



# PRESQUILE EDUCATION CENTER

## SYMBOLS & HATCHES

**PLAN - FIRST FLOOR**  
SCALE: 1/4" = 1'-0"

**DRAWING TITLE**

**DETAIL KEY**

**INTERIOR ELEVATION KEY**

**ELEVATION KEY**   **SECTION KEY**   **WALL SECTION KEY**

**ROOM NUMBER & NAME**

**SOUTH ARROW (W/ MAG DECLINATION & SOLSTICE SUN ANGLES)**

**MATCH LINE**

**ELEVATION HEIGHT**   **WINDOW TAG**

CMU   GYPSUM  
 CONCRETE   STEEL  
 EARTH (UNDISTURBED)   GRAVEL / FILL  
 CELLULOSE INSULATION  
 FOAM / RIGID INSULATION  
 PLYWOOD

## ABBREVIATIONS

AB	ANCHOR BOLT	ID	INSIDE DIAMETER
ABV	ABOVE	INSUL	INSULATION
ACT	ACOUSTICAL TILE	INT	INTERIOR
ADJ	ADJACENT	JT	JOINT
AD	AREA DRAIN	MAS	MASONRY
AFF	ABOVE FINISH FLOOR	MAX	MAXIMUM
AHU	AIR HANDLING UNIT	MECH	MECHANICAL
		MEP	MECHANICAL, ELECTRICAL & PLUMBING
BTW	BETWEEN	MFR	MANUFACTURER
BD	BOARD	MIN	MINIMUM
BLDG	BUILDING	MO	MASONRY OPENING
BLK	BLOCK	MRGWB	MOISTURE RESISTANT GYPSUM WALL BD.
BLKG	BLOCKING	MTL	METAL
BM	BEAM		
B.O.	BOTTOM OF BEARING	NIC	NOT IN CONTRACT
BRG	BRICK	NOM	NOMINAL
BRK	BRICK	NTS	NOT TO SCALE
		O/	OVER
CB	CEMENT BOARD	OD	ON CENTER
CF (CY)	CUBIC FOOT (YARD)	OD	OUTSIDE DIAMETER
CP	CAST IN PLACE	OPP	OPPOSITE
CJ	CONTROL JOINT	OVE	OPTIMUM VALUE ENGINEERING (FRAMING)
CLG	CLEAR(ANCE)	PBP	PRESSURE BOOSTER PUMP
CLR	CONCRETE MASONRY UNIT	PC	PRECAST
CMU	CONCRETE MASONRY UNIT	PLAM	PLASTIC LAMINATE
COL	COLUMN	PLT	PLATE
COMP	COMPOSITION	PT	PRESSURE TREATED
CONC	CONCRETE	PTD	PAINTED
CONT	CONTINUOUS	PWD	PLYWOOD
CORR	CORRIDOR		
CPT	CARPET	RA	RETURN AIR
CRS	COURSE	RAD	RADIUS
CT	CERAMIC TILE	RCP	REFLECTED CEILING PLAN
CTR	CENTER	RD	ROOF DRAIN
CU	CONDENSER UNIT	REINF	REINFORCED
		RM	ROOM
DIAM	DIAMETER	RO	ROUGH OPENING
DM	DIMENSION	REQD	REQUIRED
DIV	DIVISION	SA	SUPPLY AIR
DN	DOWN	SAF	SELF ADHERED FLASHING
DR	DOOR	SC	SOLID CORE
DS	DOWNSPOUT	SD	SMOKE DETECTOR
DTL	DETAIL	SHT	SHEET
DV	DRYER VENT	SHW	SOLAR HOT WATER
		SIM	SIMILAR
EA	EACH	SLNT	SEALANT
EJ	EXPANSION JOINT	SOG	SLAB ON GRADE
ELEC	ELECTRIC(AL)	SPEC	SPECIFICATION
ELEV	ELEVATION	SQ	SQUARE
EM	ELECTRIC METER BASE	SS	STAINLESS STEEL
EPB	ELECTRICAL PANEL BOX	STD	STANDARD
EQUIP	EQUIPMENT	STND	STAINED
ERV	ENERGY/HEAT RECOVERY VENTILATOR	STL	STEEL
		STRUC	STRUCTURE
EW/H	ELECTRIC WATER HEATER		
EXP	EXPOSED	T	TREAD
EXTG	EXISTING	T&G	TONGUE AND GROOVE
EXT	EXTERIOR	THK	THICK
		T.L.O.	THIS LOCATION ONLY
FC	FIBRE CEMENT	T.O.	TOP OF
FD	FLOOR DRAIN	TWF	THROUGH WALL FLASHING
FF (E)	FINISH FLOOR (ELEVATION)	TYP	TYPICAL
FG	FIBER GLASS FINISH(ED)		
FIN	FINISH	UC	UNDERCABINET
FIXT	FIXTURE	U.N.O.	UNLESS NOTED OTHERWISE
FLR	FLOOR(ING)		
FO ( )	FACE OF ( )	W/	WITH
FRP	FIBERGLASS REINFORCED POLYMER	W/O	WITHOUT
		WD	WOOD
FT	FEET	WN	WINDOW
FTG	FOOTING	WP	WATERPROOFING
		WWF	WELDED WIRE FABRIC
GA	GAUGE		
GFR	GLASS FIBER REINFORCED		
GLB	GLASS BLOCK		
GWB	GYPSUM WALL BOARD		
HB	HOSE BIB		
HDW	HARDWARE		
HGT	HEIGHT		

## BUILDING CODE & ZONING INFORMATION

APPLICABLE CODES:	2006 IRC, 2006 IBC
PROJECT DESCRIPTION:	
ADDRESS:	PRESQUILE NATIONAL WILDLIFE REFUGE
LEGAL DESCRIPTION:	TBD
TAX MAP NUMBER:	TBD
ZONING CODE:	A-1 AGRICULTURAL
ZONING SETBACKS:	
FRONT	N/A
SIDE	N/A
REAR	N/A
LOT SIZE:	N/A
35' HEIGHT LIMIT	N/A
GROSS FLOOR AREAS:	
EXISTING BUILDING:	1646.00 GSF
EXISTING PORCHES:	281.00 GSF
PROPOSED ADDITION - CONDITIONED:	151.00 GSF
PROPOSED ADDITION - PORCHES:	60.00 GSF
TOTAL EXISTING/RENOVATION:	2138.00 GSF

## THERMAL PERFORMANCE (2006 INTERNATIONAL ENERGY CONSERVATION CODE)

	PREScriptive METHOD FOR RESIDENTIAL PROJECTS		ZONE 4	3,450 HEATING DEGREE DAYS
	REQUIRED	PROVIDED		
GLAZING U FACTOR	U.40	U.35		
ROOF / CEILING R-VALUE	R.38	R38 MIN		
WALL R-VALUE	R.13	R26 MIN		
FLOOR R-VALUE	R.19	R30 MIN		
BASEMENT WALL R-VALUE	N/A	N/A		
SLAB PERIMETER R-VALUE, DEPTH	N/A	N/A		
CRAWLSPACE WALL R-VALUE	R.10	R10		

NOTE: R-VALUES ARE RATED CLEAR - WALL FIGURES @ 70° F.

## STRUCTURAL DESIGN LOADS

SOIL BEARING CAPACITY (ASSUMED)	= 2,000 PSF
FLOOR LIVE LOAD	= 40 PSF
FLOOR DEAD LOAD	= 10 PSF
PORCH/DECK LIVE LOAD	= 60 PSF
PORCH/DECK DEAD LOAD	= 10 PSF
ROOF LIVE LOAD	= 25 PSF
ROOF DEAD LOAD (VEGETATIVE)	= 30 PSF (20 + 10 PSF SATURATED WT.)
ROOF DEAD LOAD (NON-VEGETATIVE)	= 10 PSF
WIND LOAD	= 90 MPH (3 SECOND GUST SPEED), EXP.B

## DRAWING LIST

- CS.1 COVERSHEET
- D1.0 DEMOLITION PLAN
- D1.1 DEMOLITION ELEVATIONS
- A1.0 SITE PLAN
- A2.0 RENOVATION - FOUNDATION & 1st FLR PLAN
- A2.1 RENOVATION - ROOF & ROOF FRAMING PLAN
- A3.0 RENOVATION - EXTERIOR ELEVATIONS
- A4.0 RENOVATION - BUILDING SECTIONS
- A5.0 RENOVATION - INTERIOR ELEVATIONS
- A7.0 RENOVATION - MEP PLAN
- A8.0 RENOVATION - SCHEDULES
- A9.0 SPECIFICATIONS
- A9.1 SPECIFICATIONS

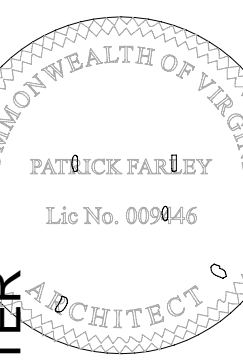
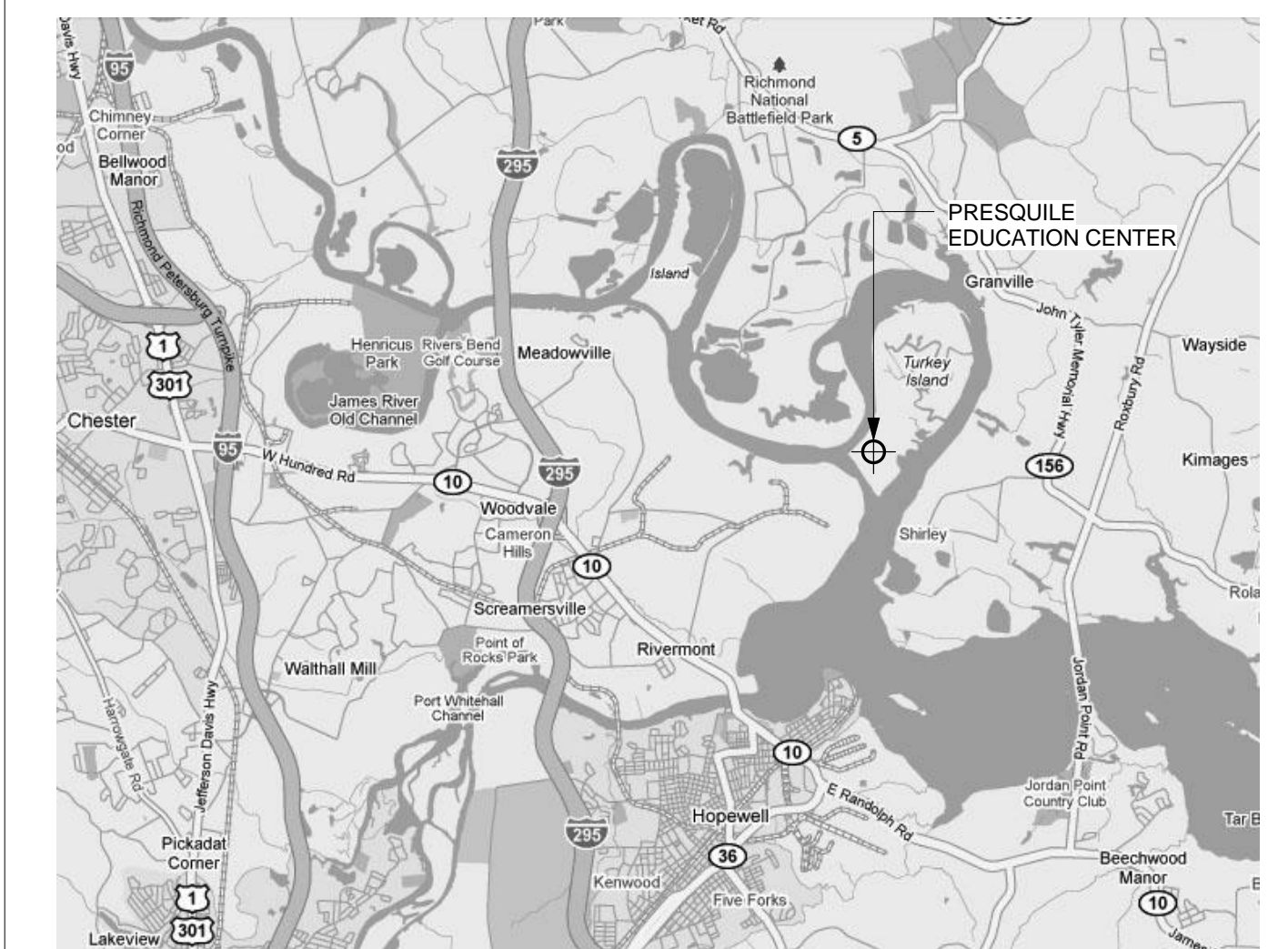
## PROJECT TEAM

CLIENT	U.S. FISH & WILDLIFE SERVICE PRESQUILE NWR CHESTERFIELD CO., VA
ARCHITECT	WATERSHED ARCHITECTS 1521 W MAIN STREET RICHMOND VA 23220 P: 804.254.8001 F: 804.254.8003 CONTACT: PATRICK FARLEY (PIC) patrick@watershedarch.net www.watershedarch.net
CONTRACTOR	TBD

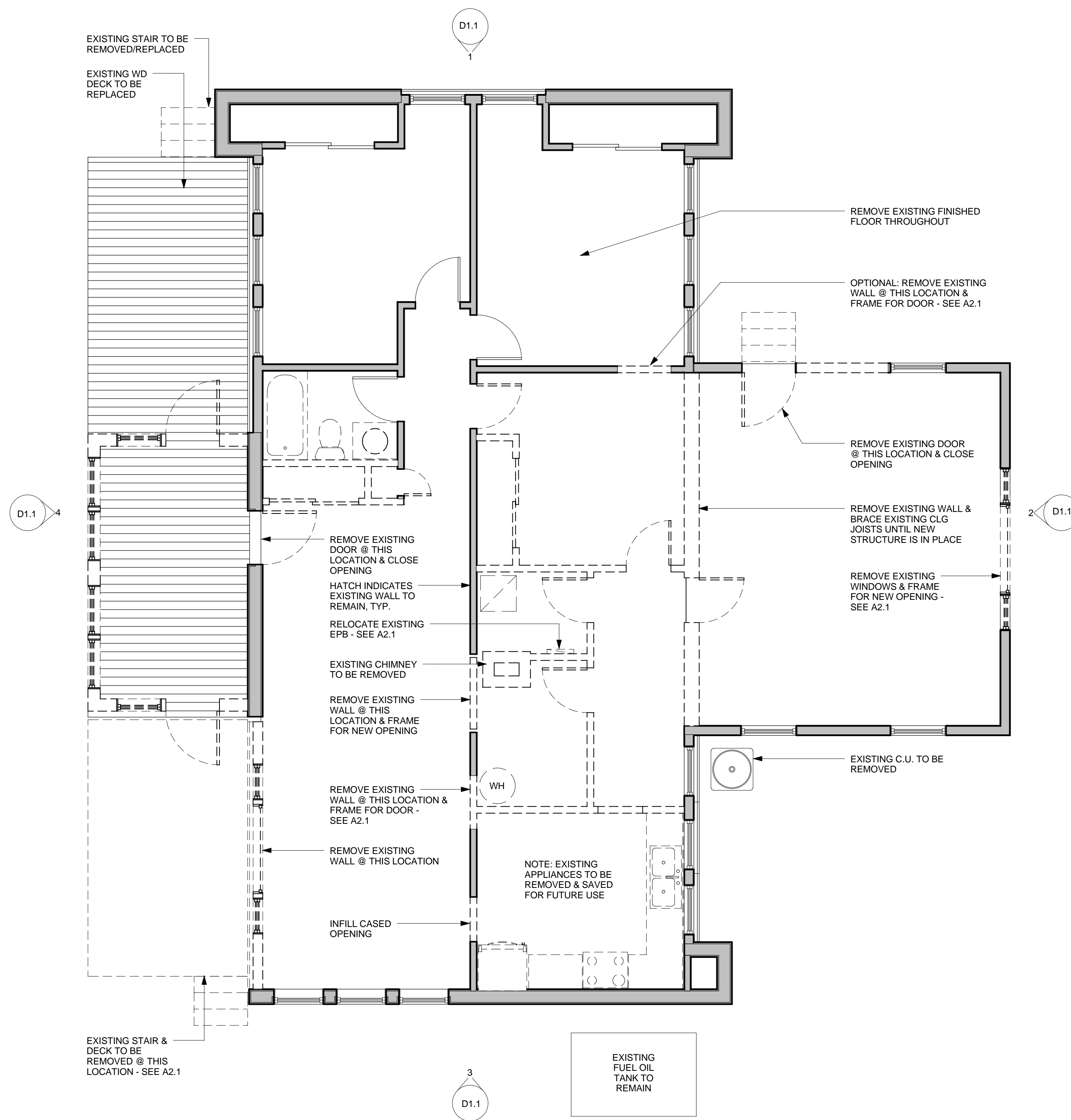
## GENERAL NOTES

- THE ARCHITECT IS THE OWNER'S REPRESENTATIVE AND SHALL BE THE APPROVING AUTHORITY FOR INFORMATION PROVIDED IN THESE PLANS AND SPECIFICATIONS.
- ALL WORK SHALL CONFORM WITH ALL GOVERNING LAWS, CODES & ORDINANCES INCLUDING, BUT NOT LIMITED TO: THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, THE INTERNATIONAL BUILDING CODE (IBC) AND THE INTERNATIONAL RESIDENTIAL CODE (IRC). IF POTENTIAL CONFLICTS ARISE, THE CONTRACTOR SHALL NOT PROCEED WITH THE EFFECTED WORK AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION. THIS SHALL SPECIFICALLY INCLUDE ON-SITE PROCEDURES AS THEY RELATE TO THE SAFETY OF THE CONSTRUCTION CREW AND THE GENERAL PUBLIC. IN ADDITION, IT SHALL SPECIFICALLY INCLUDE THE PROTECTION OF ANY EXISTING STRUCTURES TO AVOID DAMAGE RELATING TO OR ARISING FROM WORK WITHIN THIS CONTRACT.
- THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY CONFLICTS OR AMBIGUITIES DISCOVERED IN THE CONTRACT DOCUMENTS DURING BIDDING, DEMOLITION OR NEW CONSTRUCTION. THE CONTRACTOR SHALL NOT PROCEED WITH WORK IN ANY AREA OF CONFLICT UNTIL THE ISSUE HAS BEEN RESOLVED.
- THE CONTRACTOR SHALL PROVIDE CLEAN-UP OF DEBRIS AND TRASH AT INTERVALS REQUIRED TO KEEP THE SITE AND WORK AREAS REASONABLY CLEAN OF UNSAFE AND UNSIGHTLY ACCUMULATION. THE CONTRACTOR SHALL ALSO PROVIDE A PROFESSIONAL CLEANING AT PROJECT COMPLETION. SEE SPECIFICATIONS FOR REQUIREMENTS.
- WHERE POTENTIAL HAZARDOUS MATERIALS ARE ENCOUNTERED DURING WORK WITHIN THIS CONTRACT, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR USING NECESSARY PRECAUTIONS DURING WORK AND / OR DISPOSAL. IF UNFORSEEN SUSPECT MATERIALS ARE UNCOVERED DURING WORK WITHIN THIS CONTRACT, THE CONTRACTOR SHALL STOP WORK IN THE AREA IMMEDIATELY AND NOTIFY THE ARCHITECT.
- ALL DIMENSIONS GIVEN TO GRID LINE, FACE OF FRAMING, OR STRUCTURE (NOT TO FINISH) UNO.
- FOR FINISH INFORMATION, REFER TO SPECIFICATIONS.
- FOR DOOR & WINDOW ROUGH OPENING DIMENSIONS, REFER TO SCHEDULES.
- FOR FASTENER SCHEDULE, REFER TO SCHEDULES.
- FOR TYPICAL FLOOR, WALL, AND ROOF ASSEMBLIES, REFER TO SECTIONS.
- CONTRACTOR TO COORDINATE ARCHITECTURAL WITH MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER TRADES. NOTIFY ARCHITECT IN THE EVENT OF DISCREPANCIES/ CONFLICTS IN THE WORK.

## VICINITY MAP







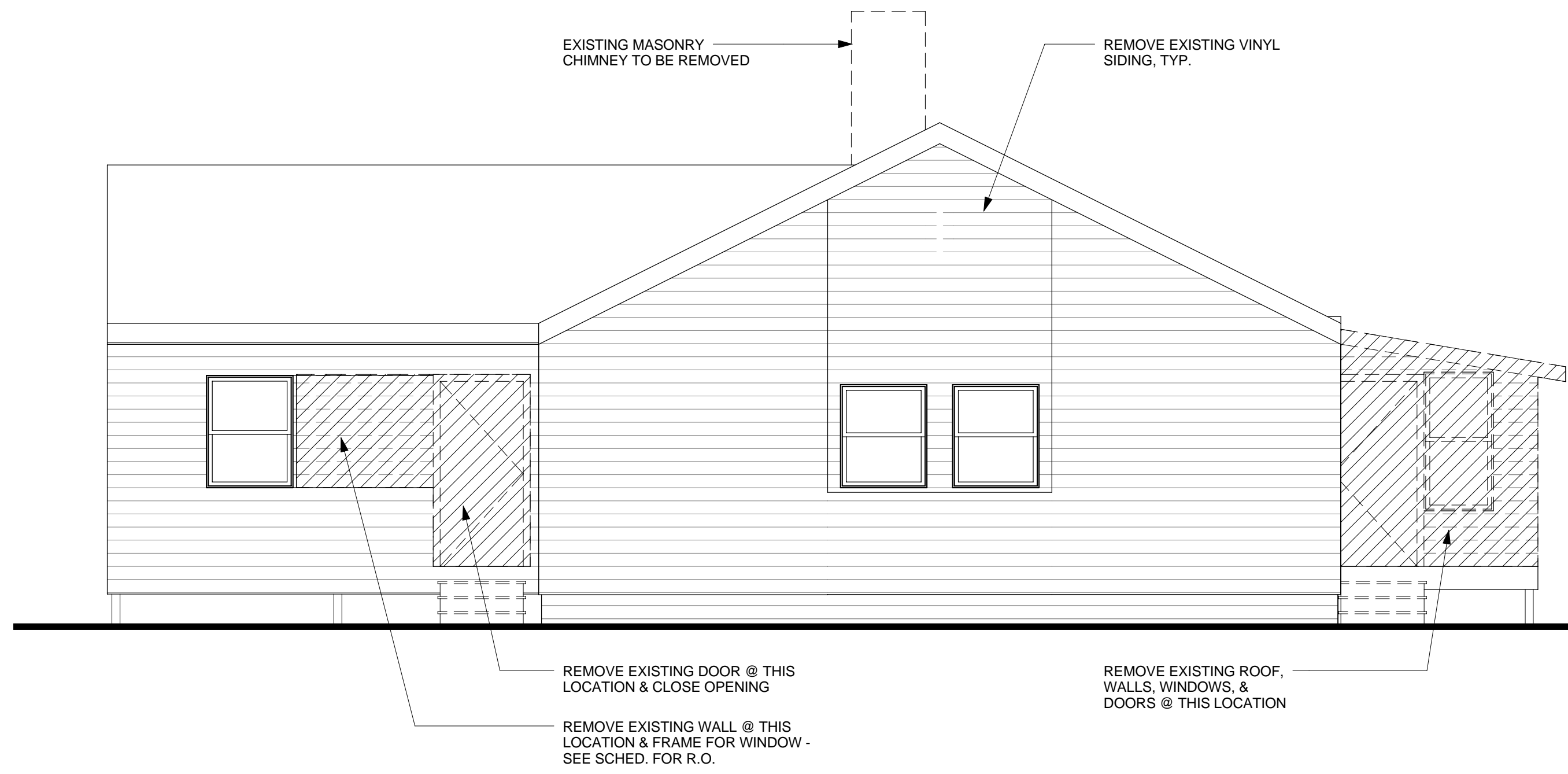
1 DEMOLITION PLAN  
1/4" = 1'-0"

**GENERAL DEMOLITION NOTES**

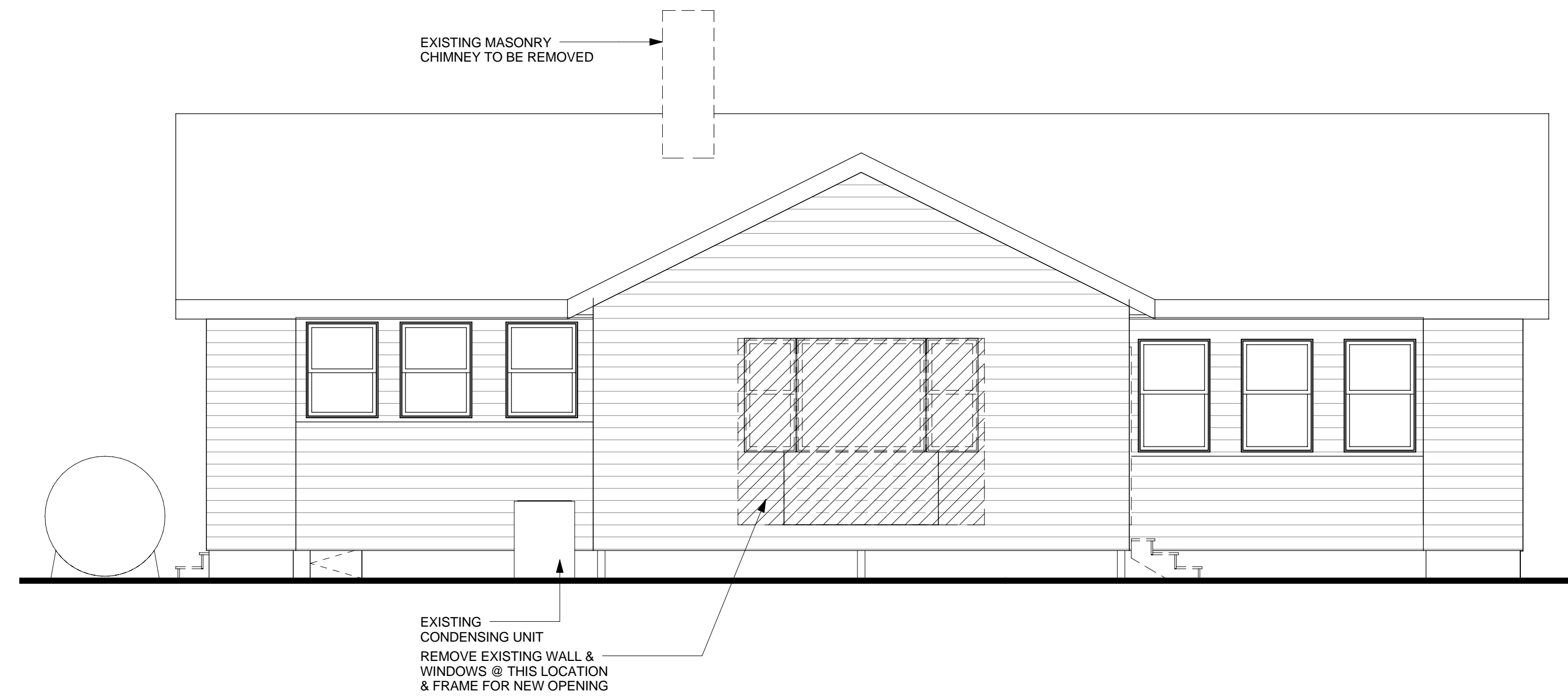
- 1) CONTRACTOR SHALL COMPLY WITH ALL GOVERNING CODES & ORDINANCES.
- 2) CONTRACTOR SHALL REMOVE ONLY THOSE MATERIALS & SYSTEMS INDICATED WITH DASHED LINES. ANY UNCERTAINTY SHALL BE ADDRESSED WITH THE ARCHITECT ON SITE.
- 3) WALLS TO BE REMOVED SHALL BE TAKEN DOWN IN SECTIONS NO MORE THAN 24" AT ONE TIME.
- 4) ALL DEMOLISHED MATERIALS SHALL BE IMMEDIATELY REMOVED FROM EXISTING STRUCTURE SO AS NOT TO IMPOSE EXCESSIVE LOADING.
- 5) INSTALL TEMPORARY STRUTS, BRACING OR SHORING AS NECESSARY. LEAVE IN PLACE UNTIL ADEQUATELY SUPPORTED BY NEW CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY FAILURE TO PROVIDE TEMPORARY MEANS OF SUPPORT OR PROTECTION.
- 6) WHERE WALLS ARE NOTED TO BE REMOVED, TAKE ENTIRE WALL DOWN TO SUPPORTING FLOOR STRUCTURE.
- 7) USE SUITABLE METHODS TO KEEP AIRBORNE PARTICLES CONTAINED AND AT THE LOWEST PRACTICAL LEVEL. COMPLY WITH APPLICABLE ENVIRONMENTAL REGULATIONS.
- 8) SPECIAL CARE SHALL BE TAKEN TO ENSURE THAT EXISTING SERVICES (GAS, ELECTRICAL, WATER, SEWAGE, ETC...) WITHIN CONSTRUCTION LIMITS TO BE REMOVED OR OTHERWISE ALTERED ARE OFF/ DISCONNECTED AS REQUIRED.
- 9) ALL SALVAGABLE MATERIALS, APPLIANCES AND FIXTURES (INCLUDING CABINERY), TO BE REMOVED SHALL BE SET ASIDE FOR USE IN NEW CONSTRUCTION AND/OR SET ASIDE FOR PICK UP BY HABITAT FOR HUMANITY'S 'RESTORE' PROGRAM. COORDINATE WITH ARCHITECT AS REQUIRED.

**DEMOLITION WALL TYPES LEGEND**

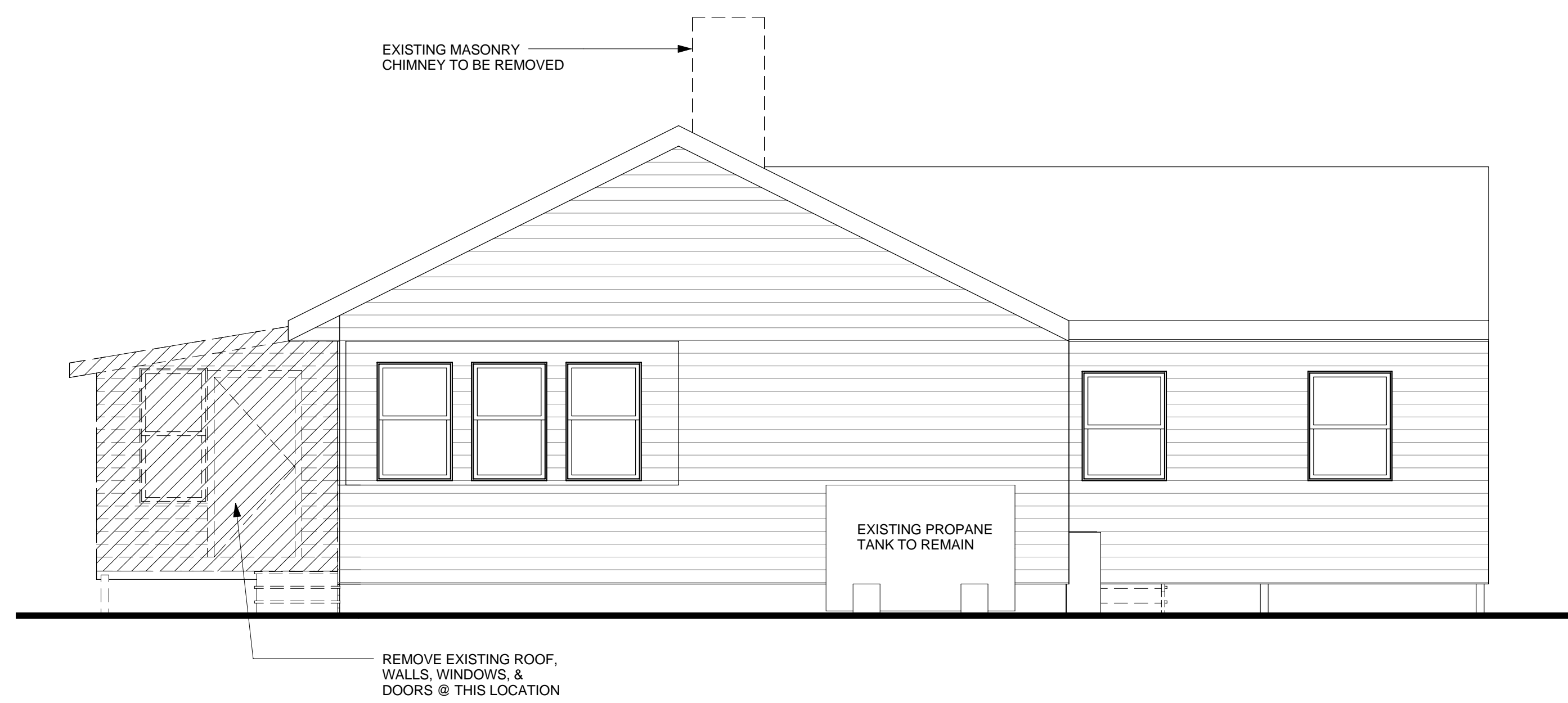
- EXISTING WALL TO REMAIN
- EXISTING WALL/ WINDOW/ DOOR/ EQUIP. TO BE REMOVED



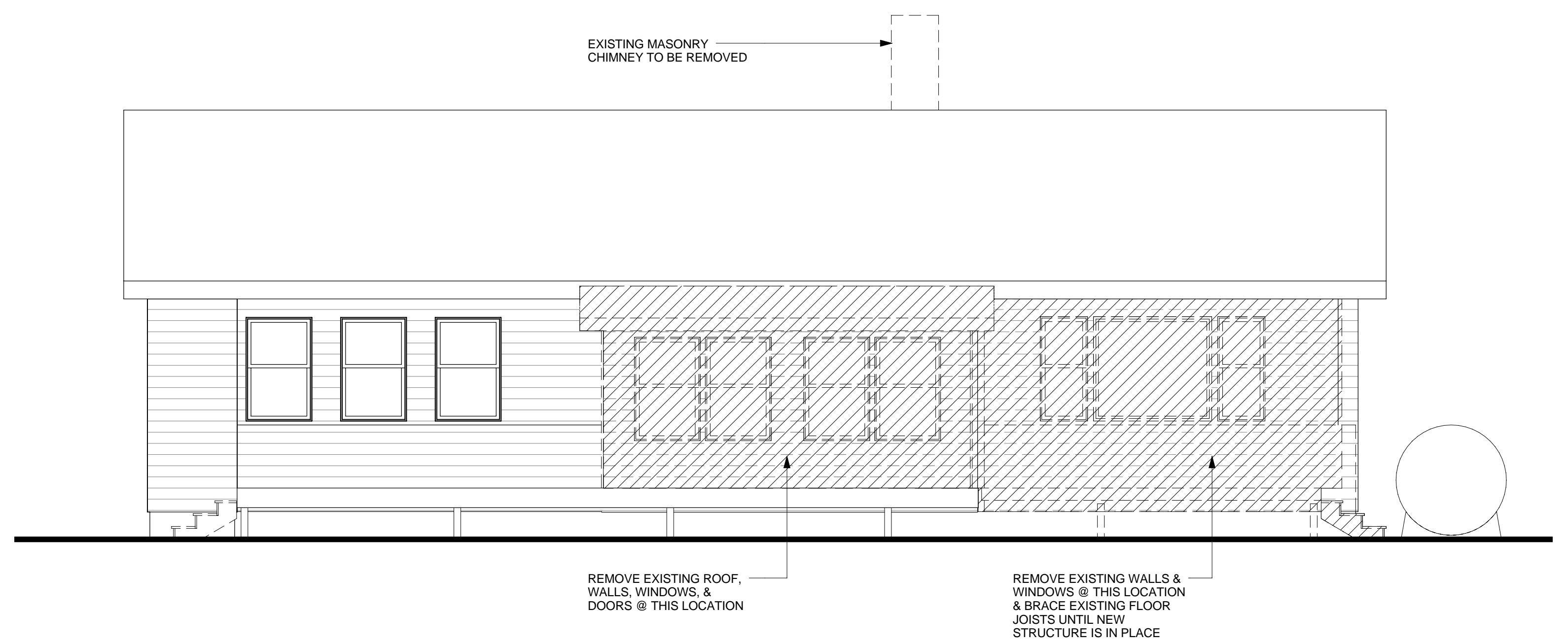
1 DEMOLITION - NORTH ELEVATION  
1/4" = 1'-0"



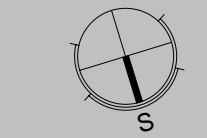
2 DEMOLITION - EAST ELEVATION  
1/4" = 1'-0"



3 DEMOLITION - SOUTH ELEVATION  
1/4" = 1'-0"



4 DEMOLITION - WEST ELEVATION  
1/4" = 1'-0"

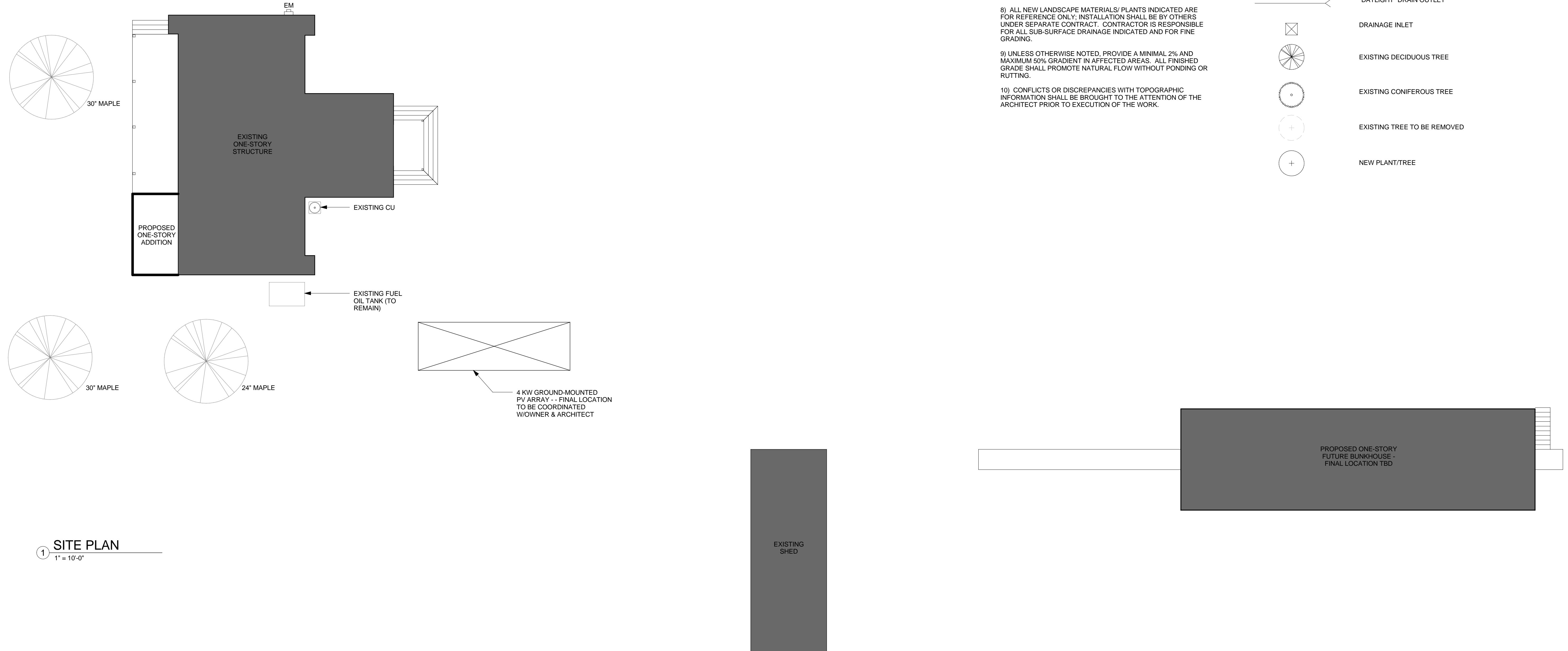


**GENERAL SITE NOTES**

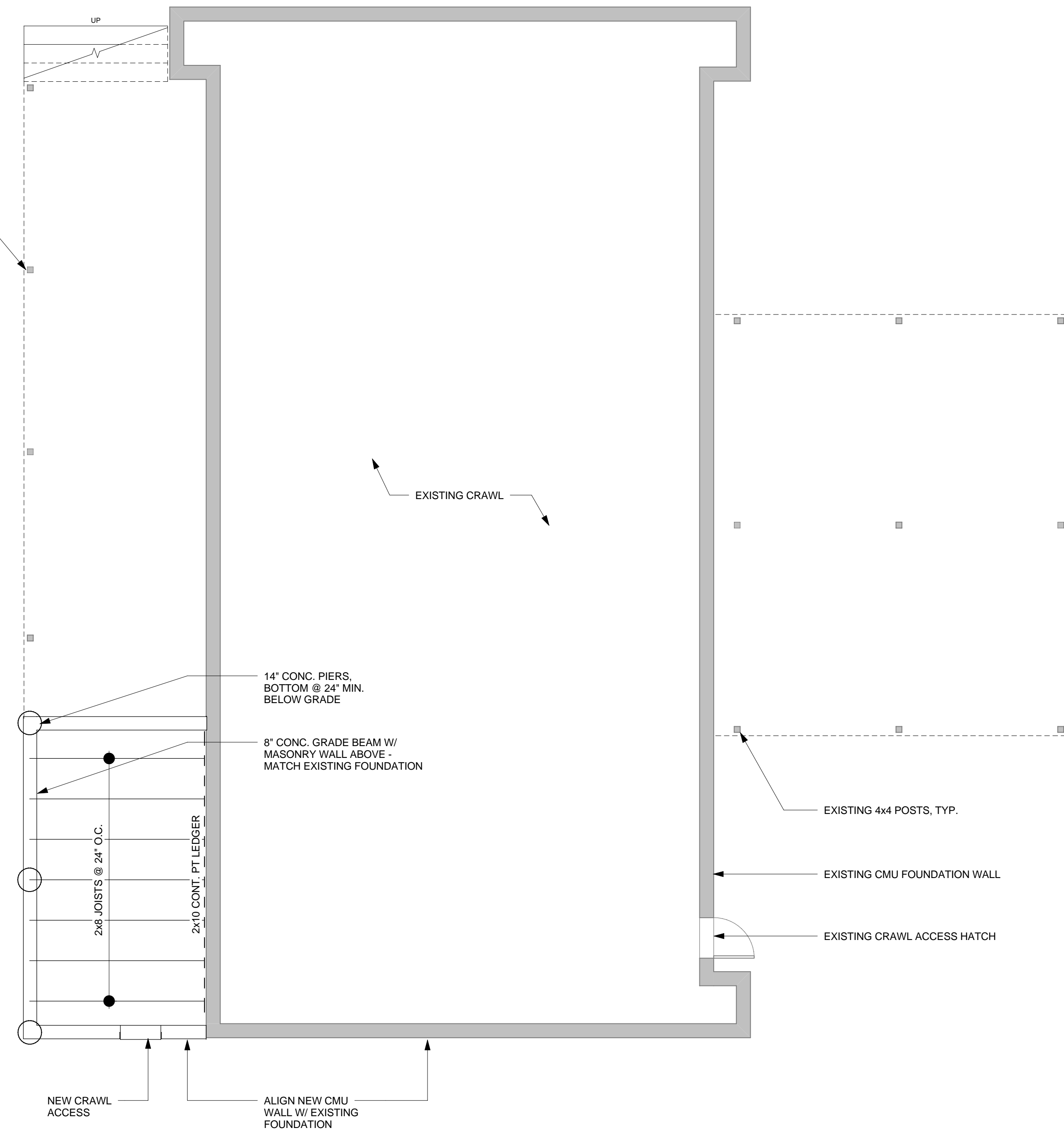
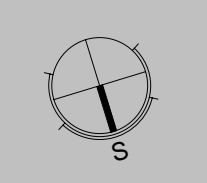
- 1) FIELD VERIFY LOCATION OF ALL BUILDINGS, WALLS, & ROADS WITH ARCHITECT PRIOR TO COMMENCEMENT OF SITE WORK.
- 2) COORDINATE ALL TREE REMOVAL w/ ARCHITECT/ OWNER PRIOR TO CONSTRUCTION.
- 3) ALL TREES TO BE SAVED WITHIN CONSTRUCTION LIMITS SHALL BE PROTECTED FROM DAMAGE BY CONTRACTOR'S OPERATIONS. ARCHITECT WILL ADVISE ON ANY NECESSARY MEASURES AS REQUIRED.
- 4) ANY DECIDUOUS TREES OF SUITABLE SPECIES TO BE REMOVED SHALL BE CUT FOR FIREWOOD & STACKED PER OWNER'S INSTRUCTION.
- 5) ALL TOPSOIL IN AREAS OF NEW CONSTRUCTION SHALL BE STRIPPED AND STOCKPILED PER ARCHITECT/ OWNER'S INSTRUCTION. SOIL PILE SHALL ALSO BE COVERED WITH TARPULIN(S) AND ANCHORED AS REQUIRED TO PREVENT WIND & WATER EROSION.
- 6) CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE VIRGINIA STATE SOIL EROSION & CONTROL HANDBOOK.
- 7) ALL WOODY DEBRIS GENERATED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE STOCKPILED AND GROUND INTO MULCH FOR THE OWNER'S USE.
- 8) ALL NEW LANDSCAPE MATERIALS/ PLANTS INDICATED ARE FOR REFERENCE ONLY; INSTALLATION SHALL BE BY OTHERS UNDER SEPARATE CONTRACT. CONTRACTOR IS RESPONSIBLE FOR ALL SUB-SURFACE DRAINAGE INDICATED AND FOR FINE GRADING.
- 9) UNLESS OTHERWISE NOTED, PROVIDE A MINIMAL 2% AND MAXIMUM 50% GRADIENT IN AFFECTED AREAS. ALL FINISHED GRADE SHALL PROMOTE NATURAL FLOW WITHOUT PONDING OR RUTTING.
- 10) CONFLICTS OR DISCREPANCIES WITH TOPOGRAPHIC INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO EXECUTION OF THE WORK.

**SYMBOLS LEGEND**

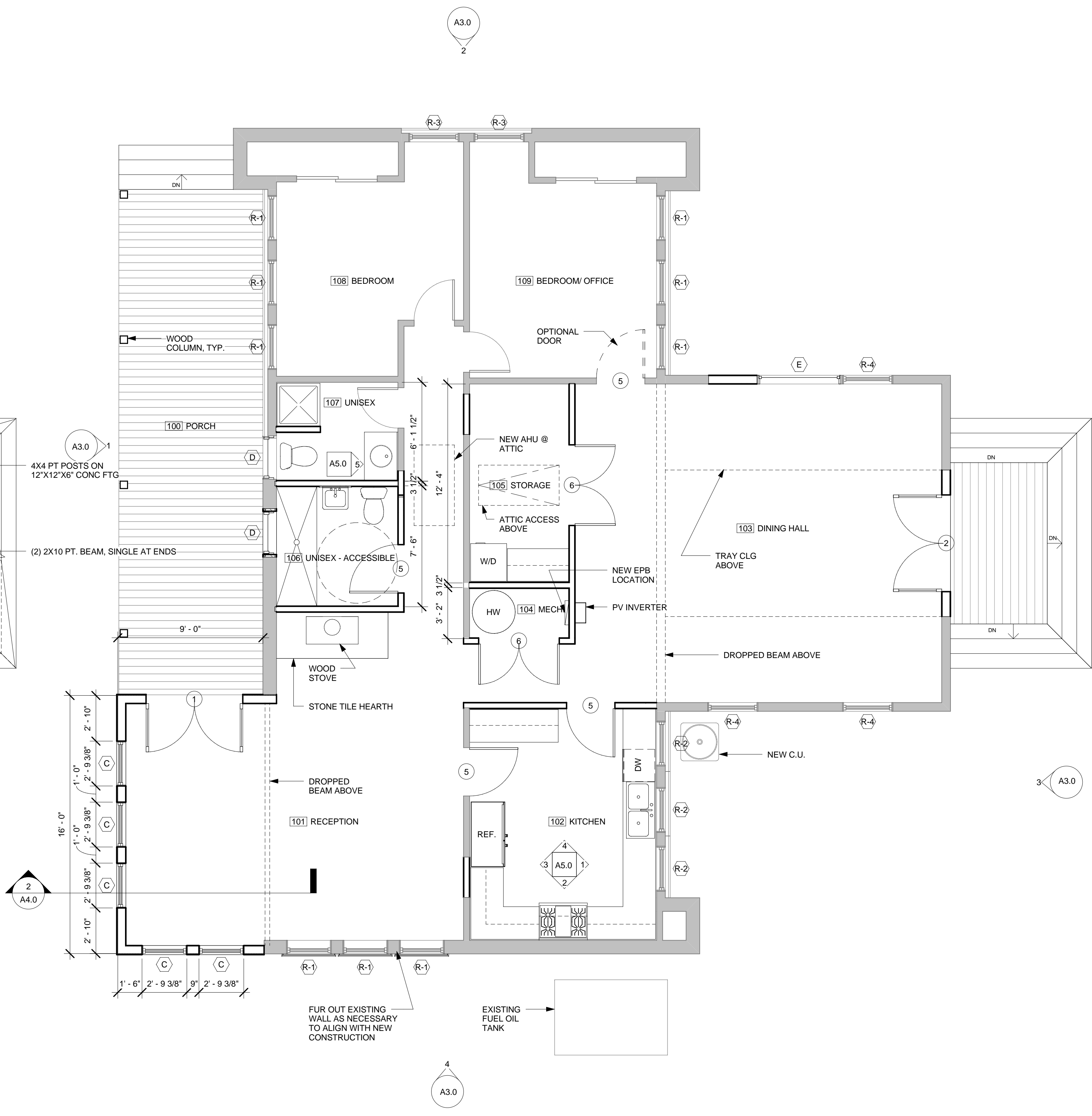
	EXISTING CONTOUR
	NEW CONTOUR
	SILT FENCE
	MAIN ELECTRICAL SERVICE
	TELECOMMUNICATIONS LINE
	SANITARY SEWER LINE
	POTABLE WATER LINE
	SUBSURFACE/FOUNDATION DRAIN LINE
	"DAYLIGHT" DRAIN OUTLET
	DRAINAGE INLET
	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
	EXISTING TREE TO BE REMOVED
	NEW PLANT/TREE



① SITE PLAN  
1" = 10'-0"



1 FOUNDATION & FLOOR FRAMING PLAN  
1/4" = 1'-0"



2 FIRST FLOOR  
1/4" = 1'-0"

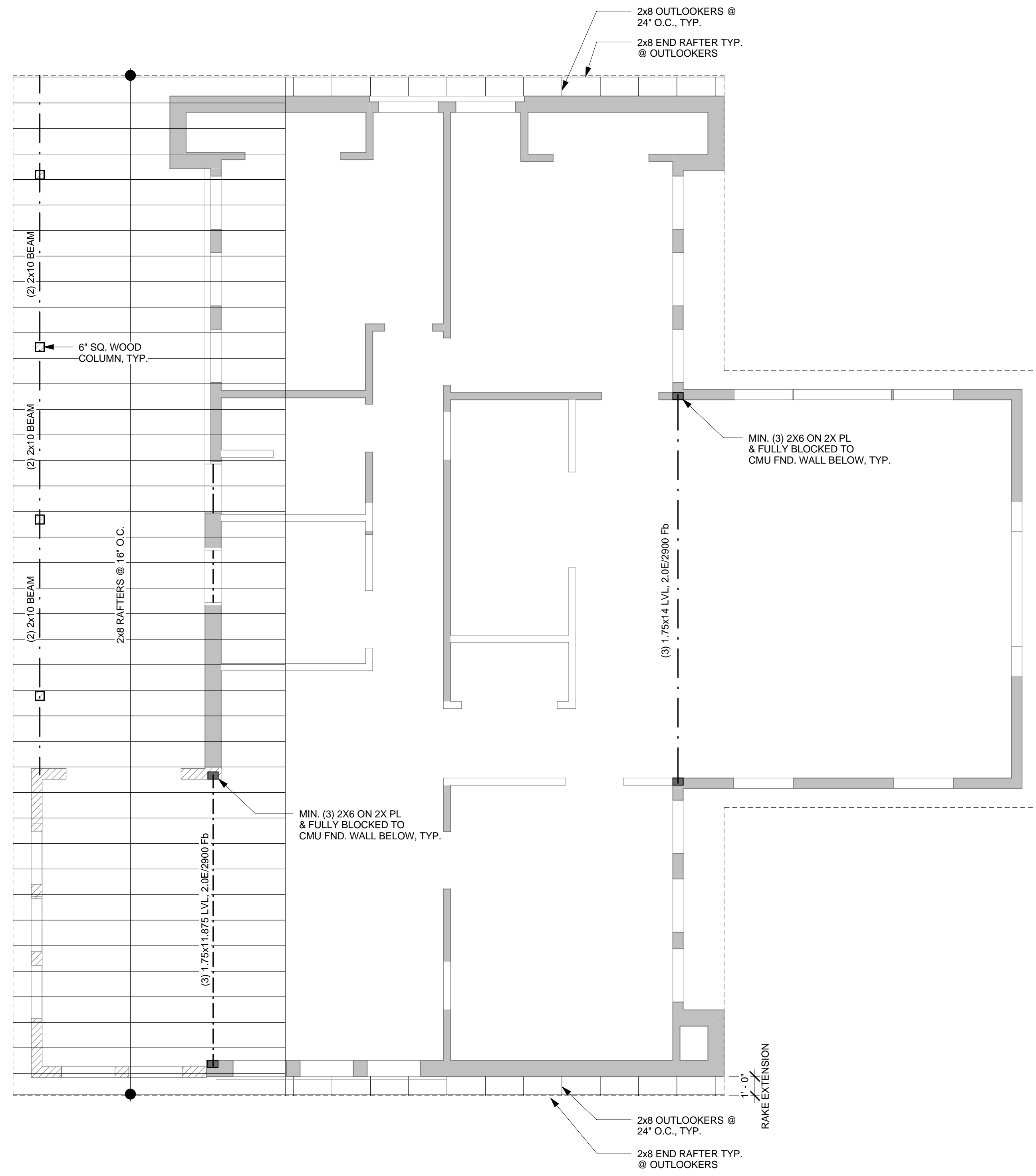
**CONSERVATION IMPROVEMENTS TO EXISTING STRUCTURE**

- 1) WINDOW REPLACEMENT PER SPECIFICATIONS, SHEETS A9.0-A9.1
- 2) WHERE FEASIBLE, NEW SPRAY FOAM INSULATION PER SPECIFICATIONS
- 3) FULL AIR SEAL AT BUILDING ENVELOPE TO INCLUDE ALL ACCESSIBLE FRAMING INTERSECTIONS, WALL SWITCHES & OUTLETS, PENETRATIONS AND DOOR/WINDOW OPENINGS
- 4) FULLY SEAL & CONDITION CRAWL SPACE; ALTERNATE: MINIMUM R-19 SPRAY FOAM INSULATION AT JOIST CAVITIES

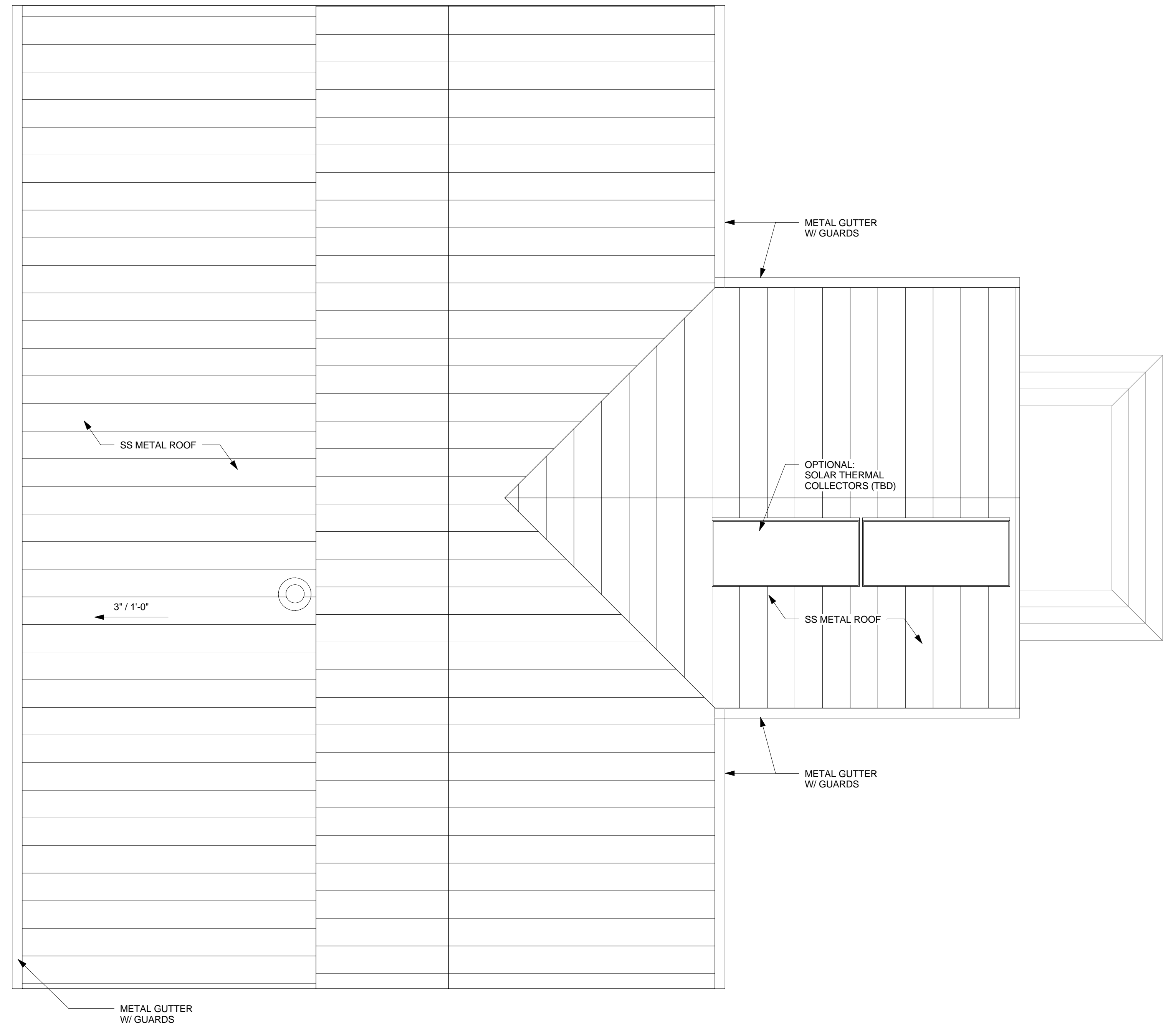
**WALL TYPES LEGEND**

- 4-9/16" SIP WALL
- NEW INTERIOR PARTITION WALL
- EXISTING WALL TO REMAIN





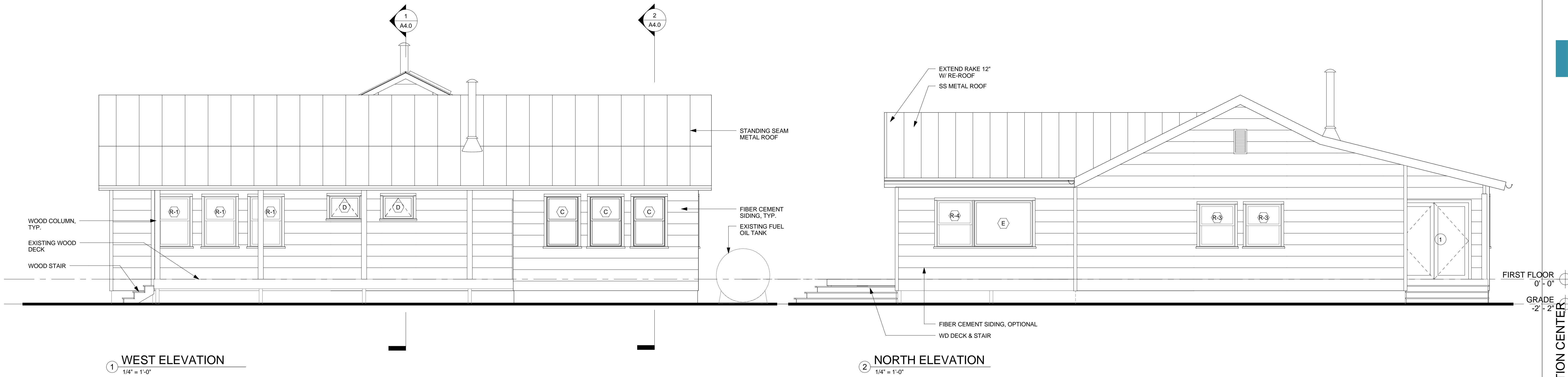
1 ROOF FRAMING PLAN  
1/4" = 1'-0"

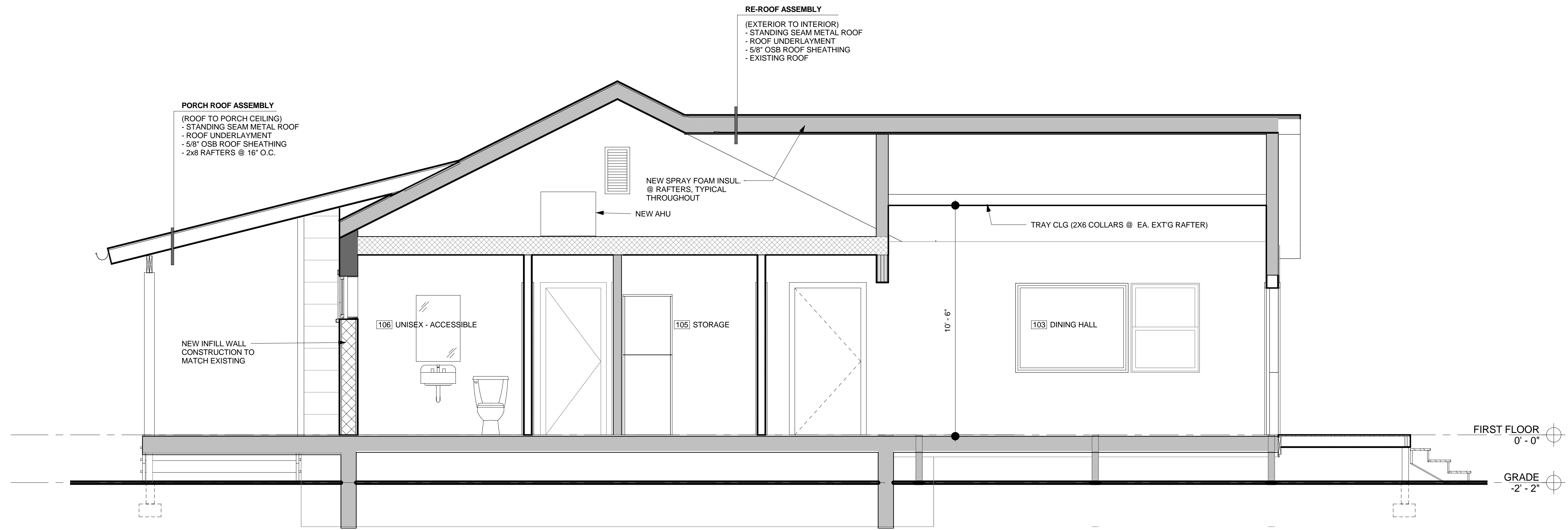


2 ROOF PLAN  
1/4" = 1'-0"

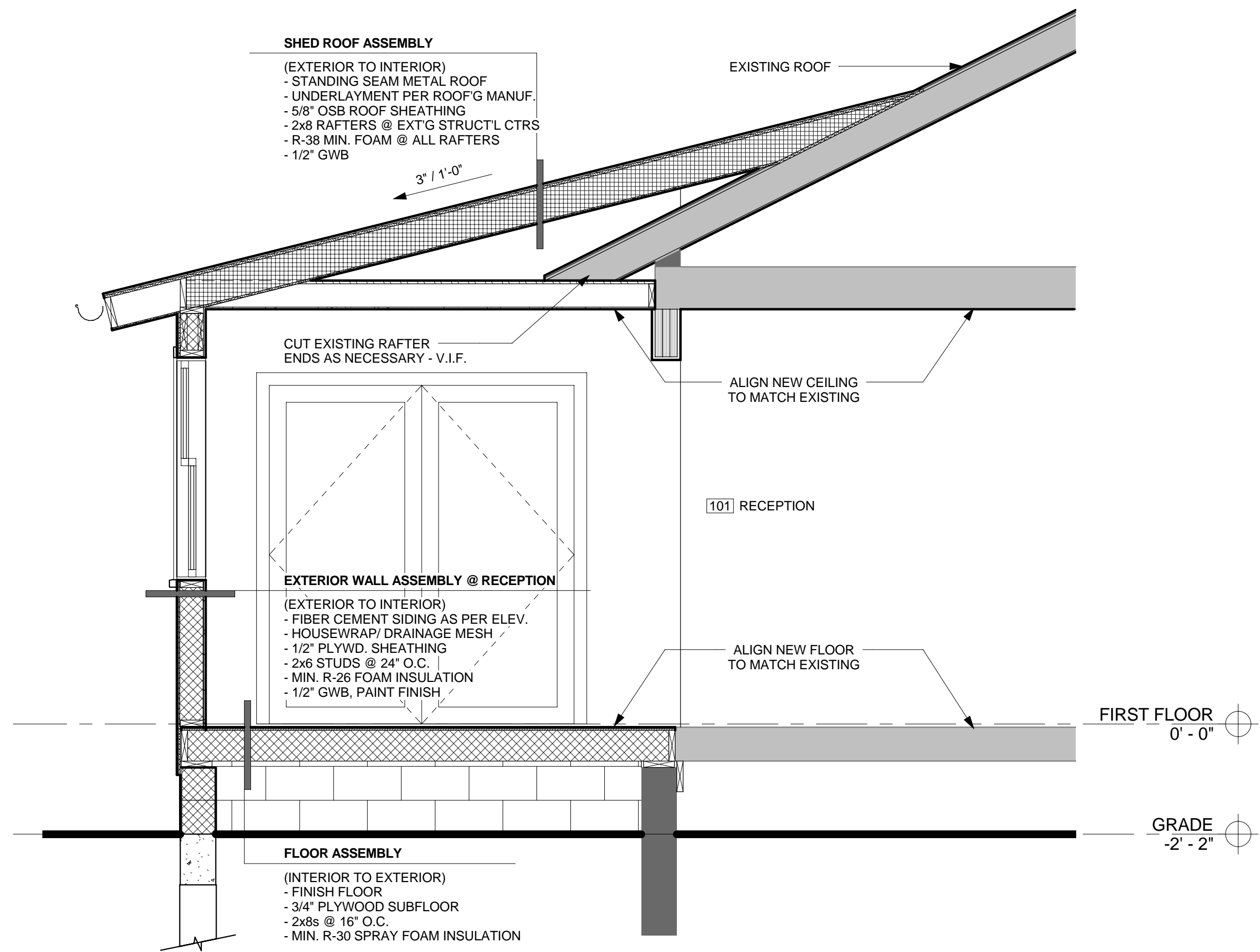
**GENERAL FRAMING NOTES:**

- 1) SEE SHEET A8.0 FOR FASTENER SCHEDULE.
- 2) REFER TO WALL SECTIONS FOR ADDITIONAL FOOTING AND FOUNDATION INFORMATION.
- 3) ALL WINDOW HEADERS TO USE HEADER HANGERS.
- 4) BOTTOM OF FOOTINGS TO BE A MINIMUM OF 24" BELOW GRADE.
- 5) TIE DOWN ROOF FRAMING w/ HURRICANE ANCHOR BY SIMPSON OR APPROVED ALTERNATE, TYP.
- 6) ALL DIMENSIONS APPLY TO GRID LINES, FACE OF FRAMING, OR CENTER LINE OF STRUCTURE, UNLESS NOTED OTHERWISE.
- 7) FOR DOOR & WINDOW ROUGH OPENING DIMENSIONS, REFER TO SCHEDULES, SHEET A8.0.
- 8) EXTERIOR CORNERS SHALL BE FRAMED WITH NO MORE THAN 2 STUDS, UNLESS NOTED OTHERWISE.
- 9) ALL INTERIOR PARTITIONS TO BE FRAMED WITH 2x4 STUDS ON 24" CENTERS, UNLESS NOTED OTHERWISE.
- 10) ALL OFF-CUTS OR OTHERWISE "SCRAP" FRAMING MATERIAL SHALL BE USED FOR BLOCKING OR OTHER SECONDARY CONSTRUCTION.
- 11) COORDINATE STRUCTURAL WORK WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER TRADES. NOTIFY ARCHITECT IN THE EVENT OF DISCREPANCIES/ CONFLICTS IN THE WORK.



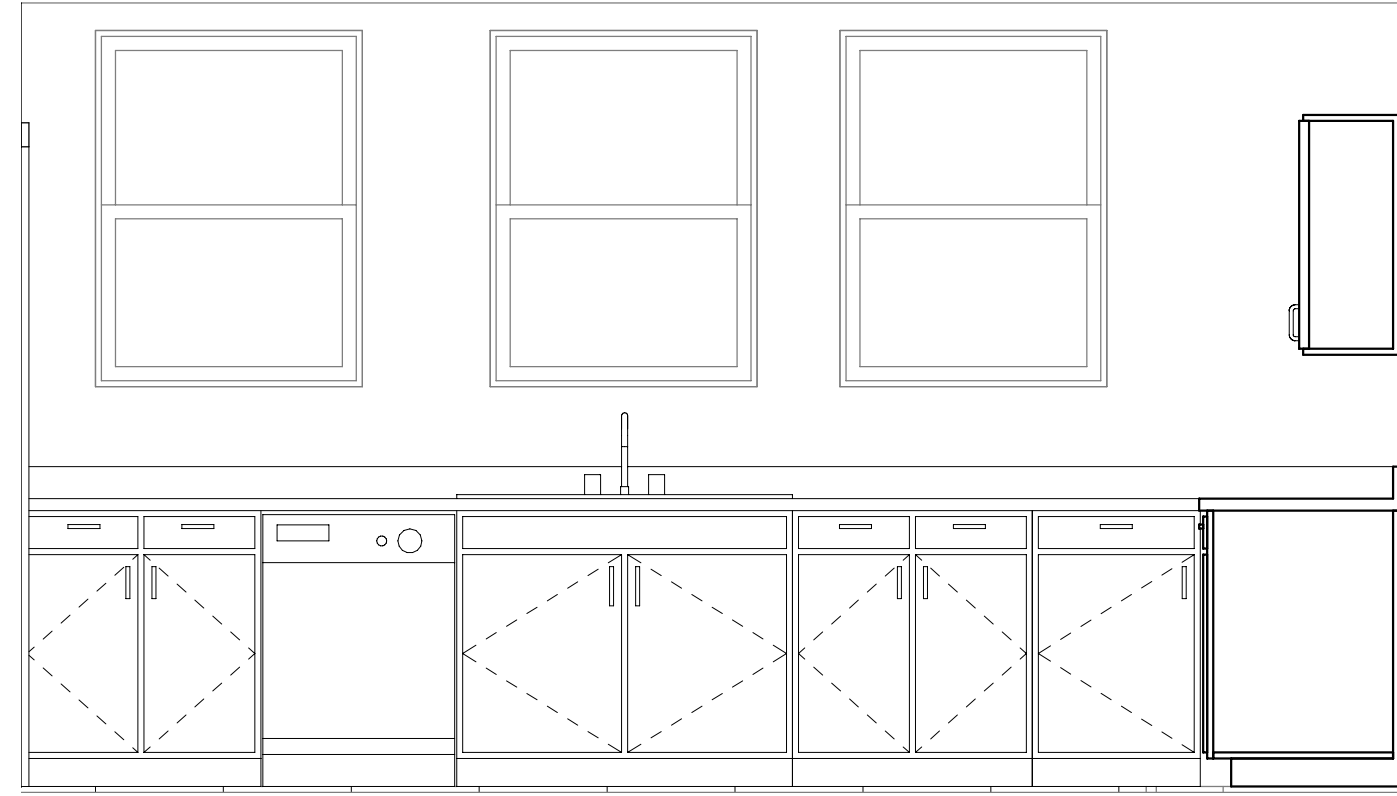


① LONGITUDINAL SECTION  
3/8" = 1'-0"

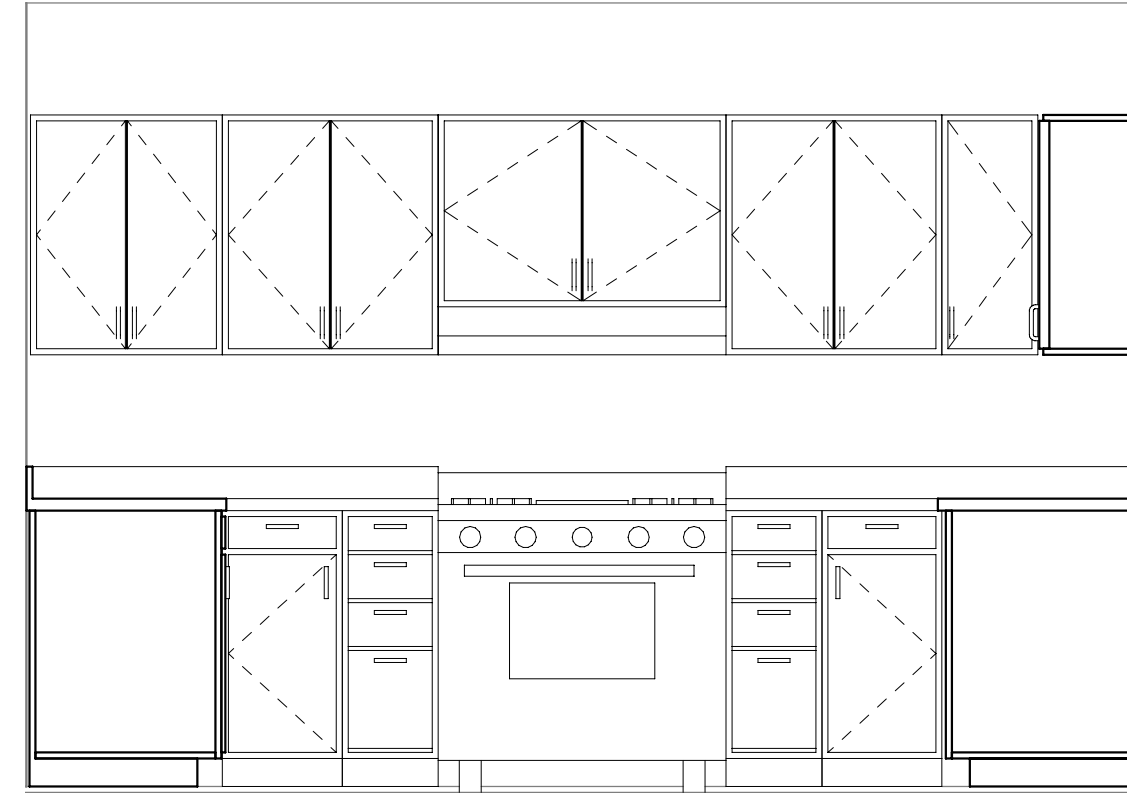


② SECTION THROUGH RECEPTION  
1/2" = 1'-0"

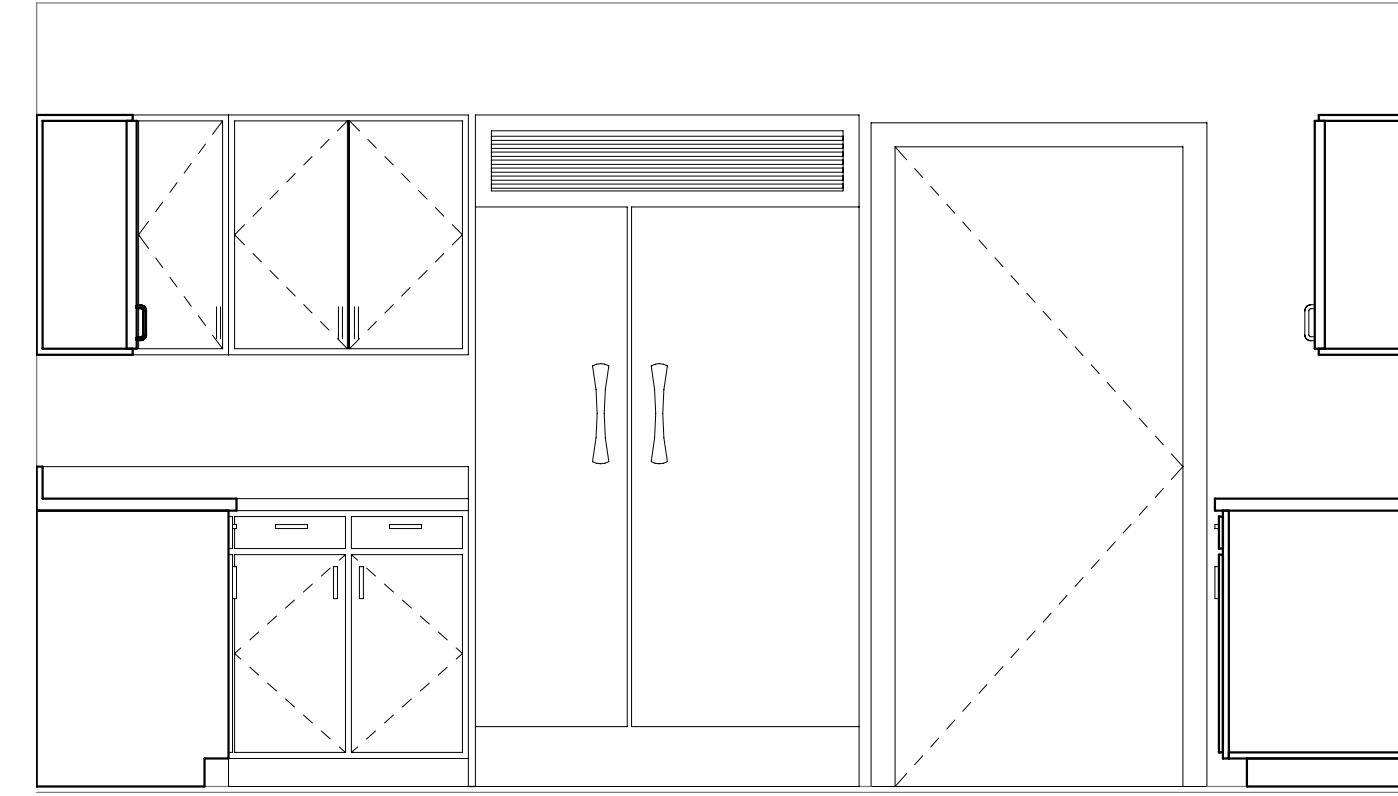




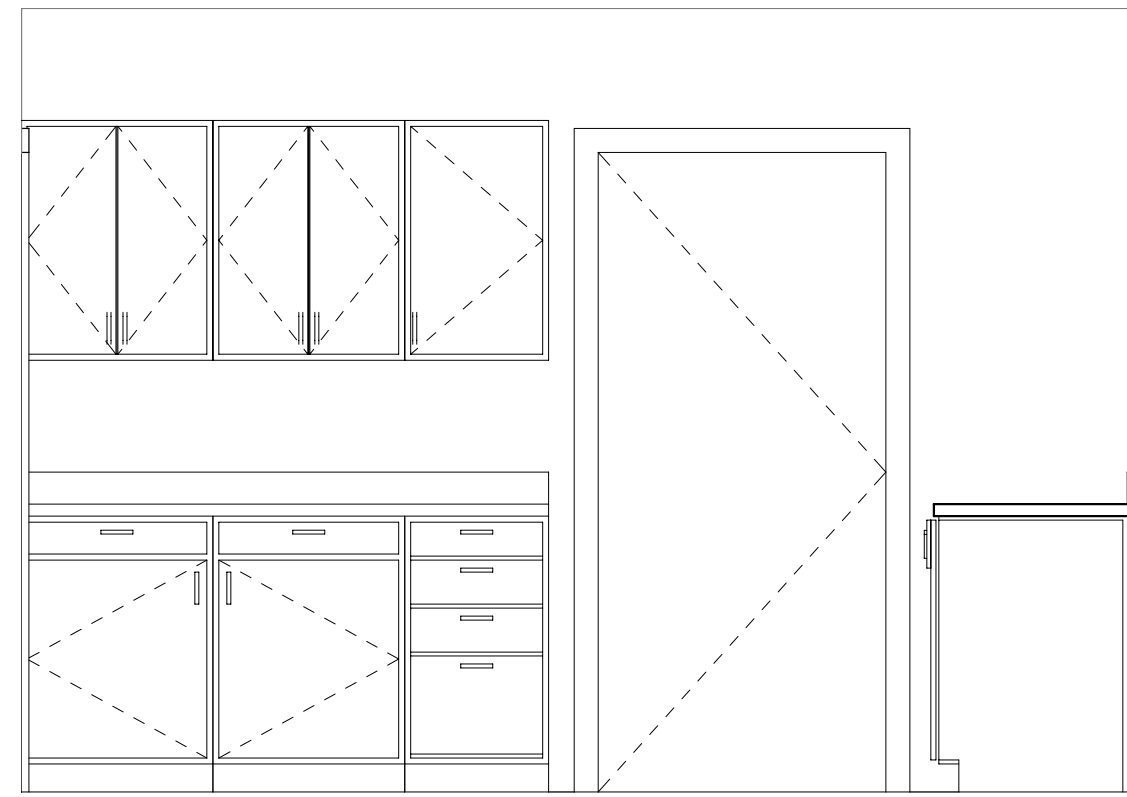
① KITCHEN - EAST  
1/2" = 1'-0"



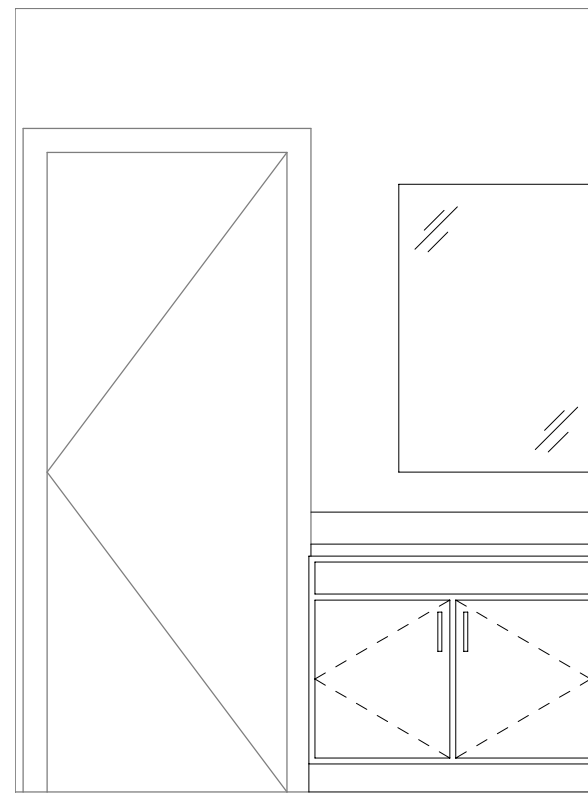
② KITCHEN - SOUTH  
1/2" = 1'-0"



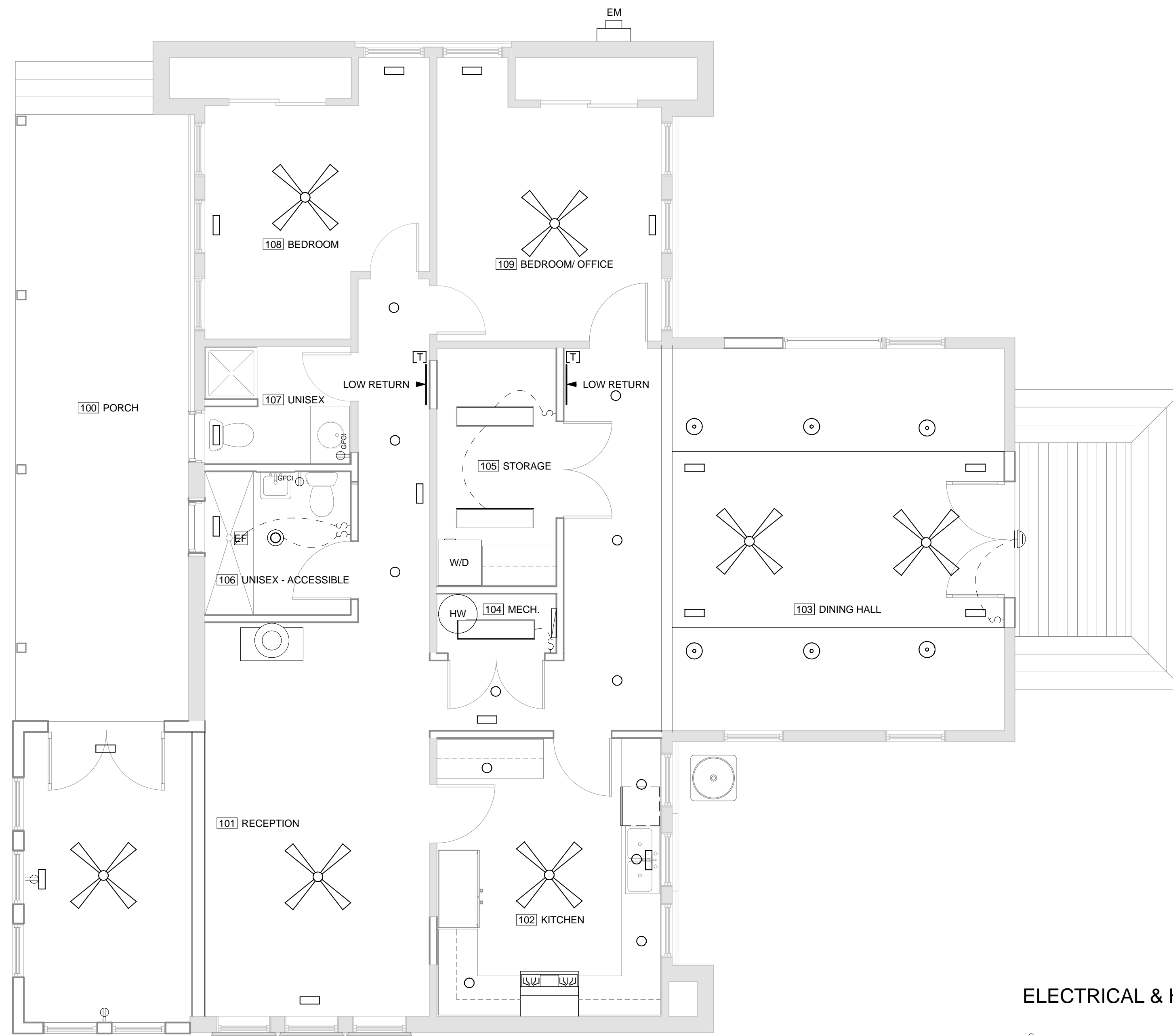
③ KITCHEN - WEST  
1/2" = 1'-0"



④ KITCHEN - NORTH  
1/2" = 1'-0"



⑤ BATH - EAST  
1/2" = 1'-0"



1 MEP PLAN  
1/4" = 1'-0"

GENERAL NOTES

- 1) VERIFY ALL ELECTRICAL LOCATIONS W/ ARCHITECT & OWNER PRIOR TO ROUGH-IN.
- 2) NOT ALL OUTLETS REQUIRED BY CODE ARE SHOWN. OUTLETS SHOWN DENOTE OWNERS REQUIREMENTS ONLY.
- 3) INSTALL OUTLETS PER THE FOLLOWING UNLESS NOTED OTHERWISE:
  - A. AT SIPS, HORIZONTALLY IN CHASE @ BASE.
  - B. AT INTERIOR WALLS, VERTICALLY @ 12" A.F.F.
  - C. AT BASE CABINETS: CENTERLINE 4" ABOVE BACKSPASH.
  - D. AT ELECTRICAL APPLIANCES AND EQUIPMENT: PER MANUFACTURER RECOMMENDATIONS.
- 4) INSTALL SWITCHES AT 48" (TO CENTER LINE) ABOVE FINISH FLOOR, UNO.
- 5) PROVIDE SECURITY SYSTEM WIRING AS DIRECTED BY OWNER.
- 6) DIMMER SWITCHED TO BE SLIDE BAR TYPE, UNO.
- 7) ALL GWB MOUNTED OUTLETS, COVER PLATES & SWITCHES AND DEVICES TO BE WHITE.
- 8) ALL STEP LIGHTS TO BE MOUNTED IN WALL ADJACENT TO STEPS.
- 9) PROVIDE FOAM AIR SEALING AROUND ALL OUTLET & FIXTURE BOXES AT EXTERIOR WALLS.
- 10) ALL BATH EXHAUST FANS WILL BE WIRED TO A TIMER WITH A **MAXIMUM** RUN TIME OF 30 MINUTES.
- 11) NUMBER AND LOCATION OF OCCUPANT/MOTION SENSORS TO BE DETERMINED BY OWNER & ARCHITECT.
- 12) ALL ELECTRICAL, PLUMBING AND MECHANICAL INFORMATION IS DELINEATED FOR REFERENCE/COORDINATION ONLY. FINAL EQUIPMENT, DUCT, & PLUMBING CONFIGURATIONS, SIZING, AND LAYOUTS & FIXTURE SELECTIONS SHALL BE COORDINATED BETWEEN OWNER, CONTRACTORS & ARCHITECT.
- 13) PROVIDE CONDUIT TO ALL ROOMS FOR COMPUTER CABLING; COORDINATE W/ OWNER.
- 14) AT SIPS (IF APPLICABLE), PLACE CONDUIT IN CHASE @ BASE, TYP.
- 15) INSTALL INTERIOR WALL SCONCES AT 7'-6" ABOVE FINISH FLOOR, UNO.
- 16) SERVICE SIZE: SINGLE PHASE 120/240, 200 AMP.
- 17) WATER HEATER TO BE ELECTRIC. (BACK UP TO SOLAR THERMAL)

ELECTRICAL & HVAC SYMBOLS

	SINGLE POLE SWITCH		SECURITY SYSTEM KEYPAD		CEILING FAN		EXTERIOR RECESSED WALL MOUNTED FIXTURE
	THREE-WAY SWITCH		SOFFIT/LOWERED CEILING		CEILING FAN W/ LIGHT SWITCHED SEPARATELY		EXTERIOR WALL MOUNTED FIXTURE
	DIMMER SWITCH		CABLE/SAT TV OUTLET		TRACK LIGHTING		EXTERIOR FLOODLIGHT
	THREE-WAY DIMMER SWITCH		MOTION SENSOR		EXTERIOR LANDSCAPE FIXTURE		WALL MOUNTED FIXTURE
	DUPLEX RECEPTACLE		PHOTOCELL CONTROL		EXTERIOR LANDSCAPE PATHLIGHT FIXTURE		RECESSED DOWNLIGHT
	GROUND FAULT CIRCUIT INTERRUPTOR		THERMOSTAT		RECESSED ADJUSTABLE DOWNLIGHT		SURFACE-MOUNT LIGHT FIXTURE
	WEATHER PROTECTED RECEPTACLE		SMOKE DETECTOR		EXT/WET LOCATION RECESSED DOWNLIGHT		SURFACE MOUNT DIRECTIONAL FIXTURE
	COUNTER HEIGHT RECEPTACLE		DOOR BELL		UPLIGHT		PENDANT
	220V RECEPTACLE		EXH. FAN		DOOR ACTIVATED CLOSET FIXTURE		STRIP FLUORESCENT
	DEDICATED RECEPTACLE		HVAC RETURN DIFFUSER		STRIP FLUORESCENT		FLUORESCENT FIXTURE
	QUADRAPLEX RECEPTACLE		HVAC SUPPLY DIFFUSER				
	FLOOR RECEPTACLE		COMB. EXH. FAN & LIGHT				
	DATA TELEPHONE JACK						





EXTERIOR DOOR SCHEDULE											
TAG #	FUNCTION	MFR	MATERIAL	DOOR SIZE			THK	HARDWARE	EXT. FINISH	INT. FINISH	REMARKS
				W	H						
1	IN SWING ENTRY - CENTER HINGED	MW/MIRA	WD/CLAD	6' - 0"	6' - 8"	0' - 1 3/4"	W&F MULTIPOINT LOCK SYSTEM	CLAD/TAUPE	WD/PNT	SATIN NICKEL HDWR	
2	IN SWING ENTRY - DOUBLE	MW/MIRA	WD/CLAD	6' - 0"	6' - 8"	0' - 1 3/4"	W&F MULTIPOINT LOCK SYSTEM	CLAD/TAUPE	WD/PNT	SATIN NICKEL HDWR	

INTERIOR DOOR SCHEDULE										
TAG #	Count	MFR	MATERIAL	DOOR SIZE			THK	HARDWARE	FINISH	REMARKS
				W	H					
5	4	TBD	BIRCH VENEER	3' - 0"	6' - 8"	0' - 1 3/8"	SCHLAGE, SATIN NICKEL, ADA	PAINT TBD	SOLID CORE	
6	2	TBD	BIRCH VENEER	5' - 0"	6' - 8"	0' - 1 3/8"	SCHLAGE, SATIN NICKEL, ADA	PAINT TBD	SOLID CORE	

**EXTERIOR DOOR SCHEDULE INFORMATION:**

1. VERIFY QUANTITIES & SIZES BEFORE ORDERING DOORS.
2. SEE EXTERIOR ELEVATIONS FOR EXTERIOR DOOR COMPOSITION.
3. DOOR SIZES ARE FOR FINISH FRAME OPENINGS.
4. PROVIDE WALL STOPS WHERE REQUIRED.
5. LOCK & LATCH SETS SHALL BE BORED/CYLINDER SETS, UNO.
6. ALL DOORS TO HAVE SAFETY GLASS.
7. SEE BUILDING SECTIONS (A4.0-A4.2) FOR DOOR HEADER HEIGHTS.

**EXTERIOR DOOR NOTES:**

1. EXTERIOR DOORS TO BE "MIRA" SERIES ALUM. CLAD WOOD BY MW WINDOWS OR APPROVED ALTERNATIVE. FINISH TO MATCH WINDOWS (TBD).
2. EXTERIOR DOORS: COAT EXPOSED SURFACES W/ A QUALITY EXTERIOR ACRYLIC URETHANE, A URETHANE MODIFIED ACRYLIC, OR AN ALKYD ENAMEL.
3. HARDWARE TYPE, MFR, & FINISH TBD. VERIFY W/ ARCHITECT BEFORE ORDER.

**INTERIOR DOOR SCHEDULE INFORMATION:**

1. VERIFY QUANTITIES & SIZES BEFORE ORDERING DOORS.
2. INTERIOR DOOR SIZES ARE THE DOOR SLAB DIMENSIONS.
3. HINGES TO MATCH DOOR HANDLE HARDWARE FINISH, TYP.
4. PROVIDE WALL STOPS WHERE REQUIRED.
5. SEE PLAN FOR DOOR SWINGS.

**INTERIOR DOOR NOTES:**

1. INTERIOR DOORS TO BE SOLID CORE WOOD FLUSH DOORS, UNO. PAINT FINISH TBD.
2. HARDWARE FINISH TBD. VERIFY W/ ARCHITECT BEFORE ORDER.

WINDOW SCHEDULE											
TAG #	QTY	FUNCTION	MFR	MODEL	UNIT SIZE		R.O.		EXT. FINISH	INT. FINISH	REMARKS
					W	H	W	H			
C	5	DOUBLE HUNG	MW/MIRA	MRADH 2842	2' - 9 3/8"	4' - 4 9/16"	2' - 10 3/8"	4' - 5 1/16"	CLAD/TAUPE	WD/PNT	MATCH R-1 WINDOW SIZE
D	2	AWNING	MW/MIRA	MRAAW 2820	2' - 8 1/4"	2' - 0 1/4"	2' - 9 1/4"	2' - 0 3/4"	CLAD/TAUPE	WD/PNT	(1) OPERABLE AWNING
E	1	PICTURE	MW/MIRA	MRADH50310P	5' - 1 3/8"	4' - 0 9/16"	5' - 2 3/8"	4' - 1 1/16"	CLAD/TAUPE	WD/PNT	MATCH R-4 WINDOW HEIGHT
R-1	9	DOUBLE HUNG	MW/MIRA	MRADH 2842	2' - 9 3/8"	4' - 4 9/16"	2' - 10 3/8"	4' - 5 1/16"	CLAD/TAUPE	WD/PNT	REPLACEMENT WINDOW - FIELD VERIFY SIZE
R-2	3	DOUBLE HUNG	MW/MIRA	MRADH 2836	2' - 9 3/8"	3' - 8 9/16"	2' - 10 3/8"	3' - 9 1/16"	CLAD/TAUPE	WD/PNT	REPLACEMENT WINDOW - FIELD VERIFY SIZE
R-3	2	DOUBLE HUNG	MW/MIRA	MRADH 3036	3' - 1 3/8"	3' - 8 9/16"	3' - 2 3/8"	3' - 9 1/16"	CLAD/TAUPE	WD/PNT	REPLACEMENT WINDOW - FIELD VERIFY SIZE
R-4	3	DOUBLE HUNG	MW/MIRA	MRADH 30310	3' - 1 3/8"	4' - 0 9/16"	3' - 2 3/8"	4' - 1 1/16"	CLAD/TAUPE	WD/PNT	REPLACEMENT WINDOW - FIELD VERIFY SIZE

**GENERAL WINDOW SCHEDULE INFORMATION:**

1. VERIFY QUANTITIES & SIZES BEFORE ORDERING WINDOWS.
2. ALL OPERABLE WINDOWS TO HAVE INSECT SCREENS W/ MATCHING ALUM. FRAME.
3. SEE ELEVATIONS (A3.0-A3.1) FOR WINDOW COMPOSITION & OPERATIONS.
4. SILL & JAMB EXTENSIONS WHERE REQUIRED.
5. HARDWARE TYPE DETERMINED BY WINDOW OPERATION. FINISH TBD. VERIFY W/ ARCHITECT BEFORE ORDER.

**NOTES:**

1. ALL WINDOWS TO BE "MIRA" SERIES ALUM. CLAD WOOD WINDOWS BY MW WINDOWS OR APPROVED ALTERNATIVE. STANDARD FINISH COLOR TBD.
2. PROVIDE TEMPERED SAFETY GLAZING AS REQUIRED BY THE 2006 IRC. REFER TO FLOOR PLANS FOR TEMPERED GLASS LOCATIONS.
3. ALL GLAZING TO BE INSULATED (ARGON FILLED) LOW-E ANNEALED CLEAR GLASS.
4. USE 5-1/16" JAMBS FOR ALL WINDOW & DOOR FRAMES, UNO (1/2" TYP. JAMB EXT).
5. \*EGRESS REQUIREMENTS BASED ON 2006 IRC; ALL EMERGENCY & RESCUE OPENINGS SHALL HAVE A MIN. NET CLEAR OPENING OF 5.7 SF, A MIN. NET CLEAR OPENING HEIGHT OF 24," AND A MIN. NET CLEAR OPENING WIDTH OF 20".

APPLIANCE SCHEDULE					
ROOM					
NAME	NUM	QTY	ITEM	FINISH	REMARKS
KITCHEN	102	1	36" DUAL FUEL OR GAS RANGE	TBD	BY OWNER
KITCHEN	102	1	DISHWASHER	TBD	BY OWNER
KITCHEN	102	1	REFRIGERATOR	TBD	BY OWNER
STORAGE	105	1	STACKED WASHER/ DRYER	TBD	BY OWNER

PLUMBING SCHEDULE					
ROOM					
NAME	NUM	QTY	ITEM	FINISH	REMARKS
KITCHEN	102	1	SINK	STAINLES STL	BY OWNER
UNISEX	107	1	DUAL FLUSH TOILET		BY OWNER
UNISEX	107	1	LAVATORY		BY OWNER
UNISEX	107	1	SHOWER SET		BY OWNER
UNISEX - ACCESSIBLE	106	1	DUAL FLUSH TOILET		BY OWNER
UNISEX - ACCESSIBLE	106	1	LAVATORY		BY OWNER

NOTE: PLUMBING SUBCONTRACTOR RESPONSIBLE FOR ALL UNLISTED BUT REQUIRED ROUGH-IN ACCESSORIES (VALVE, STOPS, ETC) FOR FIXTURES.

FASTENER SCHEDULE		
SUBSTRATE	FASTENER	NUMBER OR SPACING
JOIST TO SILL OR GIRDER, TOE NAIL	8D COMMON	3
BRIDGING TO JOIST, TOE NAIL EACH END	8D COMMON	2
LEDGER STRIP	16D COMMON	3 AT EACH JOIST
1" X 6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	8D COMMON	2
OVER 1" X 6" SUBFLOOR TO EACH JOIST, FACE NAIL	8D COMMON	3
2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	16D COMMON	2
SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16D COMMON	16" O.C.
TOP OR SOLE PLATE TO STUD, END NAILED	16D COMMON	2
STUD TO SOLE PLATE, TOE NAIL	8D COMMON	4
DOUBLED STUDS, FACE NAIL	10D COMMON	24" O.C.
DOUBLED TOP PLATES, FACE NAIL	10D COMMON	16" O.C.
TOP PLATES, LAP AND INTERSECTIONS FACE NAIL	16D COMMON	2 OR 3-10D COMMON
CONTINUOUS HEADER, TWO PIECES	16D COMMON	16" O.C. ALONG EACH EDGE
CEILING JOISTS TO PLATE, TOE NAIL	8D COMMON	3
CONTINUOUS HEADER TO STUD, TOE NAIL	8D COMMON	3
CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	16D COMMON	3 OR 4-10D COMMON
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	16D COMMON	3 OR 4-10D COMMON
RAFTER TO PLATE, TOE NAIL	8D COMMON	3
1 INCH BRACE TO EACH STUD AND PLATE, FACE NAIL	8D COMMON	2
1" X 8" SHEATHING OR LESS TO EACH BEARING, FACE NAIL	8D COMMON	2
OVER 1" X 8" SHEATHING TO EACH BEARING, FACE NAIL	8D COMMON	3
BUILT-UP CORNER STUDS	16D COMMON	24" O.C.
BUILT-UP GIRDERS AND BEAMS, OF THREE MEMBERS	20D COMMON	32" O.C. AT TOP AND BOTTOM AND STAGGERED 2 ENDS AND AT EACH SPLICE.
2 INCH PLANKS	16D COMMON	2 EACH BEARING
STUDS TO SOLE PLATE, END NAIL	16D COMMON	2 EACH END
PLYWOOD & PARTICLEBOARD SUBFLOORING		
1/2"	6D COMMON, ANNULAR OR SPIRAL THREAD	6" O.C. EDGES AND 10" O.C. INTERMEDIATE
5/8", 3/4"	8D COMMON OR 6D ANNULAR OR SPIRAL THREAD	6" O.C. EDGES AND 10" O.C. INTERMEDIATE
1", 1-1/8"	10D COMMON OR 8D ANNULAR OR SPIRAL THREAD	6" O.C. EDGES AND 6" O.C. INTERMEDIATE
1/2"	16 GA. GALV. WIRE STAPLES, 3/8" MINIMUM CROWN	4" O.C. EDGES AND 7" O.C. INTERMEDIATE
5/8"	1 5/8" LENGTH	2-1/2" O.C. EDGES AND 4" O.C. INTERMEDIATE
PLYWOOD & PARTICLEBOARD ROOF & WALL SHEATHING		
1/2" OR LESS	6D COMMON	6" O.C. EDGES AND 12" O.C. INTERMEDIATE
5/8" OR GREATER	8D COMMON	6" O.C. EDGES AND 12" O.C. INTERMEDIATE
5/16" - 1/2"	16 GA. GALV. WIRE STAPLES, 3/8" MIN CROWN LENGTH OF 1" PLUS PWD OR PARTICLE BD. THICKNESS	4" O.C. EDGES AND 8" O.C. INTERMEDIATE
5/8" - 3/4"		2" O.C. EDGES AND 5" O.C. INTERMEDIATE
1/2" FIBERBOARD SHEATHING *	1-1/2" GALV. ROOFING NAIL; 6D COMMON WALL	3" O.C. AT EDGES; 6" AT OTHER BEARINGS
25/32" FIBERBOARD SHEATHING	1-3/4" GALV. ROOFING NAIL; 8D COMMON NAIL	3" O.C. AT EDGES; 6" AT OTHER BEARINGS
1/2" GYPSUM SHEATHING	12 GAGE 1-1/4" LARGE HEAD CORROSION RESISTIVE	4" O.C. AT EDGES; 8" O.C. AT OTHER BEARINGS
PARTICLEBOARD SIDING		
3/8" - 1/2"	6D	
5/8"	8D	
3/4"	8D	

**NOTES**

1. SIDING APPLIES TO FIVE-EIGHTHS (5/8) INCH NET WOOD SHEATHING OR ONE-HALF (1/2) INCH PARTICLEBOARD SHEATHING.
2. CORROSION RESISTANT NAILS SPACED 6" O.C. @ EDGE AND 8" O.C. @ INTERMEDIATE SUPPORTS. NAILS SHALL HAVE A MINIMUM EDGE DISTANCE OF 3/8".
3. SIDING APPLIED DIRECTLY TO STUDS SPACED 24 INCHES ON CENTER MAXIMUM.
4. USE ANNULAR OR SPIRAL THREAD NAILS FOR COMBINATION SUBFLOOR UNDERLAYMENT.

\* FIBERBOARD SHEATHING MAY BE STAPLED USING 16 GAGE GALVANIZED STAPLES -- 1-1/8" LONG FOR 1/2" SHEATHING AND 1-1/2" LONG FOR 25/32" SHEATHING. STAPLES TO HAVE MINIMUM CROWN OF 7/16" AND SPACED 3" O.C. AT EDGES AND 6" O.C. AT OTHER BEARINGS.



## DIVISION 1: GENERAL INFORMATION

### SECTION 1000: GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION

- A In general, where more specific product specification is needed, consult Architect. Manufacturer's recommendations and full specifications to be followed unless noted otherwise.
- B All work shall conform to all governing laws, the most current codes, and ordinances including, but not limited to, the 2006 International Residential Code with USBC 2003 Edition Virginia amendments and 2006 International Energy Conservation Code (IECC).
- C The Contractor shall carry full general liability, workmen's compensation, and auto insurance policies. The Contractor shall carry a Builder's Risk policy/ rider sufficient to protect work in place, with Owner named as additionally insured
- D The Contractor shall supervise and direct the Work, and shall be solely responsible for all construction means and methods. In addition, the Contractor shall be solely responsible for coordination of the various trades required for completion of the work.
- E The Contractor shall pay for all permits, including trade permits, required for completion of the work.
- F The Contractor shall secure and pay for all temporary utilities, including power and water. The Owner shall bear the cost of all permanent utility connection fees (including, power, water, septic, and telephone). Contractor shall be responsible for telephone service during construction.
- G **Where the Contractor recognizes conflicts, errors, and/or omissions in the Contract Documents, the Contractor shall not proceed with the affected work and shall notify the Architect immediately.**
- H Allowances noted in the Contract Documents shall refer to the Contractor's direct cost for the material described. This shall include taxes, freight, and Contractor's discounts, if applicable. Labor costs and any mark-ups are NOT to be included in the allowance and should be separately included in the Contract Sum. The Contractor shall document actual costs of material selections at the Owner/Architect's request.
- I Work areas shall be kept broom clean on a daily basis. All excess material and debris shall be removed from the building on a regular basis. Construction waste shall be regularly collected on site, and stored materials shall be kept in order. The Contractor shall coordinate access to and use of the site for the delivery and storage of materials with the Owner. The Work area shall be professionally cleaned prior to being turned over at project's end.
- J The Contractor shall provide sufficient shop drawings, cut sheets and/or samples of proposed products for the purpose of obtaining approvals from the Architect and/or Owner. The type and extent of each submittal to be made shall be agreed to by the Owner, Architect, and Contractor.
- K Substantial Completion is the stage in the progress of the Work when the Work or a designated portion thereof is sufficiently complete so that the Owner can occupy or utilize the Work for its intended use.
- L Contractor warrants that all new work shall be free from defects for the period of one year following the date of Substantial Completion.
- M The Contractor shall secure and retain all user's manuals, product literature, warranty information and product specifications such as would be necessary or helpful for the Owner to properly maintain and/or service the products, devices and/or mechanical equipment installed during the course of the project. The literature is to be bound and presented to the Owner prior to application for Final Payment.
- N Waste management:
- Plan and coordinate the Work to minimize the generation of off-cuts and waste – reuse scraps to the maximum extent feasible, and use modular dimensions when possible.
  - Separate and recycle waste materials to the maximum extent feasible.
  - Preference is to be given to suppliers who take back waste for recycling.
- O **A preference will be given to selecting recycled, local, or sustainably harvested products with zero toxicity.**

### SECTION 01330: SUBMITTAL PROCEDURES

- A Allow enough time for submittal review, including time for re-submittals, as follows. Allow 10 business days for review of each submittal requiring Architect's review, and an additional 5 business days where review by Architect's consultants is also required. Allow additional time if coordination with architect and subsequent submittals is required.
- B Submit two copies of Product Data, Shop Drawings, Samples, Informational submittals
- C Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

### SECTION 01810: SUSTAINABLE DESIGN REQUIREMENTS

- A Project to obtain a minimum LEED for Homes (Leadership in Energy & Environmental Design) Silver certification based on preliminary review. Contractor to review the U.S. Green Building Council's (USGBC) general requirements and procedures, consult the project Architect/LEED professional and otherwise be made aware of the LEED process and his/her responsibilities to comply with this certification goal.
- B Contractor shall outline and understand the project's goals, and in particular his/her responsibilities to achieve these goals, prior to beginning any work. Outline to include: early submittals, demolition procedures, action plan(s), documentation and any other required information.
- C Submittal requirements will be prepared by Contractor with assistance from Architect and LEED-H provider for submitting to USGBC. Contractor shall document and furnish all required information as it pertains to the submittal requirements.
- D Net-Zero Energy goal: Energy conservation retrofits in conjunction with the installation of a net-metered solar photovoltaic system are intended to reduce electrical power demand such that annual overall energy costs total to no more than \$0.00. **Contractor shall work closely with architect and Owner to ensure that all envelope details and specifications not delineated in these documents are incorporated into the Work.**

## DIVISION 2: SITEWORK

### SECTION 02300: EARTHWORK / EROSION CONTROL / SITE DRAINAGE

- A Minimize grading, balance cut-and-fill, avoid importing and exporting soil products.
- B Implement erosion control measures during construction.
- C General water usage: Clean and free from deleterious amounts of acid, alkali, salts, chemical pollutants, and organic matter.
- D Engineered Fill: Use existing site material if available. Imported fill material shall be from closest available source.
- E Products: Slope Protection and Erosion Control:
- Erosion-control blanket: Natural fibers woven on biodegradable netting.
  - Foundation and Subsurface Drainpipe: Plastic pipe: a HDPE plastic with recycled content as manufactured by ERS, Inc., (p 770-630-7530), or approved alternate.
  - Filter Fabric: ProPex 4550 by Amoco or Geotex 451 by Synthetic Industries or approved alternate.
  - Filter Material: #26 crushed stone, graded 3/4" minimum to 1-1/2" maximum, free-draining
- F Install products listed in accordance with manufacturer's printed instructions, and in conformance with the soils report for the Project and applicable local codes.
- G Plan equipment access to minimize and confine soil disturbance and compaction to areas indicated on Drawings.
- H Sitework: Do not disturb topsoil and vegetation in areas outside those indicated on Drawings.
- I **Protect trees, vegetation, and other designated features by erecting a high-visibility, reusable construction fence as directed by architect.** Limit access of people, equipment, and supplies inside fencing. Locate fencing no closer to trees than the drip line.
- J Provide soil erosion and sedimentation control and seeding to protect slopes in accordance with the Virginia Soil Erosion and Sedimentation Control Handbook.
- K Strip topsoil to required depth only in areas to be excavated either for spread footings. Stockpile topsoil for reuse in the area designated by the Architect & Owner. Cover pile with polyethylene tarp and weight edges to ensure secure protection of soil. Conduct rough grading as indicated on the drawings.
- L Provide virgin soil bearing condition below frost for all footings. Where virgin soil is not achievable, Contractor shall provide suitable compacted fill. The Contractor shall also provide suitable bearing for all concrete slabs.
- M Provide temporary foundation dewatering measures as required.
- N The Contractor shall be responsible for all required piping and utilities connections (water, septic, electric, telephone, etc) to building.
- O The Contractor shall be responsible for maintaining construction drive(s) during construction.

- P The Owner shall pay reasonable costs incurred by the Contractor as a result of subsurface rock removal, unexpectedly high water table, or other work required to correct unanticipated subsurface conditions. The Contractor shall notify the Architect of the existence of such conditions prior to proceeding with any such work. If geotechnical surveys are required, the Owner shall bear the cost.
- Q New driveway base shall consist of 3" VDOT standard gray #21A crusher run; final surface shall be 2" gravel - or as otherwise approved by the architect.

### SECTION 02800: SITE IMPROVEMENTS AND AMENITIES – (TBD)

### SECTION 02920: LAWNS, GRASSES and other PLANTING

- A Final landscape plan and selection of plants BY OWNER.

## DIVISION 3: CONCRETE

### SECTION 03300: CAST IN PLACE CONCRETE

- A Concrete shall conform to ASTM C94. Minimum strength at 28 days shall be 3,500 PSI for normal weight and 4,000 PSI for lightweight concrete. Maximum slump shall be 4 inches. Maximum size of coarse aggregate shall be ¾ inch, and all aggregates shall conform to ASTM C33. Concrete for footings shall be air-entrained 5-7%. Concrete for interior exposure shall be non-air-entrained.
- B Flyash: Up to a maximum of 30% by volume flyash shall be used in lieu of portland cement for concrete mixtures. Flyash for use in portland cement concrete shall conform to the requirements of ASTM C 618, Standard Specification for Flyash and Raw or Calcined Natural Pozzolan Class C Flyash for use as a Mineral Admixture in Portland Cement. Specifically, it shall conform to all requirements of Table 1 and Table 2 as outlined therein. The concrete supplier shall furnish a notarized certificate from the flyash marketer at the time of submittal of concrete mix designs for approval indicating conformance with these requirements. Also, a copy of the most recent chemical analysis shall be provided. At no time during the course of the project will a change of flyash source (plant) be permitted without the prior written consent of the Engineer or Architect. For sulfate environments, only Class F flyash will be permitted and under no circumstances will Class C flyash be used.
- C All detailing, fabrication and placement of reinforcing steel, formwork, mixing, handling, placing, finishing and curing of concrete shall be in accordance with ACI "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI-315) and ACI "Building Code Requirements for Reinforced Concrete" (ACI-318), and Concrete Reinforcing Steel Institute (CRSI) "Placing Reinforcing Bars".
- D All reinforcing steel shall be in accordance with ASTM A615, new billet steel deformed bars, grade 60. All reinforcing bar splices shall be ACI Class B tension lap splices, unless shown otherwise on the Drawings.
- E Welded wire fabric (WWF) shall meet requirements of ASTM A185, minimum WWF lap at splices to be 12 inches.
- F Cast-in-place concrete shall not be placed on frozen soils, or under conditions which will adversely affect strength.
- G The Contractor shall notify the Architect immediately if unstable/unsuitable soil conditions are encountered during excavation.
- H Cast-in-place concrete piers to be formed with Sonotube Concrete Forms.
- I Form release agent: release agent shall be Bio-form as manufactured by Leahy-Wolf (888-873-5327) or approved non-toxic alternative. Removal or stripping of forms shall take place as directed by release agent manufacturer.
- J Cast-in-place concrete to be color tinted. Color to be determined by architect/owner. Contractor to provide samples.
- K Steel reinforcing shall be placed as required and secured against displacement. Remove all rust, scale, earth and other materials from reinforcement or form work prior to placing concrete. Ensure that form-coating compounds (if used) will not bond with, stain or adversely affect concrete surfaces and will not impair treatment of surface.
- L Water used in mixing concrete shall be potable, clean and free from deleterious amounts of acids, alkalis and/or organic materials.
- M The Contractor shall provide a drainage course of 4" of porous fill, a 6 mil vapor barrier, and 2" levelling sand beneath all new slabs. The Contractor shall provide slab isolation (bond breaker), control, and expansion joints as required to minimize cracking. Use Homex 300 as manufactured by Homasote, Inc., for all joint applications. Maximum deviation from plumb and level shall not exceed 1/4" in ten feet. Control joint pattern as approved by Architect.
- N Grouit for column bearing plates: "Embeco 636" by Master Builders, Inc., or approved alternative. Minimum 28 day compressive strength shall be 7000 psi on test of 2" cube.
- O Plastic Vapor Retarder (Vapor Barrier):For installation directly below slab on grade, or below granular cover: ASTM E 1745, Class A
- Minimum thickness: 6 mils.
  - Maximum water vapor permeance as tested by ASTM E 154: 0.03 perms Include manufacturer's recommended adhesive or pressure-sensitive tape and other prefabricated penetration accessories. Available Product Moisstop Ultra "A", Fortifiber Building Systems Group
- P All structural concrete work shall conform to the requirements of the most recent editions of ACI 301 "Specifications for Structural Concrete for Buildings," and ACI 318 "Building Code Requirements for Reinforced Concrete."

## DIVISION 4: MASONRY

### SECTION 04200: UNIT MASONRY

- A Hollow Load Bearing: ASTM C-90
- B Solid Load Bearing: ASTM C-145
- C Hollow Non-loadbearing: ASTM C-129.
- D Mortar shall be ASTM C-207 Type S: no admixtures will be allowed.
- E CMU shall be laid in running bond with flush joints.
- F CMU wall reinforcing shall be hot-dipped galvanized truss type reinforcing, width 1" less than wall thickness, 16" o.c. vertically, lapped 6" and wire tied.
- G Masonry contractor shall provide all brick ties, horizontal reinforcement, lintels, and accessories required for a complete job.

## DIVISION 5: METALS

- A All steel design and construction shall be in accordance with AISC Manual of Steel Construction - Allowable Stress Design, Ninth Edition.
- B All fabrication and erection of structural steel shall be governed by the AISC Code of Standard Practice, current edition.
- C Structural Steel Shapes: Comply with ASTM A36, fy = 36 ksi
- D Reinforcing Bars: Deformed billet steel ASTM A615 grade 60
- E Machine Bolts: Comply with ASTM A307, grade A, and ANSI B18.2
- F High Strength Bolts: Comply with ASTM A325, type 1
- G Shear Connectors (headed-welded studs): ASTM A108, Type B, Fu=60 ksi
- H Arc Welding Electrodes: Comply with ASTM A233, E70XX series
- I All structural steel to be double shop primed with "Rustoleum No. 5789" primer or architect approved alternate.
- J All structural steel to be shop painted with Tnemec Paintt, by Tnemec Company, Inc., color as specified by architect. Sample finish to be submitted to architect/owner for final approval.
- K Prefabricated metal hangers and connectors: Simpson Strong Tie, Inc, or approved alternative. See framing drawings for specific model.

### SECTION 05120: STRUCTURAL STEEL

- A All structural steel framing shall be fabricated and erected in accordance with AISC specifications, Allowable Stress Design (ASD) method, 9th edition AISC Manual of Steel Construction.
- B Structural steel material design strengths are as follows:

- 1 Rolled C shapes, ASTM A992 or A572.....Fy = 50,000 PSI
- 2 Angles and plates, ASTM A36.....Fy = 36,000 PSI
- 3 Pipe sections, ASTM A53.....Fy = 35,000 PSI
- 4 Hollow structural shapes (HSS), ASTM A500..... Fy = 46,000 PSI

- C Unless otherwise noted the Drawings, all bolted connections for structural steel members shall be made using ¾" diameter A325 Bolts, Type N (bearing-type connections with threads included in a shear plane). All connections shall be considered as for Type 2 framing (simply supported beams and girders) unless specifically noted otherwise on the Drawings. Nuts shall conform to ASTM A563 DH. Washers shall conform to ASTM F436.
- D Unless specific values are shown on the Drawings, all framing connection shall be sized based on ½ the total allowable uniform load for the beam and span shown in the load tables of the 9th Edition AISC Steel Manual (for shear load only).
- E All welding shall conform to requirements of AWS Welding Specification D1.1, using E70XX electrodes. Welds shall be as shown on the Drawings or as determined by shop fabricator for welded connections. Minimum weld size for all welded connections shall be 3/16" fillet weld.
- F Verify opening sizes and locations with mechanical, electrical and plumbing requirements. Do not cut any structural framing or bracing to install such openings.

### SECTION 05520: HANDRAILS & RAILINGS (TBD)

## DIVISION 6: WOOD AND PLASTICS

### SECTION 06076: PRESERVATIVE TREATMENT

- A Termite Treatment: On wood structural elements use Bora-Care treatment as manufactured by Nisus Corporation or approved alternative. **NO SOIL POISONING WILL BE PERMITTED.**
- B All framing which contacts the ground, masonry, or concrete shall be Timbersil. Rawles-Aden Building Products, PO Box 269, Petersburg, VA 23804, Toll Free: (800)-446-1818.

### SECTION 06090: WOOD & PLASTIC FASTENINGS:

- A All framing accessories / rough hardware to be Simpson Strong-Tie or approved alternative; otherwise, provide type, finish, material and quantity required for proper installation of carpentry, millwork and other specified items, and where necessary to coordinate, secure and complete the Work.
- B All nails to be stainless steel, sizes as indicated on drawings.
- C All exterior screws, bolts, toggles, and fasteners to be hot dipped galvanized.
- D All interior screws, bolts, toggles, and fasteners to be stainless steel.

### SECTION 06110: WOOD FRAMING

- A Where SIPS system is not applicable, use the following guide for framing.
- B Structural framing, blocking and studs shall be No. 2 or better Southern Yellow Pine (19% max. moisture content, fb= 1200, E= 1,600,000), unless noted otherwise. Lumber pieces which exhibit excessive warping, twisting or bowing are to be excluded and utilized where feasible as blocking or otherwise appropriate or advantageous.
- C Exposed exterior framing (trellis, columns, beams, etc.) to be black (a.k.a., yellow) locust, sizes as indicated on the drawings.
- D Roof Sheathing: Advan Tech as manufactured by J.M. Huber Corp., 3/4" unless indicated otherwise.
- E Wall Sheathing: AdvanTech, 1/2" unless indicated otherwise on drawings.
- F Framer to verify dimensional layout with Architect prior to setting walls. Lay out work carefully. Cut materials to fit; level, plumb, and brace to hold work in proper position.
- G Unless otherwise indicated, install wood studs on 24" spacing. Unless otherwise noted, use 'stack' or 'in-line' framing method (studs align with rafters/joists above and below).
- H Provide single sill (bottom) plate and single top plate at all load bearing walls; use single top plate at all non-load bearing partitions, unless otherwise indicated or approved by architect.
- I Construct corners with not more than two studs unless otherwise noted or approved by architect.
- J Provide miscellaneous blocking and framing indicated and required for support of facing materials, fixtures, specialty items and trim; **wherever feasible, use off-cuts or other 'scrap' material for blocking or other miscellaneous framing.**

### SECTION 06126 – SIPS WALL AND ROOF PANELS

- A Pacemaker or approved alternative (<http://www.pacemakerbuildingsystems.com>). See drawings for thermal criteria, layout and sizes, and Structural Letter of Report for loading and additional requirements. Follow all manufacturer's requirements, including all proper sealant/airseal measures. Provide shop drawings for review by Architect and Engineer. Provide manufacturer's standard 10 year warranty.
- B OSB skins to be 7/16" thick (24/16) Structural 1. OSB shall be identified on the panel with an APA or PFS performance rating mark, with an Exposure 1 durability rating; minimum physical properties shall be tested and as described in APAPRP-108 or PFS PRP-133.

### SECTION 06150: WOOD DECKING

- A Porch decking to be nominal 2x6 black (a.k.a., yellow) locust tongue & groove decking.
- B Guardrail caps to be planed black (a.k.a., yellow) 2x6 locust. (Contact Richard Morgan @ Heart Pine Company, 434.277.5141 or 434.942.7234)

### SECTION 06160: EXTERIOR SOFFIT BOARD

- A Trim and Panels at Soffits and Clerestories – Hardi Trim and HardiPanel – sizes per drawings. Install, prep and paint per manufacturer's requirements.
- B Vent screen to be black fiberglass, where applicable.

### SECTION 06170: PREFABRICATED STRUCTURAL WOOD

- A Provide engineered wood floor joists as manufactured by Open Joist, Weyerhaeuser, Georgia Pacific or approved alternative; sizes as indicated on drawings.
- B Laminated Veneer Lumber (LVL's):
- 1 Description: Engineered wood members fabricated from wood veneers and exterior adhesives, laminated under pressure; complying with ASTM D2559.
  - 2 Provide members of dimensions, and with minimum stress levels (fb= 2850, E= 2,000,000), or as indicated on Drawings.
  - 3 Acceptable manufacturers and products:
    - i. Weyerhaeuser/TruJoist (MicroLam)
    - ii. Georgia Pacific
    - iii. Approved alternative
- C Provide engineered wood roof trusses as manufactured by Universal Forest Products or approved alternative; sizes as indicated on drawings.

### SECTION 06220: MILLWORK/ INTERIOR TRIM

- A Interior trim shall be paint grade yellow poplar, size and profile as per details on drawings. Material to be supplied by Appalachian Sustainable Development of Abingdon, Va. or approved source of sustainably harvested forest products. Trim material shall not exhibit warping, twisting, or cupping.
- B Install interior standing and running trim in longest practical lengths to avoid joints in continuous runs. Splices, where unavoidable, shall be staggered, and shall be miter-cut and glued. Splices are to occur only in areas where solid support is obtainable.
- C Trim joints at inside corners shall be housed/cope. Outside corner joints shall be mitered.
- D Wood shelving to be 3/4" and 5/4" Columbia Forest Products' PureBond hardwood plywood (formaldehyde-free) with maple nosing, unless noted otherwise. Hanging rods shall be 1 1/4" diameter chrome rods, unless noted otherwise.
- E Built-up casings and other multi-part trim shall have pieces joined with wood glue as well as finish nails.
- F Sand joints and surface irregularities out of exposed trim prior to finish painting (or prime and sand all wood before installation and finish painting). Conceal nail heads with nail set. Caulk and fill all nail holes flush.

- G Wood grades shall conform to Architectural Woodwork Institute standards.
- H Provide and install custom woodwork and millwork to match the profiles and dimensions shown in the drawings. Submit shop drawings and finish samples/mockups, and verify field measurements prior to fabrication.
- I CUSTOM CABINETS: Cabinets shall be built in accord with configurations shown on Drawings. Use butt joints with biscuit or dovetail construction. Cabinet fronts shall be selected by Architect and Owner. Paint-grade species shall be clear poplar, alder or as otherwise agreed upon by Architect and fabricator. Sizes and configurations as shown on Drawings. Cabinet boxes to be PureBond formaldehyde-free hardwood plywood as manufactured by Columbia Forest Products or approved alternate. Cabinet boxes shall be frameless and hinges shall be adjustable concealed (European) type. Pulls to be selected by Owner/Architect. Contractor shall submit shop drawings to Architect prior to fabrication.
- J Provide miscellaneous blocking and framing indicated and required for support of facing materials, fixtures, specialty items and trim; wherever feasible, use off-cuts or other 'scrap' material for blocking or other miscellaneous framing.

### SECTION 06450: EXTERIOR TRIM

- A Exterior trim shall be of same material as exterior siding (see section 07460).
- B Secure all exterior trim with stainless steel finish nails. Set and fill holes prior to painting.
- C Glue and nail butt-joints with exterior-rated wood glue.
- D Where applicable, install flat stock exterior wood trim smooth side out.
- E Provide sample to match windows, with finish, for approval

## DIVISION 7: THERMAL AND MOISTURE PROTECTION

### SECTION 07010: SIDING UNDERLAYMENT

- A Where applicable, under all siding, provide 'Home Slicker Plus Typar' side wall rainscreen mesh/house wrap as manufactured by Benjamin Obdyke Inc. (800-523-5261), or where indicated, self adhered rubber flashing membrane (S.A.F.). Install as per manufacturer's recommendations.

### SECTION 07100: WATERPROOFING/DAMP PROOFING

- A Provide 4" diameter corrugated drain tile with filter fabric at all footings. Collect drain tiles and route to daylight.
- B Provide clean, washed gravel as necessary over/against drainage board and drain tile. ADS Drain Guard with fabric sock
- C Install backer rod and caulk, or other miscellaneous sealers and sealants, as required to ensure watertight conditions.
- D Where indicated on the Drawings, use Tremco Tuff-N-Dri flexible spray applied waterproofing, with 2-3/8" drainable foundation insulation board - R10.1
- E Sill gasket seal: polyethylene foam as manufactured by Dow Styrofoam, .25" x 5.5" or as otherwise indicated on the Drawings.

### SECTION 07210: BUILDING INSULATION

- A Spray-in-place foam insulation shall be closed-cell type as manufactured by Icynene or approved alternate.
- B Cellulose Insulation shall be Cocoon, as manufactured by U.S. Greenfiber, LLC or approved alternate. Damp spray applied.
- C Rigid Insulation - Dow polyisocyanurate Tuff-R (R-5.5/inch minimum)
- 1 Installation shall be performed by licensed or skilled installers wearing protective clothing and respirators.
  - 2 Install insulation snugly between framing members and with all ends snugly fitted between units and against adjacent construction.
  - 3 Carefully cut and fit insulation around pipes, conduit, and other obstructions and penetrations.
  - 4 Attach panels to concrete with non-solvent 99% VOC free 'Speed Grip' adhesive as manufactured by Geocel Corp., (800) 348-7615
- D Thermal and Acoustic Batt Insulation:
- 1 If batt insulation is to be used for exterior insulation, provide formaldehyde-free encapsulated fiberglass (white) batts by Johns Manville, Owens Corning or approved alternative. Batt's to be thick enough to provide R-values as indicated in the "Thermal Performance" on the drawings.
  - 2 Insulate interior walls between bathrooms and/or powder rooms and living spaces with natural fiber sound attenuation batts by Bonded Logic, Quile Batt or approved alternative. Construction must achieve 50 STC rating or greater.

### SECTION 07220: SEALANTS

- A Seal all gaps at wall penetrations, around exterior door and window jambs with closed cell urethane foam sealant. Acoustical Sealants: Phenoseal non-toxic, zero-VOC caulks and sealants, (800-343-4963). Alternates shall contain no VOC's in order for approval.

### SECTION 07330: SPECIAL ROOFING

- A Flat roofing to be cold applied liquid membrane per Building Logics ([www.buildinglogics.com](http://www.buildinglogics.com)) or approved alternative. Membrane to be installed per manufacturer's instructions to ensure 30 year warranty.
- B Where applicable, use well-rounded gravel ballast, 10 psf minimum.
- C "Vegetated roof" applied atop membrane in certain locations. Provide fully installed system, including soil matrix and plant materials (as provided by Stone Crop, LLC, Esmont, Va.) as provided by Building Logics (contact Mike Perry: 757-434-0674).
- D Install gravel stops @ roof edge. Details TBD.

### SECTION 07460: EXTERIOR SIDING

- A HardiePanel Siding: By JamesHardie International, 4x10 format. PrimePlus pre-primer and sealer, Color-Plus prefinished paint finish with 15 year warranty, color TBD. Install per manufacturer's requirements. Use z-flashing @ horizontal joints; caulk with black or bronze silicon sealant and mechanically fasten @ 24" o.c., max with stainless steel pan head wood screws with 3/8" washer. See manufacturer's specs for fastener spacing details.
- B Panels at Soffits--HardiePanel-- sizes per drawings. Install, prep and paint per manufacturer's requirements. Use stainless steel nails.
- C Secure all exterior trim with stainless steel finish nails. Set and fill holes prior to painting.
- D Glue and nail butt-joints with exterior-rated adhesive.
- E **Materials pre-purchased and in Owner's possession: (24 SQ) - Hardiplank, 313 pieces/13 bundles 9.26" smooth, pre-primed siding**

### SECTION 07600: FLASHING AND SHEET METAL

- A Sheet metal flashings shall be consistent with adjacent materials to avoid galvanic action between dissimilar metals.
- B Self adhered rubber membrane flashing (S.A.F.) as indicated on drawings. WR Grace or approved alternative.

### SECTION 07610: METAL ROOFING

- A Metal roofing to be "Galvalume Plus" standing seam roofing where shown. Finish to be natural (unpainted). Seams to be on 24" spacing unless otherwise approved by architect.
- B Certification from the fabricator and installer, certifying that the installed systems meet the specified performance requirements and those of authorities having jurisdiction.
- C Install sheet metal roofing and wall panels capable of withstanding exposure to weather without failure or infiltration of water into the building interior.
- D Thermal Movement: Provide systems and connections which allow for thermal movement resulting from ambient temperature range of 120 F.
- E System performance, based on project conditions and compliance with all applicable codes and loading requirements, shall be the responsibility of the panel fabricator and installer.
- F Provide all components necessary for a complete, functional, weatherproof assembly including, but not limited to, trims, copings, fascias, sills, flashings, counterflashings, door frame trim, corner units, clips, wall caps, copings, sealants, closures and fillers.





## DIVISION 8: DOORS AND WINDOWS

### SECTION 08200: WOOD & PLASTIC DOORS

- A Interior doors shall be flush, paint grade as manufactured by Buffelen or approved alternative. Design, profile, height, width, and thickness as indicated on drawings and/or in Door Schedule. Prepare doors for finish hardware as required. Door frame to match species/finish, see details.
- B Exterior entry door; manufacturer, design & style TBD.

### SECTION 08500: CLAD WOOD WINDOWS AND EXTERIOR DOORS

- A Window units as manufactured by MW Windows, 'Mira' series or approved alternative. Types shall be aluminum clad wood casement, awning, picture/ custom units as scheduled. Glazing to be insulated glass with argon fill. Glass shall be 7/8" with Low-E coating. Maximum U-factor permitted will be 0.35. Minimum Solar Heat Gain Coefficient (SHGC) on South-facing windows will be kept under 0.40. VT (visible transmittance) shall be .40 to .70. The light-to-solar-gain ratio (LSGR, which=VT/SHGC) shall be 1.0 to 1.4.
- B Edge spacers and shadow bars are to be of a non-metallic, low-conductivity material. Hardware finish to be selected by Architect. Exterior cladding color to be coordinated with architect/owner. Interior wood species/ finish to be clear finished Pine.
- C Provide matching hardware and aluminum mesh screens for operable units, unless noted otherwise. Standard die-cast metal crank and concealed lock(s) on all operable awning units. Crank handles and sash locks color TBD.
- D Windows shall have jamb sizes and extensions as required for installation in 4-9/16" SIP walls with 1/2" GPDW finish.
- E Contractor shall be solely responsible for fit and coordination of window sizes with framing. Costs associated with redesign due to window substitution shall be borne solely by the Contractor. Window installation shall be coordinated with details on the drawings and installation methods desired by the Contractor to assure proper fit and function.
- F Window supplier shall be responsible for the provision of features such as tempered glass to ensure compliance with requirements of governing laws, codes and ordinances. Ensure that egress requirements are met where applicable.
- G Window supplier shall provide non-prorated warranty for the repair and/or replacement of defective materials, including parts, glazing, and workmanship to the fullest extent of standard product warranty. All window and door units are to be included under this warranty.

### SECTION 08700: FINISH HARDWARE

- A As scheduled in General Notes of Door Schedule.
- B Entrance doors to be mortised, interior doors bored.
- C French & patio door hardware by door manufacturer. Coordinate finish with other door hardware, as approved by Owner and Architect.

### SECTION 08830: MIRRORS

- A Prep mirrors as required for surface mounted light fixtures and/or other electrical devices. Provide mirrored plates wherever electrical devices occur in mirrors.
- B Installer shall be responsible for field-measurement of all mirrors. Mirrors to be installed with mirror mastic, and shall have no visible frame or other visible clips or supports.

## DIVISION 9: FINISHES

### SECTION 09200/09250: LATH/ PLASTER AND DRYWALL

- A Drywall shall be as manufactured by Temple (800-231-6060) ASTM C1396, certified recycled material, USG or approved alternative. Drywall shall be screwed with bugle-head screws to framing per manufacturer's recommendations. Finish joints and screws with three coats (min) joint compound and sand smooth. Install metal corner bead at outside corners, tape inside corners and intersection of boards. Thicknesses to be as indicated on the Drawings.
- B Do not begin plaster/ drywall work until the environmental conditions recommended by the manufacturer can be maintained.
- C Use "green board" at all "wet" areas.
- D Extruded accessories of profiles and dimensions indicated on the drawings. Provide products by one of the following: Fry Reglet, Gordon Inc. or Pitcon Industries.
- E **Materials pre-purchased and in Owner's possession:**  
(126) 1/2" x 96" x 48" sheets gypsum wall board.  
(14) 1/2" x 144" x 48" sheets gypsum wall board, wet location (green board).

### SECTION 09300: TILE AND STONEMWORK

- A All tile to be Porcelain, by Crossville (www.crossvilleinc.com).
- B Stone finishes and accessories shall be installed as per supplier's or manufacturer's recommendations.
- C All interior stonework shall be thin-set per Tile Council of America (TCA) recommendations, unless noted otherwise.
- D All grout colors are to be selected by Architect from Laticrete's standard color ranges. Color matched caulk is to be used as per manufacturer's recommendations and at all joints between horizontal and vertical tile/ stone surfaces. Use 1/16" grout thickness for shower wall and floor installations.
- E Backer board and tile underlayment shall be Dens Shield Tile Backer as manufactured by Georgia-Pacific, and is to be installed under floor tile and behind wall tile in "wet" areas. Install panels as per manufacturer's recommendations. (800) 327-2344.
- F Tile material to be selected by Owner/Architect. Continue carrying allowance until selection is made.

### SECTION 09550: WOOD FLOORING

- A Wood flooring to be salvaged/reclaimed, or other approved species, with a preference given to local (w/in 250 mi) sources (contact Richard Morgan, Heart Pine Company, (434) 277-5141).
- B Site sand and finish with Bloshield Hard Oil #9. Apply 2 coats per manufacturer's recommendations. Provide 2'x2' mockup prior to finishing.

### SECTION 09650: RESILIENT SHEET FLOORING

- A Resilient flooring to be Marmoleum natural linoleum by Forbo. Color TBD.

### SECTION 09752: STONE COUNTERTOPS

- A Countertops – Buckingham slate, 1" slab. Contact Buckingham-Virginia Slate Corporation, 434-581-1131.
- B Surface Sealers: Clear, non-yellowing sealer, as accepted by Architect.
- C Seams: Fabricate countertops without seams where feasible - otherwise submit layout options.
- D General: Install countertops over plywood subtops with full spread of water-cleanable epoxy adhesive.
- E General: Install countertops by adhering to supports with water-cleanable epoxy adhesive.
- F Install backsplash and end splash by adhering to wall with water-cleanable epoxy adhesive. Leave 1/16-inch gap between countertop and splash for filling with sealant. Use temporary shims to ensure uniform spacing.
- G Apply sealant to seams and to gap between countertops and splashes; comply with Division 7 Section "Joint Sealants."

### SECTION 09900: PAINTING

- A Interior primers and paints shall be GreenSeal certified (www.greenseal.org). If applicable, exterior paints shall be "All Purpose Exterior Satin" as manufactured by AFM Safecoat; alt: "Duration Coating" as manufactured by Sherwin Williams.
- B All interior plaster and/or drywall shall have one coat of zero-VOC primer and two top coats of Zero-VOC flat enamel, color tint to be selected by the Architect and Owner from the manufacturer's range of colors. Use zero-VOC eggshell finish in kitchens and bathrooms. Tinted primer is to be used at areas scheduled to receive darker finish coats. New interior trim and doors shall receive one coat zero-VOC primer and two top coats of zero-VOC semi-gloss enamel finish.
- C Provide samples of paints, stains and surface coating materials as required by the Architect. Providing samples may include the partial and/or complete painting of walls and/or other surfaces.
- D Painter to take all necessary precautions to prevent paint from spattering and dripping onto surfaces not to receive paint. Painter shall immediately and completely clean such surfaces which are inadvertently dripped upon and/or painted.
- E Painter shall back-sand all interior surfaces, including drywall, doors, trim,

- F Painter shall be responsible for caulking: millwork to walls, trim-to-trim joints, and dissimilar materials to take paint. Paint contractor shall also fill all nail holes at trim and millwork flush for smooth appearance.
- G Provide Owner with at least one half gallon of each of the paints, stains and/or finish surface coating materials used in the completion of the Work. The quantity of the partial can(s) should be reasonably sufficient for light touch-up and/or the matching of color and/or grade by the Owner.
- H General Interior Paint Color Schedule: Coordinate w/Owner and/or Architect.

## DIVISION 10: SPECIALTIES

### SECTION 10300: PREFABRICATED FIREPLACES

- A Prefabricated wood stove by Jotul, model F 602 or approved alternative. Provide metal chimney flue, collar and cap. Custom modifications shall be coordinated with Architect at time of order/ install and reviewed with manufacturer to ensure warranty acceptance.
- B Contractor shall provide blocking as required for installation. See drawings for surrounds.

### SECTION 10825: RESIDENTIAL BATH ACCESSORIES

- A Accessories as scheduled on the drawings.
- B Contractor shall provide blocking as required for installation. Locate as shown on drawings or provide continuous blocking for towel bars if none are shown.

## DIVISION 11: EQUIPMENT

### SECTION 11450/2: RESIDENTIAL EQUIPMENT/ APPLIANCES

- A Appliances as scheduled on the drawings. Contractor to coordinate rough-in utilities and install schedule as required (See Allowances).
- B Pre-purchased appliances: the following items have been purchased and are in the Owner's possession:
  - (1) Stacked Washer/Dryer
  - (1) Compactor
  - (1) Refrigerator
  - (1) Free-standing Ice Maker
  - (1) Disposal

### SECTION 13850: DETECTION AND ALARM – (if applicable)

- A Design/Build per requirements determined by Owner.

## DIVISION 12: FURNISHINGS

### SECTION 12492: BLINDS AND SHADES – BY OWNER

## DIVISION 13: SPECIAL CONSTRUCTION

### SECTION 16600: PHOTOVOLTAIC SYSTEMS

- A Solar Electric Array: Module & inverter manufacturers TBD; ground-mounted 4.0 kWp approx. size, 2 series strings of modules per manufacturer's specifications, wired in parallel to an ac/dc inverter w/ integral disconnect & automatic anti-landing protection per UL1471. The inverter shall backfeed the main load center, which will connect to a bi-directional meter base to be provided by the local utility company. All final details & specs for this system will be provided under separate cover for permitting.
- B Installer to furnish all wiring & connections req'd for a grid-tied, net-metered system. Installer to file all req'd documents w/ Dominion Virginia Power & all work shall be fully compliant w/ NEC 2005.
- C **Equipment pre-purchased and in Owner's possession:**
  - (1) 4000 W Sunny Boy grid-tie inverter
  - (1) eMonitor energy monitoring system

### SECTION 13610: SOLAR THERMAL COLLECTORS

- A Equipment shall be flat plate solar collectors with 80 gallons of storage, minimum. Contact: Green Air, Inc., 804-368-8543.

## DIVISION 14: CONVEYING SYSTEMS (N/A)

## DIVISION 15: MECHANICAL

### SECTION 15051: PLUMBING

- A Utilities (water, gas, etc...) TBD.
- B Install plumbing for all fixtures and equipment indicated on the drawings in accordance with local codes and recognized good practice.
- C Install frostproof hose bibs. At each location, install with vacuum breaker or check valve. Coordinate locations with Owner & Architect.
- D At incoming water supply line, install one 3/4" x 3/4" No. 7 dual check valve back-flow preventer. Must be rated for 150 psi at 180 degrees Fahrenheit.
- E Water supply piping shall be PEX. The system shall be flushed prior to occupancy.
- F All waste piping shall be ABS.
- G Vent piping shall be ABS.
- H Plumber shall assemble all piping with the longest pieces possible to minimize the amount of glue or solder required.
- I When possible, plumber shall glue waste pipe assembly outside the building envelope; wipe excessive glues and protect all surfaces from glue drips and spills.
- J When glue is being used inside the structure, provide adequate ventilation until all odors are dissipated.
- K Plumbing contractor shall route piping in finished areas to ensure concealed placement within the existing structure or new construction, without compromising structural members, and without requiring additional soffits or chases. All holes and other cuts in structural members for plumbing shall be made within the guidelines of manufacturer's (or member's trade council) recommendations. The addition of chases, lowered ceilings and/or bulkheads, beyond those specifically indicated on the drawings, shall be made only with the approval of the Architect.
- L All exposed tails, traps, stops and supply lines shall be chrome plated (inside of cabinets shall be considered to be "exposed"). The cost of any required brass or chrome piping or accessories shall be include in the base Contract Sum and is not included in the plumbing fixture allowance.
- M Plumbing fixtures to be as scheduled in drawings (see allowances).
- N **Pre-purchased fixtures in Owner's possession:**
  - (2) dual flush water closets

### SECTION 15740: HEAT PUMPS

- A Contractor shall undertake all mechanical work on a Design/Build basis with assistance of architect.
- B Coordinate the final location of all equipment and ductwork with Architect, including the possible use of attic areas. Ensure that all ductwork and piping in finished areas fits concealed within the structure or as otherwise indicated on the Drawings. **THE ADDITION OF CHASES, LOWERED CEILINGS AND/OR BULKHEADS, BEYOND THOSE SPECIFICALLY INDICATED ON THE DRAWINGS, SHALL BE MADE ONLY WITH THE APPROVAL OF THE ARCHITECT. ATTIC SPACE TO BE CONDITIONED.**
- C Comfortable indoor conditions as defined ANSI/ASHRAE Standard 55-2004, Thermal Environmental Conditions for Human Occupancy shall be provided. Installed system shall conform to the requirements of all applicable codes and

- standards, and manufacturers instructions. Contractor shall contact the architect with questions or concerns pertaining to this specification. Pumps and air handling equipment to be located as indicated on Drawings, or as otherwise determined by architect/contractor. In-line humidity regulation and monitoring system shall be provided to maintain an average indoor relative humidity of 50%. Humidifiers shall be Model S2020 as manufactured by EVC Controls Inc. and shall be installed per EWC guidelines. Provide one electronic air cleaner as manufactured by Dynamic. Heating and cooling shall be provided by 2-zone dampered air-to-air heat pump by Carrier, Trane or approved alternative. Supplemental Fresh air supply shall be provided by a "Fan Cycler" or ERV system as determined based on blower door test results, and ALL building ventilation must comply with ASHRAE 62.2-2007, sections 4 & 7.
- D HVAC contractor shall size system in accord with ACCA Manual 'J' requirements for residential performance as required to ensure the maintenance of a comfortable temperature within recognized industry design criteria for this area. Equipment shall have a minimum SEER of 16 and shall be sized to within 10% of the btuh of calculated load as determined by ACCA and ASHRAE guidelines.
- E HVAC design parameters:
  - Summer Outside Cooling: 95°F - 95% relative humidity
  - Summer Inside Conditions: 75 °F – 50% relative humidity
  - Winter Outside Heating: 10 °F
  - Winter Inside Conditions: 75 °F
- F Building envelope air leakage testing shall be conducted by a certified technician using a calibrated blower door unit at 50 pascals. Final infiltration rate shall in the range of 0.15-0.20 AC/H. Additional air sealing measures shall be taken to achieve the above standards; coordinate with architect as required.
- G Warranties: Installation/Workmanship - 1 year from initial operation all parts and labor, with exception of "consumables" (air filters), 10 years on heat pump equipment, all other manufacturer's warranties as applicable.
- H All ductwork shall be fabricated of galvanized sheet metal. To the maximum extent feasible, all duct sections shall be round and shall be sized in accord with ACCA Manual 'D' per LEED-H requirements. Ductwork shall be sealed with water-based duct mastic or UL181 foil tape or "mastic tape" and installed in conditioned spaces only.
- I All duct work shall undergo testing for leakage by the "duct-blaster" method. Maximum allowable leakage shall be 5% of total system. Testing shall take place prior to installation of insulation and wall finishes. All leaks shall be sealed with water-based duct mastic.
- J System shall have digital, programmable thermostat with adaptive recovery mode and secondary sensors. Honeywell TH8320 or approved alternative.
- K All bathroom exhaust ducts shall be round galvanized material and sloped (1/8" per foot) to the nearest exterior outlet, installed per manufacturer's guidelines.
- L Registers and diffusers TBD.

## DIVISION 16: ELECTRICAL

### SECTION 16051: ELECTRICAL SYSTEMS REQUIREMENTS

- A Coordinate the installation of new underground electrical and telephone service by the local utilities. Provide information necessary for utilities to bring in proper service.
- B Electrical contractor shall size the electrical service based on demand of scheduled fixtures and equipment and a reasonable allowance for spare circuits and future expansion.
- D Install electrical wiring and make connections to all equipment, fixtures, switched, receptacles, appliances, etc., sized and installed in accordance with NEC guidelines.
- E Electrical receptacles shall be installed vertically at 12" a.f.f., unless noted otherwise and except where indicated at cabinets/ vanities in which case they shall be installed above the backsplash, or as otherwise noted on the drawings.
- F Provide and install exhaust fans in all bathrooms and where indicated elsewhere; vent to exterior. Exhaust fans are to be moisture-rated, high-quality, low-noise units, such as manufactured by Panasonic or approved alternate and shall be wired to a manual timer with a run-time of 30 minutes maximum.
- G New phone and cable/ satellite TV jacks and wiring are to be completed by electrical contractor, service is to be provided by local utility.
- H Smoke detectors are to be interconnected for alarm at each station should any one detector be set off. Smoke detectors shall be hard-wired with battery backup. Coordinate incorporation into security system with Owner.
- I Electrical Fixtures as scheduled in drawings.
- J Light switch plates to be standard white. Receptacle plates to be standard white.
- K Assume all light switches to be dimmable w/side bar control unless noted otherwise.
- L Coordinate power with Owner supplied appliances and window shades, and motorized operable windows.
- M Coordinate low voltage wirings or special requirements pertaining to media with architect.
- N Lightning Protection system – coordinate w/Owner.

