIZ. REINFORCEMENT QTY. | SIZE | SPACING | NOTE |
|---|---|---|---|---|---|---|---|---|
| FW1 | 8" | 3'-0"-8'-0" | #4 | 24" | 3-6 | #4 | EQ. | |
| FW2 | 8" | 9'-0" | #4 | 16" | 7 | #4 | EQ. | |
| FW3 | 8" | 10'-0" | #4 | 12" | - | #4 | 12" | |
| FW4 | 8" | 13'-0" | #4 | 12" | - | #5 | 12" | |
| FW5 | 12" | 13'-0" | #5 | 12" | - | #5 | 12" | (2) MATS OF REINFORCEMENT |

NOTES:
1. USE ½" DIAMETER x 7" EMBEDMENT ANCHOR BOLTS @ 32" O.C. W/ 3"x3"x¼" (0.229") PLATE WASHERS AT ALL EXTERIOR AND SHEAR WALLS U.N.O.
2. f'c=3,000 PSI, fy=60,000 PSI
3. PLACE (1) #4 BAR BELOW AND ON EACH SIDE OF EACH OPENING AND (2) #4 BARS ABOVE EACH OPENING. BARS SHALL BE PLACED WITHIN 2" OF THE OPENINGS AND EXTEND 24" BEYOND THE EDGE OF THE OPENING, VERTICAL BARS MAY TERMINATE 3" FROM THE TOP OF THE CONCRETE. OPENING REINFORCEMENT IS IN ADDITION TO STANDARD WALL REINFORCEMENT.
4. TOP AND BOTTOM BARS SHALL BE WITHIN 4" OF THE TOP AND BOTTOM OF THE WALL.
5. PLACE REINFORCEMENT IN THE CENTER OF THE WALL U.N.O.

## HOLDOWN SCHEDULE

| SYMBOL | HOLDOWN/STRAP |
|---|---|
| ● | LSTHD8/8RJ HOLDOWN SEE DETAIL 17/SD.1 & 18/SD.1 |
| ◄ | STHD14/14RJ HOLDOWN SEE DETAIL 17/SD.1 & 18/SD.1 |
| ■ | STHD10/10RJ HOLDOWN SEE DETAIL 17/SD.1 & 18/SD.1 |




STRUCTURAL ELEMENTS ONLY

LEI
ENGINEERS
SURVEYORS
PLANNERS
3302 N. Main Street
Spanish Fork, UT 84660
Phone: 801.798.0555
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office@lei-eng.com
www.lei-eng.com

Mark DESIGN INC
P.O. Box 339 Huntsville, Utah 84317
801.745.2711

| REVISION | DATE |
|---|---|
| | |

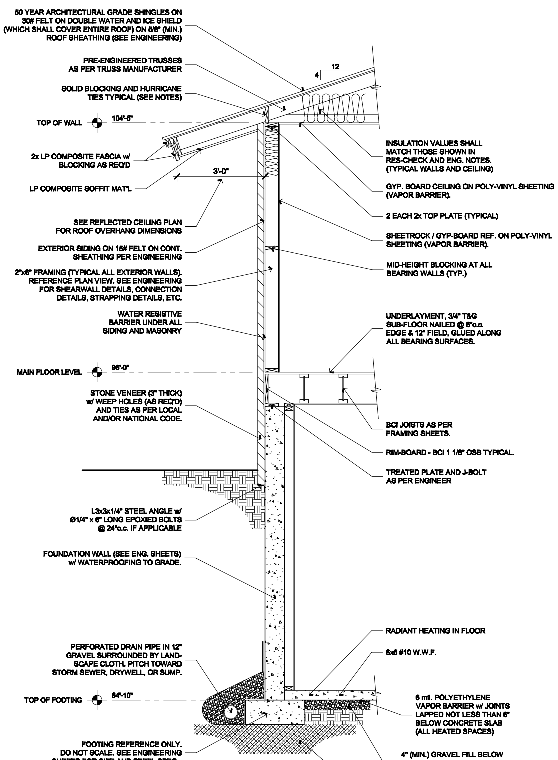
CLIENT: HANNOY
DRAFTER: MDL
DATE: 08-19-15
SHEET: F1

Exhibit A

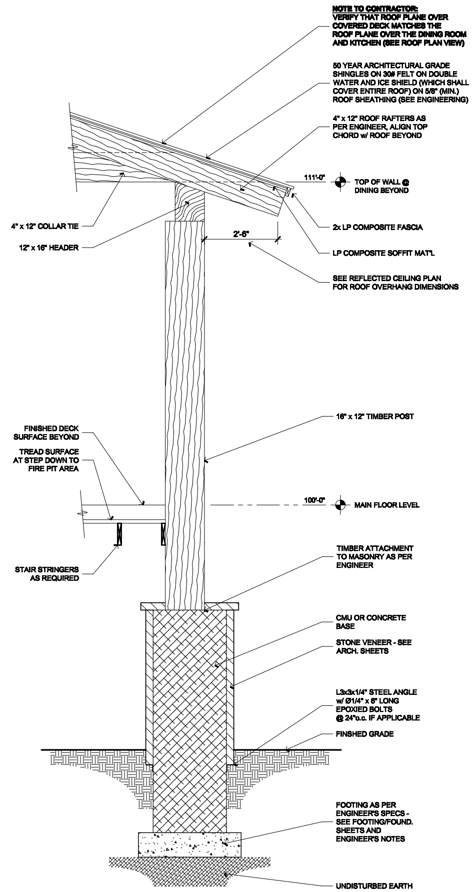
FLASHING SHALL BE INSTALLED IN SUCH A MANNER AS TO PREVENT MOISTURE FROM ENTERING THE WALL OR ROOF, AND TO REDIRECT IT TO THE EXTERIOR. FLASHING SHALL BE INSTALLED AT THE PERIMETERS OF EXTERIOR DOORS AND WINDOW ASSEMBLIES, PENETRATIONS, AND TERMINATION OF EXTERIOR WALL ASSEMBLIES, EXTERIOR WALL INTERSECTIONS WITH ROOFS, CHIMNEYS, PORCHES, DECKS, BALCONIES, AND SIMILAR PROJECTIONS, AND AT BUILT-IN GUTTERS AND SIMILAR LOCATIONS WHERE MOISTURE COULD ENTER THE WALL. FLASHING WITH PROJECTED FLANGES SHALL BE INSTALLED ON BOTH SIDES AND THE ENDS OF COPINGS, UNDER SILLS, AND CONTINUOUSLY ABOVE PROJECTED TRIM. A FLASHING WALL SHALL BE INSTALLED AT THE INTERSECTION OF FOUNDATION WALL TO STUCCO, MASONRY, SIDING, OR BRICK VENEER. THE FLASHING SHALL BE APPROVED, CORROSION RESISTANT, WITH A 1/2" DRIP EDGE, EXTENDING PAST THE EXTERIOR SIDE OF THE FOUNDATION.

FLASH AND CAULK ALL EXTERIOR DOORS AND WINDOWS PER MANUFACTURER'S INSTRUCTIONS.

PROVIDE 4" FLASHING AROUND ALL DOORS AND WINDOWS WITH SILL-PLATE FLASHING.




E1 WALL SECTION
SCALE: 1/2" = 1'-0" @ GUEST BEDROOM

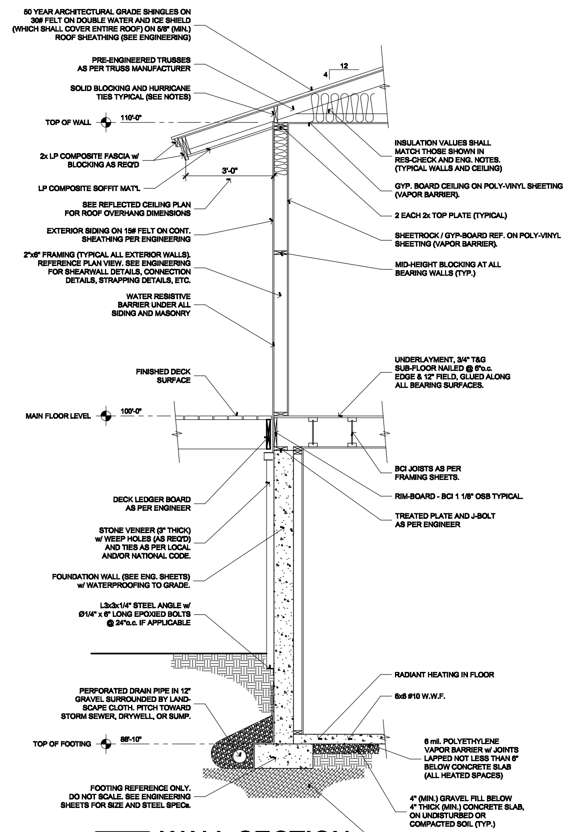



E2 WALL SECTION
SCALE: 1/2" = 1'-0" @ COVERED DECK

FLASHING SHALL BE INSTALLED IN SUCH A MANNER AS TO PREVENT MOISTURE FROM ENTERING THE WALL OR ROOF, AND TO REDIRECT IT TO THE EXTERIOR. FLASHING SHALL BE INSTALLED AT THE PERIMETERS OF EXTERIOR DOORS AND WINDOW ASSEMBLIES, PENETRATIONS, AND TERMINATION 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 COULD ENTER THE WALL. FLASHING WITH PROJECTED FLANGES SHALL BE INSTALLED ON BOTH SIDES AND THE ENDS OF COPINGS, UNDER SILLS, AND CONTINUOUSLY ABOVE PROJECTED TRIM. A FLASHING WALL SHALL BE INSTALLED AT THE INTERSECTION OF FOUNDATION WALL TO STUCCO, MASONRY, SIDING, OR BRICK VENEER. THE FLASHING SHALL BE APPROVED, CORROSION RESISTANT, WITH A 1/2" DRIP EDGE, EXTENDING PAST THE EXTERIOR SIDE OF THE FOUNDATION.

FLASH AND CAULK ALL EXTERIOR DOORS AND WINDOWS PER MANUFACTURER'S INSTRUCTIONS.

PROVIDE 4" FLASHING AROUND ALL DOORS AND WINDOWS WITH SILL-PLATE FLASHING.




E3 WALL SECTION
SCALE: 1/2" = 1'-0" @ MASTER BEDROOM

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| | |

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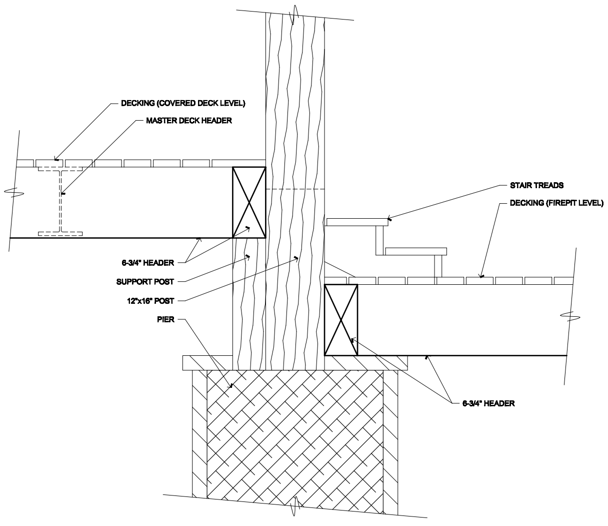
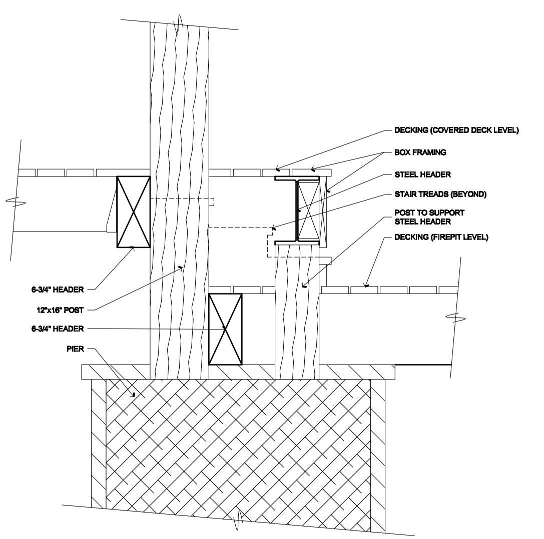
Exhibit A




3 DECK POST DETAIL
SCALE: 1" = 1'-0"

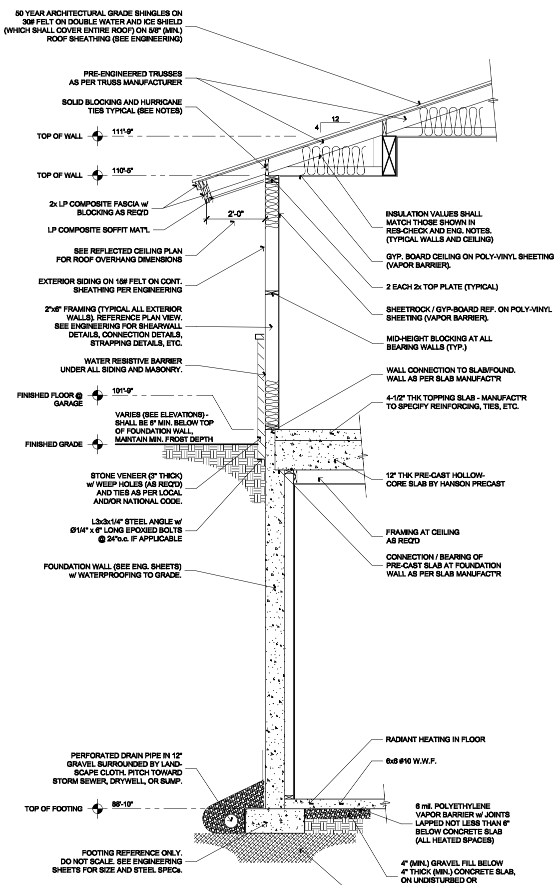



2 DECK POST DETAIL
SCALE: 1" = 1'-0"

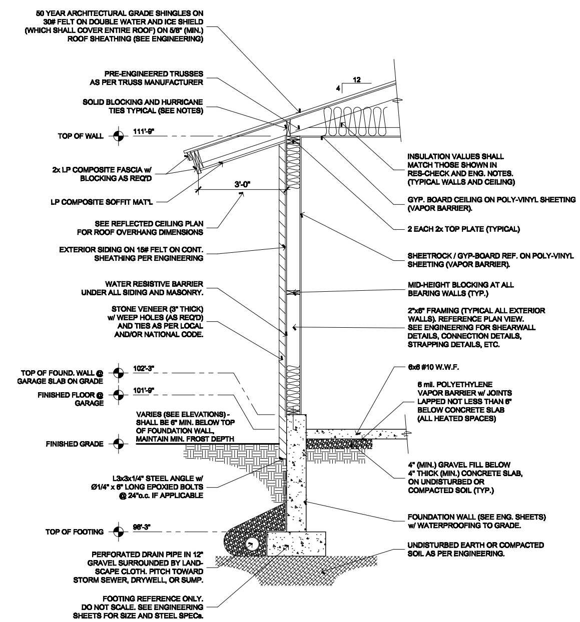
FLASHING SHALL BE INSTALLED IN SUCH A MANNER AS TO PREVENT MOISTURE FROM ENTERING THE WALL OR ROOF, AND TO REDIRECT IT TO THE EXTERIOR. FLASHING SHALL BE INSTALLED AT THE PERIMETERS OF EXTERIOR DOORS AND WINDOW ASSEMBLIES, PENETRATIONS, AND TERMINATION OF EXTERIOR WALL ASSEMBLIES, EXTERIOR WALL INTERSECTIONS WITH ROOFS, CHIMNEYS, PORCHES, DECKS, BALCONIES, AND SIMILAR PROJECTIONS, AND AT BUILT-IN GUTTERS AND SIMILAR LOCATIONS WHERE MOISTURE COULD ENTER THE WALL. FLASHING WITH PROJECTED FLANGES SHALL BE INSTALLED ON BOTH SIDES AND THE ENDS OF COPINGS, UNDER SILLS, AND CONTINUOUSLY ABOVE PROJECTED TRIM. A FLASHING WALL SHALL BE INSTALLED AT THE INTERSECTION OF FOUNDATION WALL TO STUCCO, MASONRY, SIDING, OR BRICK VENEER. THE FLASHING SHALL BE APPROVED, CORROSION RESISTANT, WITH A 1/2" DRIP EDGE, EXTENDING PAST THE EXTERIOR SIDE OF THE FOUNDATION.

FLASH AND CAULK ALL EXTERIOR DOORS AND WINDOWS PER MANUFACTURER'S INSTRUCTIONS.

PROVIDE 4" FLASHING AROUND ALL DOORS AND WINDOWS WITH SILL-PLATE FLASHING.




E4 WALL SECTION
SCALE: 1/2" = 1'-0" @ GARAGE




E5 WALL SECTION
SCALE: 1/2" = 1'-0" @ GARAGE

| REVISION | DATE |
| --- | --- |



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CLIENT: HANNOY
DRAFTER: MDL
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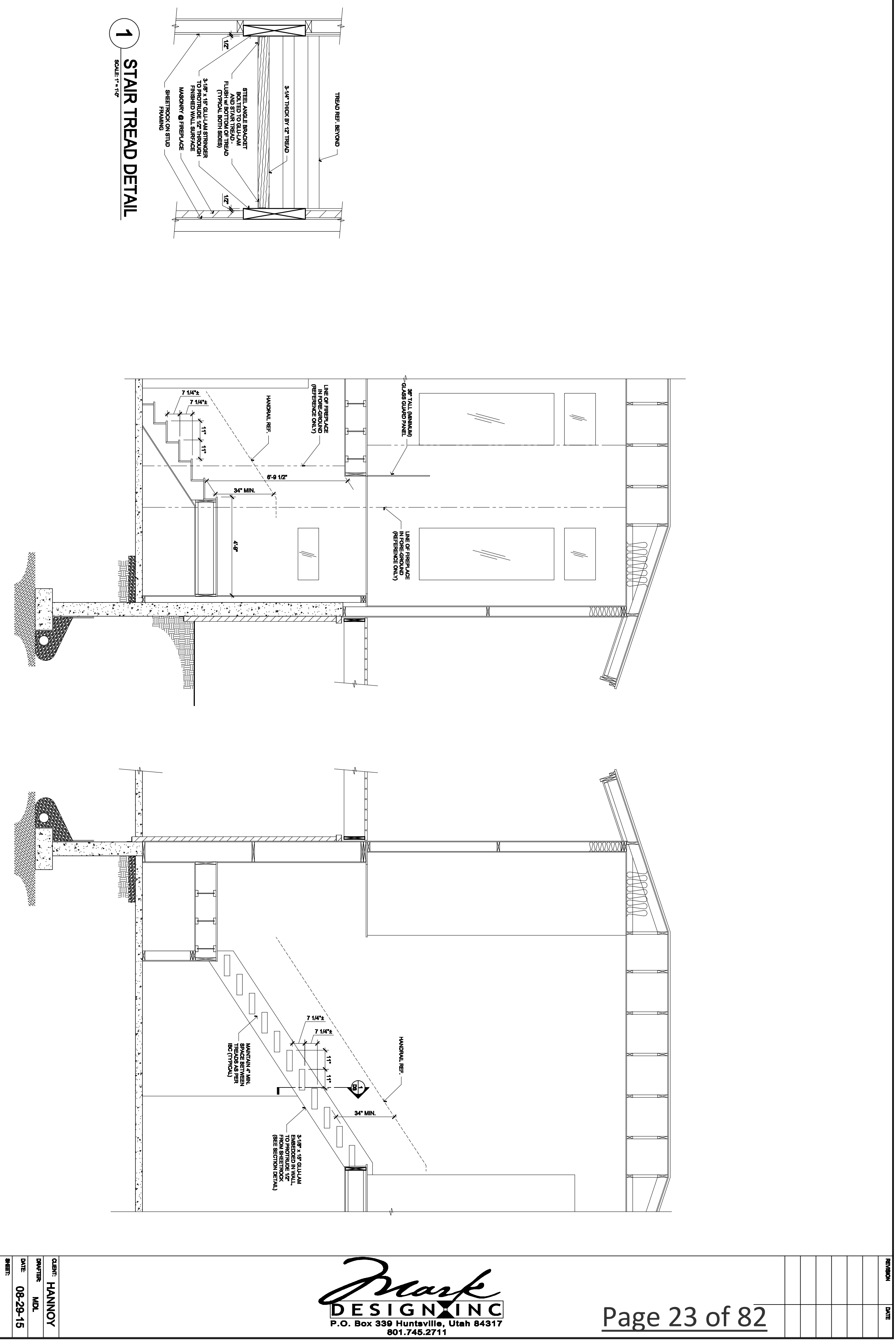
SHEET: D2

Exhibit A



1 STAIR TREAD DETAIL
SCALE: 1" = 1'-0"
TREAD REF. BEYOND
3-1/4" THICK BY 12" TREAD
STEEL ANGLE BRACKET BOLTED TO GLU-LAM AND STAIR TREAD - FLUSH w/ BOTTOM OF TREAD (TYPICAL BOTH SIDES)
3-1/8" x 18" GLU-LAM STRINGER TO PROTRUDE 1/2" THROUGH FINISHED WALL SURFACE
MASONRY @ FIREPLACE
SHEETROCK ON STUD FRAMING
E6 STAIR SECTION
SCALE: 1/2" = 1'-0"
E7 STAIR SECTION
SCALE: 1/2" = 1'-0"
HANDRAIL REF.
34" MIN.
MAINTAIN 4" MIN. SPACE BETWEEN TREADS AS PER IBC (TYPICAL)
CLIENT: HANNOY
DRAFTER: MDL
DATE: 08-29-15
SHEET: D3
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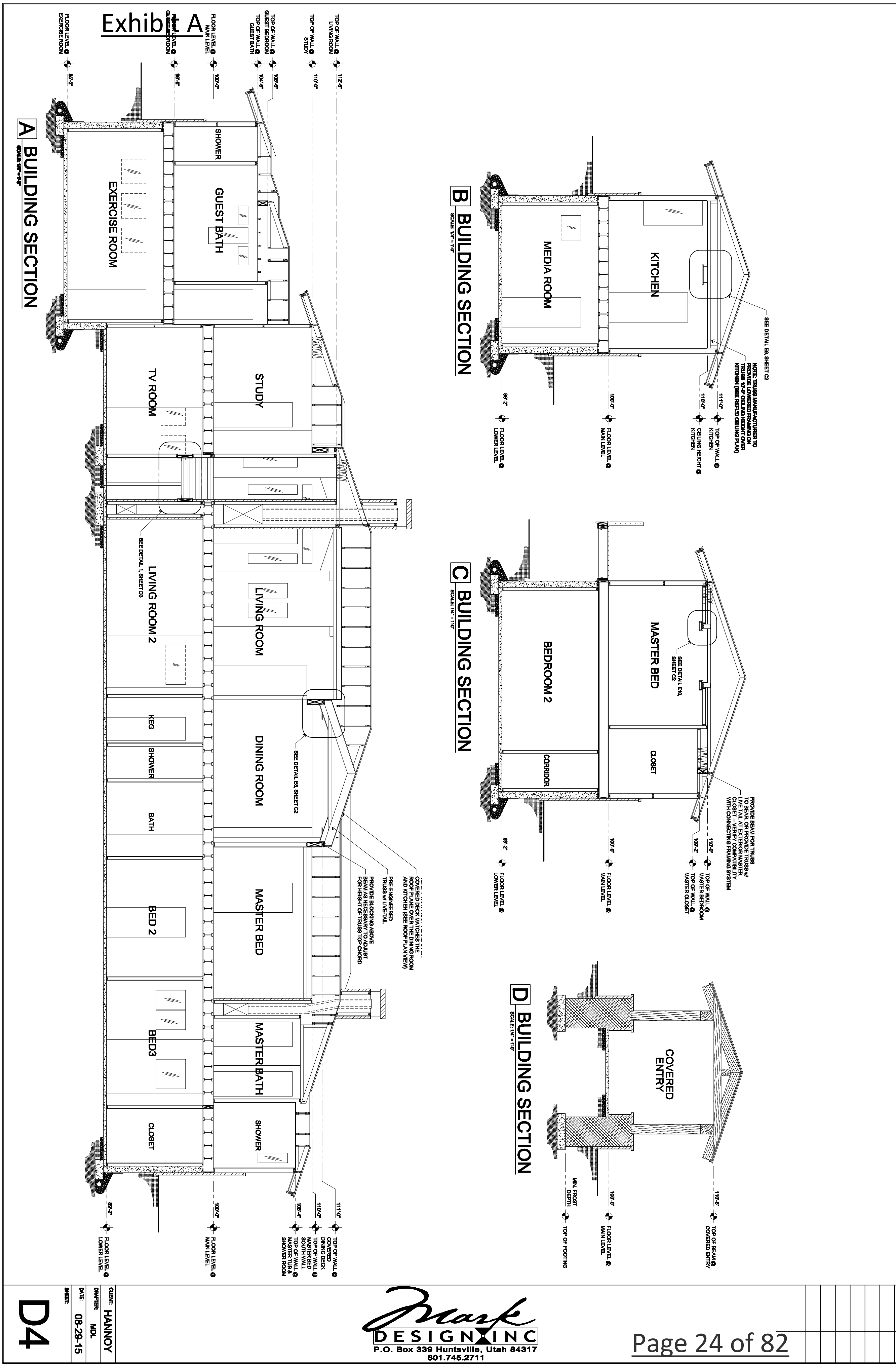


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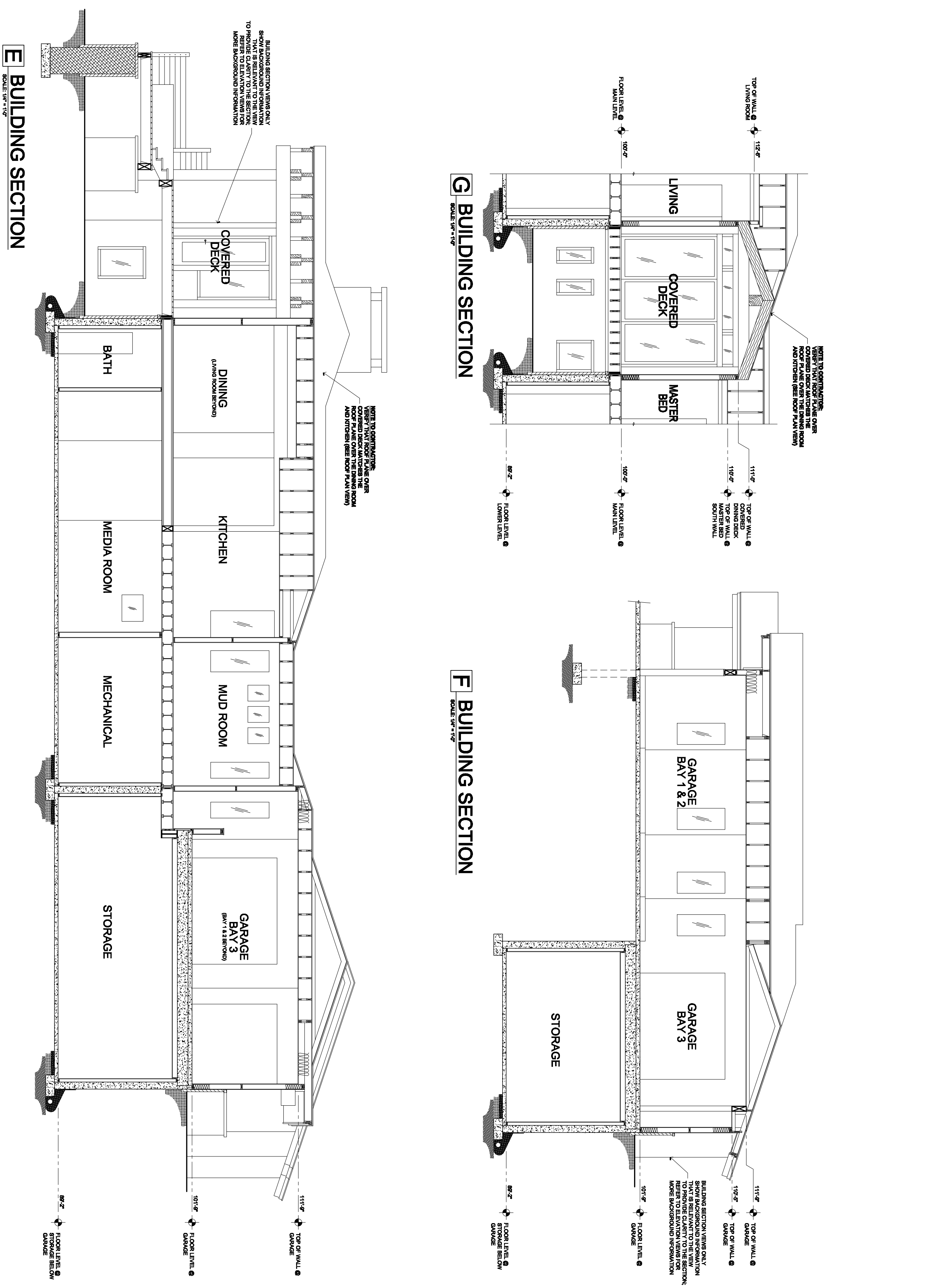
# Exhibit A




D5

SHEET:

DATE: 08-29-15

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CLIENT: HANNOY

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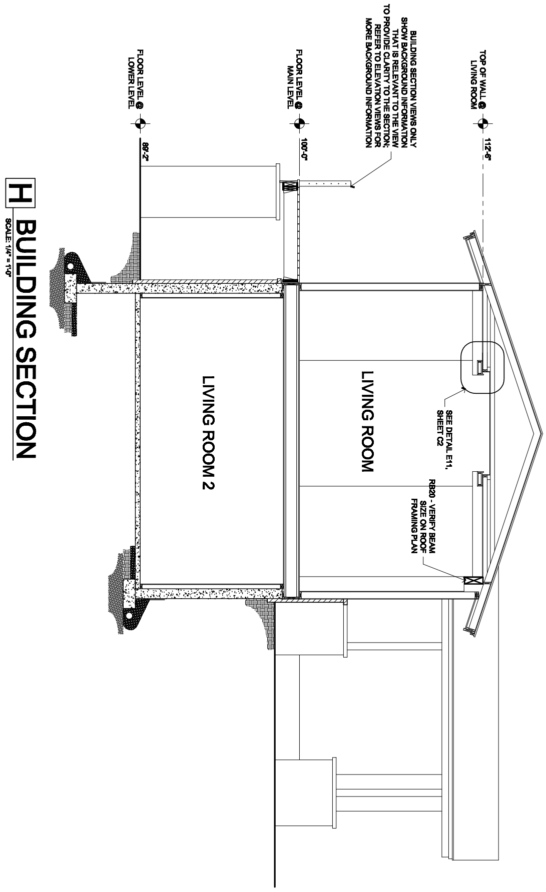


SHEET: D6
DATE: 09-29-15
DRAFTER: MDL
CLIENT: HANNOY

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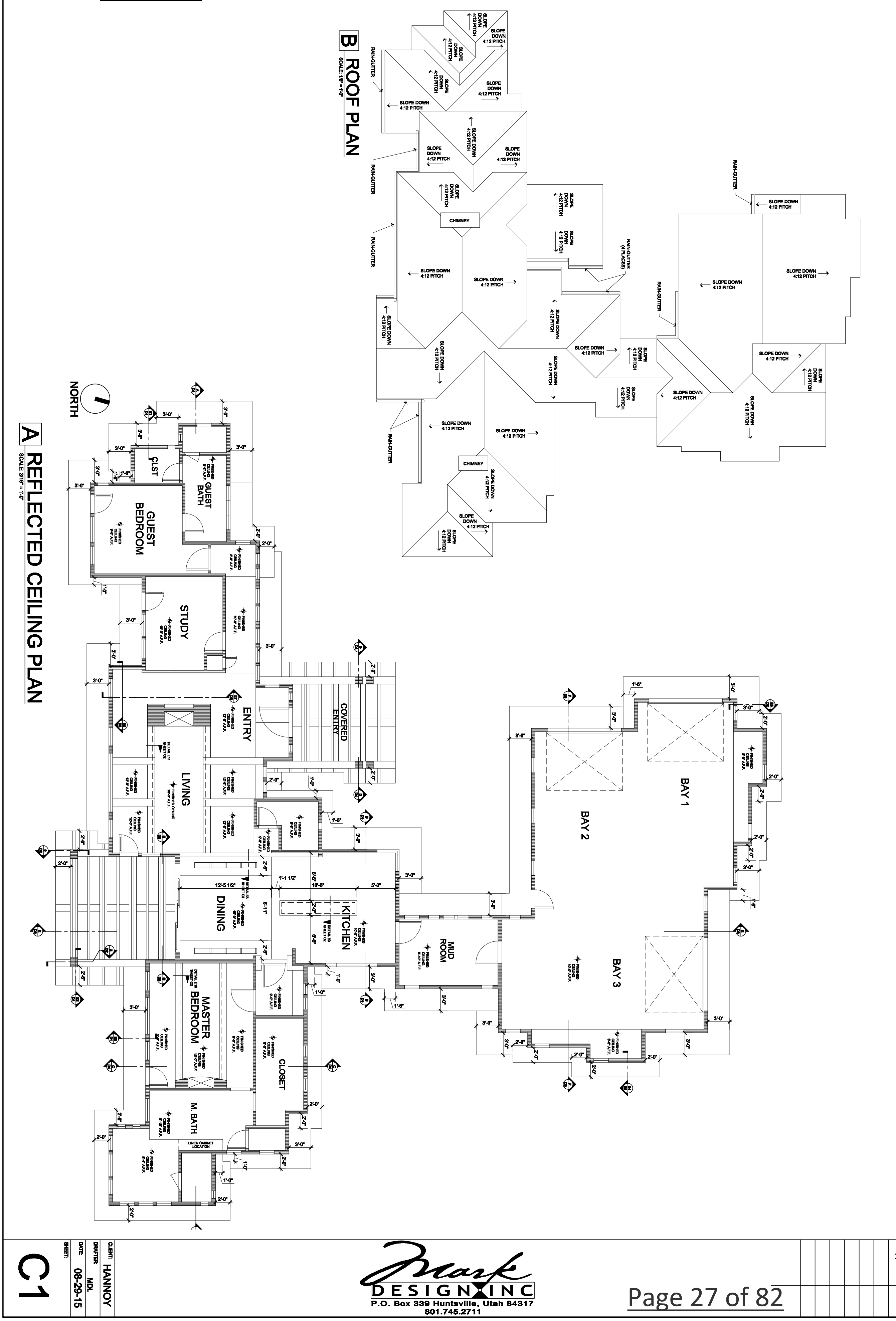
B ROOF PLAN
SCALE: 1/8" = 1'-0"
SLOPE DOWN 4:12 PITCH
RAIN-GUTTER
RAIN-GUTTER (4 PLACES)
CHIMNEY
NORTH
A REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"
GUEST BEDROOM
GUEST BATH
CLST
STUDY
ENTRY
COVERED ENTRY
LIVING
DINING
KITCHEN
MUD ROOM
MASTER BEDROOM
CLOSET
M. BATH
LINEN CABINET LOCATION
BAY 1
BAY 2
BAY 3
CLIENT: HANNOY
DRAFTER: MDL
DATE: 08-29-15
SHEET: C1
DESIGN INC
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801.745.2711
REVISION
DATE

# Exhibit A

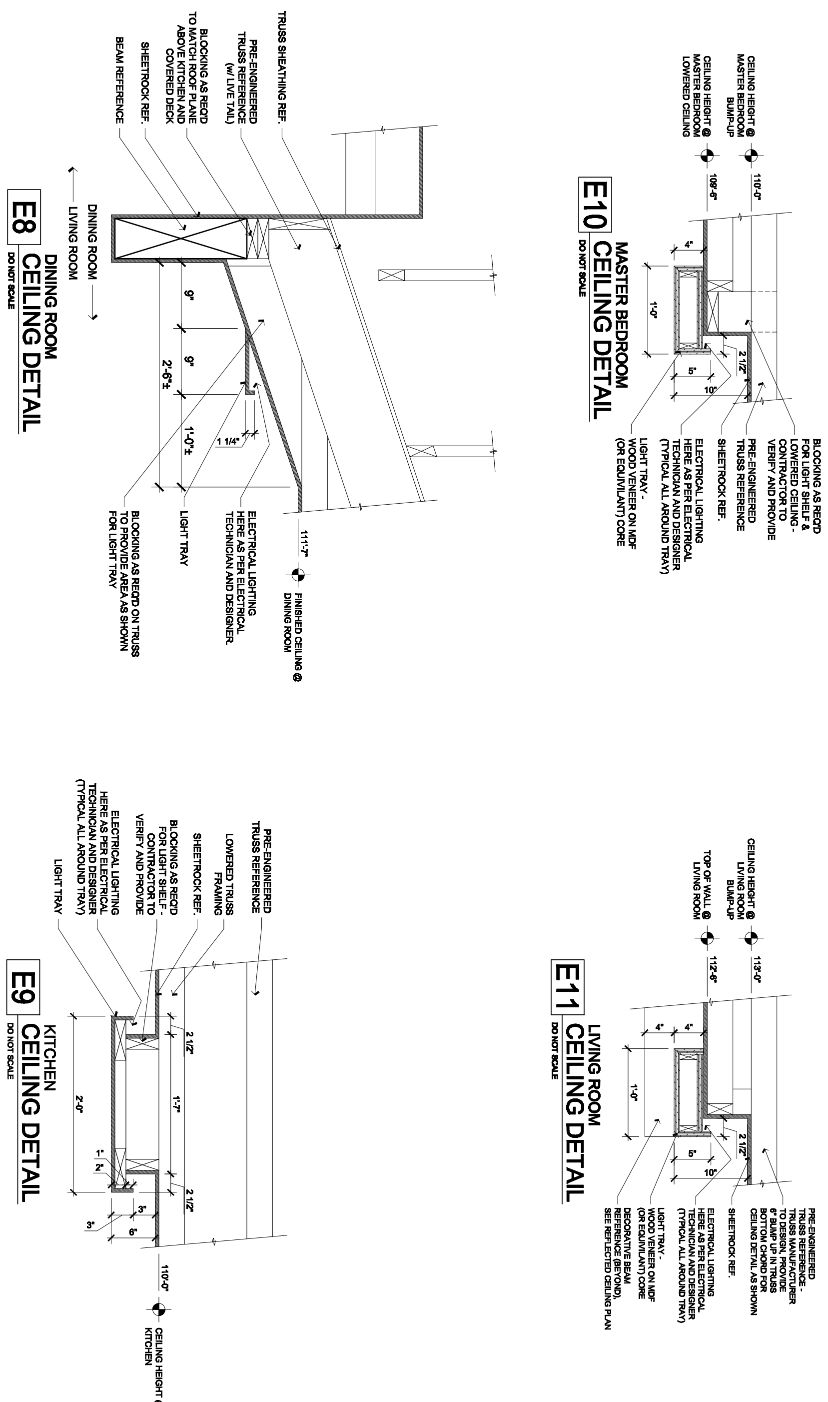


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Exhibit A

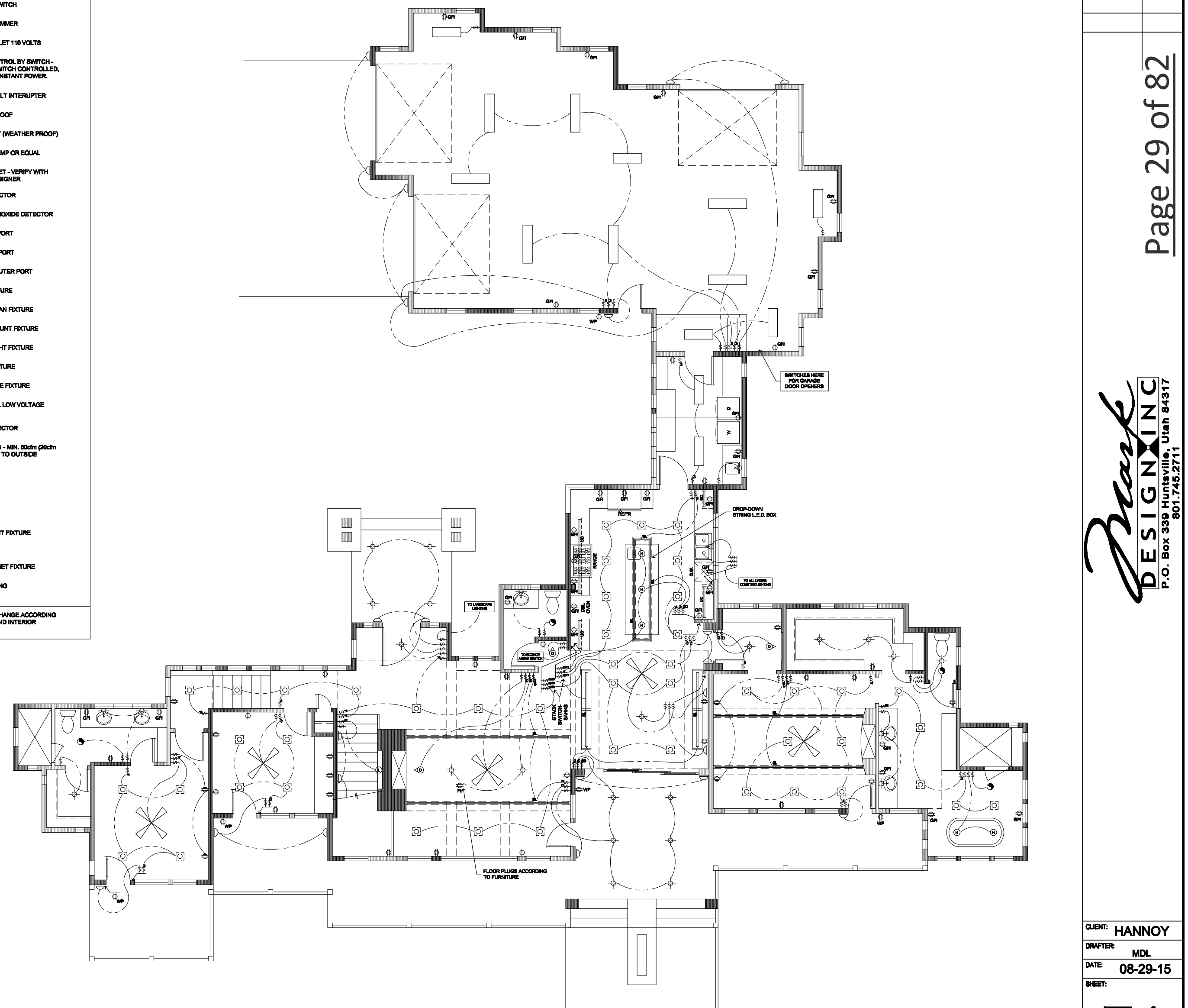
## GENERAL ELECT. AND MECH. NOTES

1. APPLIANCES HAVING AN IGNITION SOURCE SHALL BE ELEVATED AT LEAST 18" ABOVE THE GARAGE FLOOR PER IRC G2408.2.
2. PROVIDE A CERTIFICATE POSTED IN OR BY THE ELECTRICAL PANEL OR FURNACE ROOM LISTING THE R-VALUES OF THE INSULATION INSTALLED IN THE WALLS, CEILINGS, FOUNDATION WALLS (IF REQ'D), SLAB (IF REQ'D), AND DUCTS OUTSIDE CONDITIONED SPACES. WINDOW U-FACTORS AND HEAT GAIN MUST ALSO BE LISTED AND SHOWN. THE TYPE AND EFFICIENCY OF FURNACE, BOILER, WATER HEATERS, AND AIR CONDITIONING EQUIPMENT SHALL ALSO BE LISTED.
3. BATHROOM EXHAUST FANS MUST CONTINUE AND DISCHARGE DIRECTLY OUTSIDE STRUCTURE. CLOSE PROXIMITY TO ATTIC VENTS OR TO SOFFIT AREAS ARE SPECIFICALLY PROHIBITED. ALL DUCTS MUST CONNECT TO AN OPENING WITH PROPER SCREEN FOR TERMINATIONS IN SOFFIT AND WALL AREAS AND TO AN APPROVED THRU-THE-ROOF DISCHARGE FITTING INSTALLED SO AS NOT TO BE BLOCKED OR STOPPED BY SNOW OR ICE.
4. GAS BURNING FIREPLACES (IF INSTALLED) MUST HAVE THE DAMPERS BLOCKED OPEN AT ALL TIMES.
5. SHOWER PAN LINERS MUST EXTEND 3 INCHES ABOVE THE SHOWER DOOR THRESHOLD HEIGHT AND SOLID BLOCKING IS REQUIRED BEHIND AT ALL LINER LOCATIONS.
6. SITE-BUILT SHOWER PAN LINERS MUST BE INSTALLED ON BUILT-UP FLOORS AND MUST BE INSPECTED.
7. WATER HEATERS TO HAVE 2 SEISMIC STRAPS, ONE IN UPPER THIRD AND ONE IN LOWER THIRD, ALSO PROVIDE A PROPERLY ADJUSTED EXPANSION TANK.
8. PROVIDE A GFCI PROTECTED SERVICE OUTLET AT HVAC EQUIPMENT WITHIN 25 FEET AND ON THE SAME LEVEL PER IRC 3801.11 AND NEC 210.63.
9. OUTLETS IN STORAGE AREAS NEED TO BE GFCI PROTECTED PER IRC E3803.10.
10. ALL BEDROOM OUTLETS NEED AFCI PROTECTION PER IRC SECTION E3082.12.
11. PROVIDE A UFFR PER IRC 3508.1.2.
12. LIGHT FIXTURES IN WET LOCATIONS SHALL BE PROTECTED PER IRC 3903.10.
13. PROVIDE A SHUT-OFF VALVE FOR ALL PLUMBING FIXTURE SUPPLY LINES.
14. PROVIDE A MINIMUM OF 30" x 30" LEVEL WORKING SPACE IN FRONT OF EACH FURNACE AND A MINIMUM OF 3" ALONG THE SIDES AND BACK. (-SEC. M1305.1).
15. INSULATE HEATING TRUNK AND BRANCH SUPPLY DUCTS IN UNFINISHED AREAS, ATTICS, UNHEATED GARAGES, ETC. IECC 503.3.3.3
16. A WEATHER-PROOF OUTLET IS REQUIRED OUTSIDE AT THE FRONT AND BACK OF THE DWELLING. (-SEC. E3801.7).
17. CARBON MONOXIDE DETECTORS SHALL BE INSTALLED ON EACH HABITABLE LEVEL OF A DWELLING UNIT EQUIPPED WITH A FUEL BURNING APPLIANCE. R313.2 AS AMENDED BY THE STATE.
18. ELECTRICAL PANEL-BOARDS MUST HAVE 30" WIDTH, 36" DEPTH, AND 6'-6" HEADROOM FOR PROPER CLEARANCE. -E3305
19. A SMOKE ALARM IS REQUIRED ON EACH STORY INCLUDING THE BASEMENT LEVEL. (-SEC. R313.2).
20. SMOKE ALARMS ARE REQUIRED TO BE INTERCONNECTED SUCH THAT THE ACTUATION OF ONE WILL ACTUATE ALL SMOKE ALARMS. (-SEC. R313.2).
21. SMOKE ALARMS ARE REQUIRED TO BE WIRED TO THE PRIMARY POWER SOURCE AND HAVE A BATTERY BACKUP. (-SEC. R313.3).
22. AUTOMATIC GARAGE DOOR OPENERS, IF PROVIDED, SHALL BE TESTED IN ACCORDANCE WITH UL325. (-SEC. R309.6).

## ELECTRICAL LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| $ | SWITCH |
| $3 | THREE WAY SWITCH |
| $4 | FOUR WAY SWITCH |
| $D | SWITCH W/ DIMMER |
| | DUPLEX OUTLET 110 VOLTS |
| | OUTLET, CONTROL BY SWITCH - ONE PORT SWITCH CONTROLLED, OTHER IS CONSTANT POWER. |
| GFI | GROUND FAULT INTERUPTER |
| WP | WEATHER PROOF |
| EP | EAVE OUTLET (WEATHER PROOF) |
| MR16 | MR16 SIZE LAMP OR EQUAL |
| FL | FLOOR OUTLET - VERIFY WITH INTERIOR DESIGNER |
| S.D. | SMOKE DETECTOR |
| C.M.D. | CARBON MONOXIDE DETECTOR |
| T.V. | TELEVISION PORT |
| PHONE | TELEPHONE PORT |
| DATA | DATA / COMPUTER PORT |
| | SCONCE FIXTURE |
| | RECESSED CAN FIXTURE |
| | SURFACE MOUNT FIXTURE |
| H | HANGING LIGHT FIXTURE |
| P | PENDANT FIXTURE |
| L | LOW VOLTAGE FIXTURE |
| D | DIRECTIONAL LOW VOLTAGE FIXTURE |
| M | MOTION DETECTOR |
| | EXHAUST FAN - MIN. 50cfm (20cfm CONT.), VENT TO OUTSIDE |
| | CEILING FAN |
| | FLUORESCENT FIXTURE |
| UC | UNDER CABINET FIXTURE |
| SL | STRIP LIGHTING |

NOTE: EXACT LOCATIONS MAY CHANGE ACCORDING TO ELECTRICAL CONTRACTOR AND INTERIOR DESIGNER. VERIFY IN FIELD.




## A MAIN LEVEL ELECTRICAL PLAN

SCALE: 3/16" = 1'-0"

| REVISION | DATE |
|---|---|
| | |

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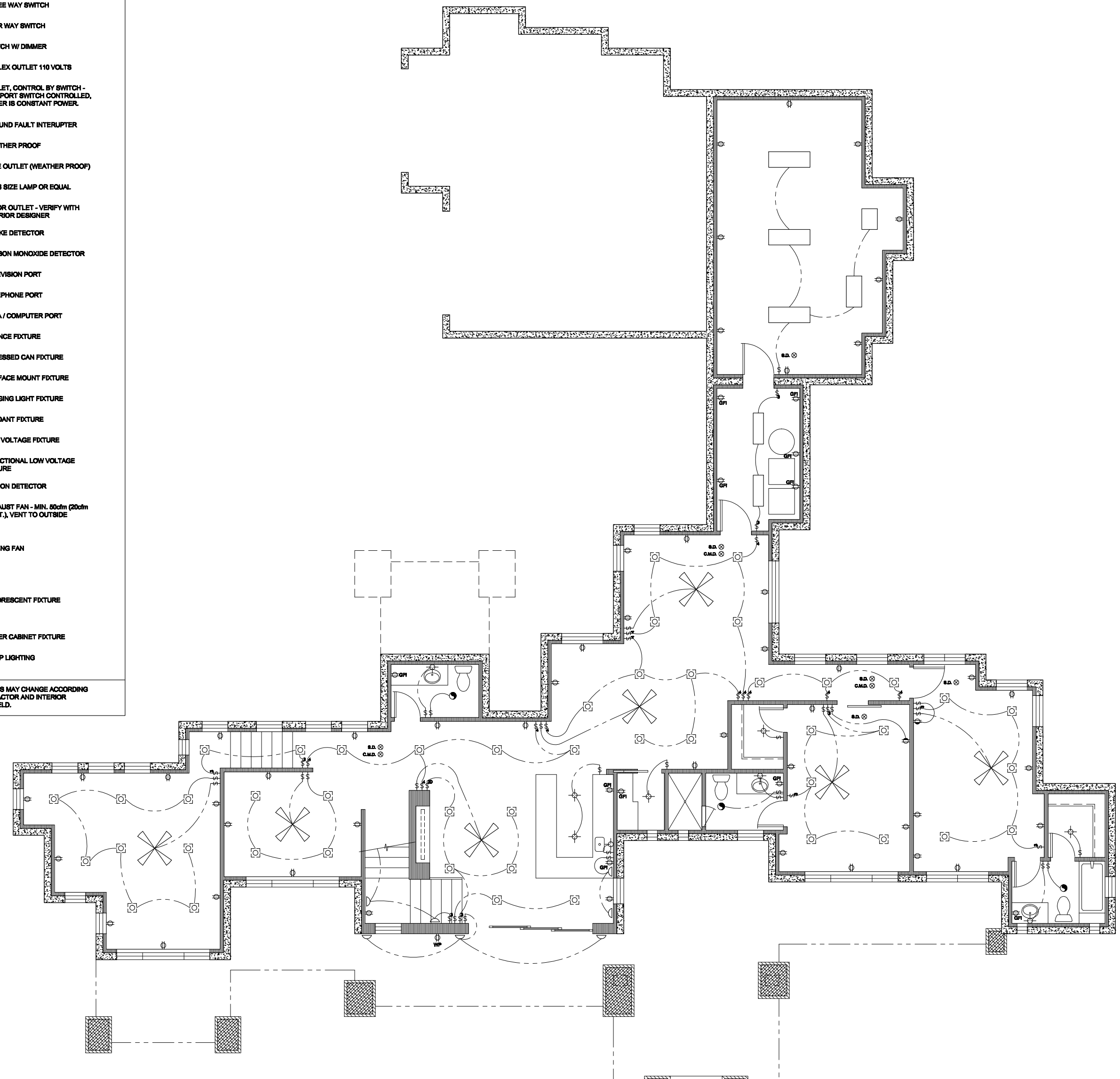
## ELECTRICAL LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| $ | SWITCH |
| $3 | THREE WAY SWITCH |
| $4 | FOUR WAY SWITCH |
| $D | SWITCH W/ DIMMER |
| | DUPLEX OUTLET 110 VOLTS |
| | OUTLET, CONTROL BY SWITCH - ONE PORT SWITCH CONTROLLED, OTHER IS CONSTANT POWER. |
| GFI | GROUND FAULT INTERUPTER |
| WP | WEATHER PROOF |
| EP | EAVE OUTLET (WEATHER PROOF) |
| MR16 | MR16 SIZE LAMP OR EQUAL |
| FL | FLOOR OUTLET - VERIFY WITH INTERIOR DESIGNER |
| S.D. | SMOKE DETECTOR |
| C.M.D. | CARBON MONOXIDE DETECTOR |
| T.V. | TELEVISION PORT |
| PHONE | TELEPHONE PORT |
| DATA | DATA / COMPUTER PORT |
| | SCONCE FIXTURE |
| | RECESSED CAN FIXTURE |
| | SURFACE MOUNT FIXTURE |
| H | HANGING LIGHT FIXTURE |
| P | PENDANT FIXTURE |
| L | LOW VOLTAGE FIXTURE |
| D | DIRECTIONAL LOW VOLTAGE FIXTURE |
| M | MOTION DETECTOR |
| | EXHAUST FAN - MIN. 50cfm (20cfm CONT.), VENT TO OUTSIDE |
| | CEILING FAN |
| | FLUORESCENT FIXTURE |
| UC | UNDER CABINET FIXTURE |
| SL | STRIP LIGHTING |

NOTE: EXACT LOCATIONS MAY CHANGE ACCORDING TO ELECTRICAL CONTRACTOR AND INTERIOR DESIGNER. VERIFY IN FIELD.




B LOWER LEVEL ELECTRICAL PLAN
SCALE: 3/16" = 1'-0"

| REVISION | DATE |
|---|---|
| | |

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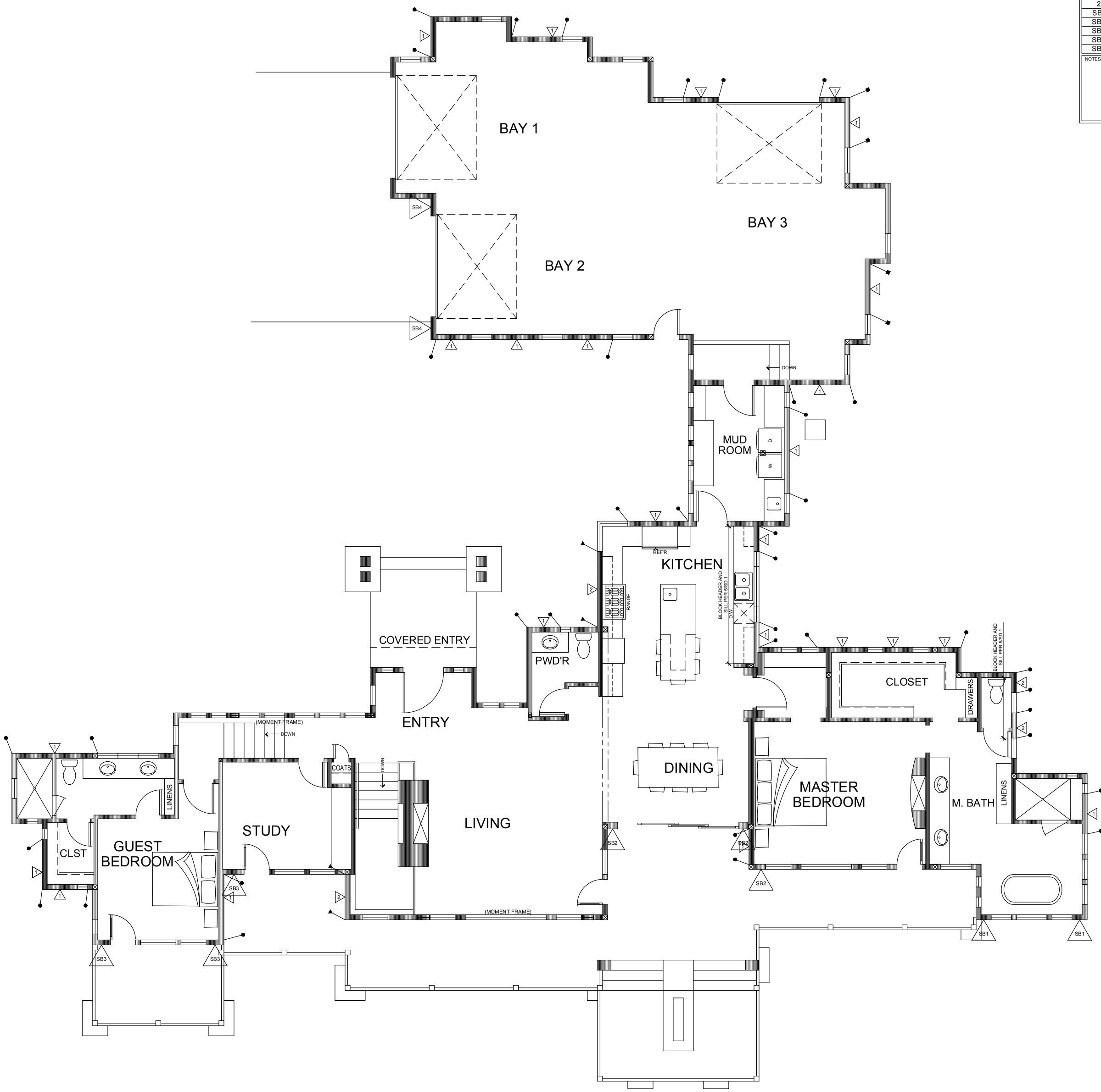


# A MAIN LEVEL SHEAR PLAN

SCALE: 3/16" = 1'-0"

## SHEAR WALL SCHEDULE [1,3]

| DESIG. | MATERIAL | 8d NAILS | | 1½" 16 GAGE STAPLES | | CAPACITY | | NOTE |
|---|---|---|---|---|---|---|---|---|
| | | EDGE | FIELD | EDGE | FIELD | WIND | SEISMIC | |
| 1 | 7/16" OSB OR CDX PLYWOOD | 6" | 12" | 3½" | 12" | 360 | 260 | 2,4,5 |
| 2 | 7/16" OSB OR CDX PLYWOOD | 4" | 12" | - | - | 530 | 350 | 2,4,5 |
| SB1 | SWSB12x10 WOOD SHEAR BRACE. SEE DETAILS 8/SD.1 & 31/SD.2 | | | | | | | |
| SB2 | SWSB12x11 WOOD SHEAR BRACE. SEE DETAILS 8/SD.1, 10/SD.1, & 31/SD.2 | | | | | | | |
| SB3 | SWSB18x11 WOOD SHEAR BRACE. SEE DETAILS 8/SD.1 & 31/SD.2 | | | | | | | |
| SB4 | SWSB18x10 WOOD SHEAR BRACE. SEE DETAILS 8/SD.1 & 31/SD.2 | | | | | | | |
| SB5 | SWSB24x10 WOOD SHEAR BRACE. SEE DETAILS 10/SD.1 & 32/SD.2 | | | | | | | |

NOTES:
1. WALL STUDS ARE TO BE SPACED AT 16" O.C. U.N.O.
2. UNIT SHEAR CAPACITIES ARE BASED ON AF&PA SDPWS TABLE 4.3A (IBC 2306.3)
3. USE (2) KING STUDS AT EACH END OF SHEAR PANELS (SHEAR WALL CHORDS) U.N.O.
4. ALL PANEL EDGES SHALL BE BLOCKED WITH 2-INCH NOMINAL OR WIDER FRAMING WITH EDGE NAILING AT ALL SUPPORTS AND PANEL EDGES U.N.O. (AF&PA SDPWS 4.3.7.1 NOTE 1)
5. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6" O.C. ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS.
6. FRAMING AT ADJOINING PANEL EDGES AND SILL PLATES SHALL BE 3-INCH NOMINAL OR WIDER FOR EDGE NAILING 3" O.C. OR LESS. NAILS AT ADJOINING PANEL EDGES AND INTO SILL PLATES SHALL BE STAGGERED. (AF&PA SDPWS 4.3.7.1 NOTE 3)
7. NAILS FOR SHEET ROCK SHEARWALLS SHALL BE 5d COOLER NAILS IN LIEU OF 8d NAILS. DRYWALL SCREWS ARE PERMITTED TO SUBSTITUTE FOR 5d COOLER NAILS IF THEIR DIMENSIONS ARE NOT LESS THAN 1⅝"x0.086" (IBC TABLE 2306.7 NOTE c)

## HOLDOWN SCHEDULE

| SYMBOL | HOLDOWN/STRAP |
|---|---|
| ●—— | LSTHD8/8RJ HOLDOWN SEE DETAIL 17/SD.1 & 18/SD.1 |
| ◄—— | STHD14/14RJ HOLDOWN SEE DETAIL 17/SD.1 & 18/SD.1 |
| ■—— | STHD10/10RJ HOLDOWN SEE DETAIL 17/SD.1 & 18/SD.1 |

JOSHUA K.S. ANDERSON No. 4939007-2203 09/28/2015 PROFESSIONAL STRUCTURAL ENGINEER STATE OF UTAH

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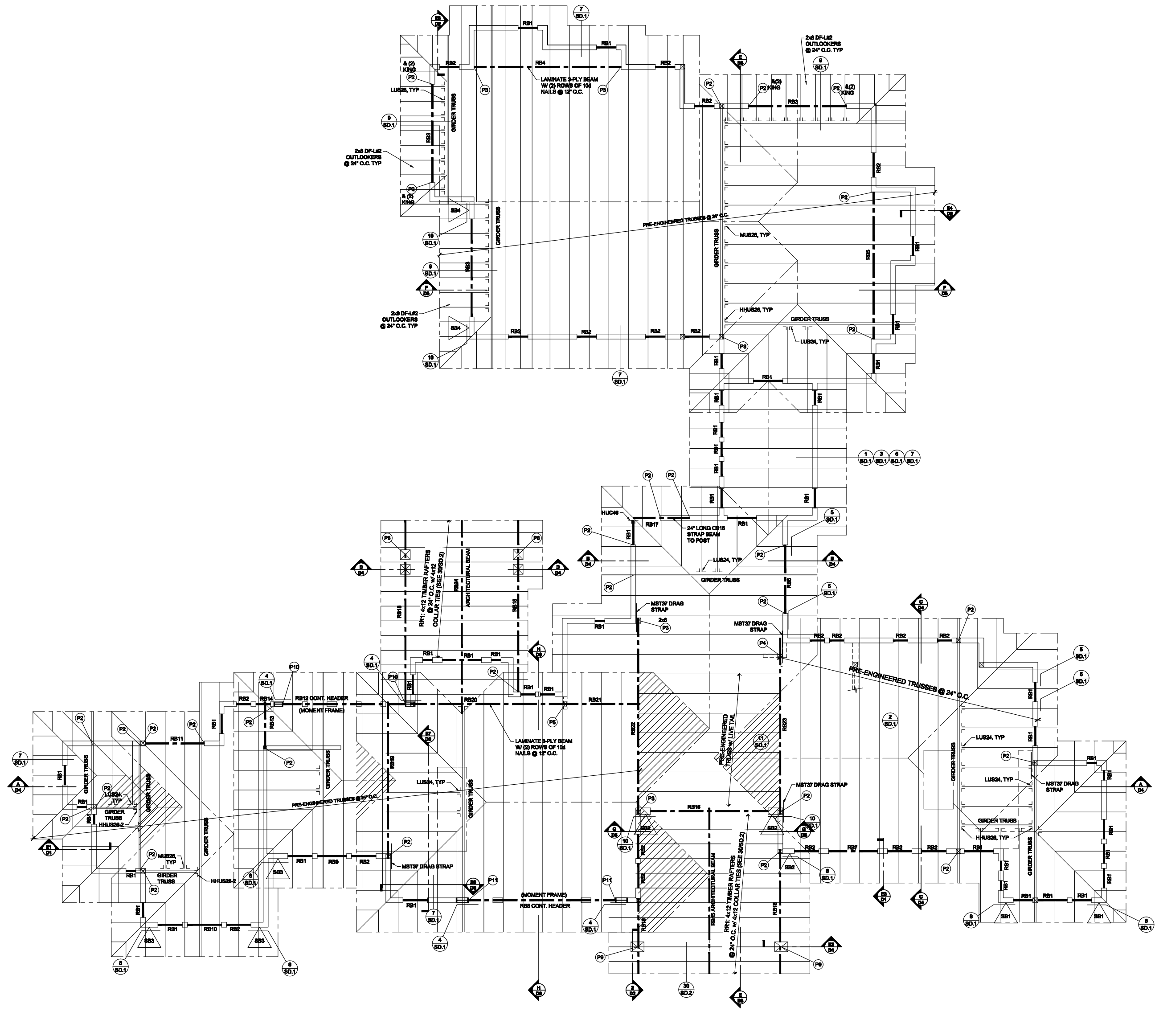

**B** ROOF FRAMING PLAN

SCALE: 3/16" = 1'-0"

## BASIS FOR DESIGN

GRAVITY:
1. ROOF SNOW LOAD = 57 PSF
2. ROOF DEAD LOAD = 15 PSF
3. FLOOR LIVE LOAD = 40 PSF
4. FLOOR DEAD LOAD = 15 PSF
5. ASSUMED SOIL BEARING CAPACITY = 1500 PSF

SEISMIC:
1. Ss = 0.894, S1 = 0.302
2. SOIL SITE CLASS = D (PER IBC SECTION 1613.3.2)
3. SEISMIC DESIGN CATEGORY = D
4. SIMPLIFIED ANALYSIS
5. LIGHT FRAMED WALLS WITH WOOD STRUCTURAL PANELS, R = 6.5 (SEE LOADS PAGE IN STRUCTURAL CALCULATION FOR OTHER SFRS R VALUES)

WIND:
1. 115 MPH
2. EXPOSURE C
3. SIMPLIFIED ANALYSIS

## FRAMING NOTES

1. PLANS ARE NOT COMPLETE WITHOUT THE STRUCTURAL CALCULATIONS.
2. REFER TO THE STRUCTURAL CALCULATIONS FOR THE GENERAL STRUCTURAL NOTES.
3. ROOF SHEATHING TO BE 5/8" APA RATED OSB WITH 10d NAILS AT 6" O.C. EDGE, 12" O.C. FIELD.
4. FLOOR SHEATHING SHALL BE APA RATED 3/4" T&G WITH 10d NAILS OR SIMPSON WSNTL2LS #8 WOOD SCREWS AT 6" O.C. EDGE, 12" O.C. FIELD.
5. EXTERIOR STUD WALLS SHALL BE 2x6 DF-L#2 @ 16" O.C U.N.O.
6. USE (8) 16d NAILS BETWEEN TOP PLATE SPLICE POINTS ON ALL EXTERIOR AND SHEAR WALLS. PROVIDE A 4'-0" MINIMUM LAP SPLICE.
7. INSTALL ALL SIMPSON HARDWARE PER MANUFACTURER'S SPECIFICATIONS.
8. HOLDOWNS SHALL BE INSTALLED ON (2) FULL HEIGHT KING STUDS (MINIMUM).
9. FLOOR JOISTS SHALL BE 11 7/8" BCI 6000 AT 16" O.C. U.N.O.
10. OVERBUILD ROOF RAFTERS SHALL BE 2x6 DF-L#2 AT 24" O.C. U.N.O.
11. PROVIDE 2x SQUASH BLOCKING AT FLOOR FRAMING TO MATCH DIMENSIONS OF POST ABOVE.
12. ALL DETAILS SHALL APPLY IN ALL SIMILAR SITUATIONS.
13. ALL LUMBER NOT PERMANENTLY PROTECTED FROM THE ELEMENTS SHALL BE PRESERVATIVE TREATED OR OF A DECAY RESISTANT SPECIES. CONTACT LEI ENGINEERS AND SURVEYORS, INC. IF A DIFFERENT SPECIES IS TO BE USED.

## (P#) POST SCHEDULE

| DESIG. | POST SIZE |
|---|---|
| P1 | (1) 2x |
| P2 | (2) 2x |
| P3 | (3) 2x |
| P4 | (4) 2x |
| P5 | (5) 2x |
| P6 | 4x4 |
| P7 | 6x6 |
| P8 | 12x12 |
| P9 | 12x16 |
| P10 | W10x12 |
| P11 | W14x26 |

NOTES:
1. POSTS INDICATE NUMBER OF TRIMMER STUDS WHEN SPECIFIED AT HEADERS. ALL OTHER POST DESIGNATIONS REFER TO FULL HEIGHT KING STUDS U.N.O.
2. INSTALL (1) TRIMMER AND (1) KING STUD EACH SIDE OF EACH OPENING U.N.O.
3. INSTALL (2) TRIMMER STUDS AT EACH SIDE OF OPENINGS GREATER THAN 6'-0" WIDE U.N.O.
4. INSTALL (2) KING STUDS EACH SIDE OF OPENINGS GREATER THAN 8'-0" WIDE U.N.O.
5. 2x BUILT-UP POSTS SHALL BE THE SAME WIDTH OF THE WALL IN WHICH THEY ARE FRAMED U.N.O.
6. NAIL EACH PLY OF 2x BUILT-UP POSTS W/ 16d NAILS @ 6" O.C. STAGGERED U.N.O.
7. POSTS THAT ARE NOT FRAMED WITHIN A STUD WALL SHALL BE BRACED WITH BC OR AC POST CAP AND PC OR ABA POST BASE U.N.O.

## BEAM SCHEDULE

| DESIG. | QTY. | SIZE | TYPE |
|---|---|---|---|
| RB1 | 2 | 2x6 | DF-L#2 |
| RB2 | 2 | 2x6 | DF-L#2 |
| RB3 | 2 | 1 3/4"x9 1/2" | MICROLLAM |
| RB4 | 3 | 1 3/4"x14" | MICROLLAM |
| RB5 | 2 | 1 3/4"x14" | MICROLLAM |
| RB6 | 2 | 1 3/4"x9 1/2" | MICROLLAM |
| RB7 | 2 | 2x10 | DF-L#2 |
| RB8 | 1 | W10x22 | A992-50 |
| RB9 | 2 | 2x10 | DF-L#2 |
| RB10 | 3 | 2x10 | DF-L#2 |
| RB11 | 3 | 2x8 | DF-L#2 |
| RB12 | 1 | W10x12 | A992-50 |
| RB13 | 2 | 2x6 | DF-L#2 |
| RB14 | 2 | 2x6 | DF-L#2 |
| RB15 | 1 | 12x16 | DF-L#2 |
| RB16 | 2 | 2x10 | DF-L#2 |
| RB17 | 3 | 2x10 | DF-L#2 |
| RB18 | 1 | 12x16 | DF-L#2 |
| RB19 | 1 | 5 1/8"x13 1/2" | GLULAM |
| RB20 | 1 | 5 1/8"x15" | GLULAM |
| RB21 | 1 | 5 1/8"x15" | GLULAM |
| RB22 | 1 | 5 1/8"x18" | GLULAM |
| RB23 | 2 | 1 3/4"x14" | MICROLLAM |
| RB24 | 1 | 8x12 | DF-L#2 |

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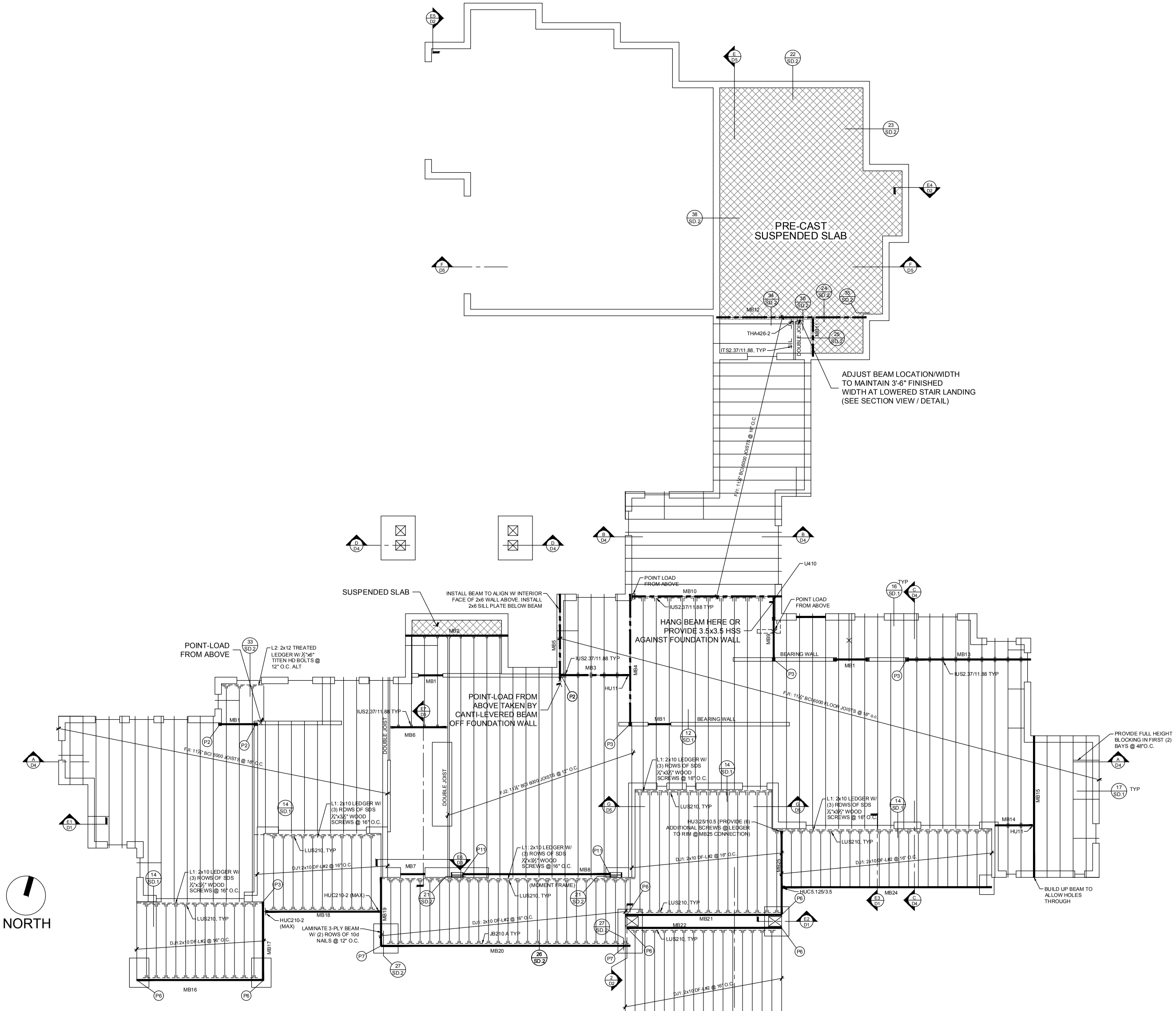
Exhibit A




# C MAIN FLOOR FRAMING PLAN

SCALE: 3/16" = 1'-0"

## FRAMING NOTES

1. PLANS ARE NOT COMPLETE WITHOUT THE STRUCTURAL CALCULATIONS.
2. REFER TO THE STRUCTURAL CALCULATIONS FOR THE GENERAL STRUCTURAL NOTES.
3. ROOF SHEATHING TO BE ⅝" APA RATED OSB WITH 10d NAILS AT 6" O.C. EDGE, 12" O.C. FIELD.
4. FLOOR SHEATHING SHALL BE APA RATED ¾" T&G WITH 10d NAILS OR SIMPSON WSNTL2LS #8 WOOD SCREWS AT 6" O.C. EDGE, 12" O.C. FIELD.
5. EXTERIOR STUD WALLS SHALL BE 2x6 DF-L#2 @ 16" O.C U.N.O.
6. USE (8) 16d NAILS BETWEEN TOP PLATE SPLICE POINTS ON ALL EXTERIOR AND SHEAR WALLS. PROVIDE A 4'-0" MINIMUM LAP SPLICE.
7. INSTALL ALL SIMPSON HARDWARE PER MANUFACTURER'S SPECIFICATIONS.
8. HOLDOWNS SHALL BE INSTALLED ON (2) FULL HEIGHT KING STUDS (MINIMUM).
9. FLOOR JOISTS SHALL BE 11⅞" BCI 6000 AT 16" O.C. U.N.O.
10. OVERBUILD ROOF RAFTERS SHALL BE 2x6 DF-L#2 AT 24" O.C. U.N.O.
11. PROVIDE 2x SQUASH BLOCKING AT FLOOR FRAMING TO MATCH DIMENSIONS OF POST ABOVE.
12. ALL DETAILS SHALL APPLY IN ALL SIMILAR SITUATIONS.
13. ALL LUMBER NOT PERMANENTLY PROTECTED FROM THE ELEMENTS SHALL BE PRESERVATIVE TREATED OR OF A DECAY RESISTANT SPECIES. CONTACT LEI ENGINEERS AND SURVEYORS, INC. IF A DIFFERENT SPECIES IS TO BE USED.

## (P#) POST SCHEDULE

| DESIG. | POST SIZE |
|---|---|
| P1 | (1) 2x |
| P2 | (2) 2x |
| P3 | (3) 2x |
| P4 | (4) 2x |
| P5 | (5) 2x |
| P6 | 4x4 |
| P7 | 6x6 |
| P8 | 12x12 |
| P9 | 12x16 |
| P10 | W10x12 |
| P11 | W14x26 |

NOTES:
1. POSTS INDICATE NUMBER OF TRIMMER STUDS WHEN SPECIFIED AT HEADERS. ALL OTHER POST DESIGNATIONS REFER TO FULL HEIGHT KING STUDS U.N.O.
2. INSTALL (1) TRIMMER AND (1) KING STUD EACH SIDE OF EACH OPENING U.N.O.
3. INSTALL (2) TRIMMER STUDS AT EACH SIDE OF OPENINGS GREATER THAN 6'-0" WIDE U.N.O.
4. INSTALL (2) KING STUDS EACH SIDE OF OPENINGS GREATER THAN 8'-0" WIDE U.N.O.
5. 2x BUILT-UP POSTS SHALL BE THE SAME WIDTH OF THE WALL IN WHICH THEY ARE FRAMED U.N.O.
6. NAIL EACH PLY OF 2x BUILT-UP POSTS W/ 16d NAILS @ 6" O.C. STAGGERED U.N.O.
7. POSTS THAT ARE NOT FRAMED WITHIN A STUD WALL SHALL BE BRACED WITH BC OR AC POST CAP AND PC OR ABA POST BASE U.N.O.

## BEAM SCHEDULE

| DESIG. | QTY. | SIZE | TYPE |
|---|---|---|---|
| MB1 | 2 | 2x6 | DF-L#2 |
| MB2 | 2 | 1¾"x 11⅞" | MICROLLAM |
| MB3 | 1 | 1¾"x 11⅞" | MICROLLAM |
| MB4 | 2 | 1¾"x 11⅞" | MICROLLAM |
| MB5 | 2 | 1¾"x 11⅞" | MICROLLAM |
| MB6 | 1 | 1¾"x 11⅞" | MICROLLAM |
| MB7 | 2 | 2x6 | DF-L#2 |
| MB8 | 1 | W14x26 | A992-50 |
| MB9 | 2 | 1¾"x 11⅞" | MICROLLAM |
| MB10 | 2 | 1¾"x11⅞" | MICROLLAM |
| MB11 | 1 | W8x31 | A992-50 |
| MB12 | 1 | W8x18 | A992-50 |
| MB13 | 2 | 1¾"x11⅞" | MICROLLAM |
| MB14 | 1 | 1¾"x11⅞" | MICROLLAM |
| MB15 | 2 | 1¾"x9½"" | MICROLLAM |
| MB16 | 1 | 3⅛"x10½" | GLULAM |
| MB17 | 2 | 2x10 | DF-L#2 |
| MB18 | 1 | 3⅛"x9" | GLULAM |
| MB19 | 3 | 2x10 | DF-L#2 |
| MB20 | 1 | W14x22 | A992-50 |
| MB21 | 1 | 3⅛"x13½" | GLULAM |
| MB22 | 1 | 3⅛"x13½" | GLULAM |
| MB23 | 1 | 3⅛"x10½" | GLULAM |
| MB24 | 1 | 5⅛"x13½" | GLULAM |
| MB25 | 1 | 3⅛"x10½" | GLULAM |

STATE OF UTAH — PROFESSIONAL STRUCTURAL ENGINEER — JOSHUA K.S. ANDERSON No. 4939007-2203 — 09/28/2015

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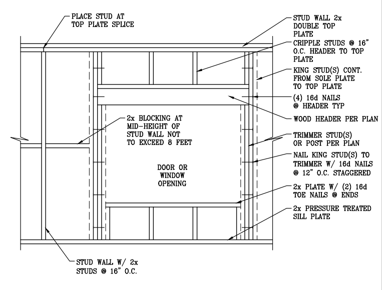
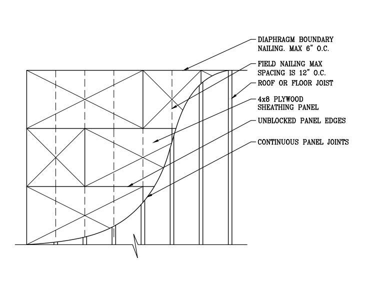
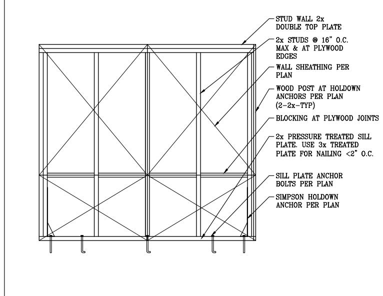


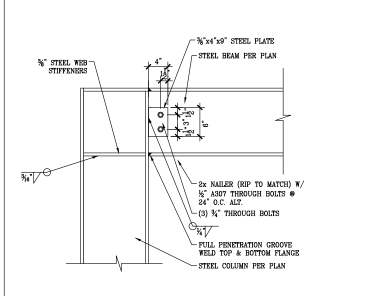

1 TYPICAL WALL FRAMING



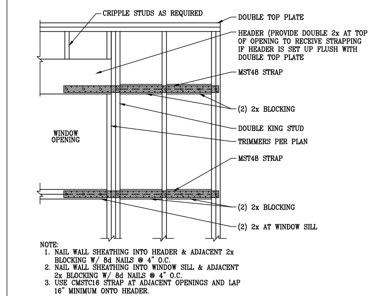

2 TYPICAL UNBLOCKED HORIZONTAL DIAPHRAGM



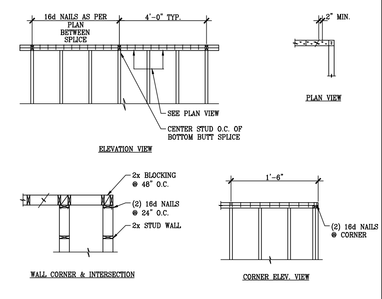

3 TYPICAL SHEAR WALL FRAMING & CONNECTION



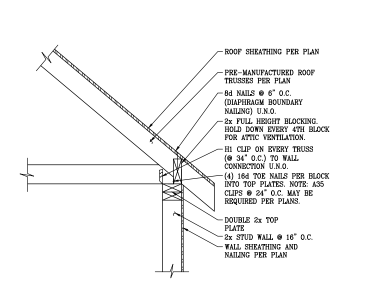

4 TYPICAL MOMENT CONNECTION



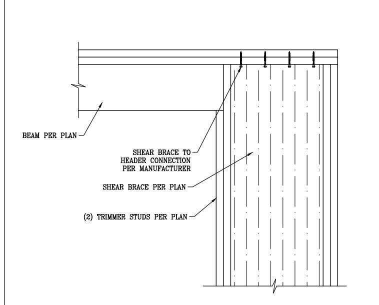

5 BLOCKED HEADER & SILL - PER PLANS



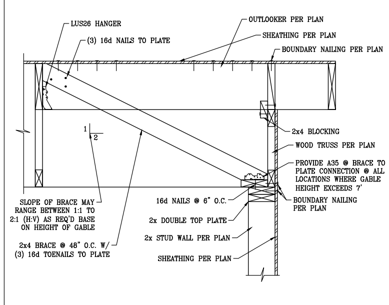

6 TYPICAL STUD WALL TOP PLATE SPLICE CONNECTION



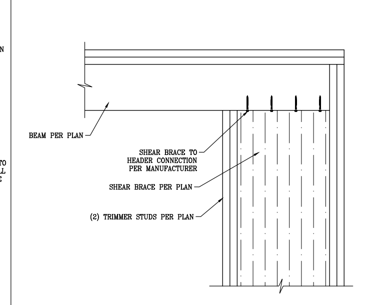

7 TYPICAL FULL HEIGHT TRUSS BLOCKING



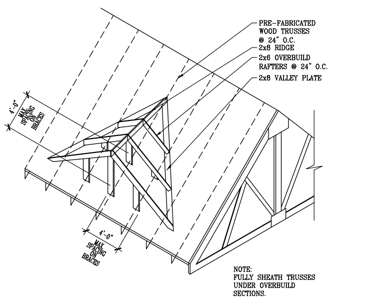

8 SHEAR BRACE



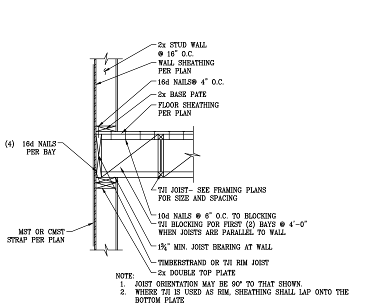

9 GABLE END TRUSS TO STUD WALL CONNECTION



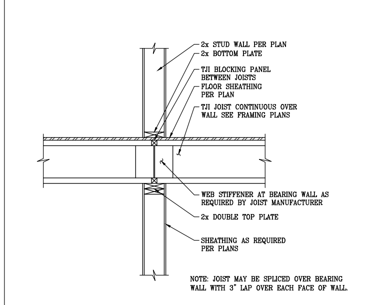

10 SHEAR BRACE



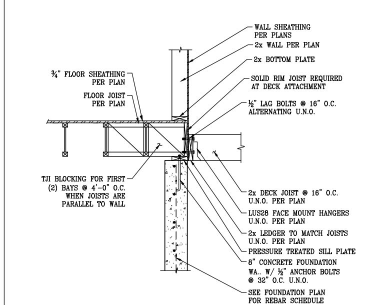

11 TYPICAL ROOF OVERBUILD DETAIL



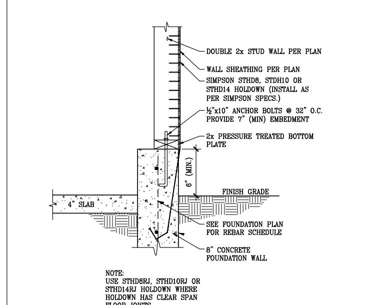

12 TYPICAL EXTERIOR BEARING WALL



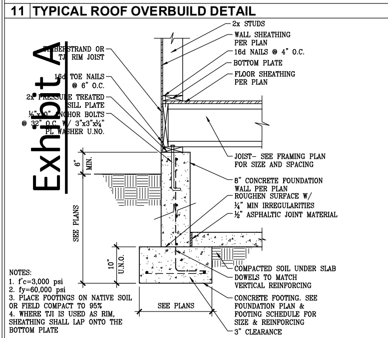

13 TYPICAL INTERIOR BEARING WALL



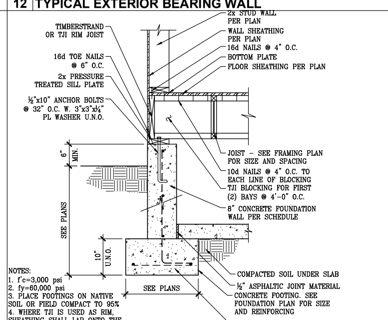

14 TYPICAL DECK CONNECTION DETAIL



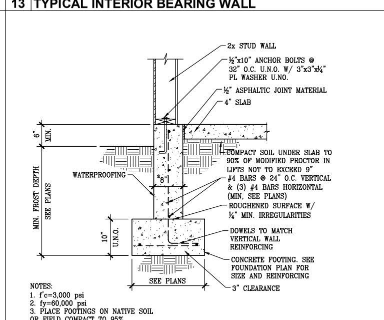

15 TYPICAL STHD HOLDOWN DETAIL



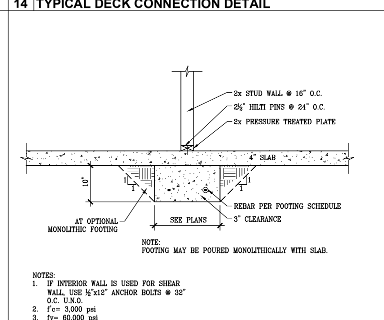

16 TYPICAL WALL SECTION w/ JOISTS PERPENDICULAR



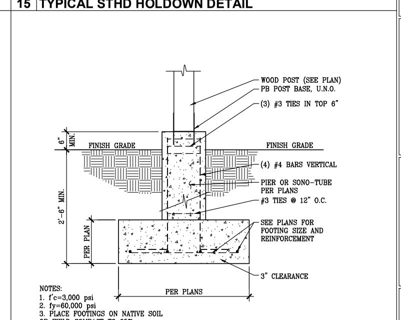

17 TYPICAL WALL SECTION w/ JOISTS PARALLEL




18 TYPICAL 3' FOUNDATION DETAIL




19 TYPICAL INTERIOR FOOTING




20 TYPICAL PIER AND FOOTING DETAIL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JOSHUA ANDERSON No. 4939 ... 2203 09/28/2015 PROFESSIONAL STRUCTURAL ENGINEER

STRUCTURAL ELEMENTS ONLY

# HANNOY

LOT #127, HIGHLANDS at WOLF CREEK SUBDIVISION, EDEN, UTAH

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CHECKED BY: EBM
SCALE: NTS
DATE: 09/17/2015
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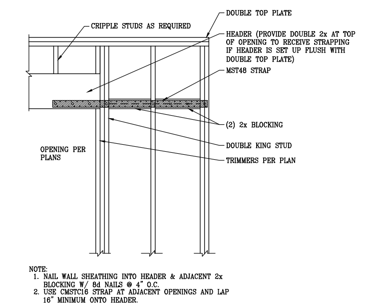
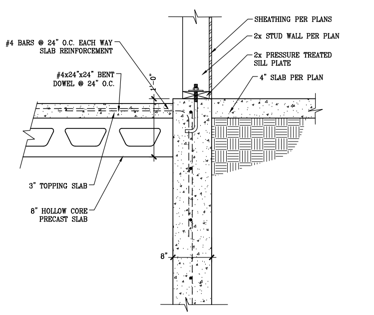
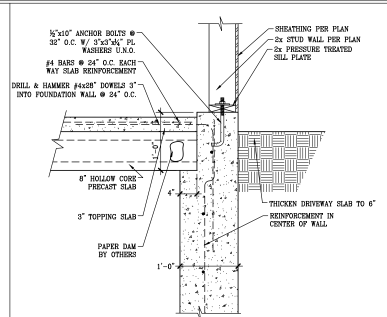



21 HEADER BLOCKING DETAIL - PER PLANS




22 PRECAST SUSPENDED SLAB TO FDN WALL

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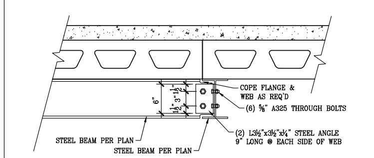
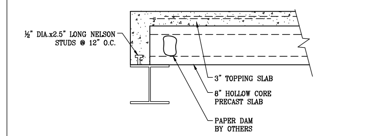
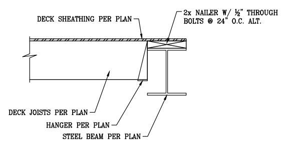


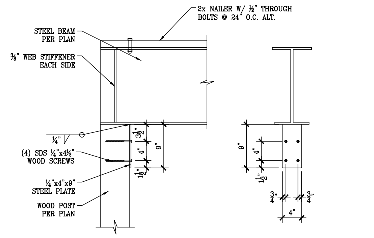

24 SUSPENDED SLAB TO STEEL BEAM PARALLEL



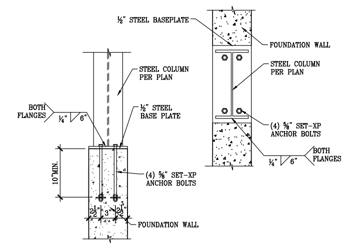

25 SUSPENDED SLAB TO STEEL BEAM PERPENDICULAR



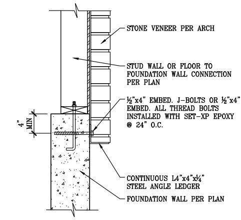

26 DECK JOISTS PER PLAN



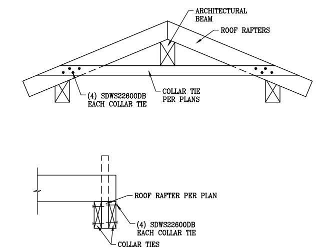

27 STEEL BEAM TO WOOD POST



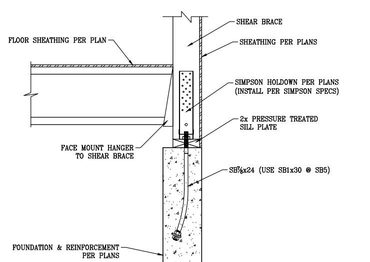

28 MOMENT FRAME BASEPLATE



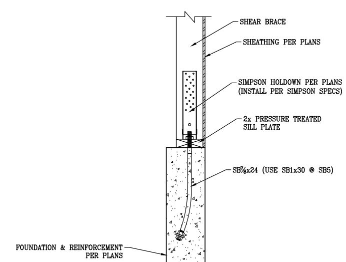

29 TYPICAL STEEL ANGLE LEDGER FOR STONE VENEER



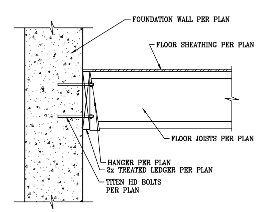

30 COLLAR TIE CONNECTION



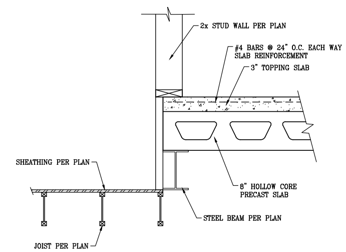

31 SHEAR BRACE ANCHOR AT FLOOR



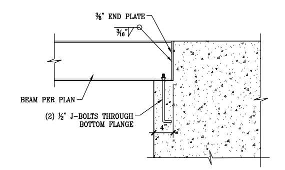

32 SHEAR BRACE ANCHOR




33 LEDGER AT FOUNDATION WALL

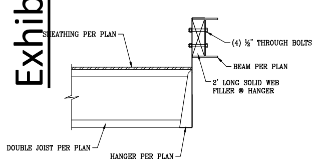



34 FLOOR JOIST PARALLEL TO PRECAST SLAB

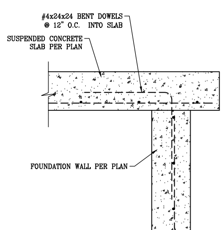



35 BEAM TO FOUNDATION

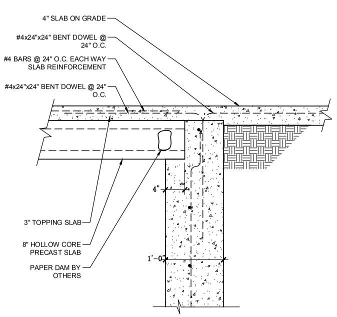
Exhibit A




36 DOUBLE JOIST TO STEEL BEAM




37 SUSPENDED SLAB AT FOUNDATION WALL




38 SUSPENDED SLAB TO FOUNDATION WALL

39 NOT USED

40 NOT USED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STRUCTURAL ELEMENTS ONLY

# HANNOY

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Exhibit B

Applied GeoTech

# GEOTECHNICAL INVESTIGATION

# PROPOSED HANNOY RESIDENCE

# 3563 PINEVIEW COURT

# EDEN, UTAH

**PREPARED FOR:**

**BIG CANYON HOMES, INC.**
**1925 SW HOYTSVILLE ROAD**
**WANSHIP, UTAH 84017**

**ATTENTION: PAUL BERMAN**

**PROJECT NO. 1160176B** **MAY 3, 2016**

600 West Sandy Parkway • Sandy, Utah 84070 • (801) 566-6399 • FAX (801) 566-6493

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**EXECUTIVE SUMMARY**

1. The subsurface soil encountered in Boring B-1 consists of approximately 4 feet of fill overlying clay. The clay extends to a depth of approximately 10½ feet and is underlain by clayey gravel extending the full depth of the boring, approximately 15 feet where practical auger refusal was encountered. The test pits encountered approximately ½ foot of topsoil overlying clayey gravel extending the full depth investigated, approximately 26 feet.

2. No subsurface water was encountered to the maximum depth investigated.

3. The proposed residence may be supported on spread footings bearing on the undisturbed natural gravel or on structural fill extending down to the undisturbed natural gravel and may be designed for a net allowable bearing pressure of 3,500 pounds per square foot.

4. Geotechnical information related to foundations, subgrade preparation and materials is included in the report.

**SCOPE**

This report presents the results of a geotechnical investigation for a proposed Hannoy residence to be constructed at 3563 Pineview Court in Eden, Utah. The report presents the subsurface conditions encountered, laboratory test results and recommendations for foundations. The study was conducted in general accordance with our proposal dated March 14, 2016. A geologic-hazard study is being prepared in conjunction with this study and was reported May 2, 2016 under Project No. 1160176A.

Field exploration was conducted to obtain information on the subsurface conditions. Samples obtained from the field investigation were tested in the laboratory to determine physical and engineering characteristics of the on-site soil. Information obtained from the field and laboratory was used to define conditions at the site for our engineering analysis and to develop recommendations for the proposed foundations.

This report has been prepared to summarize the data obtained during the study and to present our conclusions and recommendations based on the proposed construction and the subsurface conditions encountered. Design parameters and a discussion of geotechnical engineering considerations related to construction are included in the report.

**SITE CONDITIONS**

At the time of our field study, there were no permanent structures or pavement on the site. The site consists of an undeveloped residential lot. It appears that some fill has been placed along the north edge of the site. This fill is approximately 4 feet thick at the boring location.

The ground surface at the site slopes gently to moderately down toward the south and southwest with slopes of approximately 6 horizontal to 1 vertical and flatter throughout most of the proposed building area and slopes on the order of 3 horizontal to 1 vertical and flatter south of the proposed building area.

Vegetation at the site consists of grass and brush.

There is a residential house west of the site and Pineveiw Court to the north. There are undeveloped lots to the south and east.

**FIELD STUDY**

The field study was conducted on April 13, 2016. One boring was drilled and two test pits excavated at the approximate locations indicated on Figure 1. The boring and test pits were logged by a geologist from AGEC. Logs of the subsurface conditions encountered in the boring and test pits are presented on Figure 2.

The test pits were backfilled without significant compaction. The backfill in the test pits should be removed and replaced with properly compacted fill where it will support proposed buildings, floor slabs or other settlement-sensitive improvements.

**SUBSURFACE CONDITIONS**

The subsurface soil encountered in Boring B-1 consists of approximately 4 feet of fill overlying clay. The clay extends to a depth of approximately 10½ feet and is underlain by clayey gravel extending the full depth of the boring, approximately 15 feet where practical auger refusal was encountered. The test pits encountered approximately ½ foot of topsoil overlying clayey gravel extending the full depth investigated, approximately 26 feet.

A description of the soil encountered in the boring and test pits follows:

> Fill - The fill consists of sandy lean clay with gravel and occasional cobbles. It is moist and dark brown.

Topsoil - The topsoil consists of clayey gravel with sand, cobbles and occasional boulders up to approximately 3 feet in size. It is very moist, dark brown and contains roots and organics.

Lean Clay - The clay contains occasional gravel. It is stiff to very stiff, moist and brown.

Laboratory tests performed on a sample of the clay indicate it has a natural moisture content of 23 percent and a natural dry density of 100 pounds per cubic foot (pcf). Results a consolidation test performed on a sample of the clay indicate it will compress a small amount with the addition of light to moderate loads. Results of the consolidation test are presented on Figure 3.

Clayey Gravel with Sand - The gravel contains cobbles and boulders up to approximately 3 feet in size. It is dense to very dense, moist to very moist and brown with iron oxide staining.

Results of a gradation test performed on a sample of the gravel are presented on Figure 4.

Results of the laboratory tests are included on the boring and test pit logs and Table I.

**SUBSURFACE WATER**

No subsurface water was encountered to the maximum depth investigated, approximately 26 feet.

**PROPOSED CONSTRUCTION**

A single-family residence is planned for the site. The building will be a single-story structure with a basement. We have assumed building loads to consist of wall loads up to 3 kips per lineal foot and column loads up to 50 kips.

Grading for the site will be relatively minor with most rockeries planned to be 5 feet or less in height. The tallest rockery is planned for the northeast corner of the site along the driveway where a two-tier rockery is planned to be up to approximately 10 feet in height. We understand that rockery design is to be provided by others.

If the proposed construction or building loads are significantly different from those described above, we should be notified so that we can reevaluate the recommendations given.

**SLOPE STABILITY EVALUATION**

A slope stability evaluation was performed using the program SLIDE 7.0 by Rocscience. The strength selected for the clayey gravel is based on Stark and Eid (1997) for the clay component assuming a fully-softened condition and a friction angle of 39 degrees for the gravel component. The strength contributed to the clay is assumed to be 15 percent with 85 percent attributed to the gravel. The soil profile was considered to consist entirely of clayey gravel using these strengths. The slope profile was developed from the contours presented on Figure 1 in conjunction with elevation contours obtained from the Lidar data. The results of the stability analysis indicate a safety factor of 2.3 under static conditions and 1.4 under seismic conditions. The seismic condition was evaluated using a pseudostatic analysis from the same computer program and is based on a peak ground acceleration for a seismic event with a 2 percent probability of occurrence in 50 years.

Based on this study, both static and pseudostatic slope stability safety factors are at or above the required safety factors of 1.5 and 1.0, respectively. Printouts of the stability analyses are included in the appendix.

No subsurface water was encountered to the maximum depth investigated and a perched water table is not expected to form since the building will be connected to a sewer. A long-term perched-water condition could cause stability concerns for the undeveloped slope but not the house. Site grading should be planned to promote surface runoff away from the house and sumps should not be constructed in the slope below the proposed building area.

## RECOMMENDATIONS

### A. Site Grading

1. Subgrade Preparation

   Prior to placing grading fill or base course, the topsoil, organic material, unsuitable fill and other deleterious materials should be removed. The north portion of the property appears to have been raised with fill and this fill is not considered suitable for support of buildings, slabs or other settlement-sensitive features and should be removed from below such structures and features.

2. Cut and Fill Slopes

   Temporary unretained excavation slopes may be constructed at 1 horizontal to 1 vertical or flatter. Permanent, unretained cut and fill slopes up to 15 feet in height may be constructed at slopes of 3 horizontal to 1 vertical or flatter. Slopes greater than 15 feet in height will require a stability analysis.

Good surface drainage should be provided upslope of cut and fill slopes to direct surface runoff away from the face of the slopes. The slopes should be protected from erosion by revegetation or other methods.

3. Excavation

We anticipate that excavation at the site can be accomplished with heavy-duty excavation equipment. Significant difficulty can be expected for confined excavations where boulders are encountered. Care should be taken not to disturb the natural soil to remain in the proposed building area.

4. Materials

Listed below are materials recommended for imported structural fill:

| Fill to Support | Recommendations |
|---|---|
| Footings | Non-expansive granular soil<br>Passing No. 200 Sieve < 35%<br>Liquid Limit < 30%<br>Maximum size 4 inches |
| Floor Slab<br>(Upper 4 inches) | Sand and/or Gravel<br>Passing No. 200 Sieve < 5%<br>Maximum size 2 inches |
| Slab Support | Non-expansive granular soil<br>Passing No. 200 Sieve < 50%<br>Liquid Limit < 30%<br>Maximum size 6 inches |

Fill placed below areas of the proposed building should consist of granular soil as indicated above. The on-site sand and gravel is generally expected to meet these criteria if the oversized particles are removed.

5. Compaction

Compaction of materials placed at the site should equal or exceed the minimum densities as indicated below when compared to the maximum dry density as determined by ASTM D 1557.

| Fill To Support | Compaction |
|---|---|
| Foundations | ≥ 95% |
| Concrete Slabs | ≥ 90% |
| Landscaping | ≥ 85% |
| Retaining Wall Backfill | 85 - 90% |

The moisture of the soil should be adjusted to within 2 percent of optimum to facilitate compaction.

Fill placed for the project should be frequently tested for compaction. Fill should be placed in thin enough lifts to allow for proper compaction.

6. Drainage

The ground surface surrounding the proposed building should be sloped away from the residence in all directions. Roof down spouts and drains should discharge beyond the limits of backfill.

**B. Foundations**

1. Bearing Material

The proposed residence may be supported on spread footings bearing on the undisturbed natural gravel or on compacted structural fill that extends down to the natural undisturbed gravel. Structural fill placed below footings should extend out away from the edge of footings at least a distance equal to the depth of fill below footings.

The topsoil, organics, unsuitable fill, debris and other deleterious materials should be removed from below proposed foundation areas.

2. Bearing Pressure

Spread footings bearing on the undisturbed, natural gravel or on compacted structural fill may be designed for a net allowable bearing pressure of 3,500 pounds per square foot.

3. Settlement

We estimate that total and differential settlement will be less than ½ inch for footings designed as indicated above.

4. Temporary Loading Conditions

The allowable bearing pressure may be increased by one-half for temporary loading conditions such as wind or seismic loads.

5. Minimum Footing Width and Embedment

Spread footings should have a minimum width of 1½ feet and a minimum depth of embedment of 10 inches.

6. Frost Depth

Exterior footings and footings beneath unheated areas should be placed at least 36 inches below grade for frost protection.

7. Foundation Base

The base of foundation excavations should be cleared of loose or deleterious material prior to structural fill or concrete placement. The subgrade should not be scarified prior to structural fill placement.

8. Construction Observation

A representative of the geotechnical engineer should observe footing excavations prior to structural fill or concrete placement.

**C. Concrete Slab-on-Grade**

1. Slab Support

Concrete slabs may be supported on the undisturbed natural soil or on compacted structural fill that extends down to the undisturbed natural soil.

Topsoil, unsuitable fill, organics, debris and other deleterious materials should be removed from below proposed slabs.

2. Underslab Sand and/or Gravel

Consideration may be given to placing a 4-inch layer of free-draining sand and/or gravel (less than 5 percent passing the No. 200 sieve) below slabs to promote even curing of the slab concrete.

**D. Lateral Earth Pressures**

1. Lateral Resistance for Footings

Lateral resistance for footings placed on natural soil or on compacted structural fill is controlled by sliding resistance between the footing and foundation soils. A friction value of 0.45 may be used in design for ultimate lateral resistance.

2. Subgrade Walls and Retaining Structures

The following equivalent fluid weights are given for design of subgrade walls and retaining structures. The active condition is where the wall moves away from the soil. The passive condition is where the wall moves into the soil and the at-rest condition is where the wall does not move. The values listed below assume a horizontal surface adjacent the top and bottom of the wall.

| Soil Type | Active | At-Rest | Passive |
|---|---|---|---|
| Clay & Silt | 50 pcf | 65 pcf | 250 pcf |
| Sand & Gravel | 40 pcf | 55 pcf | 300 pcf |

3. Seismic Conditions

Under seismic conditions, the equivalent fluid weight should be increased by 22 pcf and 7 pcf for active and at-rest conditions, respectively, and decreased by 22 pcf for the passive condition. This assumes a peak horizontal ground acceleration of 0.35g for a seismic event having a 2 percent probability of exceedance in a 50-year period (IBC, 2012).

4. Safety Factors

The values recommended above for active and passive conditions assume mobilization of the soil to achieve the soil strength. Conventional safety factors used for structural analysis for such items as overturning and sliding resistance should be used in design.

**E. Seismicity, Faulting and Liquefaction**

1. Seismicity

Listed below is a summary of the site parameters for the 2012 International Building Code.

| | | |
|---|---|---|
| a. | Site Class | C |
| b. | Short Period Spectral Response Acceleration, $S_S$ | 0.89g |
| c. | One Second Period Spectral Response Acceleration, $S_1$ | 0.30g |

2. Faulting

There are no mapped active faults extending through the site. The closest mapped fault considered to be active is the Wasatch fault located approximately 6.7 miles west of the site (Black and others, 2003).

3. Liquefaction

Based on the subsurface conditions encountered at the site, published literature and our understanding of the geologic conditions in the area, liquefaction is not considered a hazard at this site.

**F. Water Soluble Sulfates**

One sample of the natural soil was tested in the laboratory for water soluble sulfate content. Results of the test indicate there is less than 0.1 percent water soluble sulfate in the sample tested. Based on the results of the test and published literature, the natural soil possesses negligible sulfate attack potential on concrete. No special cement type is required for concrete placed in contact with the natural soil. Other conditions may dictate the type of cement to be used in concrete for the project.

**G. Subsurface Drain**

We recommend that a subsurface drain be provided for the below-grade floor portion of the residence. The subsurface drain system should consist of at least the following items:

a. The subsurface drain system should consist of a perforated pipe installed in a gravel filled trench around the perimeter of the subgrade floor portion of the residence. A geosynthetic drain could be used as an alternative. The drain should extend up the foundation walls high enough (to within approximately 3 feet of the ground surface) to intercept potential subsurface water.

b. At least 6 inches of free-draining gravel should be placed below the floor slab of the residence. The gravel should connect the perimeter drainage pipe.

c. The flow line of the pipe should be placed at least 14 inches below the finished floor level and should slope to a sump or outlet where water can be removed by pumping or by gravity flow.

d. If placing the gravel and drain pipe requires excavation below the bearing level of the footing, the excavation for the drain pipe and gravel should have a slope no steeper than 1:1 (horizontal to vertical) so as not to disturb the soil below the building.

e. A filter fabric should be placed between the natural soil and the drain gravel. This will help reduce the potential for fine grained material filling in the void spaces of the gravel.

f. Consideration may be given to installing cleanouts to allow access into the perimeter drain should cleaning of the pipe be required in the future.

## H. Preconstruction Meeting

A preconstruction meeting should be held with representatives of the owner, project architect, geotechnical engineer, general contractor, earthwork contractor and other members of the design team to review construction plans, specifications, methods and schedule.

**LIMITATIONS**

This report has been prepared in accordance with generally accepted soil and foundation engineering practices in the area for the use of the client for design purposes. The conclusions and recommendations included within the report are based on the information obtained from the boring drilled and test pits excavated at the approximate locations indicated on the site plan and the data obtained from laboratory testing. Variations in the subsurface conditions may not become evident until additional exploration or excavation is conducted. If the proposed construction, subsurface conditions or groundwater level is found to be significantly different from what is described above, we should be notified to reevaluate the recommendations given.

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.

LICENSED PROFESSIONAL ENGINEER 5/3/16 No. 260053 DOUGLAS R. HAWKES STATE OF UTAH

LICENSED PROFESSIONAL GEOLOGIST No. 260053 DOUGLAS R. HAWKES STATE OF UTAH

Douglas R. Hawkes, P.E., P.G.

Reviewed by Jay R. McQuivey, P.E.

DRH/rs

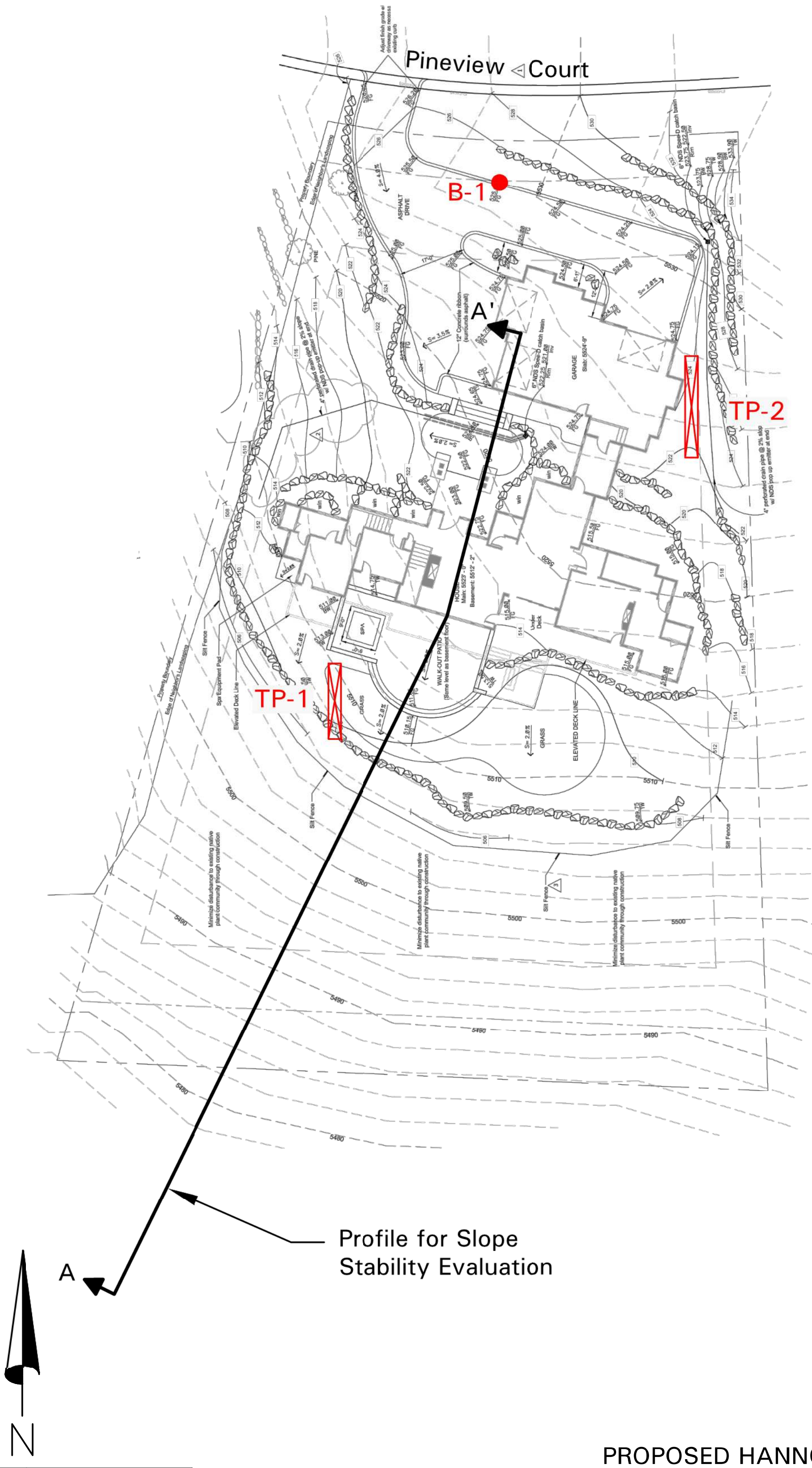
**REFERENCES**

Black, B.D., Hecker, S., Hylland, M.D., Christenson, G.E., and McDonald, G.N., 2003; Quaternary fault and fold database and map of Utah; Utah Geological Survey Map 193DM.

International Building Codes, 2012; International Code Council, Inc., Falls Church, Virginia.

Stark, T.D. and Eid, H.T., 1997; Slope stability analyses in stiff fissured clays, J. of Geotechnical and Geoenvironmental Engineering, Vol. 123, No. 4, April 1997.

Exhibit B

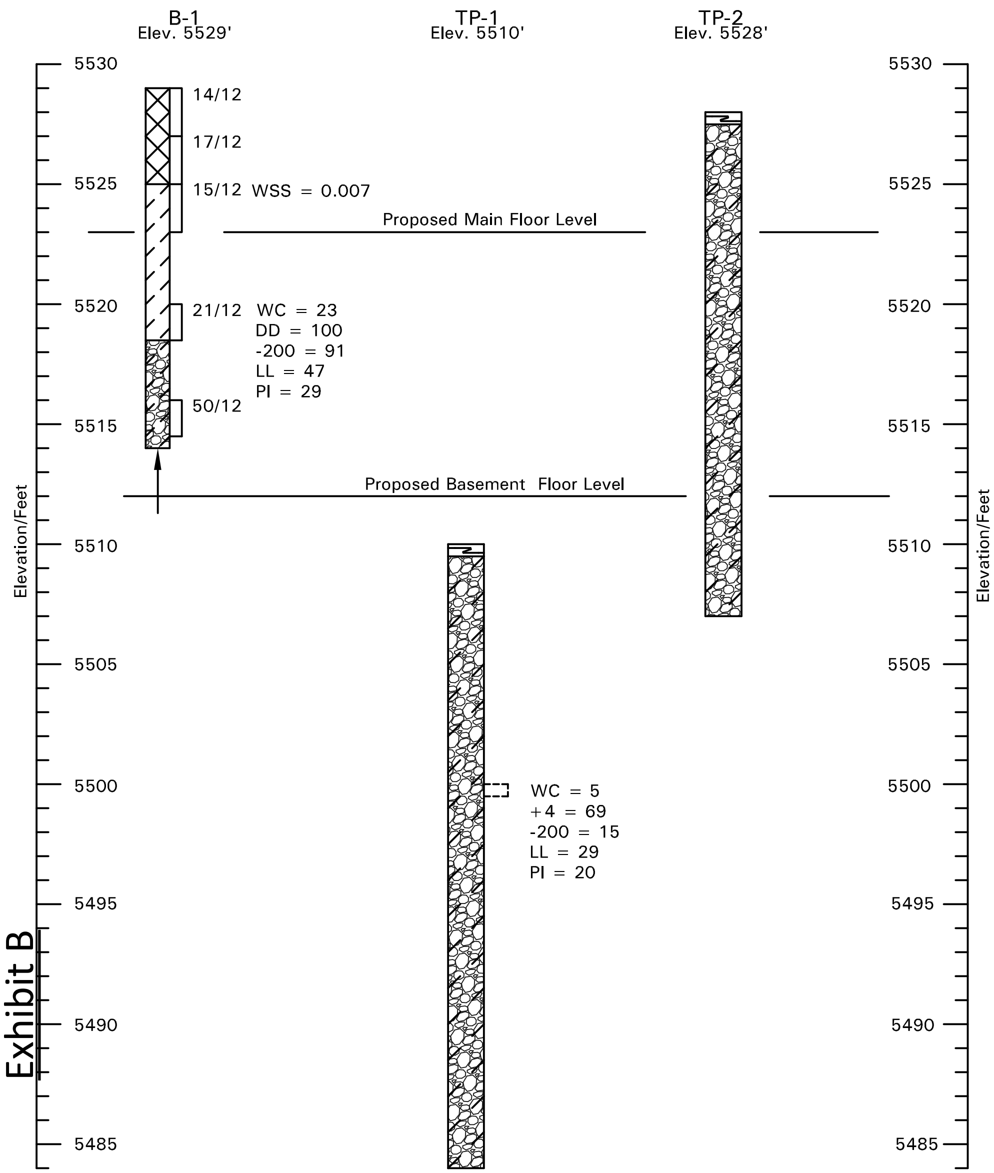



0 40 80 feet
Approximate Scale

PROPOSED HANNOY RESIDENCE
3563 PINEVIEW COURT
EDEN, UTAH

| 1160176B | AGEC | Test Pit and Boring Locations | Figure 1 |
|---|---|---|---|

Exhibit B




LEGEND:

Fill; sandy lean clay with gravel, occasional cobbles, moist, dark brown.

Topsoil; clayey gravel with sand, cobbles, occasional boulders up to approximately 3 feet in size, very moist, dark brown, roots, organics.

Lean Clay (CL); occasional gravel, stiff to very stiff, moist, brown.

Clayey Gravel with Sand (GC); cobbles, boulders up to approximately 3 feet in size, dense to very dense, moist to very moist, brown, iron oxide staining.

10/12 California Drive sample taken. The symbol 10/12 indicates that 10 blows from a 140 pound automatic hammer falling 30 inches were required to drive the sampler 12 inches.

Indicates disturbed sample taken.

Indicates practical auger refusal.

NOTES:

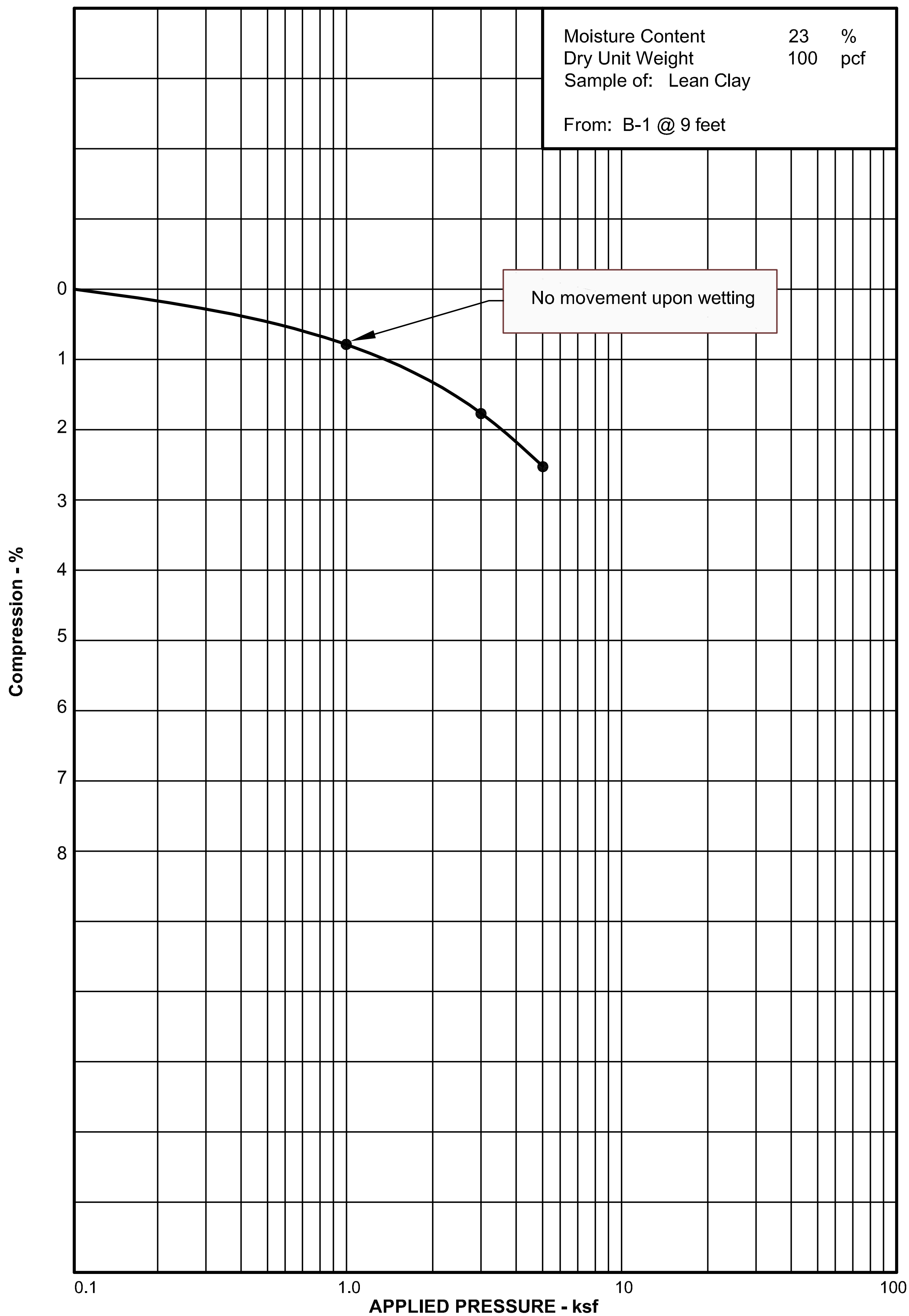
1. The boring was drilled on April 13, 2016 with 8-inch diameter hollowstem auger. Test pits were excavated on April 13, 2016 using a tracked excavator.
2. The locations of the boring and test pits were measured approximately by pacing from features shown on the site plan provided.
3. The elevations of the boring and test pits were determined by interpolating between contours shown on the plan provided.
4. The boring and test pit locations and elevations should be considered accurate only to the degree implied by the method used.
5. The lines between materials shown on the logs represent the approximate boundaries between material types and the transitions may be gradual.
6. No free water was encountered in the boring and test pits at the time of the field work.
7. WC = Water Content (%);
   DD = Dry Density (pcf);
   +4 = Percent Retained on the No. 4 Sieve;
   -200 = Percent Passing the No. 200 Sieve;
   LL = Liquid Limit (%);
   PI = Plasticity Index (%);
   WSS = Water Soluble Sulfates (%).

Approximate Vertical Scale 1" = 8'

| 1160176B | AGEC | Exploratory Boring and Test Pit Logs, Legend and Notes | Figure 2 |
|---|---|---|---|

Exhibit B

## Applied Geotechnical Engineering Consultants, Inc.



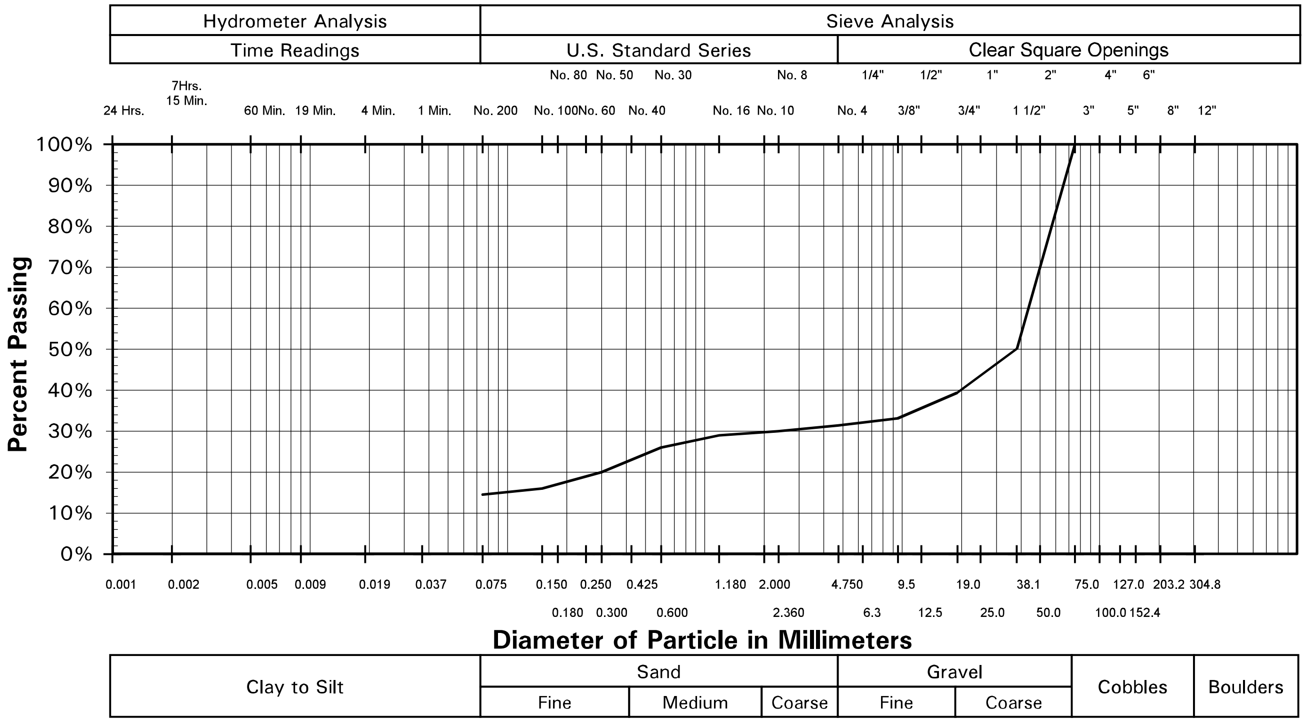

**Project No. 1160176B**

**CONSOLIDATION TEST RESULTS**

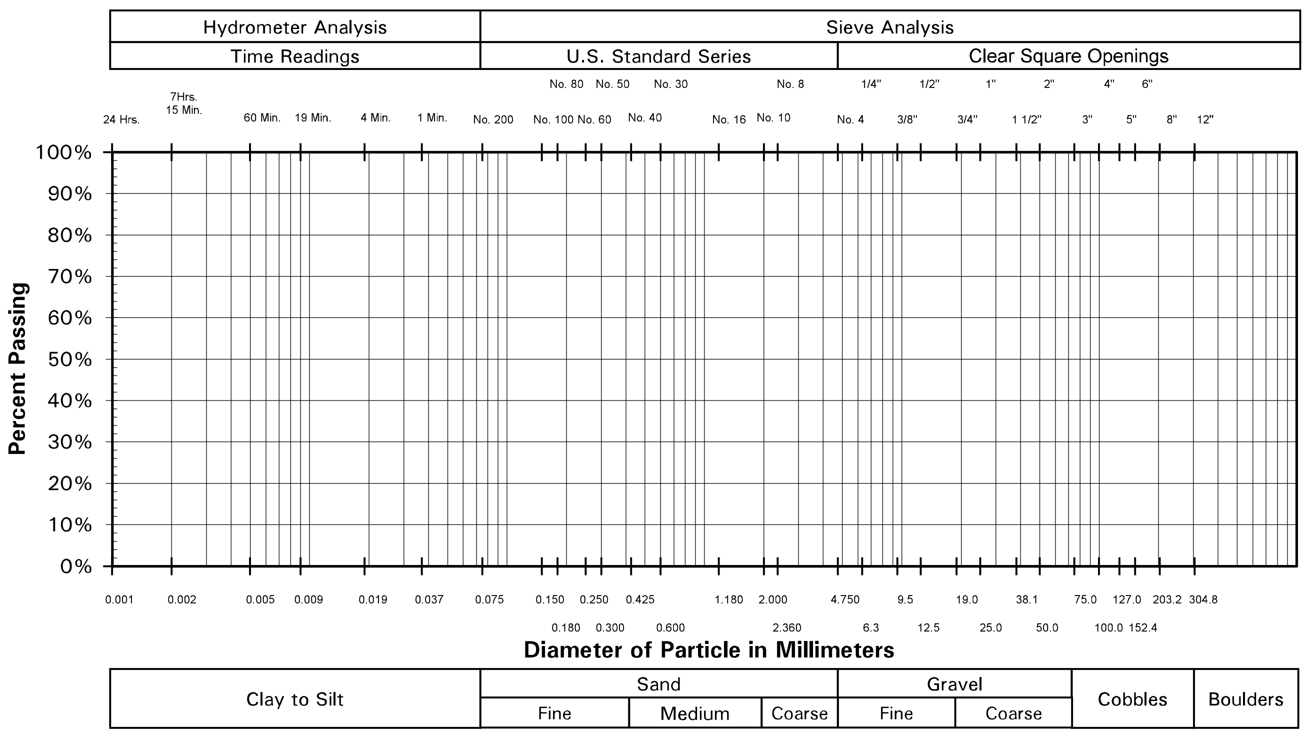
**Figure 3**

Exhibit B

## APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.




| | | | | |
|---|---|---|---|---|
| Gravel | 69% | | Liquid Limit | - |
| Sand | 16% | | Plasticity Index | - |
| Silt and Clay | 15% | | Sample Location | TP-1 at 10 feet |
| Sample Description | Clayey Gravel with Sand | | | |




| | | | | |
|---|---|---|---|---|
| Gravel | | | Liquid Limit | - |
| Sand | | | Plasticity Index | - |
| Silt and Clay | | | Sample Location | |
| Sample Description | | | | |

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.

TABLE I

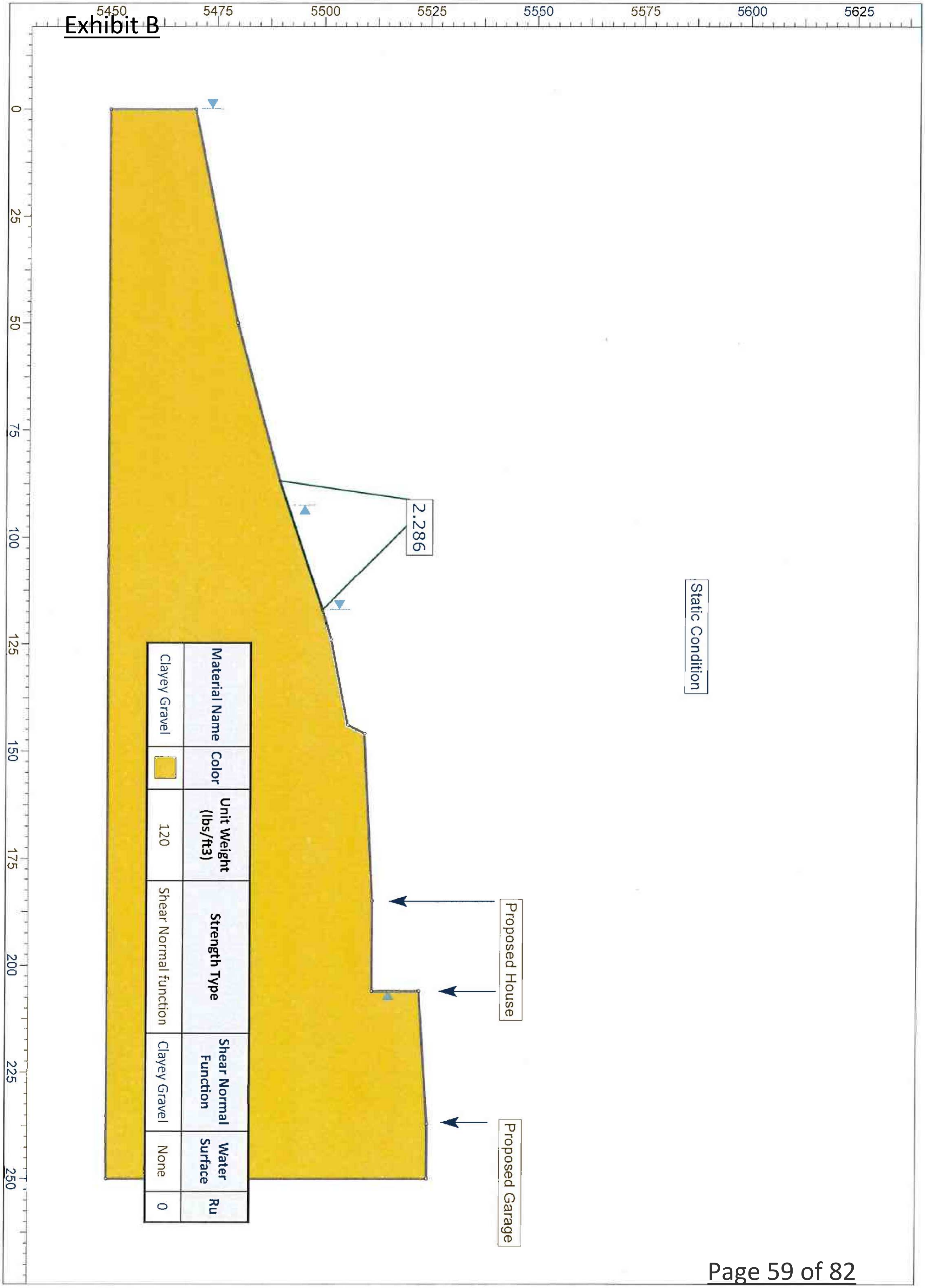
## SUMMARY OF LABORATORY TEST RESULTS

PROJECT NUMBER 1160176B

| SAMPLE LOCATION | | NATURAL MOISTURE CONTENT (%) | NATURAL DRY DENSITY (PCF) | GRADATION | | | ATTERBERG LIMITS | | UNCONFINED COMPRESSIVE STRENGTH (PSF) | WATER SOLUBLE SULFATE (%) | SAMPLE CLASSIFICATION |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BORING/ TEST PIT | DEPTH (FEET) | | | GRAVEL (%) | SAND (%) | SILT/ CLAY (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | | | |
| B-1 | 4 | | | | | | | | | 0.007 | Lean Clay |
| | 9 | 23 | 100 | | | 91 | 47 | 29 | | | Lean Clay |
| | | | | | | | | | | | |
| TP-1 | 10 | 5 | | 69 | 16 | 15 | 29 | 20 | | | Clayey Gravel with Sand |

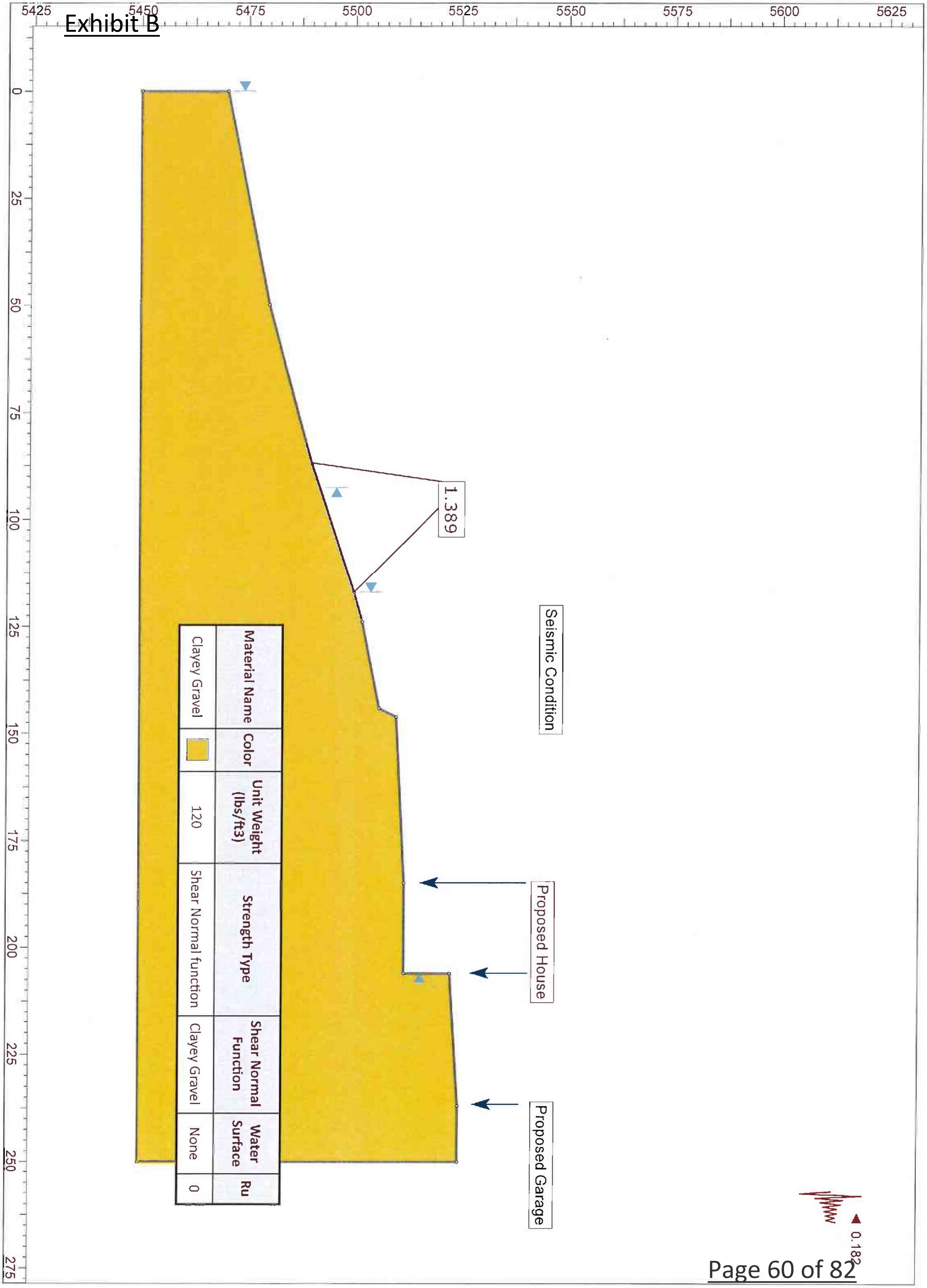
# APPENDIX

## SLOPE STABILITY PRINTOUTS




| Material Name | Color | Unit Weight (lbs/ft3) | Strength Type | Shear Normal Function | Water Surface | Ru |
|---|---|---|---|---|---|---|
| Clayey Gravel | | 120 | Shear Normal function | Clayey Gravel | None | 0 |

# Exhibit B



Seismic Condition
1.389
Proposed House
Proposed Garage
0.182
Material Name | Color | Unit Weight (lbs/ft3) | Strength Type | Shear Normal Function | Water Surface | Ru
Clayey Gravel | | 120 | Shear Normal function | Clayey Gravel | None | 0

# Slide Analysis Information

## SLIDE - An Interactive Slope Stability Program

### Project Summary

| | |
|---|---|
| File Name: | 1160176 Seismic Condition |
| Slide Modeler Version: | 7.014 |
| Project Title: | SLIDE - An Interactive Slope Stability Program |
| Date Created: | 5/2/2016, 10:42:47 AM |

### General Settings

| | |
|---|---|
| Units of Measurement: | Imperial Units |
| Time Units: | days |
| Permeability Units: | feet/second |
| Failure Direction: | Right to Left |
| Data Output: | Standard |
| Maximum Material Properties: | 20 |
| Maximum Support Properties: | 20 |

### Analysis Options

| | |
|---|---|
| Slices Type: | Vertical |
| **Analysis Methods Used** | |
| | Spencer |
| Number of slices: | 50 |
| Tolerance: | 0.005 |
| Maximum number of iterations: | 75 |
| Check malpha < 0.2: | Yes |
| Create Interslice boundaries at intersections with water tables and piezos: | Yes |
| Initial trial value of FS: | 1 |
| Steffensen Iteration: | Yes |

### Groundwater Analysis

| | |
|---|---|
| Groundwater Method: | Water Surfaces |
| Pore Fluid Unit Weight [lbs/ft3]: | 62.4 |
| Advanced Groundwater Method: | None |

### Random Numbers

| | |
|---|---|
| Pseudo-random Seed: | 10116 |
| Random Number Generation Method: | Park and Miller v.3 |

### Surface Options

| | |
|---|---|
| Search Method: | Auto Refine Search |
| Divisions along slope: | 10 |
| Circles per division: | 10 |
| Number of iterations: | 10 |
| Divisions to use in next iteration: | 50% |
| Number of vertices per surface: | 12 |
| Minimum Elevation: | Not Defined |
| Minimum Depth: | Not Defined |
| Minimum Area: | Not Defined |
| Minimum Weight: | Not Defined |

## Seismic

Advanced seismic analysis: No
Staged pseudostatic analysis: No

## Loading

Seismic Load Coefficient (Horizontal): 0.182

## Material Properties

| Property | Clayey Gravel |
|---|---|
| Color | |
| Strength Type | Shear Normal function |
| Unit Weight [lbs/ft3] | 120 |
| Water Surface | None |
| Ru Value | 0 |

### Shear Normal Functions

Name: Clayey Gravel

| Normal (psf) | Shear (psf) |
|---|---|
| 0 | 0 |
| 1050 | 800 |
| 2000 | 1540 |
| 4000 | 3085 |
| 8350 | 6375 |

## Global Minimums

### Method: spencer

| FS | **1.388850** |
|---|---|
| Axis Location: | 91.825, 5525.199 |
| Left Slip Surface Endpoint: | 86.773, 5489.939 |
| Right Slip Surface Endpoint: | 117.002, 5500.001 |
| Resisting Moment: | 3293.89 lb-ft |
| Driving Moment: | 2371.66 lb-ft |
| Resisting Horizontal Force: | 97.8572 lb |
| Driving Horizontal Force: | 70.4591 lb |
| Total Slice Area: | 1.26602 ft2 |
| Surface Horizontal Width: | 30.2298 ft |
| Surface Average Height: | 0.0418798 ft |

## Global Minimum Coordinates

### Method: spencer

| X | Y |
| --- | --- |
| 86.7726 | 5489.94 |
| 87.419 | 5490.11 |
| 88.4014 | 5490.44 |
| 89.3839 | 5490.76 |
| 90.312 | 5491.07 |
| 91.2402 | 5491.37 |
| 92.1683 | 5491.68 |
| 93.0964 | 5491.99 |
| 94.3228 | 5492.39 |
| 95.5491 | 5492.8 |
| 96.2066 | 5493.02 |
| 96.8835 | 5493.24 |
| 97.5604 | 5493.47 |
| 98.5661 | 5493.8 |
| 99.5718 | 5494.14 |
| 100.845 | 5494.56 |
| 102.119 | 5494.98 |
| 102.763 | 5495.2 |
| 103.406 | 5495.41 |
| 104.693 | 5495.84 |
| 105.649 | 5496.17 |
| 106.605 | 5496.49 |
| 107.561 | 5496.81 |
| 108.517 | 5497.13 |
| 109.489 | 5497.45 |
| 110.462 | 5497.78 |
| 111.434 | 5498.11 |
| 112.406 | 5498.43 |
| 113.235 | 5498.72 |
| 114.064 | 5499 |
| 114.893 | 5499.28 |
| 115.722 | 5499.56 |
| 117.002 | 5500 |

## *Valid / Invalid Surfaces*

### Method: spencer

Number of Valid Surfaces: 1666
Number of Invalid Surfaces: 2836

**Error Codes:**

Error Code -105 reported for 38 surfaces
Error Code -111 reported for 37 surfaces
Error Code -113 reported for 2761 surfaces

**Error Codes**

The following errors were encountered during the computation:

-105 = More than two surface / slope intersections with no valid slip surface.
-111 = safety factor equation did not converge
-113 = Surface intersects outside slope limits.

## *Slice Data*

**Global Minimum Query (spencer) - Safety Factor:** 1.38885

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [degrees] | Base Material | Base Cohesion [psf] | Base Friction Angle [degrees] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.646406 | 0.664783 | 15.1221 | Clayey Gravel | -1.11022e-016 | 37.304 | 0.508383 | 0.706068 | 0.926714 | 0 | 0.926714 |
| 2 | 0.491235 | 1.62417 | 18.2021 | Clayey Gravel | 0 | 37.304 | 1.54018 | 2.13908 | 2.80754 | 0 | 2.80754 |
| 3 | 0.491235 | 1.75474 | 18.2021 | Clayey Gravel | -4.44089e-016 | 37.304 | 1.664 | 2.31104 | 3.03324 | 0 | 3.03324 |
| 4 | 0.982469 | 3.90117 | 18.2021 | Clayey Gravel | 0 | 37.304 | 1.84971 | 2.56897 | 3.37177 | 0 | 3.37177 |
| 5 | 0.464066 | 2.00445 | 18.2816 | Clayey Gravel | 0 | 37.304 | 2.00904 | 2.79025 | 3.6622 | 0 | 3.6622 |
| 6 | 0.464066 | 2.08126 | 18.2816 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.08602 | 2.89717 | 3.80254 | 0 | 3.80254 |
| 7 | 0.464066 | 2.15806 | 18.2816 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.163 | 3.00408 | 3.94286 | 0 | 3.94286 |
| 8 | 0.464066 | 2.23487 | 18.2816 | Clayey Gravel | 0 | 37.304 | 2.23998 | 3.111 | 4.08318 | 0 | 4.08318 |
| 9 | 0.464066 | 2.31168 | 18.2816 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.31697 | 3.21792 | 4.22352 | 0 | 4.22352 |
| 10 | 0.464066 | 2.38849 | 18.2816 | Clayey Gravel | -8.88178e-016 | 37.304 | 2.39395 | 3.32484 | 4.36385 | 0 | 4.36385 |
| 11 | 0.464066 | 2.46529 | 18.2816 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.47093 | 3.43175 | 4.50417 | 0 | 4.50417 |
| 12 | 0.464066 | 2.5421 | 18.2816 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.54791 | 3.53867 | 4.64451 | 0 | 4.64451 |
| 13 | 0.613163 | 3.45163 | 18.3388 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.61545 | 3.63247 | 4.76762 | 0 | 4.76762 |
| 14 | 0.613163 | 3.53573 | 18.3388 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.67918 | 3.72098 | 4.88379 | 0 | 4.88379 |
| 15 | 0.613163 | 3.61983 | 18.3388 | Clayey Gravel | 0 | 37.304 | 2.7429 | 3.80948 | 4.99995 | 0 | 4.99995 |
| 16 | 0.613163 | 3.70392 | 18.3388 | Clayey Gravel | 0 | 37.304 | 2.80663 | 3.89799 | 5.11612 | 0 | 5.11612 |
| 17 | 0.657558 | 4.05209 | 18.3656 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.86169 | 3.97446 | 5.21649 | 0 | 5.21649 |
| 18 | 0.676893 | 4.22726 | 18.3972 | Clayey Gravel | -8.88178e-016 | 37.304 | 2.89838 | 4.02541 | 5.28335 | 0 | 5.28335 |
| 19 | 0.676893 | 4.26745 | 18.3972 | Clayey Gravel | -8.88178e-016 | 37.304 | 2.92594 | 4.06369 | 5.33358 | 0 | 5.33358 |
| 20 | 0.502836 | 3.19918 | 18.3869 | Clayey Gravel | 0 | 37.304 | 2.95334 | 4.10175 | 5.38356 | 0 | 5.38356 |
| 21 | 0.502836 | 3.22745 | 18.3869 | Clayey Gravel | 0 | 37.304 | 2.97944 | 4.138 | 5.43111 | 0 | 5.43111 |
| 22 | 0.502836 | 3.25572 | 18.3869 | Clayey Gravel | 0 | 37.304 | 3.00554 | 4.17424 | 5.47869 | 0 | 5.47869 |
| 23 | 0.502836 | 3.28399 | 18.3869 | Clayey Gravel | -8.88178e-016 | 37.304 | 3.03164 | 4.21049 | 5.52626 | 0 | 5.52626 |
| 24 | 0.636832 | 4.18032 | 18.4279 | Clayey Gravel | 0 | 37.304 | 3.04473 | 4.22867 | 5.55013 | 0 | 5.55013 |
| 25 | 0.636832 | 4.18695 | 18.4279 | Clayey Gravel | -8.88178e-016 | 37.304 | 3.04955 | 4.23537 | 5.55892 | 0 | 5.55892 |
| 26 | 0.636832 | 4.19358 | 18.4279 | Clayey Gravel | 0 | 37.304 | 3.05438 | 4.24208 | 5.56773 | 0 | 5.56773 |
| 27 | 0.636832 | 4.2002 | 18.4279 | Clayey Gravel | 0 | 37.304 | 3.05921 | 4.24878 | 5.57653 | 0 | 5.57653 |
| 28 | 0.643539 | 4.22747 | 18.4771 | Clayey Gravel | 0 | 37.304 | 3.04413 | 4.22784 | 5.54905 | 0 | 5.54905 |
| 29 | 0.643539 | 4.18683 | 18.4771 | Clayey Gravel | 0 | 37.304 | 3.01487 | 4.1872 | 5.4957 | 0 | 5.4957 |
| 30 | 0.643539 | 4.14619 | 18.4771 | Clayey Gravel | -8.88178e-016 | 37.304 | 2.9856 | 4.14655 | 5.44235 | 0 | 5.44235 |
| 31 | 0.643539 | 4.10555 | 18.4771 | Clayey Gravel | 0 | 37.304 | 2.95634 | 4.10591 | 5.38901 | 0 | 5.38901 |
| 32 | 0.47796 | 3.00998 | 18.5257 | Clayey Gravel | -8.88178e-016 | 37.304 | 2.91561 | 4.04934 | 5.31476 | 0 | 5.31476 |
| 33 | 0.47796 | 2.96171 | 18.5257 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.86885 | 3.9844 | 5.22952 | 0 | 5.22952 |
| 34 | 0.47796 | 2.91343 | 18.5257 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.82208 | 3.91945 | 5.14427 | 0 | 5.14427 |
| 35 | 0.47796 | 2.86516 | 18.5257 | Clayey Gravel | 0 | 37.304 | 2.77532 | 3.85451 | 5.05905 | 0 | 5.05905 |
| 36 | 0.47796 | 2.81688 | 18.5257 | Clayey Gravel | 0 | 37.304 | 2.72856 | 3.78956 | 4.9738 | 0 | 4.9738 |
| 37 | 0.47796 | 2.7686 | 18.5257 | Clayey Gravel | 0 | 37.304 | 2.6818 | 3.72462 | 4.88856 | 0 | 4.88856 |
| 38 | 0.47796 | 2.72033 | 18.5257 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.63504 | 3.65967 | 4.80332 | 0 | 4.80332 |
| 39 | 0.47796 | 2.67205 | 18.5257 | Clayey Gravel | 0 | 37.304 | 2.58828 | 3.59473 | 4.71807 | 0 | 4.71807 |
| 40 | 0.486176 | 2.64912 | 18.5959 | Clayey Gravel | -4.44089e-016 | 37.304 | 2.51934 | 3.49899 | 4.59244 | 0 | 4.59244 |
| 41 | 0.486176 | 2.56051 | 18.5959 | Clayey Gravel | 0 | 37.304 | 2.43507 | 3.38195 | 4.43882 | 0 | 4.43882 |
| 42 | 0.972352 | 4.8552 | 18.5959 | Clayey Gravel | 0 | 37.304 | 2.30867 | 3.2064 | 4.2084 | 0 | 4.2084 |
| 43 | 0.972352 | 4.50075 | 18.5959 | Clayey Gravel | 0 | 37.304 | 2.14013 | 2.97232 | 3.90117 | 0 | 3.90117 |
| 44 | 0.486176 | 2.11746 | 18.5959 | Clayey Gravel | 0 | 37.304 | 2.01372 | 2.79676 | 3.67076 | 0 | 3.67076 |
| 45 | 0.486176 | 2.02885 | 18.5959 | Clayey Gravel | 0 | 37.304 | 1.92946 | 2.67973 | 3.51714 | 0 | 3.51714 |
| 46 | 0.828803 | 3.15522 | 18.7196 | Clayey Gravel | 0 | 37.304 | 1.75605 | 2.43889 | 3.20105 | 0 | 3.20105 |
| 47 | 0.828803 | 2.69939 | 18.7196 | Clayey Gravel | 0 | 37.304 | 1.50236 | 2.08655 | 2.73861 | 0 | 2.73861 |
| 48 | 0.828803 | 2.24357 | 18.7196 | Clayey Gravel | -4.44089e-016 | 37.304 | 1.24867 | 1.73422 | 2.27615 | 0 | 2.27615 |
| 49 | 0.828803 | 1.78775 | 18.7196 | Clayey Gravel | 0 | 37.304 | 0.994981 | 1.38188 | 1.81371 | 0 | 1.81371 |
| 50 | 1.28081 | 1.21389 | 19.0595 | Clayey Gravel | -1.11022e-016 | 37.304 | 0.434372 | 0.603277 | 0.791798 | 0 | 0.791798 |

## *Interslice Data*

**Global Minimum Query (spencer) - Safety Factor**: 1.38885

| Slice Number | X coordinate [ft] | Y coordinate - Bottom [ft] | Interslice Normal Force [lbs] | Interslice Shear Force [lbs] | Interslice Force Angle [degrees] |
|---|---|---|---|---|---|
| 1 | 86.7726 | 5489.94 | 0 | 0 | 0 |
| 2 | 87.419 | 5490.11 | 0.045752 | 0.0230554 | 26.7445 |
| 3 | 87.9102 | 5490.27 | 0.0532396 | 0.0268286 | 26.7445 |
| 4 | 88.4014 | 5490.44 | 0.061329 | 0.030905 | 26.7445 |
| 5 | 89.3839 | 5490.76 | 0.0793137 | 0.0399679 | 26.7445 |
| 6 | 89.848 | 5490.91 | 0.0853778 | 0.0430237 | 26.7445 |
| 7 | 90.312 | 5491.07 | 0.0916743 | 0.0461967 | 26.7445 |
| 8 | 90.7761 | 5491.22 | 0.0982032 | 0.0494867 | 26.7445 |
| 9 | 91.2402 | 5491.37 | 0.104964 | 0.0528938 | 26.7446 |
| 10 | 91.7042 | 5491.53 | 0.111958 | 0.056418 | 26.7445 |
| 11 | 92.1683 | 5491.68 | 0.119184 | 0.0600593 | 26.7445 |
| 12 | 92.6324 | 5491.83 | 0.126642 | 0.0638177 | 26.7445 |
| 13 | 93.0964 | 5491.99 | 0.134333 | 0.0676932 | 26.7445 |
| 14 | 93.7096 | 5492.19 | 0.140842 | 0.0709731 | 26.7444 |
| 15 | 94.3228 | 5492.39 | 0.147509 | 0.0743329 | 26.7445 |
| 16 | 94.9359 | 5492.6 | 0.154335 | 0.0777725 | 26.7445 |
| 17 | 95.5491 | 5492.8 | 0.161319 | 0.0812921 | 26.7445 |
| 18 | 96.2066 | 5493.02 | 0.166801 | 0.0840544 | 26.7445 |
| 19 | 96.8835 | 5493.24 | 0.169856 | 0.0855943 | 26.7446 |
| 20 | 97.5604 | 5493.47 | 0.172941 | 0.0871488 | 26.7445 |
| 21 | 98.0633 | 5493.63 | 0.175912 | 0.088646 | 26.7446 |
| 22 | 98.5661 | 5493.8 | 0.17891 | 0.0901565 | 26.7445 |
| 23 | 99.0689 | 5493.97 | 0.181933 | 0.0916801 | 26.7446 |
| 24 | 99.5718 | 5494.14 | 0.184983 | 0.0932171 | 26.7446 |
| 25 | 100.209 | 5494.35 | 0.185458 | 0.0934561 | 26.7445 |
| 26 | 100.845 | 5494.56 | 0.185933 | 0.0936955 | 26.7445 |
| 27 | 101.482 | 5494.77 | 0.186408 | 0.0939352 | 26.7446 |
| 28 | 102.119 | 5494.98 | 0.186885 | 0.0941754 | 26.7445 |
| 29 | 102.763 | 5495.2 | 0.183239 | 0.0923381 | 26.7445 |
| 30 | 103.406 | 5495.41 | 0.179628 | 0.0905186 | 26.7446 |
| 31 | 104.05 | 5495.63 | 0.176053 | 0.0887166 | 26.7444 |
| 32 | 104.693 | 5495.84 | 0.172512 | 0.0869324 | 26.7445 |
| 33 | 105.171 | 5496.01 | 0.167017 | 0.0841634 | 26.7445 |
| 34 | 105.649 | 5496.17 | 0.16161 | 0.0814389 | 26.7446 |
| 35 | 106.127 | 5496.33 | 0.156292 | 0.0787587 | 26.7445 |
| 36 | 106.605 | 5496.49 | 0.151061 | 0.0761229 | 26.7445 |
| 37 | 107.083 | 5496.65 | 0.145919 | 0.0735316 | 26.7445 |
| 38 | 107.561 | 5496.81 | 0.140865 | 0.0709847 | 26.7445 |
| 39 | 108.039 | 5496.97 | 0.135898 | 0.0684822 | 26.7446 |
| 40 | 108.517 | 5497.13 | 0.131021 | 0.0660241 | 26.7444 |
| 41 | 109.003 | 5497.29 | 0.122506 | 0.0617333 | 26.7445 |
| 42 | 109.489 | 5497.45 | 0.114276 | 0.057586 | 26.7445 |
| 43 | 110.462 | 5497.78 | 0.0986703 | 0.0497221 | 26.7445 |
| 44 | 111.434 | 5498.11 | 0.084204 | 0.0424322 | 26.7445 |
| 45 | 111.92 | 5498.27 | 0.0773981 | 0.0390026 | 26.7445 |
| 46 | 112.406 | 5498.43 | 0.070877 | 0.0357165 | 26.7446 |
| 47 | 113.235 | 5498.72 | 0.0530306 | 0.0267232 | 26.7445 |
| 48 | 114.064 | 5499 | 0.0377623 | 0.0190293 | 26.7446 |
| 49 | 114.893 | 5499.28 | 0.0250723 | 0.0126345 | 26.7446 |
| 50 | 115.722 | 5499.56 | 0.0149605 | 0.00753893 | 26.7446 |
| 51 | 117.002 | 5500 | 0 | 0 | 0 |

***List Of Coordinates***

**External Boundary**

| X | Y |
|---|---|
| 0 | 5450 |
| 250 | 5450 |
| 250 | 5525 |
| 237 | 5525 |
| 206 | 5523 |
| 206 | 5512 |
| 185 | 5512 |
| 146 | 5510 |
| 144 | 5506 |
| 124 | 5502 |
| 117 | 5500 |
| 87 | 5490 |
| 50 | 5480 |
| 0 | 5470 |

AGEC
Applied GeoTech

# GEOLOGIC-HAZARD STUDY

## PROPOSED HANNOY RESIDENCE

## 3563 PINEVIEW COURT

## EDEN, UTAH

PREPARED FOR:

BIG CANYON HOMES, INC.
1925 SW HOYTSVILLE ROAD
WANSHIP, UTAH 84017

ATTENTION: PAUL BERMAN

PROJECT NO. 1160176A

MAY 2, 2016

600 West Sandy Parkway • Sandy, Utah 84070 • (801) 566-6399 • FAX (801) 566-6493

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## PURPOSE AND SCOPE OF INVESTIGATION

This report presents the results of a geologic-hazard study for the proposed Hannoy residence to be constructed at 3563 Pineview Court in Eden, Utah. A geotechnical study is being prepared under Project No. 1160176B along with this report to provide geotechnical related recommendations.

This study was conducted to evaluate geologic hazards that may affect the proposed development of the lot. The hazards evaluated are surface fault rupture, landslide, tectonic subsidence, rockfall, debris flow and liquefaction. The study included a review of geologic literature, aerial photographs and Lidar data, site reconnaissance, subsurface exploration and geologic analysis. This report has been prepared to summarize the data obtained during the study and to present our conclusions.

## PROPOSED CONSTRUCTION

A single-family residence is planned for the site. The building will be a single-story structure with a basement. Grading for the site will be relatively minor with most rockeries planned to be 5 feet or less in height. The tallest rockery is planned for the northeast corner of the site along the driveway where a two-tier rockery is planned to be up to approximately 10 feet in height.

## SITE DESCRIPTION

At the time of our field study, there were no permanent structures or pavement on the site. The site consists of an undeveloped residential lot. It appears that some fill has been placed along the north edge of the site. This fill is approximately 4 feet thick at the boring location.

The ground surface at the site slopes gently down toward the south and southwest with slopes of approximately 6 horizontal to 1 vertical and flatter throughout most of the proposed building area and slopes on the order of 3 horizontal to 1 vertical and flatter south of the proposed building area.

Vegetation at the site consists of grass and brush.

There is a residential house west of the site and Pineveiw Court to the north. There are undeveloped lots to the south and east.

**OFFICE METHODS OF INVESTIGATION**

Geologic conditions at the site were evaluated by a review of geologic literature, aerial photographs and Lidar data. Aerial photographs used during the investigation were downloaded from the Utah Geological Survey website. They have photograph numbers of ELK-2-205 and 206 and a photograph date of June 25, 1963. The Lidar data has a date of 2011 and was obtained from the Open Topography website.

A. Geologic Literature Review

The site is located in Ogden Valley, which is a northwest trending valley within the Wasatch Mountains of north/central Utah. The valley is filled with an accumulation of lacustrine, alluvial and colluvial sediments from deposition during the past 15 million years (Sorensen and Crittenden, 1979). The surface deposits across the site consist of Quaternary-age colluvium consisting of clayey gravel with cobbles and boulders. These sediments are underlain by bedrock consisting of Tertiary-age pyroclastics of the Norwood Tuff.

Ogden Valley is a down-dropped structure with the Ogden Valley Northeast margin fault along the northeast side of the valley and the Ogden Valley Southwest margin fault and the Ogden Valley North Fork fault along the southwest side of the valley. These faults are oriented in a general northwest/southeast direction with the two western faults estimated to have moved in the last 750,000 years and the east fault having evidence of movement in the last 2.6 million years. The faults are considered normal faults with dip direction down to the northeast on the two west fault systems and down to the southwest for the Ogden Valley Northeast margin fault. The faults are considered relatively old structures and do not represent a significant surface-fault-rupture hazard for development within the Ogden Valley area. Tectonic subsidence associated with fault movement would similarly not be a significant hazard at this site.

The Utah Fault and Fold database shows the Ogden Valley North Fork fault located along the north fork of the Ogden River approximately 1.9 miles to the southwest and the Ogden Valley Northeast margin fault located on the hillside to the northeast, approximately 1.1 miles from the site. No active faults are mapped through or near the site. The closest active fault to the site based on the Utah Geological Survey database is the Wasatch fault located approximately 6.7 miles to the west.

The geologic map by Sorensen and Crittenden (1979) shows the site to be underlain by colluvium and slope wash of Holocene age.

Mapping by Coogan and King (2001) shows the area underlain by alluvium and colluvium of Quaternary age and states that this unit locally includes mass-movement deposits. The map shows a fault with sense of movement down to the southwest approximately 1,500 feet northeast of the site.

The Elliott and Harty (2010) landslide map shows the site and surrounding area as landslide deposits.

The King and others (2014) geologic map, which is a map in progress and currently has no legend, shows the site mapped as "Qmso? (QTg?)" with a note stating "like Tcg" (see Figure 1). This mapping would suggest that the site is underlain by potential older landslide or gravel deposits. Gravel deposits were encountered in the boring drilled and test pits excavated at the site. The map shows a fault approximately 1,700 feet to the northeast of the site and several lineations in the area with the closest located approximately 700 feet to the west. The map shows a queried back-tilt feature about 800 feet to the southeast. The lineations can be attributed to differential weathering of the underlying bedrock in the area. The back-tilt features are dubious in nature.

B. Aerial Photograph and Lidar Review

The geologic literature indicates that there are landslide deposits in the area of the site. Review of aerial photographs and Lidar data finds evidence of potential geomorphology consistent with landslide deposits in the area but no evidence of landslide geomorphology at the site. Based on the mapped landslide deposits for the site and vicinity, a slope stability evaluation was made for the site. The results of the study are reported in the geotechnical report and find slope stability not to be a significant hazard for the proposed development.

Based on the topography of the site and surrounding area, rockfall and debris flow are not potential geologic hazards at the site. The site is protected from potential debris-flow sources on the steep mountain slopes approximately ½ mile to the northeast by a ridge just to the north of the site, which would effectively divert debris flows away from the site.

C. Seismicity

The property is located in the Intermountain Seismic Zone, which consists of an area of relatively high historical seismic activity. The most intense seismic ground shaking at the site is expected to originate from the Wasatch fault zone. The Wasatch fault zone is considered capable of producing earthquakes on the order of 7 to 7.5 magnitude and can result in significant seismic ground shaking at the site. The US Geological Survey data indicate that a peak ground acceleration of 0.35g can be expected to have a 2 percent probability of being exceeded in a 50-year time period at this site (IBC, 2012).

**FIELD METHODS OF INVESTIGATION**

Two test pits and a boring were used to determine subsurface conditions at the site. Test Pits TP-1 and TP-2 were extended to depths of approximately 26 and 21 feet, respectively. Clayey gravel with sand, cobbles and boulders up to approximately 3 feet in size was encountered the full depths of the test pits and the lower 5 feet of the boring, where practical auger refusal was met. The gravel is primarily matrix to clast-supported and represents colluvial deposits. No evidence of faults or landslide slip planes were found in the test pits. Logs for the upper 15 feet of the test pits are presented on Figure 3. Photographs of the upper 15 feet of the test pits are presented in the appendix.

Liquefaction is not a hazard at this site because of the type of sediments encountered and the expected depth to groundwater.

**CONCLUSIONS**

Seismic ground shaking is considered the only significant geologic hazard at the site. This hazard will be mitigated through structural design. It is our professional opinion that landslide, debris flow, rockfall, surface fault rupture, tectonic subsidence and liquefaction are not significant hazards at the site.

**LIMITATIONS**

The analysis and report findings are based on published geologic maps and reports, aerial photographs and Lidar data of the site, the test pits excavated and boring drilled at the approximate locations indicated on Figure 2 and our interpretation of geologic conditions at the site. Our conclusions are based on currently accepted geologic interpretation of this information. The geologic logs of the excavations presented in this report depict geologic conditions only along the specific corridors and to the depths excavated. The logs do not necessarily reflect geologic conditions at other locations or at greater depths. No attempt has been made to predict earthquake ground motions or to determine the potential magnitude for earthquakes associated with faults in the area.

The test pits were backfilled without significant compaction. The backfill in the test pits should be removed and properly compacted where it will support settlement-sensitive structures, slabs or pavement.

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.

LICENSED PROFESSIONAL GEOLOGIST
5/2/16
No. 260053
DOUGLAS R. HAWKES

Douglas R. Hawkes, P.E., P.G.

Stephanie J Merkley by rs

Reviewed by Stephanie J. Merkley, P.G.

DRH/rs

**REFERENCES**

Coogan, J.C. and King, J.K.,2000; Progress report geologic map of the Ogden 30' X 60' quadrangle, Utah and Wyoming, Utah Geological Survey Open-file Map 380.

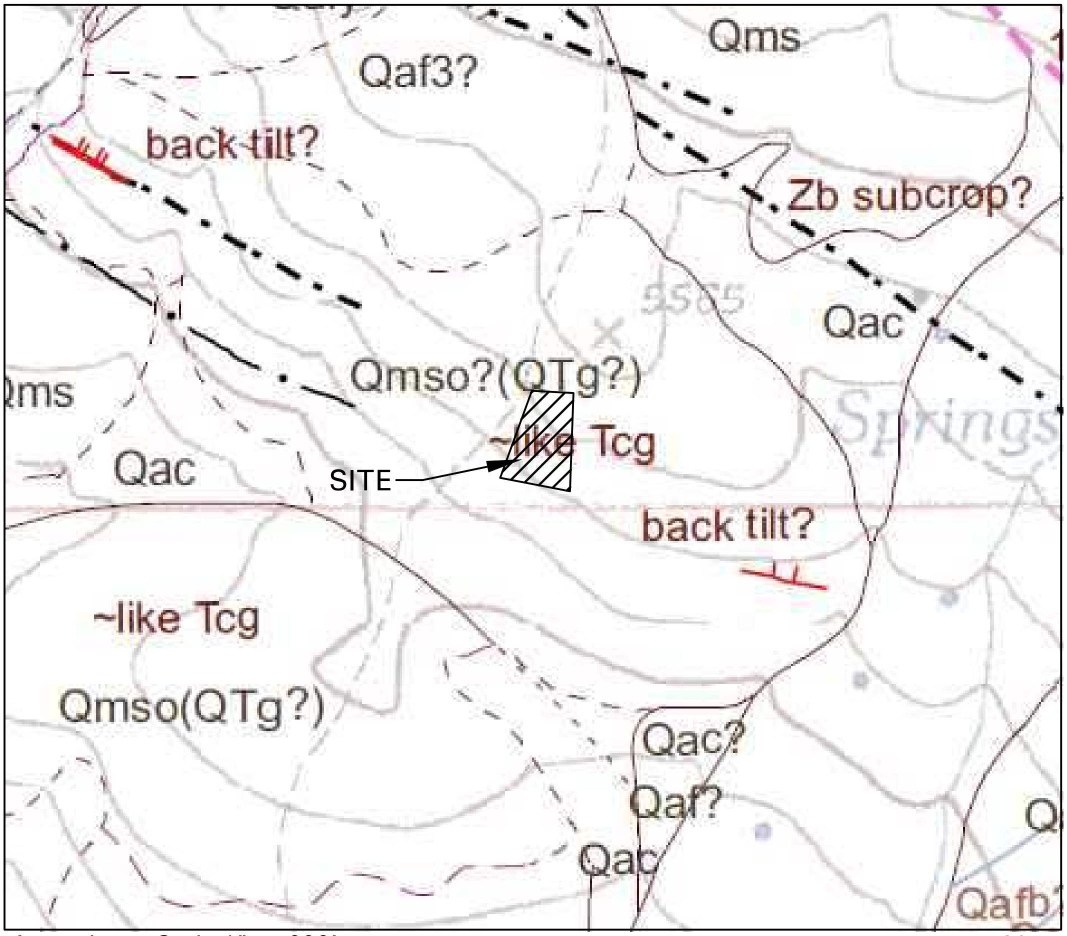
Elliott, A.H. and Harty, K.M., 2010; Landslide maps of Utah, Ogden 30' X 60' quadrangle, Utah Geological Survey Map 246DM, Plate 6.

King, J.K., McDonald, G.N. and Coogan, J.C., 2014; Progress report geologic map of the Huntsville quadrangle, Weber and Cache Counties, Utah, Utah Geological Survey map in progress.

Sorensen, M.L. and Crittenden, M.D.,Jr., 1979; Geologic map of the Huntsville quadrangle, Weber and Cache Counties, Utah, US Geological Survey Map GQ-1503.

Utah fault and fold database accessed on March 18, 2016 at geology.utah.gov/resources/data-databases/qfaults/.

Exhibit C




Approximate Scale 1" = 600'

From King and others (2014)

N

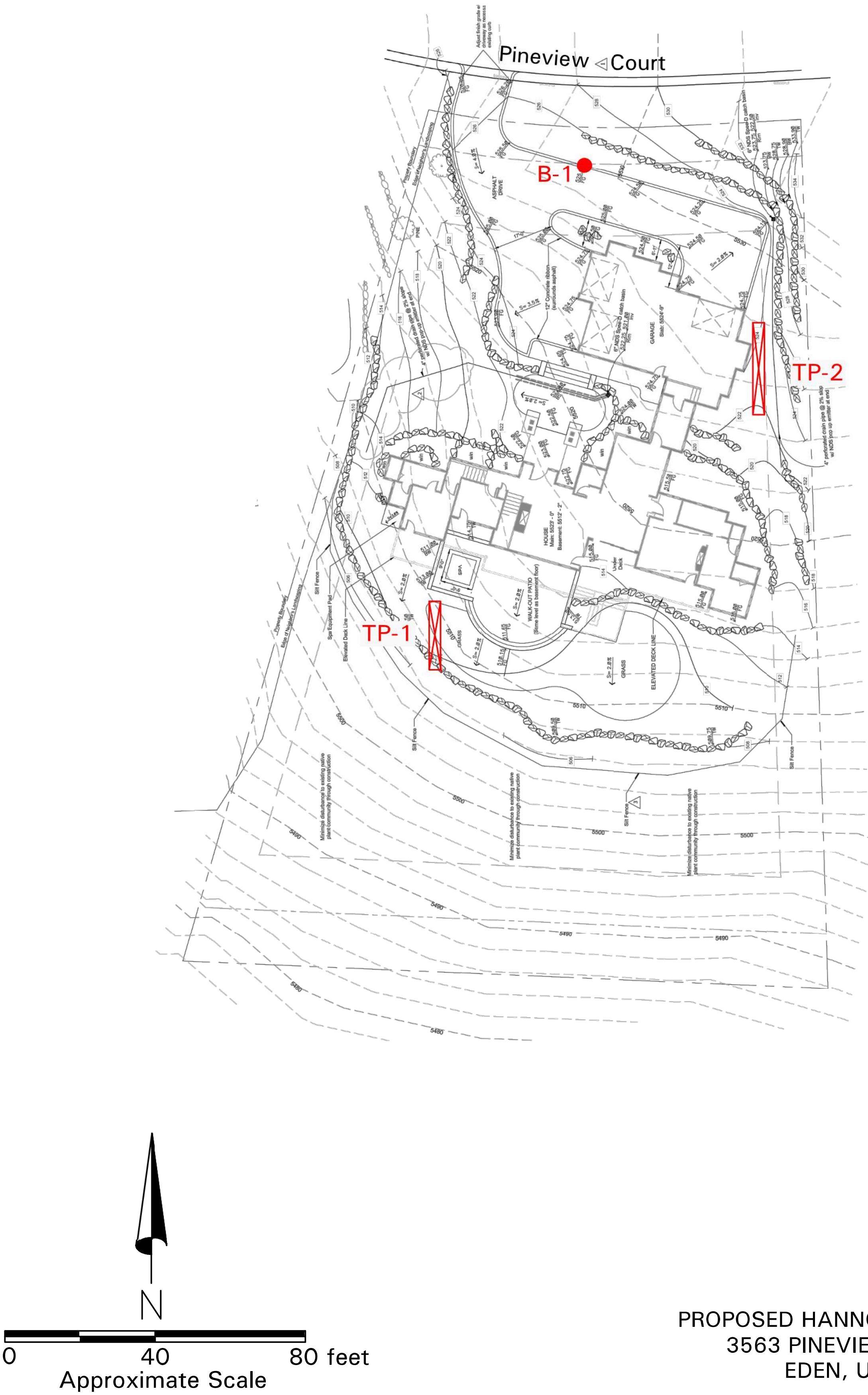
DESCRIPTION OF GEOLOGIC UNITS AND SYMBOLS

| | | |
|---|---|---|
| Qac | - | Quarternary Alluvium and Colluvium |
| Qaf | - | Quarternary Alluvial-fan deposit |
| Qms | - | Quarternary Landslide deposits |
| Qmso (QTg) | - | Quarternary Older Landslide deposits (gravel deposits) |
| —·—·—·—·— | | Lineation |
| ——— — — | | contact between units, dashed where approximate |

PROPOSED HANNOY RESIDENCE
3563 PINEVIEW COURT
EDEN, UTAH

| 1160176A | AGEC | Geologic Map | Figure 1 |
|---|---|---|---|

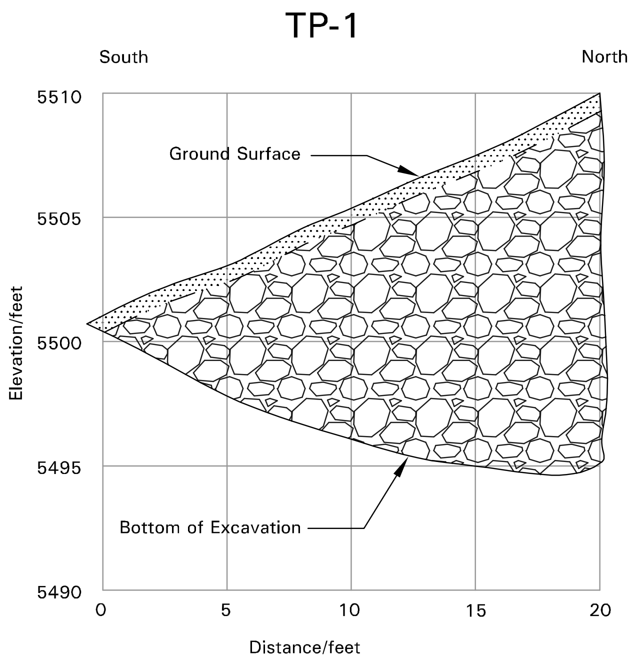
Exhibit C

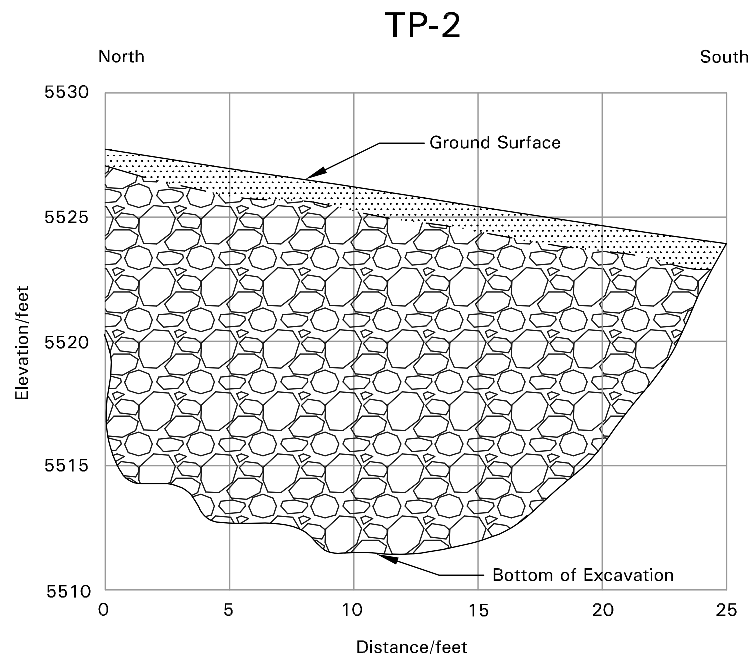



PROPOSED HANNOY RESIDENCE
3563 PINEVIEW COURT
EDEN, UTAH

| 1160176A | AGEC | Test Pit and Boring Locations | Figure 2 |
|---|---|---|---|

Exhibit C




LEGEND:

Topsoil; clayey gravel with sand, cobbles, occasional boulders up to approximately 3 feet in size, very moist, dark brown, roots, organics.

Clayey Gravel with Sand (GC); cobbles, occasional boulders up to approximately 3 feet in size, dense to very dense, moist to very moist, brown, iron oxide staining. (Colluvium)

| 1160176A | AGEC | Test Pit Logs | Figure 3 |
|---|---|---|---|

Test Pit TP-1

Test Pit TP-1

Test Pit TP-2

Test Pit TP-2