

OWNER

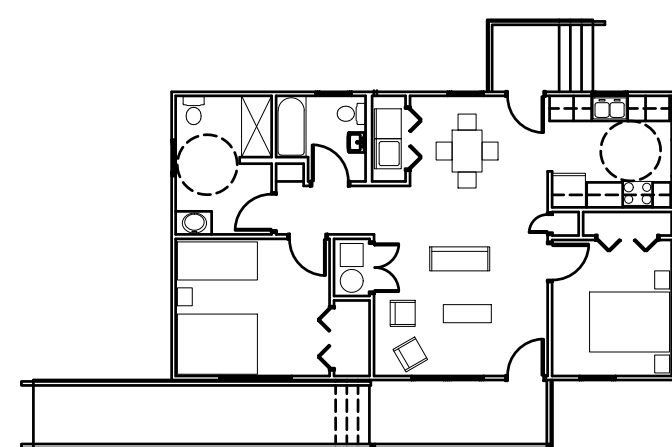
West Virginia Army  
National Guard  
Charleston, WV 25302

Construction Documents

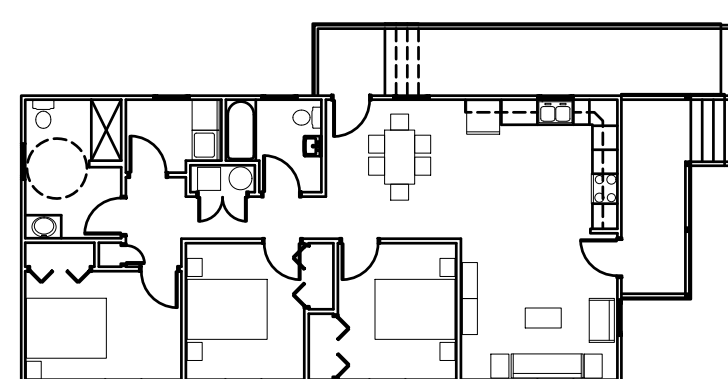
# Flood Recovery House Design

for the  
**West Virginia Army National Guard**  
Charleston, West Virginia  
July 26, 2018

**KEY PLANS**



OPTION A - 2 BEDROOM, 2 BATH



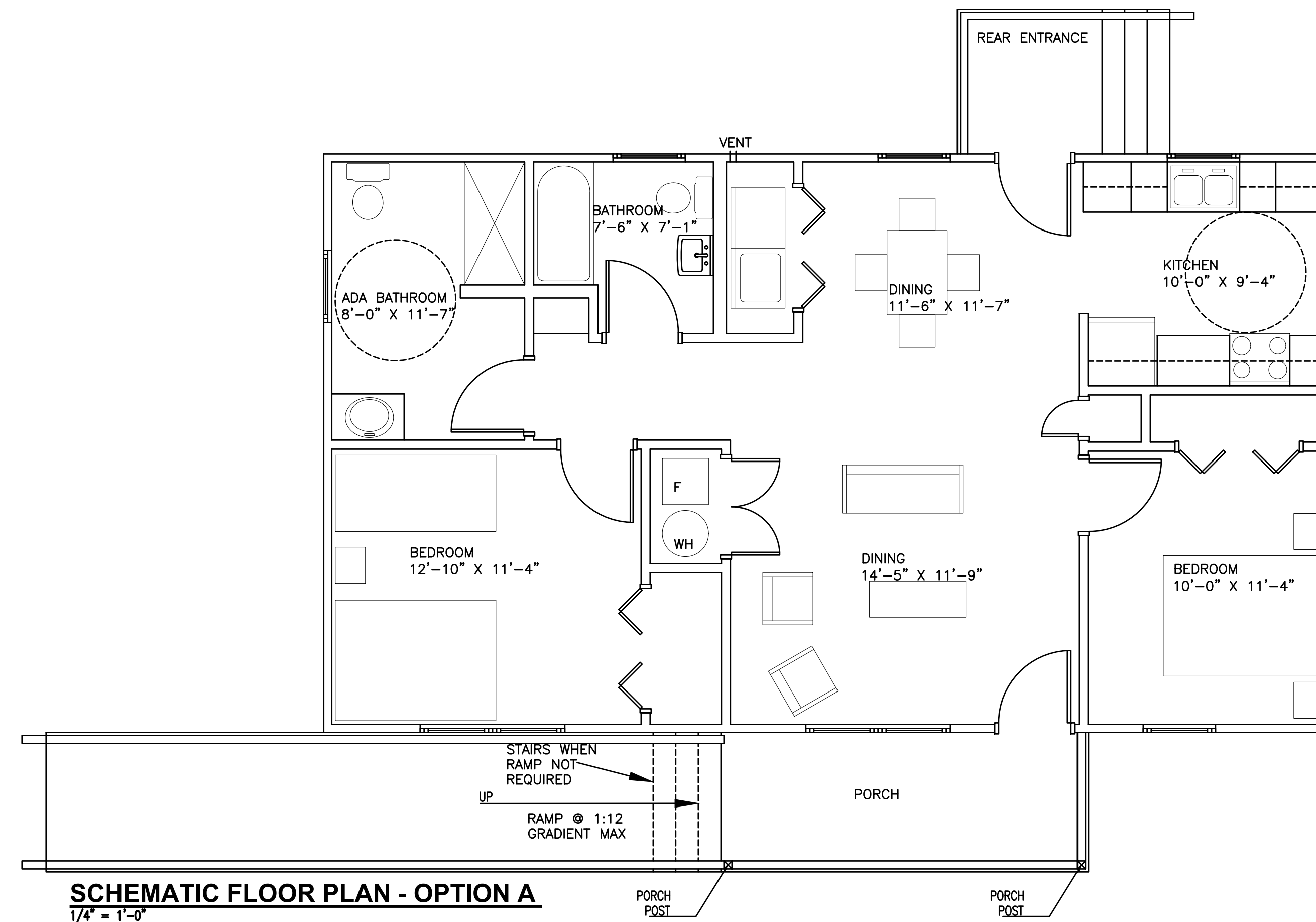
OPTION B - 3 BEDROOM, 2 BATH

**DRAWING INDEX**

SHEET NO.	SHEET NAME	SHEET NO.	SHEET NAME	SHEET NO.	SHEET NAME
G000	COVER SHEET				
<b>ARCHITECTURAL</b>					
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A132	FLOOR PLAN OPTION B				
A151	ROOF & FOUNDATION PLANS OPTION A				
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A311	ELEVATIONS OPTION A				
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<b>MECHANICAL</b>					
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M511	MECHANICAL DETAILS, NOTES AND SCHEDULES				
M512	MECHANICAL DETAILS, NOTES AND SCHEDULES				
<b>ELECTRICAL</b>					
E131	ELECTRICAL PLAN A & PLAN B				
E511	ELECTRICAL DETAILS, NOTES AND SCHEDULES				
E512	ELECTRICAL DETAILS, NOTES AND SCHEDULES				
E513	ELECTRICAL DETAILS, NOTES AND SCHEDULES				

**BUILDING INFORMATION**

USE AND OCCUPANCY CLASSIFICATION	
OCCUPANCY CLASSIFICATION - SINGLE FAMILY HOUSE (PER 2015 INTERNATIONAL RESIDENTIAL CODE)	
CONSTRUCTION CLASSIFICATION	
CONSTRUCTION TYPE : V NON-SPRINKLERED (PER 2015 INTERNATIONAL RESIDENTIAL CODE)	
BUILDING AREA	
OPTION A	1,008 SF
OPTION B	1,200 SF
(PER 2015 INTERNATIONAL RESIDENTIAL CODE)	



**SCHEMATIC FLOOR PLAN - OPTION A**  
1/4" = 1'-0"

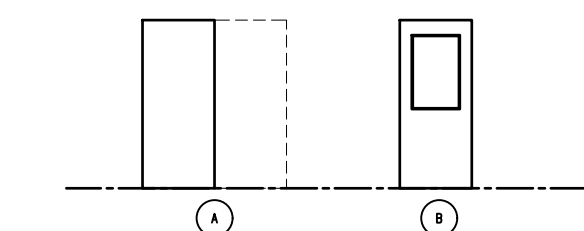
**GENERAL NOTES**

1. ALL INTERIOR DIMENSIONS ARE FROM FACE OF WALL TO FACE OF WALL UNLESS NOTED OTHERWISE.
2. ALL INTERIOR WALLS ARE 2x4 WOOD STUDS WITH 1/2" G.W.B. ON EACH SIDE.
3. PER ADA ALL THRESHOLDS SHALL NOT BE MORE THAN 1/2" IN HEIGHT VARIATION.

NO.	REVISIONS DESCRIPTION	DATE

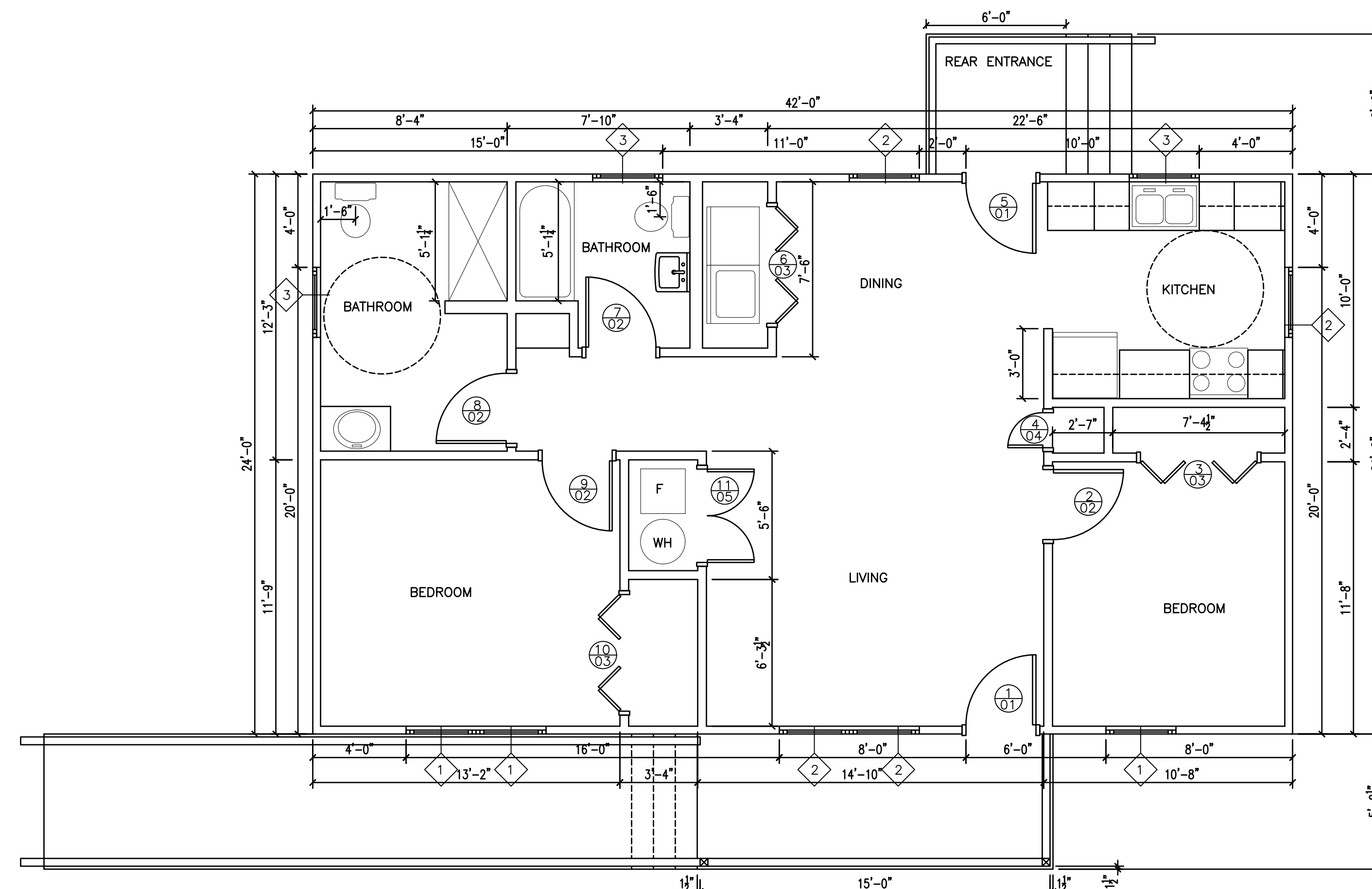
DOOR TYPE	SIZE	DOOR MAT'L	GLASS	ELEV	FRAME MAT'L	HARDWARE SET	FUNCTION	
EXTERIOR	1	3'-0" x 6'-8" x 1 3/4"	FIBERGLASS	FT	B	FIBERGLASS	1	ENTRANCE
	2	3'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	2	PRIVACY
	3	5'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	3	BI-FOLD
	4	1'-6" x 6'-8" x 1 3/4"	WOOD		A	WOOD	4	PASSAGE
EXTERIOR	5	3'-0" x 6'-8" x 1 3/4"	FIBERGLASS	FT	B	FIBERGLASS	1	ENTRANCE
	6	5'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	3	BI-FOLD
	7	3'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	2	PRIVACY
	8	3'-0" x 7'-0" x 1 3/4"	WOOD		A	WOOD	2	PRIVACY
	9	3'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	2	PRIVACY
	10	5'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	3	BI-FOLD
	11	(2) 2'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	5	PASS. W/FLUSHBOLT

FT = FULLY TEMPERED GLASS



WINDOW TYPE	FRAME MAT'L	WINDOW SIZE
1	FIBERGLASS	3'-0" x 5'-0"
2	FIBERGLASS	3'-0" x 4'-4"
3	FIBERGLASS	3'-0" x 3'-0"

NOTE: ALL WINDOWS SHALL COMPLY WITH 2009 IECC GLAZING REQUIREMENTS



**DIMENSIONED FLOOR PLAN - OPTION A**  
1/4" = 1'-0"

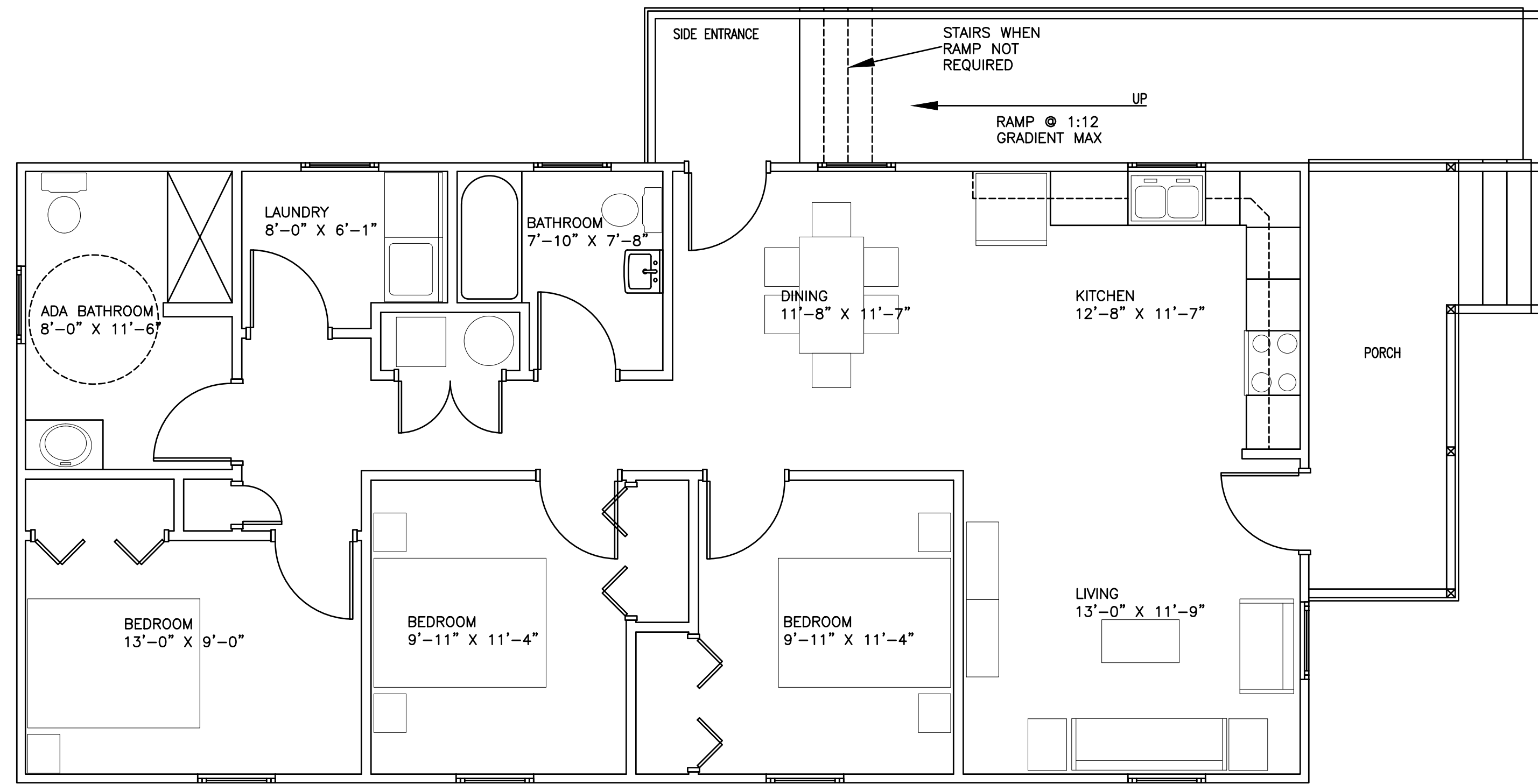
**WEST VIRGINIA ARMY NATIONAL GUARD**  
**FLOOD RECOVERY**  
**HOUSE DESIGN**  
**Charleston, WV**

**CONSTRUCTION DOCUMENTS**

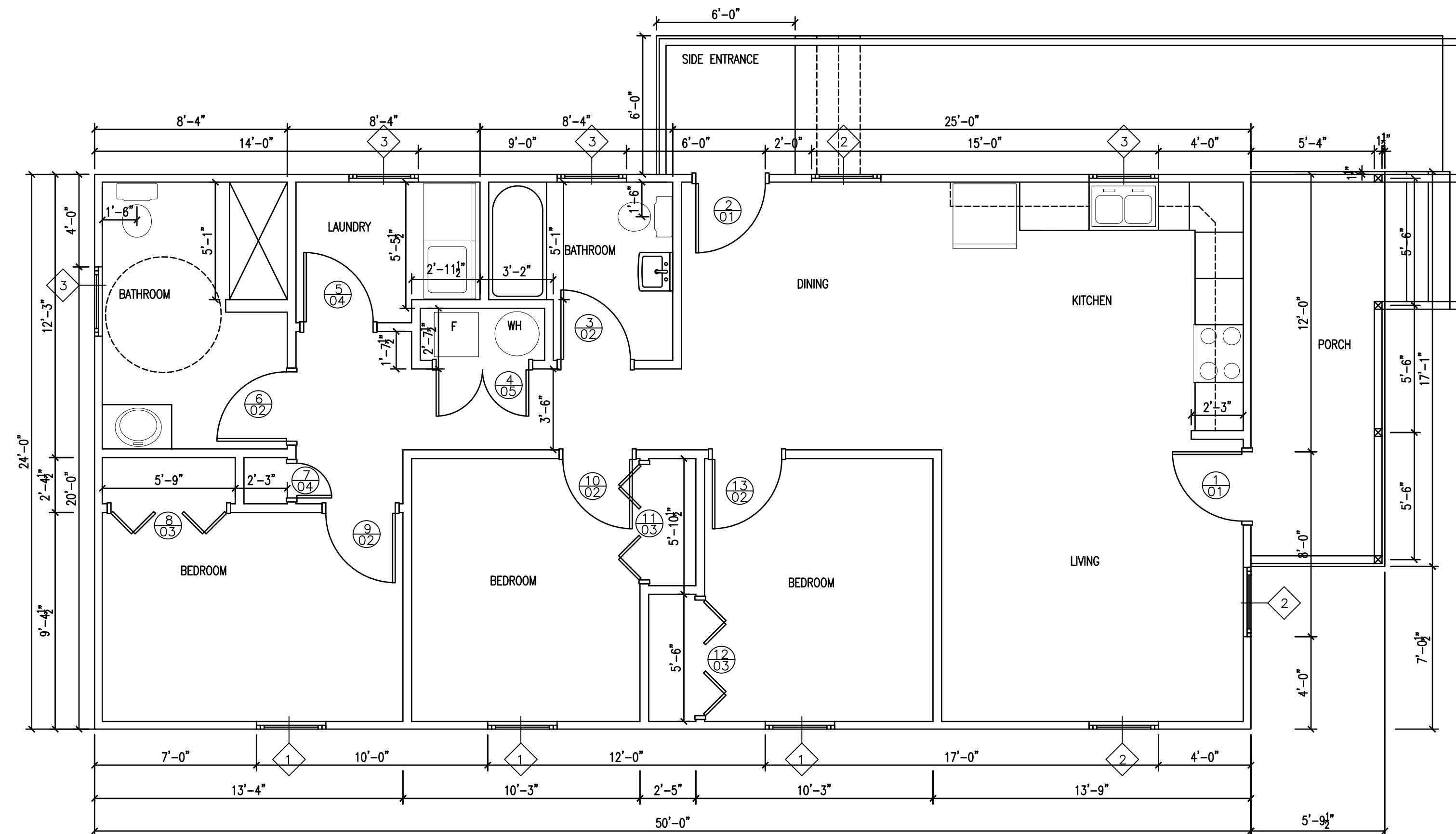
**FLOOR PLAN OPTION A**

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COMM. NO. 18065	

**A131**



**SCHEMATIC FLOOR PLAN - OPTION B**  
1/4" = 1'-0"



**DIMENSIONED FLOOR PLAN - OPTION B**  
1/4" = 1'-0"

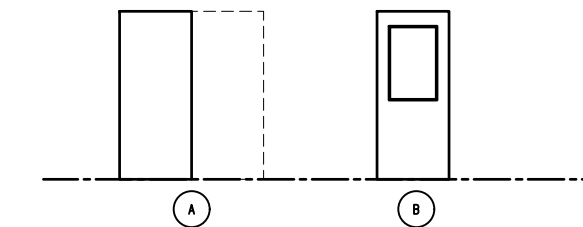
**GENERAL NOTES**

1. ALL INTERIOR DIMENSIONS ARE FROM FACE OF WALL TO FACE OF WALL UNLESS NOTED OTHERWISE.
2. ALL INTERIOR WALLS ARE 2x4 WOOD STUDS WITH 1/2" G.W.B. ON EACH SIDE.
3. PER ADA ALL THRESHOLDS SHALL NOT BE MORE THAN 1/2" IN HEIGHT VARIATION.

**DOOR SCHEDULE - OPTION B**

DOOR TYPE	SIZE	DOOR MAT'L	GLASS	ELEV	FRAME MAT'L	HARDWARE SET	FUNCTION
EXTERIOR	1 3'-0" x 6'-8" x 1 3/4"	FIBERG	FT	B	FIBERG	1	ENTRANCE
EXTERIOR	2 3'-0" x 6'-8" x 1 3/4"	FIBERG	FT	B	FIBERG	1	ENTRANCE
	3 3'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	2	PRIVACY
	4 (2) 2'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	5	PASS. W/ FLUSHBOLT
	5 3'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	4	PASSAGE
	6 5'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	2	PRIVACY
	7 1'-6" x 6'-8" x 1 3/4"	WOOD		A	WOOD	4	PASSAGE
	8 5'-0" x 7'-0" x 1 3/4"	WOOD		A	WOOD	3	BI-FOLD
	9 3'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	2	PRIVACY
	10 3'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	2	PRIVACY
	11 5'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	3	BI-FOLD
	12 5'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	3	BI-FOLD
	13 3'-0" x 6'-8" x 1 3/4"	WOOD		A	WOOD	2	PRIVACY

FT = FULLY TEMPERED GLASS



**WINDOW SCHEDULE**

WINDOW TYPE	FRAME MAT'L	WINDOW SIZE
1	FIBERGLASS	3'-0" x 5'-0"
2	FIBERGLASS	3'-0" x 4'-4"
3	FIBERGLASS	3'-0" x 3'-0"

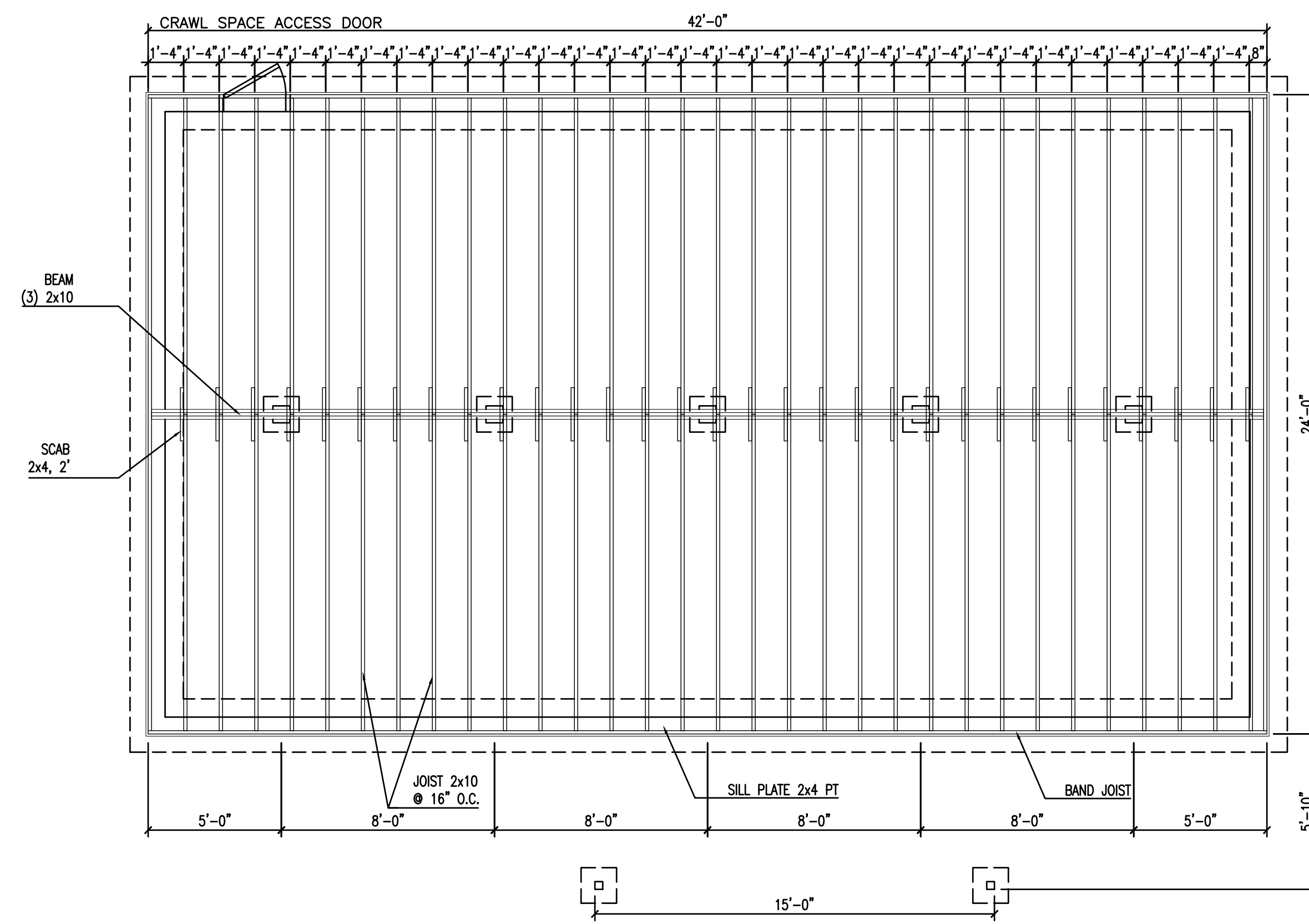
NOTE: ALL WINDOWS SHALL COMPLY WITH 2009 IECC GLAZING REQUIREMENTS

NO.	REVISIONS DESCRIPTION	DATE

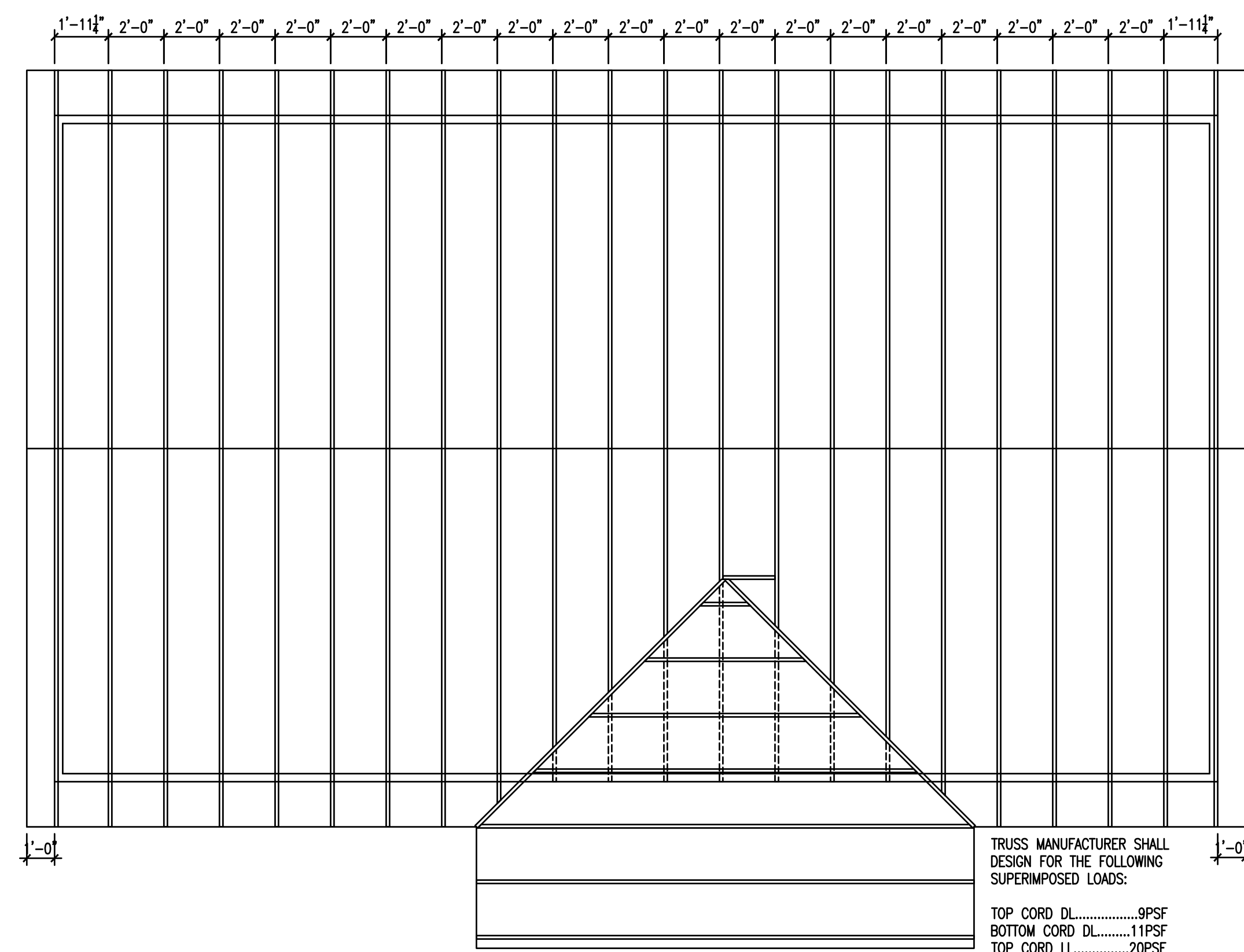
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**FLOOD RECOVERY**  
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**FLOOR PLAN OPTION B**

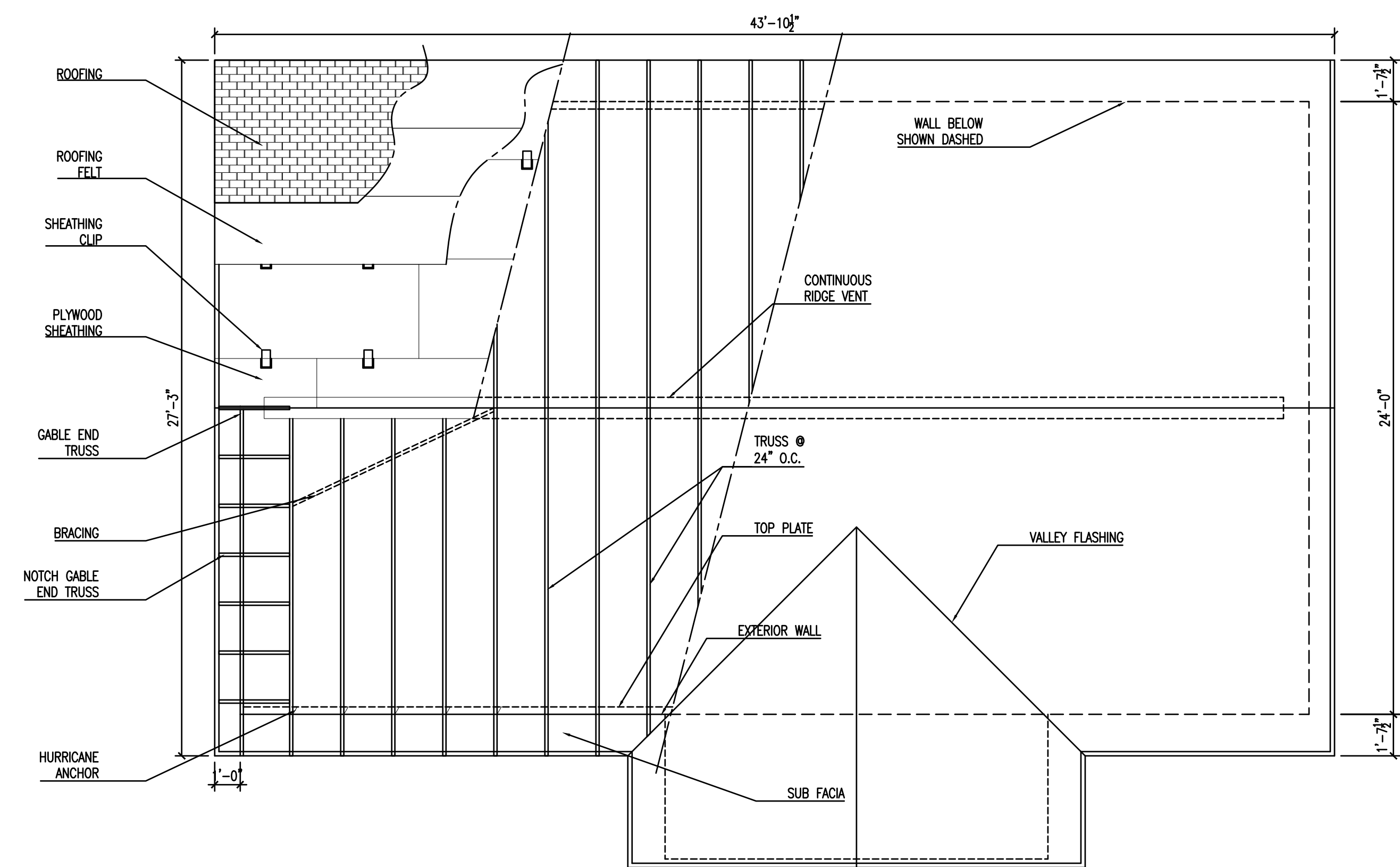
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COMM. NO. 18065	



**CRAWL SPACE FOUNDATION PLAN - OPTION A**  
1/4" = 1'-0"



**ROOF FRAMING PLAN - OPTION A**  
1/4" = 1'-0"



**ROOF PLAN - OPTION A**  
1/4" = 1'-0"

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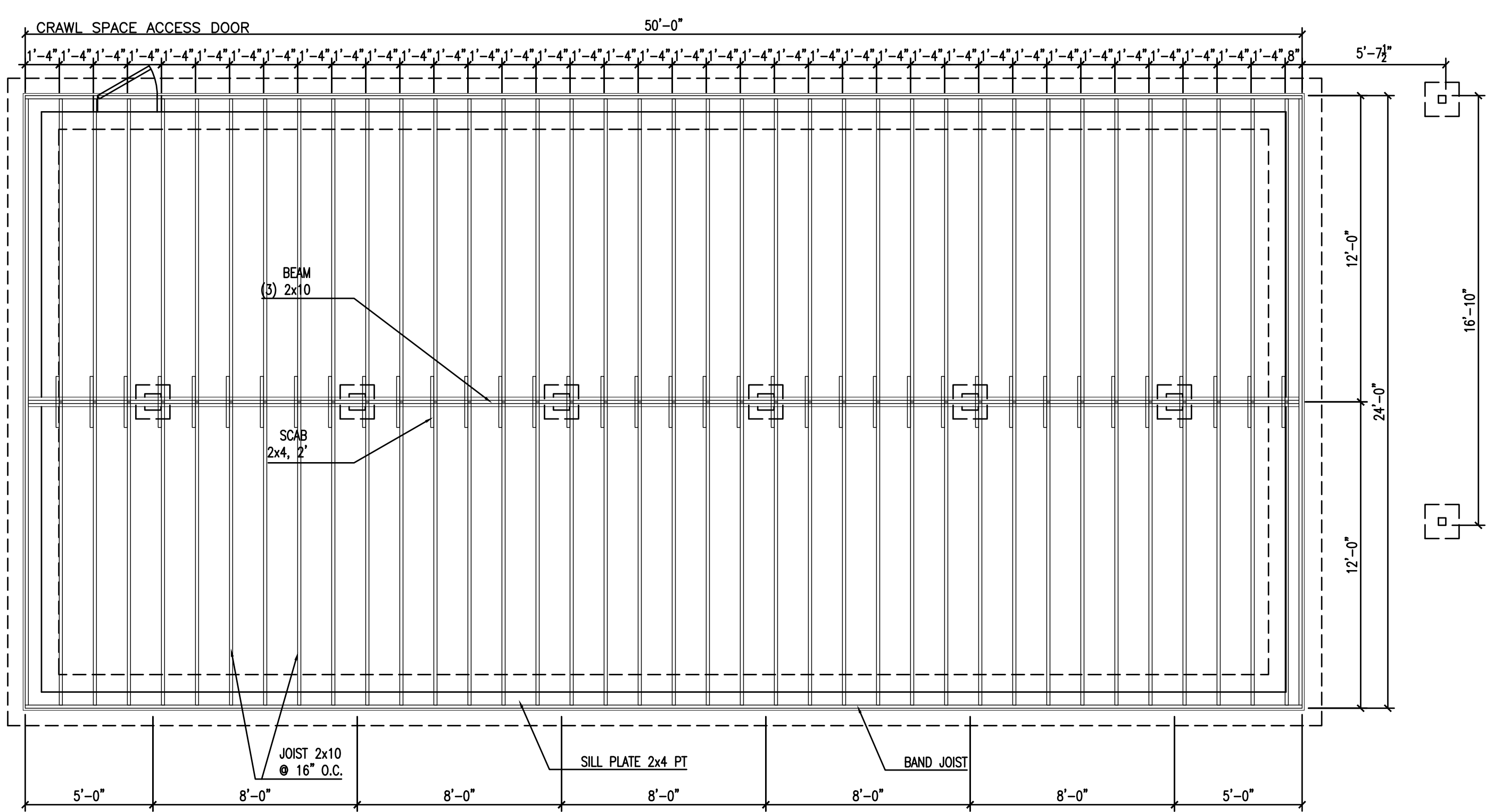
**ROOF & FOUNDATION PLANS  
OPTION A**

DRAWN JSB

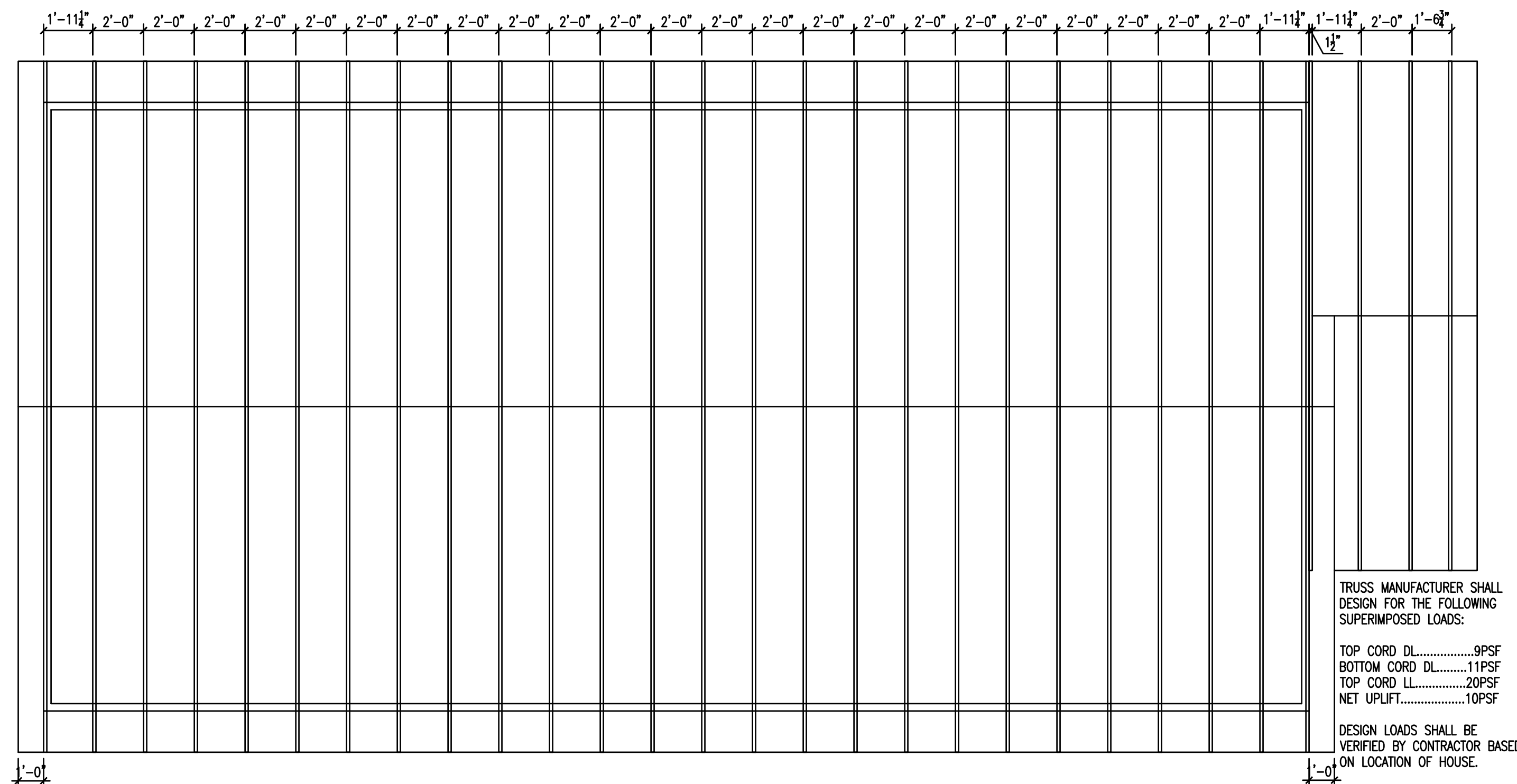
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DATE July 26, 2018

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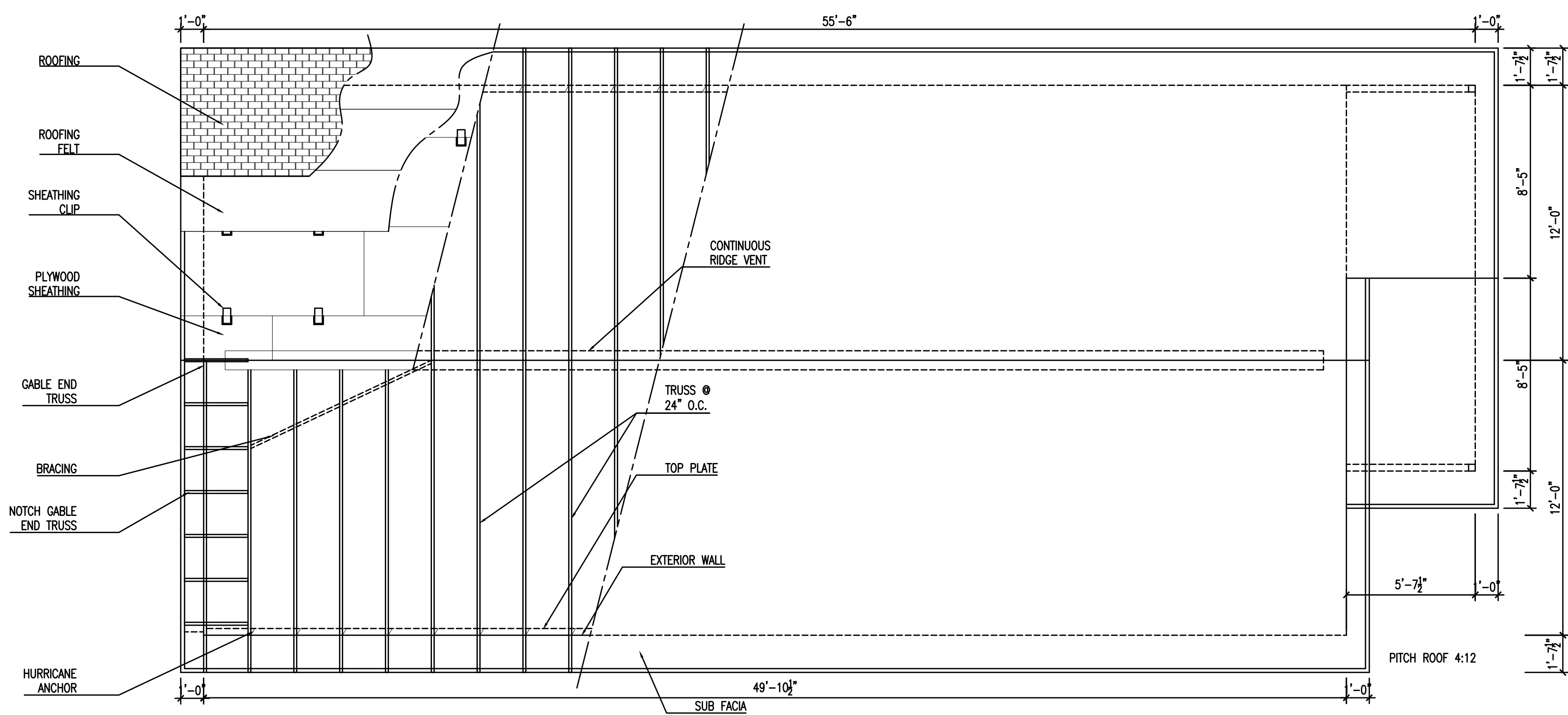


**CRAWL SPACE FOUNDATION PLAN - OPTION B**  
 1/4" = 1'-0"



**ROOF FRAMING PLAN - OPTION B**  
 1/4" = 1'-0"

TRUSS MANUFACTURER SHALL DESIGN FOR THE FOLLOWING SUPERIMPOSED LOADS:  
 TOP CORD DL.....9PSF  
 BOTTOM CORD DL.....11PSF  
 TOP CORD LL.....20PSF  
 NET UPLIFT.....10PSF  
 DESIGN LOADS SHALL BE VERIFIED BY CONTRACTOR BASED ON LOCATION OF HOUSE.



**ROOF PLAN - OPTION B**  
 1/4" = 1'-0"

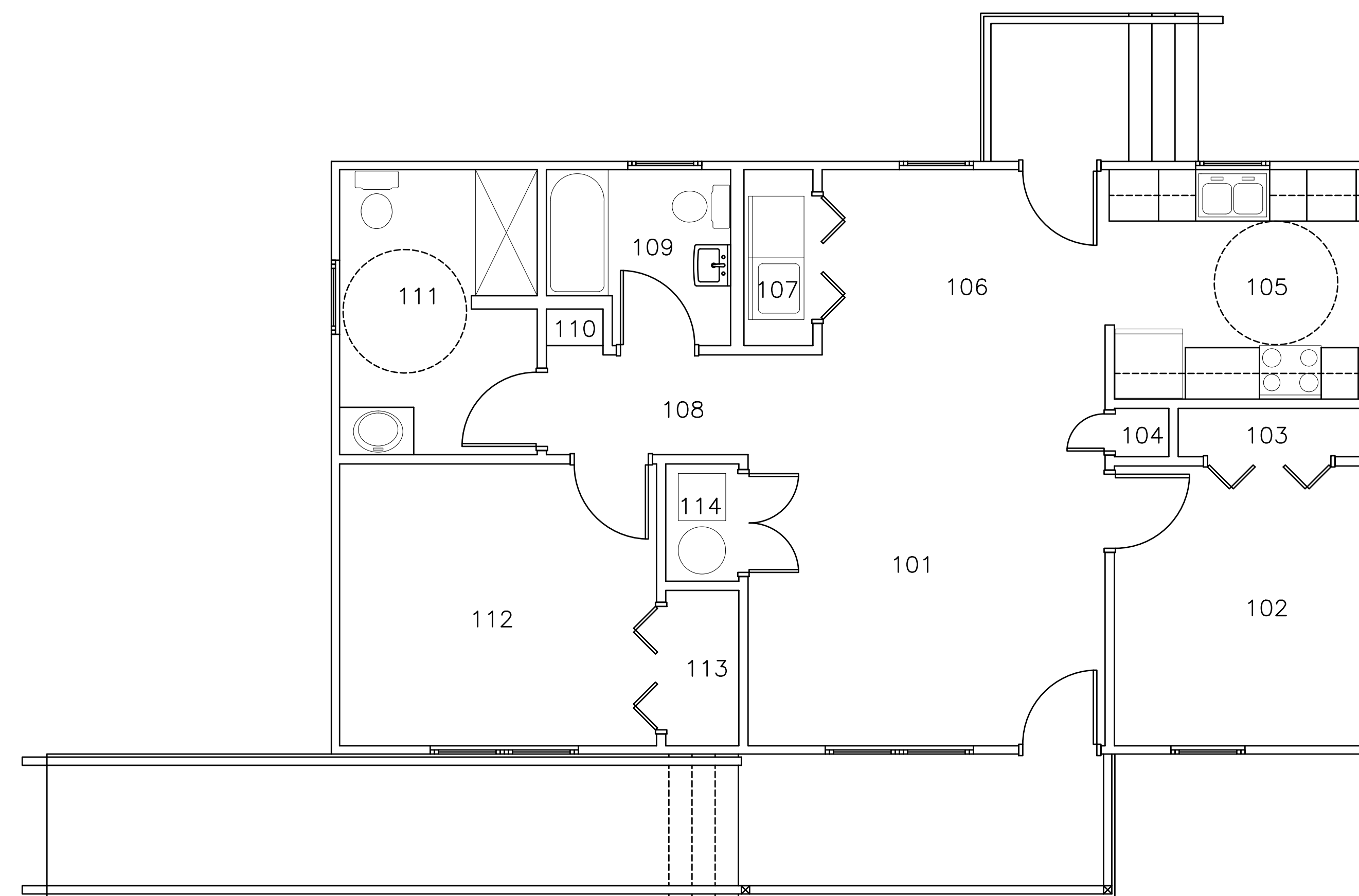
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**ROOF & FOUNDATION PLANS**  
**OPTION B**

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**FINISH FLOOR PLAN - OPTION A**  
 $1/4" = 1'-0"$

ROOM FINISH LEGEND			
CODE	TYPE	BASIS-OF-DESIGN MANUFACTURER / STYLE	STYLE NUMBER / COLOR
LP-1	LAMINATE FLANK 7.48"x4.52" EMBOSSED WOOD	PERGO/TIMBERCRAFT+METPROTECT	WHEATON OAK
PT-1	FIELD PAINT	SHERWIN WILLIAMS/ EGGSHELL	SW 7015 REPOSE GRAY
PT-2	BEDROOM PAINT	SHERWIN WILLIAMS/ EGGSHELL	SW 7016 MINDFUL GRAY
PT-3	CEILING PAINT	SHERWIN WILLIAMS/ FLAT	SW 7007 CEILING BRIGHT WHITE
PT-4	TRIM AND BASE PAINT	SHERWIN WILLIAMS/ SEMI GLOSS	SW 7007 CEILING BRIGHT WHITE
WB-1	OAK WOOD BASEBOARD/TRIM	N/A	PAINTED
CAB-1	SOLID WOOD MAPLE CABINETS	SHENANDOAH BRECKENRIDGE/ SHAKER STYLE	SPICE MAPLE
SS-1	SOLID SURFACE COUNTERTOP	LG HI-MACS	FASSO

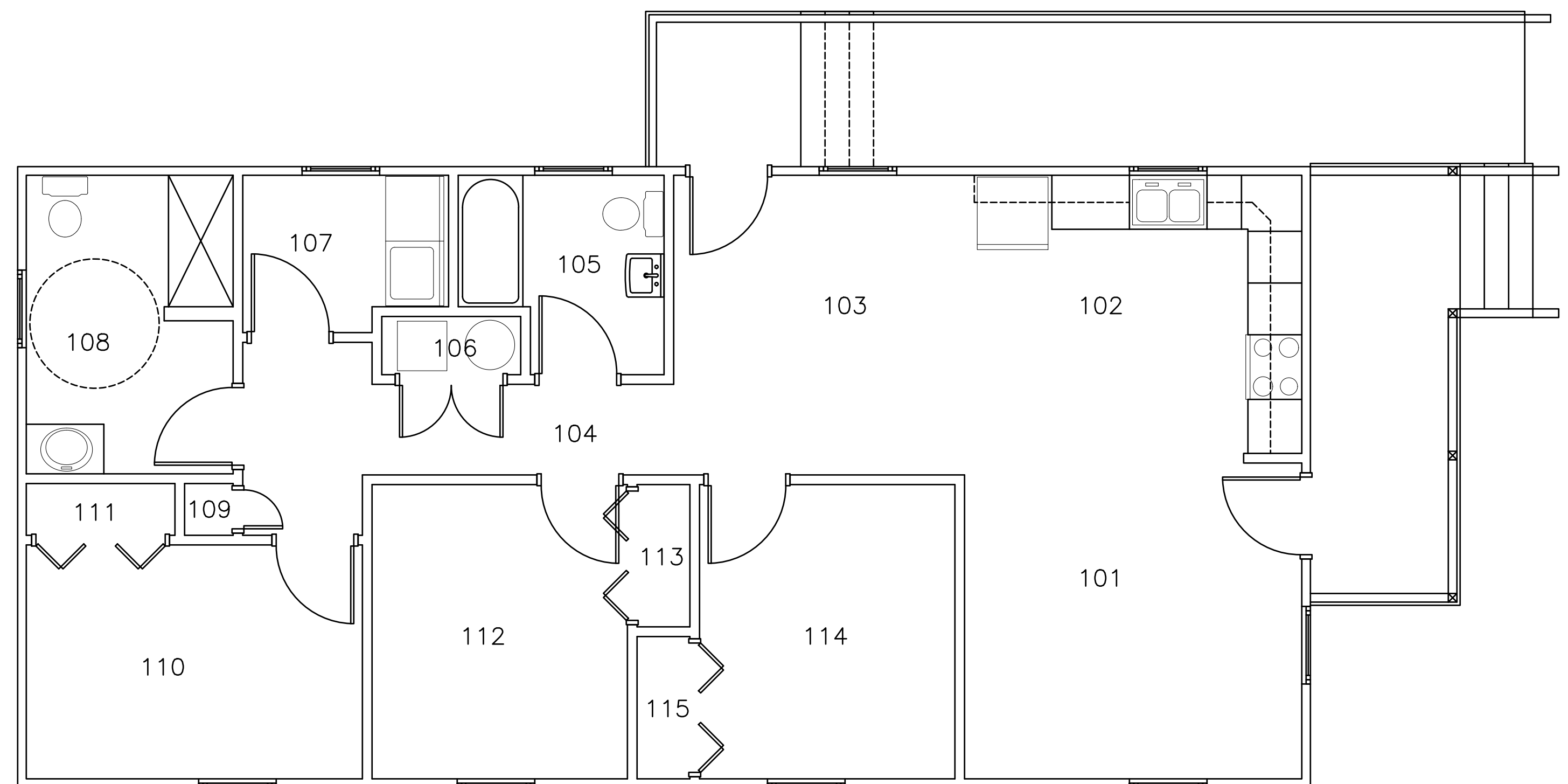
ROOM FINISH SCHEDULE - OPTION A				
ROOM NUMBER	ROOM NAME	FLOOR	BASE	WALLS
101	LIVING	LP-1	WB-1	PT-1
102	BEDROOM	LP-1	WB-1	PT-2
103	CLOSET	LP-1	WB-1	PT-1
104	HALL CLOSET	LP-1	WB-1	PT-2
105	KITCHEN	LP-1	WB-1	PT-1
106	DINING	LP-1	WB-1	PT-1
107	LAUNDRY	LP-1	WB-1	PT-1
108	HALLWAY	LP-1	WB-1	PT-1
109	BATHROOM	LP-1	WB-1	PT-1
110	ALCOVE	LP-1	WB-1	PT-1
111	BATHROOM	LP-1	WB-1	PT-1
112	BEDROOM	LP-1	WB-1	PT-2
113	CLOSET	LP-1	WB-1	PT-1
114	MECHANICAL	LP-1	WB-1	PT-1

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**FINISH FLOOR PLAN OPTION A**

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**FINISH FLOOR PLAN - OPTION B**  
 $\frac{1}{4}'' = 1'-0''$

ROOM FINISH LEGEND			
CODE	TYPE	BASIS-OF-DESIGN MANUFACTURER / STYLE	STYLE NUMBER / COLOR
LP-1	LAMINATE PLANK 7.48"X4.52" EMBOSSED WOOD	PERGO/IMBERCRAFT+WETPROTECT	WHEATON OAK
PT-1	FIELD PAINT	SHERWIN WILLIAMS/ EGGSHELL	SW 7015 REPOSE GRAY
PT-2	BEDROOM PAINT	SHERWIN WILLIAMS/ EGGSHELL	SW 7016 MANDFUL GRAY
PT-3	CEILING PAINT	SHERWIN WILLIAMS/ FLAT	SW 7007 CEILING BRIGHT WHITE
PT-4	TRIM AND BASE PAINT	SHERWIN WILLIAMS/ SEMI GLOSS	SW 7007 CEILING BRIGHT WHITE
WB-1	OSB WOOD BASEBOARD/TRIM	N/A	PAINTED
CAB-1	SOLID WOOD MAPLE CABINETRY	SHENANDOAH BRECKENRIDGE/ SHAKER STYLE	SPICE MAPLE
SS-1	SOLID SURFACE COUNTERTOP	LG H&MCS	PASSO

ROOM FINISH SCHEDULE - OPTION B				
ROOM NUMBER	ROOM NAME	FLOOR	BASE	WALLS
101	LIVING	LP-1	WB-1	PT-1
102	KITCHEN	LP-1	WB-1	PT-1
103	DINING	LP-1	WB-1	PT-1
104	HALLWAY	LP-1	WB-1	PT-1
105	BATHROOM	LP-1	WB-1	PT-1
106	MECHANICAL	LP-1	WB-1	PT-1
107	LAUNDRY	LP-1	WB-1	PT-1
108	BATHROOM	LP-1	WB-1	PT-1
109	HALL CLOSET	LP-1	WB-1	PT-1
110	BEDROOM	LP-1	WB-1	PT-2
111	CLOSET	LP-1	WB-1	PT-1
112	BEDROOM	LP-1	WB-1	PT-2
113	CLOSET	LP-1	WB-1	PT-1
114	BEDROOM	LP-1	WB-1	PT-2
115	CLOSET	LP-1	WB-1	PT-1

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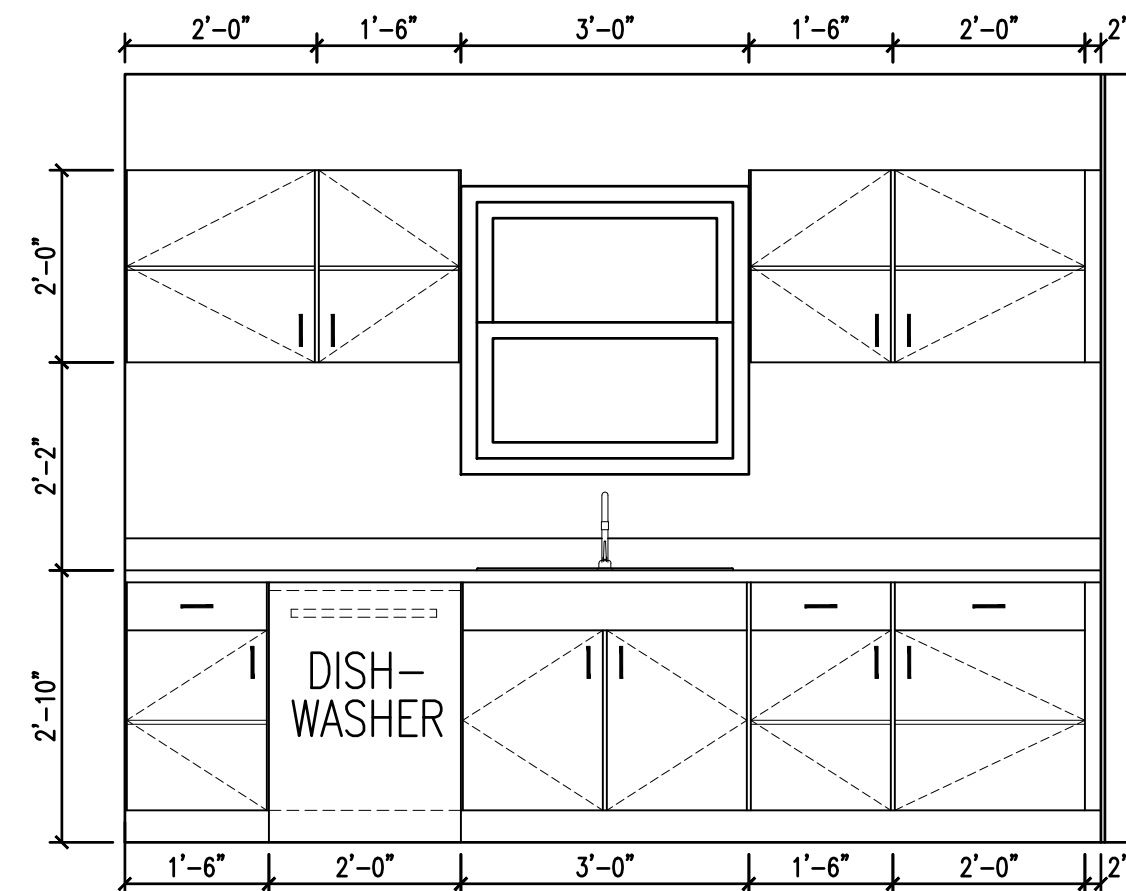
**FINISH FLOOR  
PLAN OPTION  
B**

DRAWN CC	CHECKED ARK
	DATE July 26, 2018
	COMM. NO. 18065

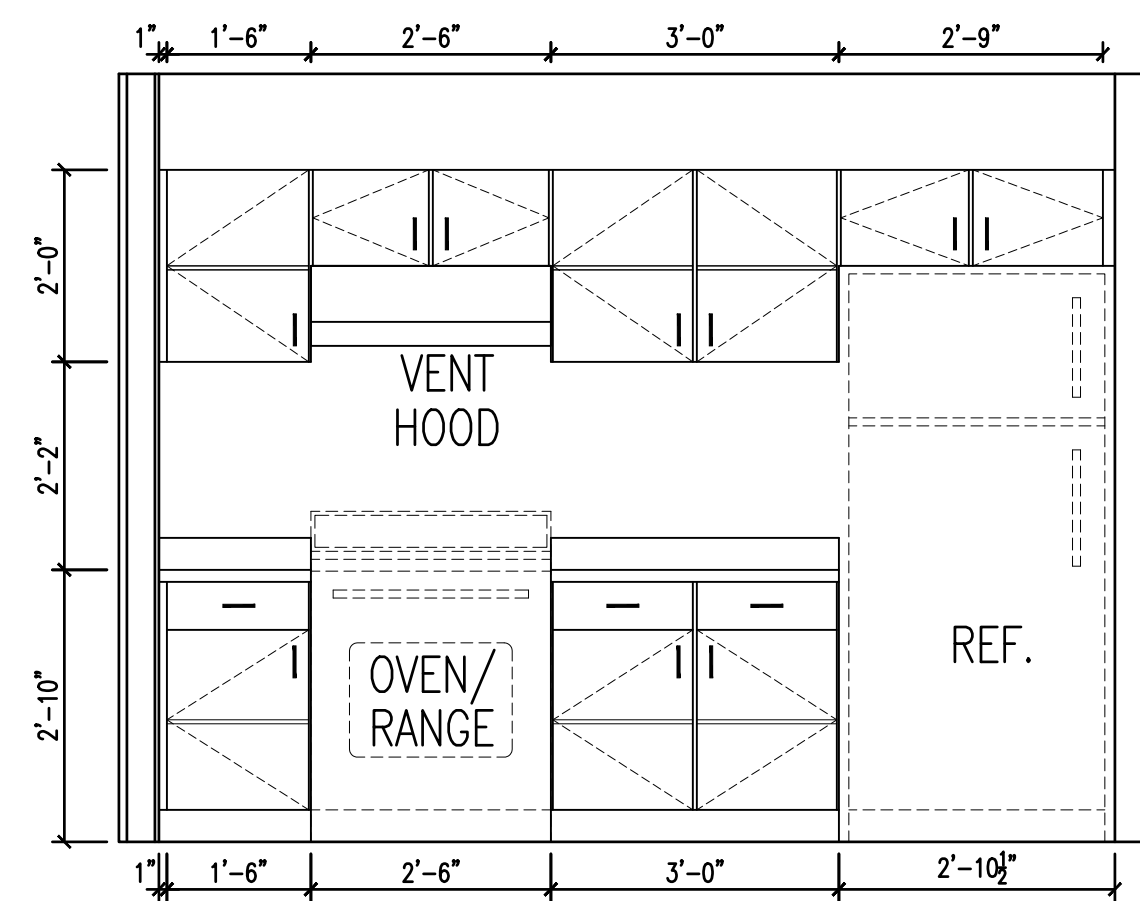
**A222**

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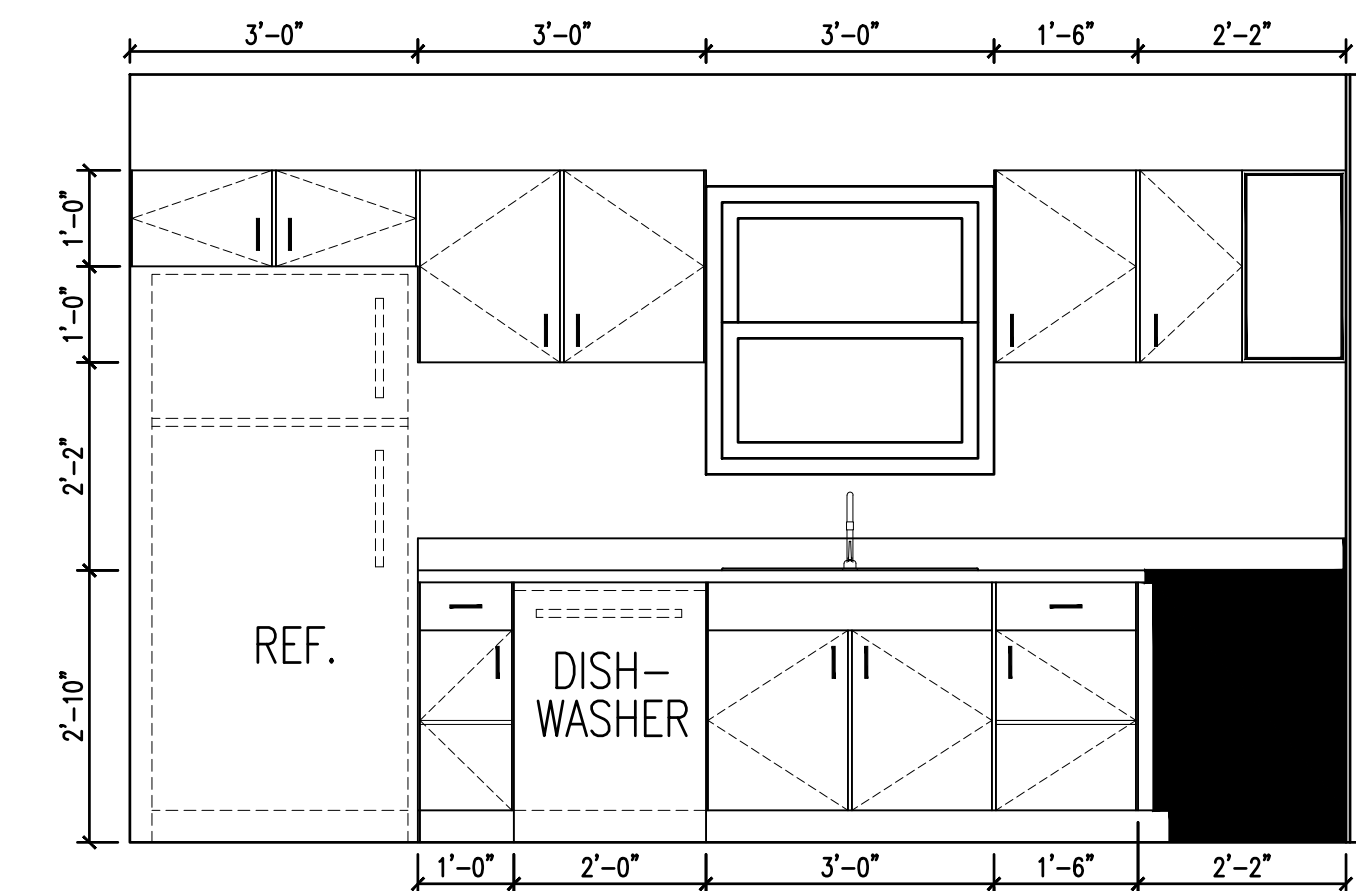
CONSTRUCTION DOCUMENTS



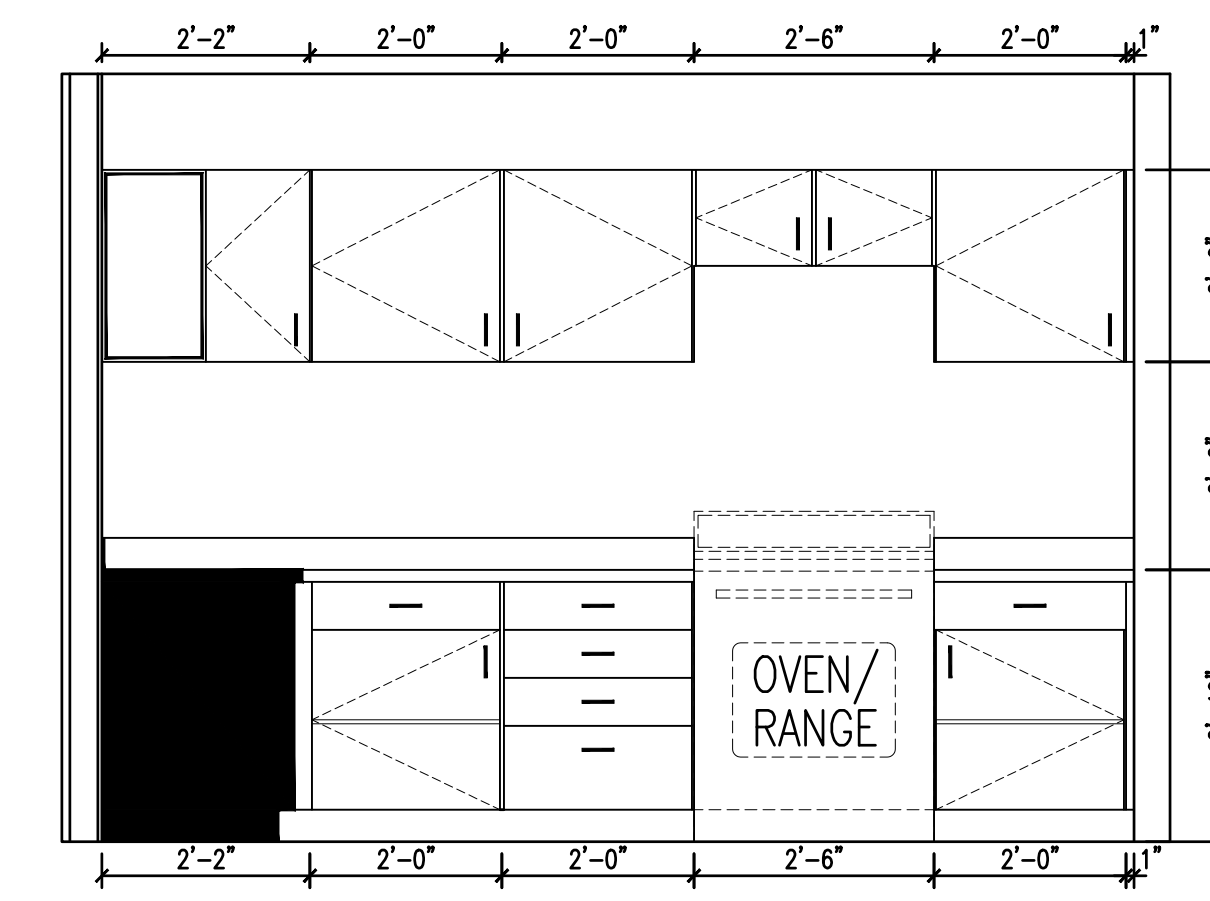
**KITCHEN ELEVATION PART 1 - OPTION A**  
1/2" = 1'-0"



**KITCHEN ELEVATION PART 2 - OPTION A**  
1/2" = 1'-0"



**KITCHEN ELEVATION PART 1 - OPTION B**  
1/2" = 1'-0"



**KITCHEN ELEVATION PART 2 - OPTION B**  
1/2" = 1'-0"

NOTE: BASE CABINET(S) HEIGHT CAN BE ADJUSTED TO 36" IF HOUSE IS TO NOT BE ADA COMPLIANT

NO.	REVISIONS DESCRIPTION	DATE

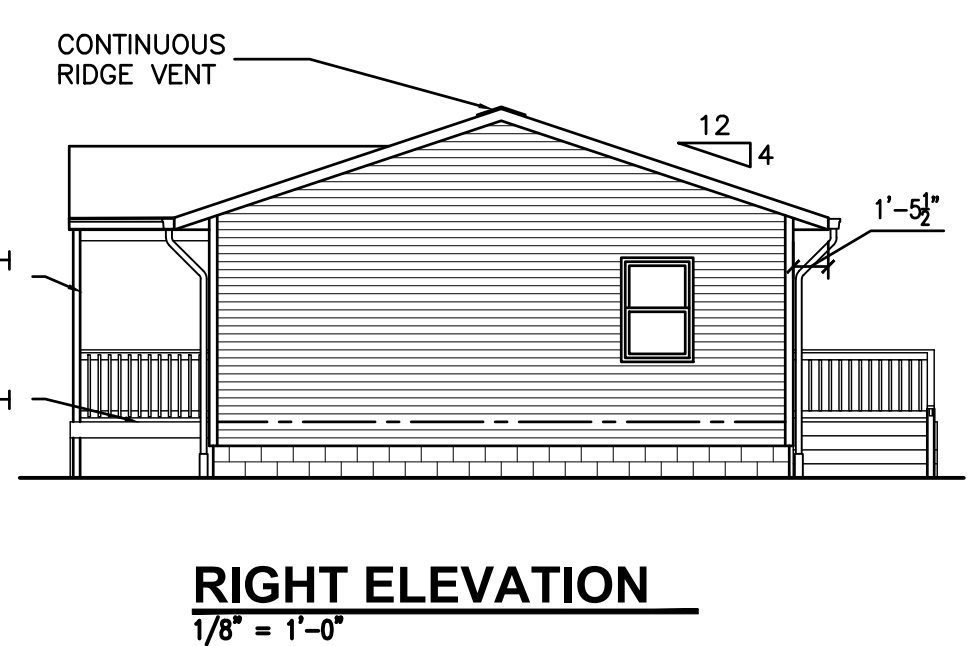
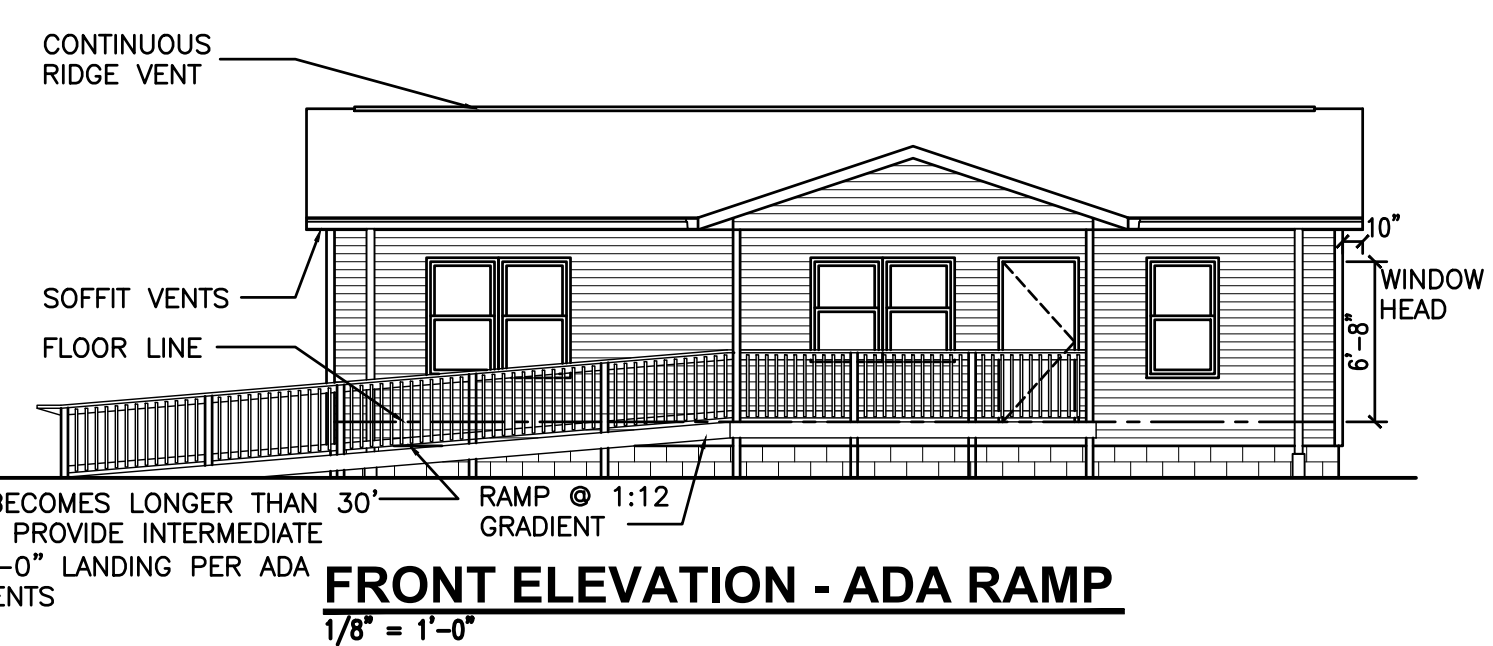
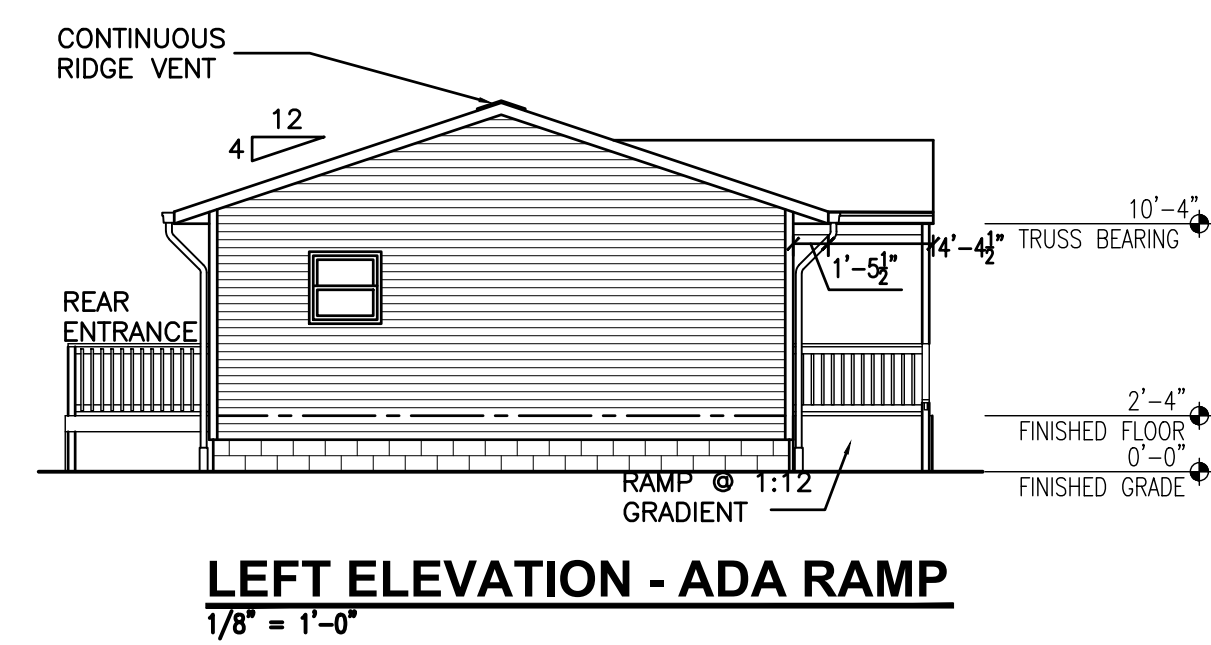
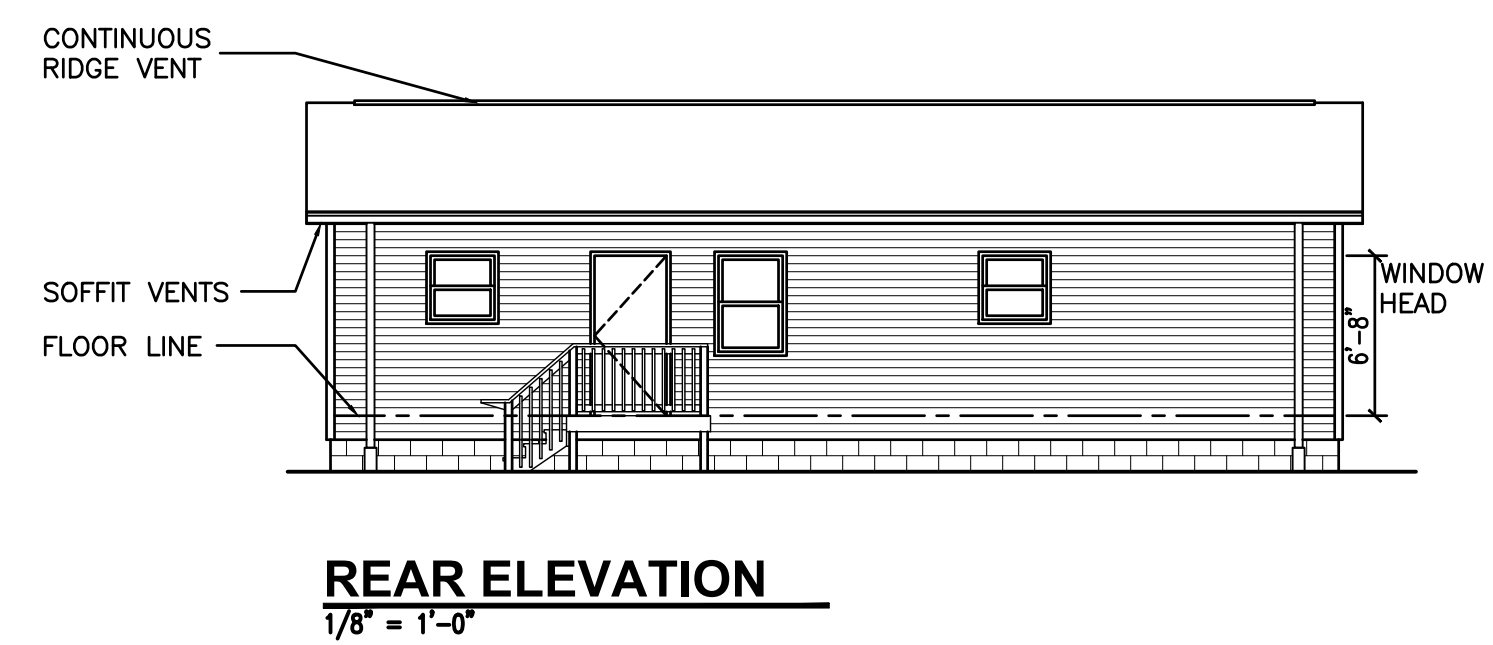
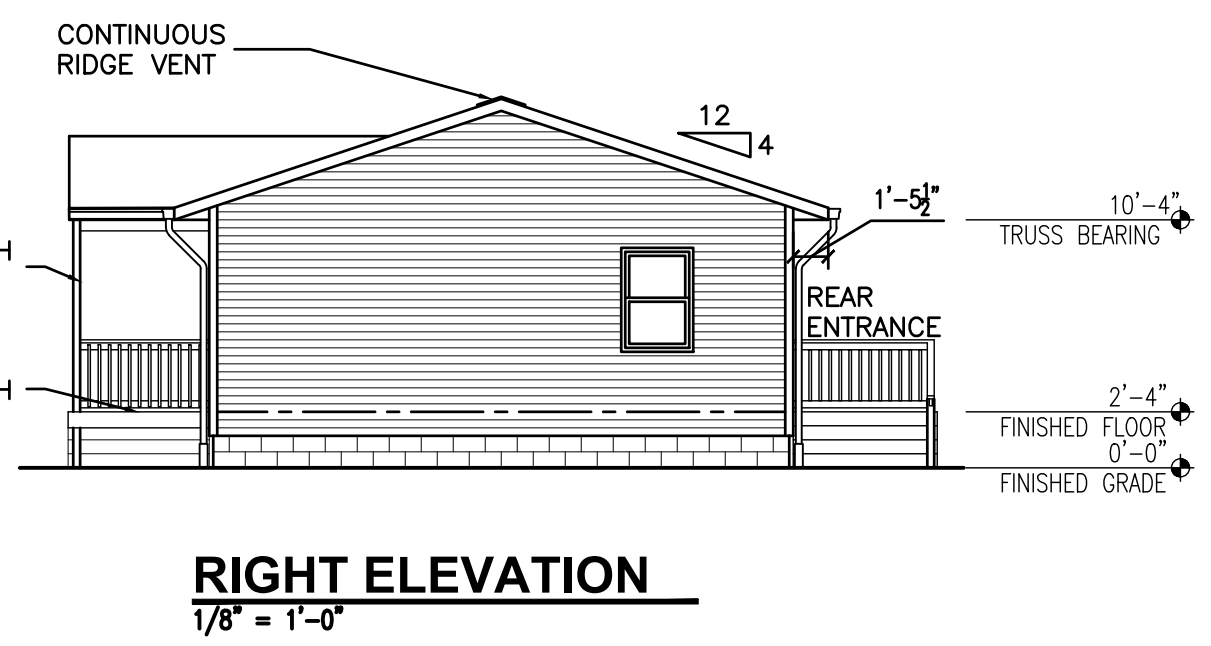
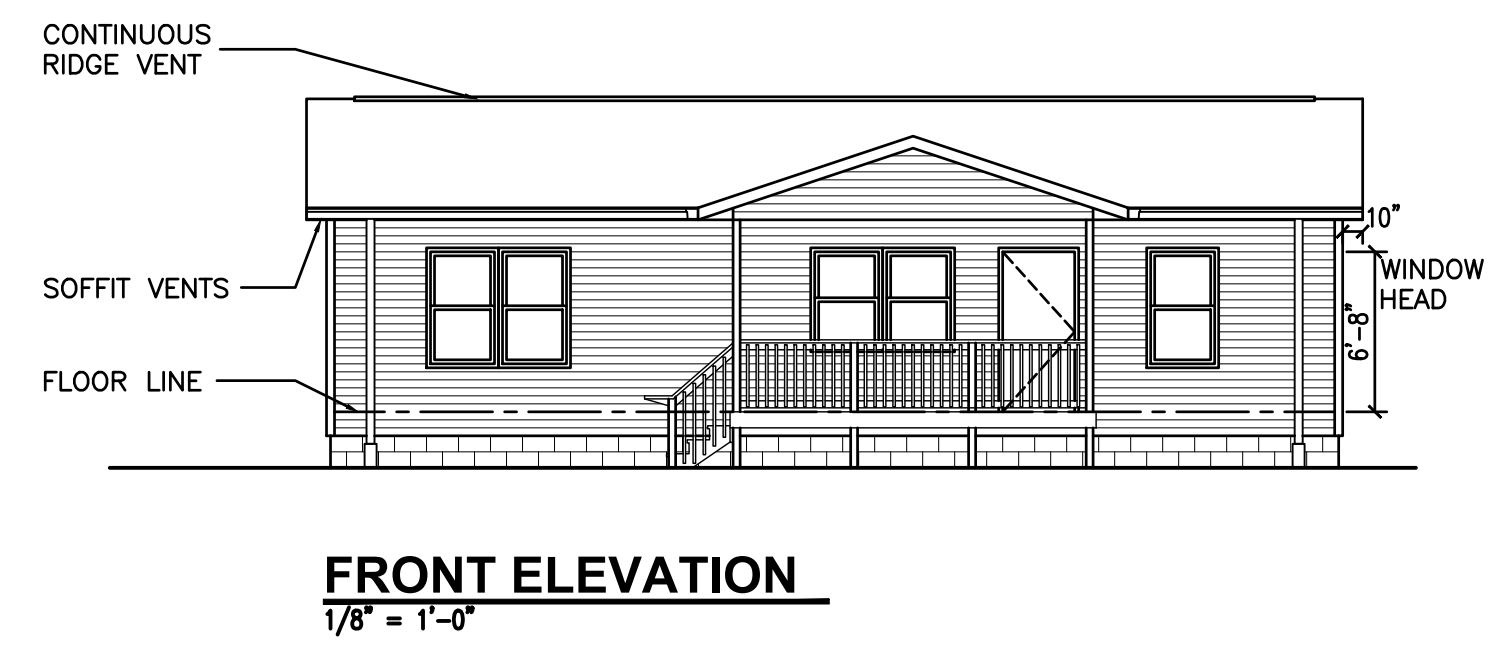
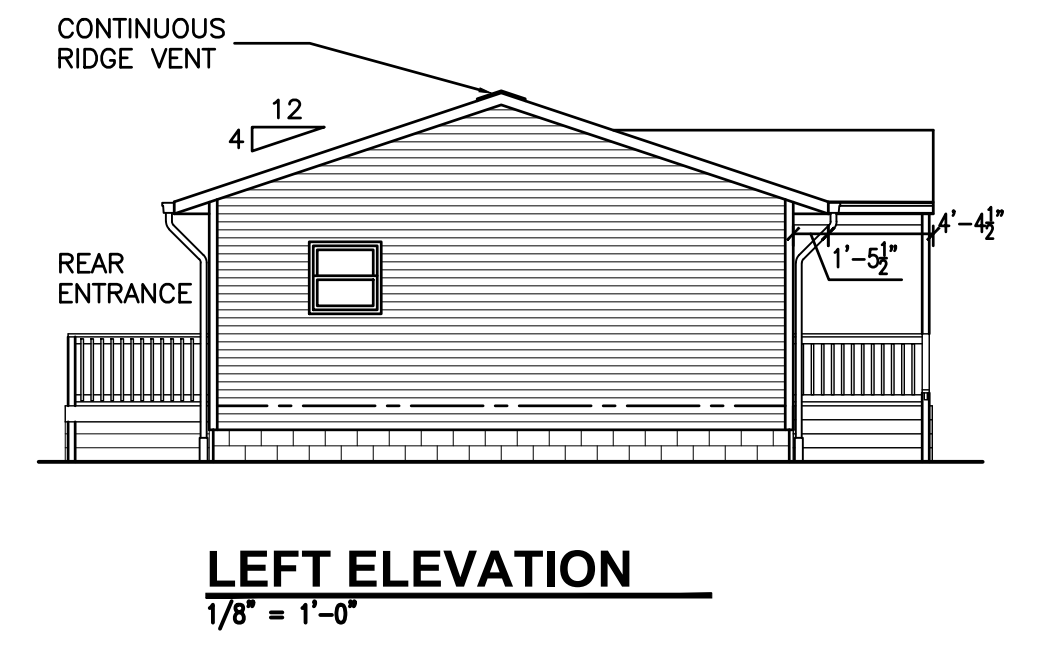
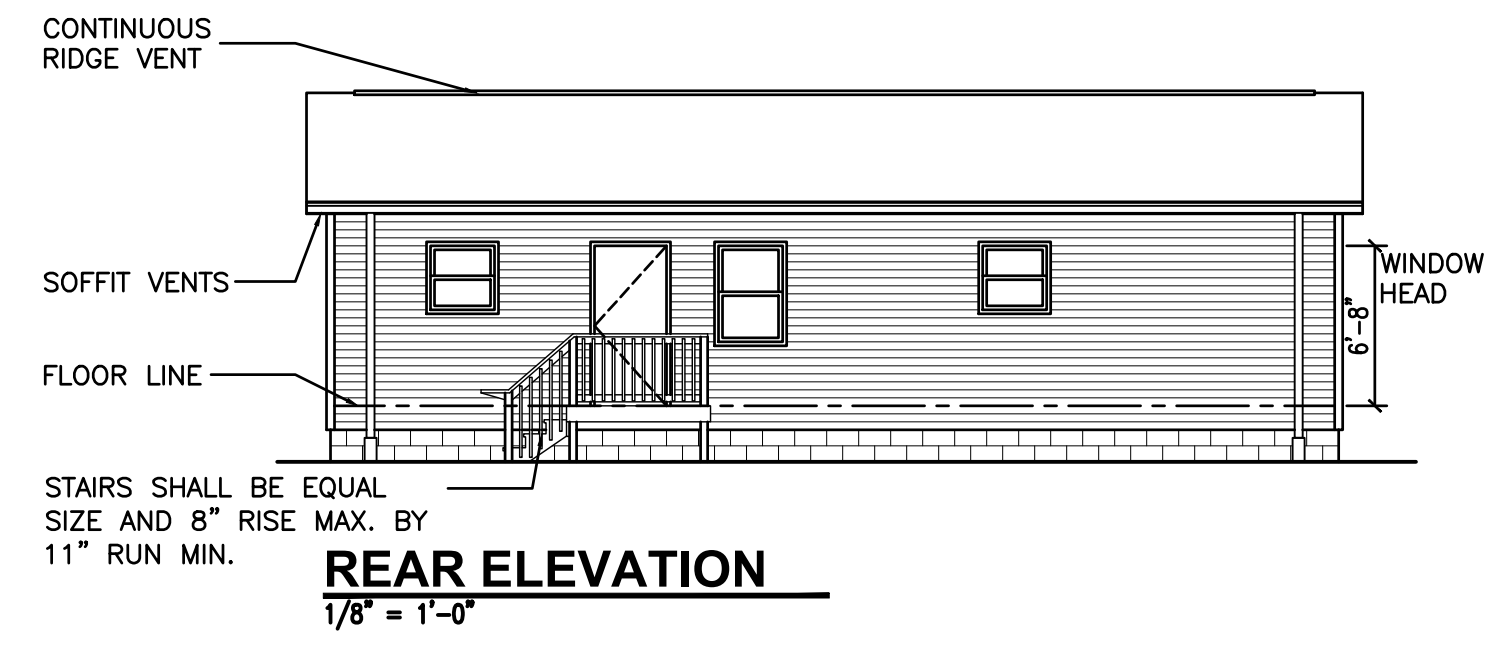
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**KITCHEN ELEVATIONS - OPTIONS A & B**

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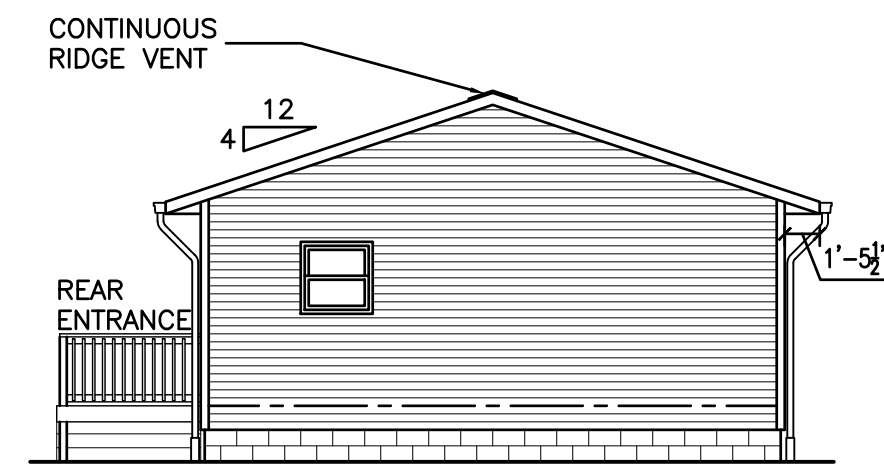
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**ELEVATIONS**  
**OPTION A**

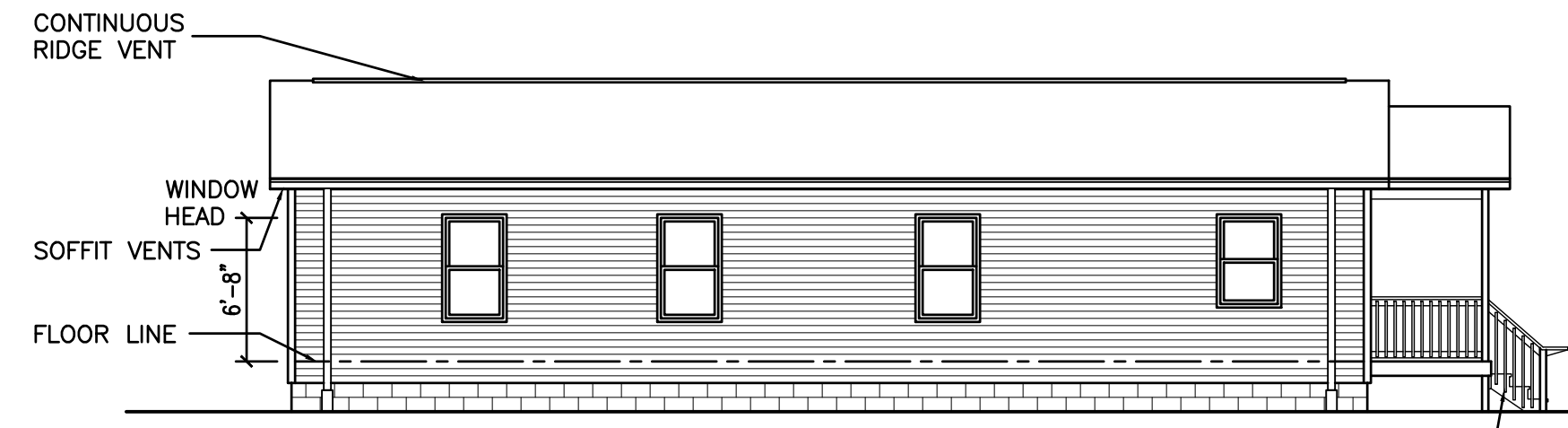
DRAWN JSB	CHECKED <b>ARK</b>
	DATE <b>July 26, 2018</b>
	COMM. NO. <b>18065</b>



**RIGHT ELEVATION**  
1/8" = 1'-0"

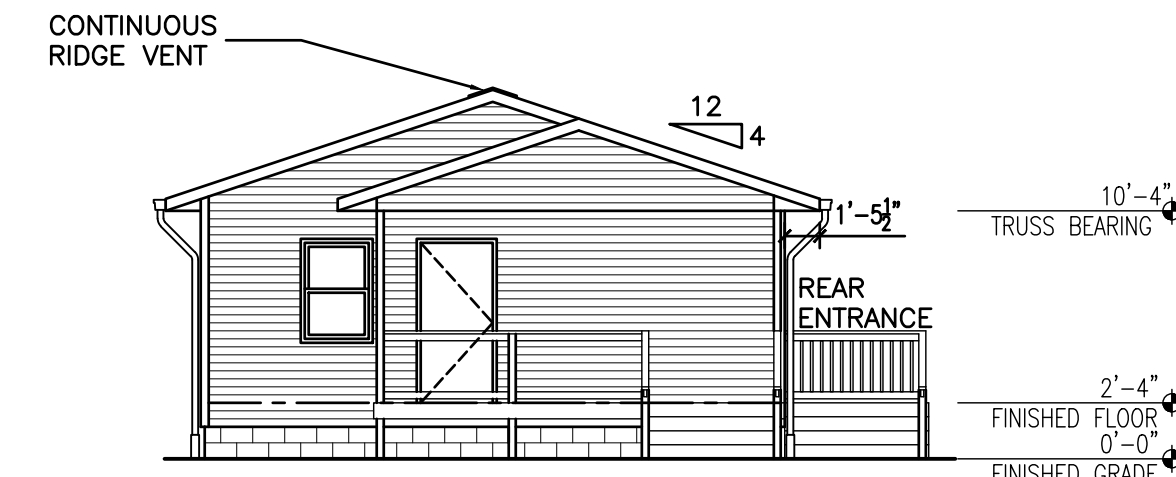


**REAR ELEVATION**  
1/8" = 1'-0"



**LEFT ELEVATION**  
1/8" = 1'-0"

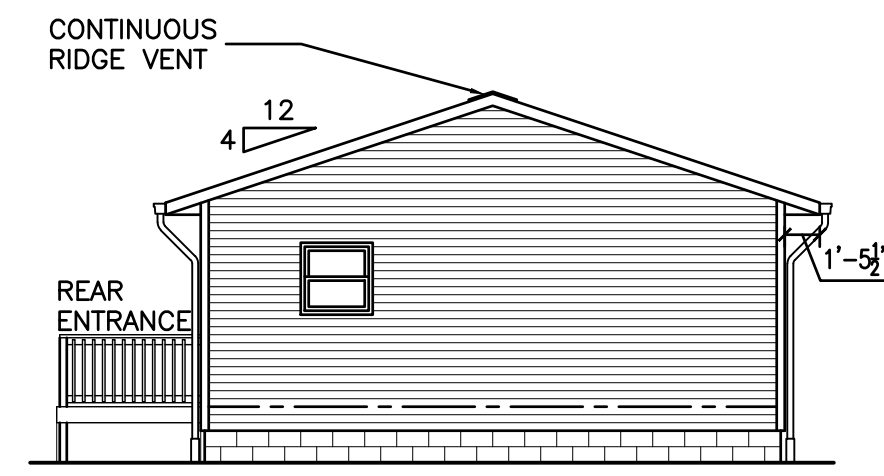
STAIRS SHALL BE EQUAL SIZE AND 8" RISE MAX. BY 11" RUN MIN.



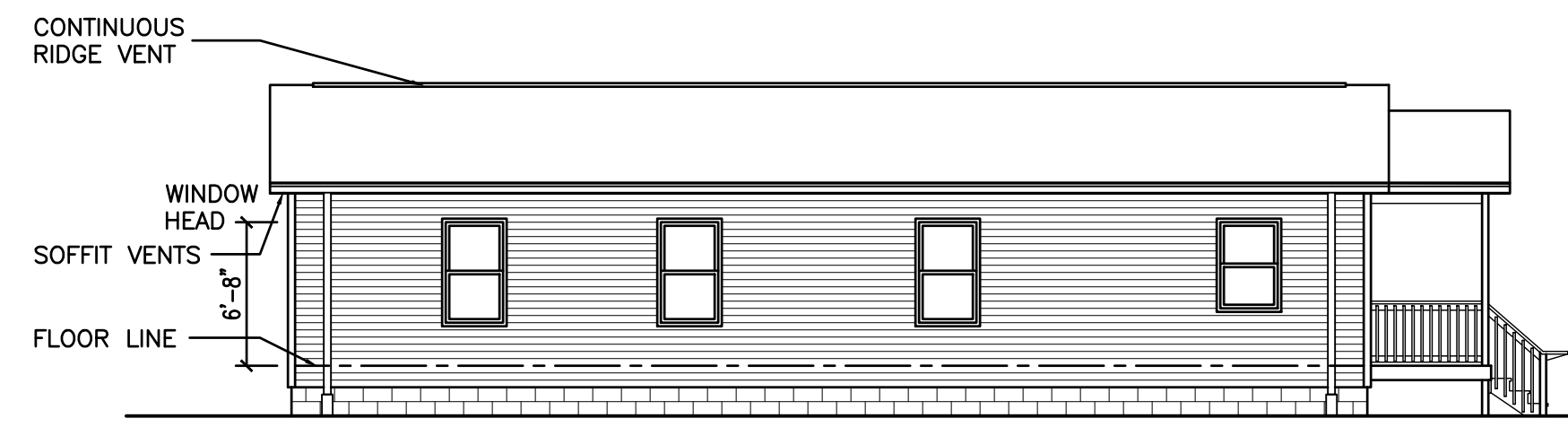
**FRONT ELEVATION**  
1/8" = 1'-0"



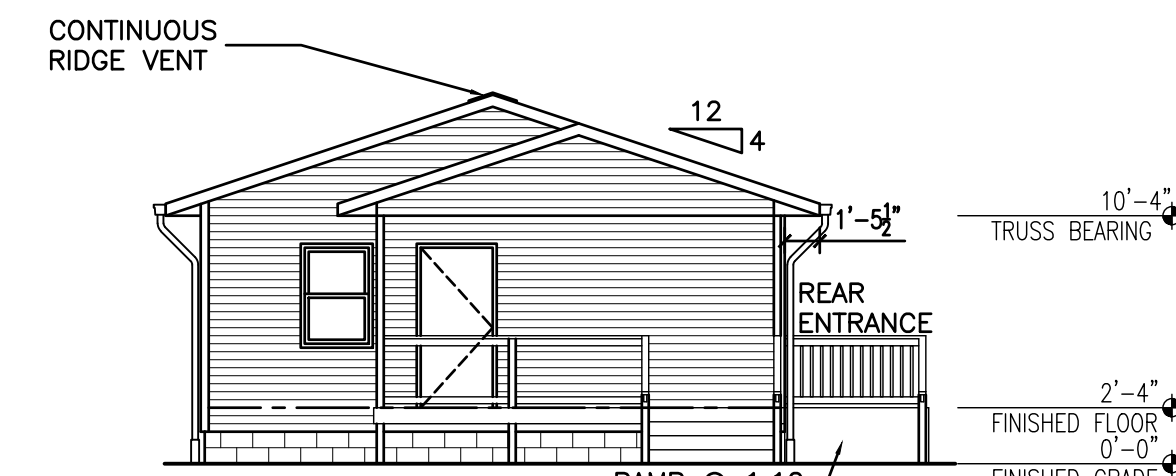
IF RAMP BECOMES LONGER THAN 30' IN LENGTH, PROVIDE INTERMEDIATE 5'-0" x 5'-0" LANDING PER ADA REQUIREMENTS  
**RIGHT ELEVATION - ADA RAMP**  
1/8" = 1'-0"



**LEFT ELEVATION - ADA RAMP**  
1/8" = 1'-0"



**FRONT ELEVATION**  
1/8" = 1'-0"



**FRONT ELEVATION - ADA RAMP**  
1/8" = 1'-0"

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**ELEVATIONS OPTION B**

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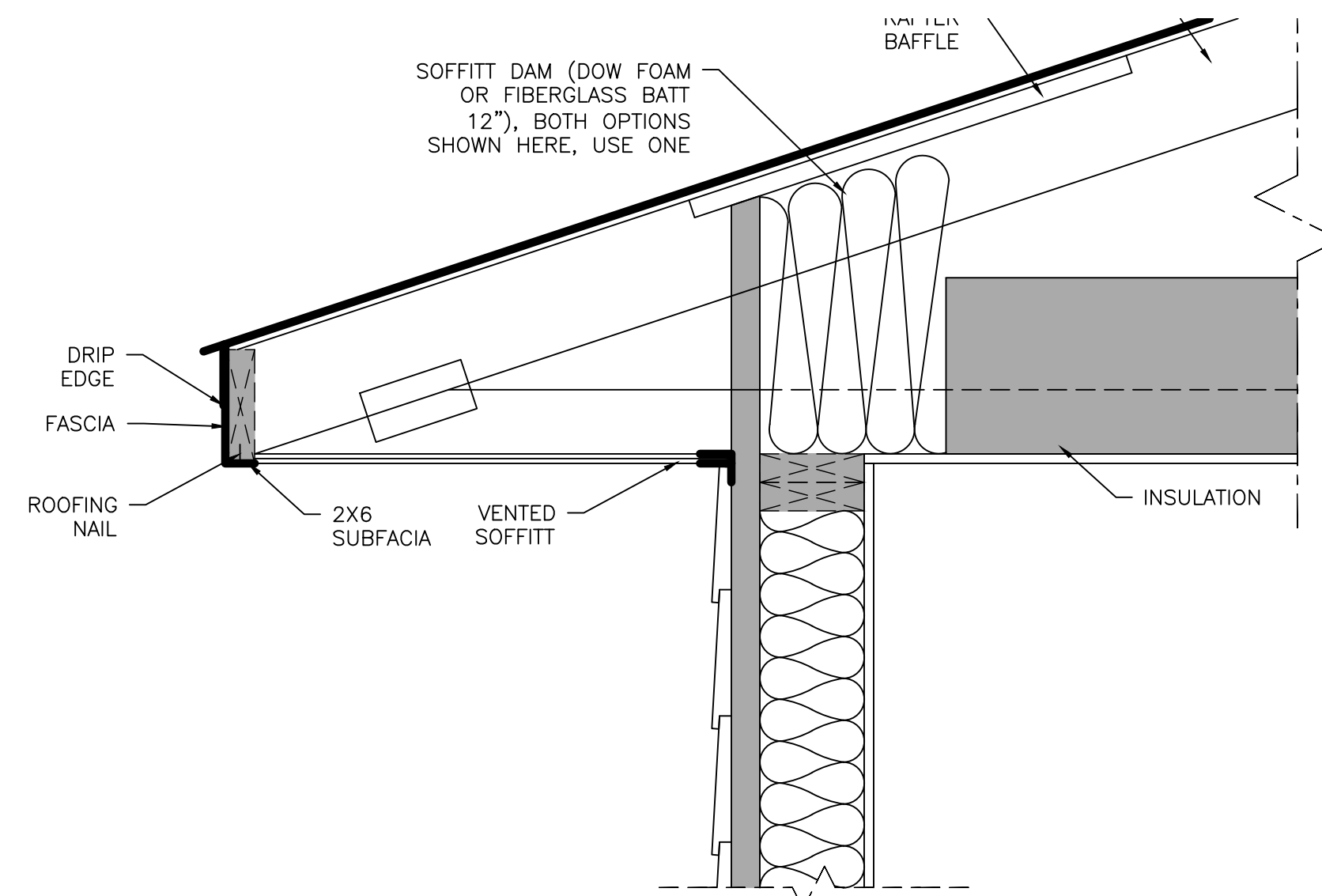
NO.	REVISIONS DESCRIPTION	DATE

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FLOOD RECOVERY  
HOUSE DESIGN  
Charleston, WV**

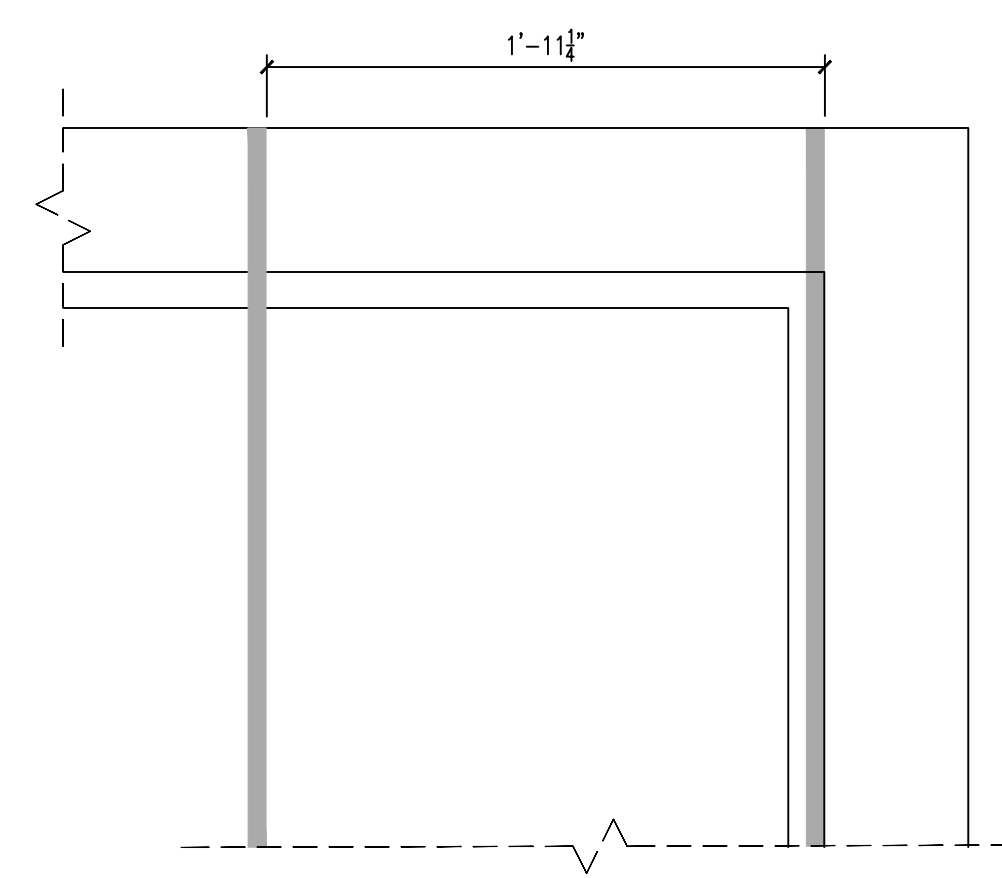
**CONSTRUCTION DOCUMENTS**

<b>SECTIONS &amp; DETAILS</b>	
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	DATE July 26, 2018
	COMM. NO. 18065

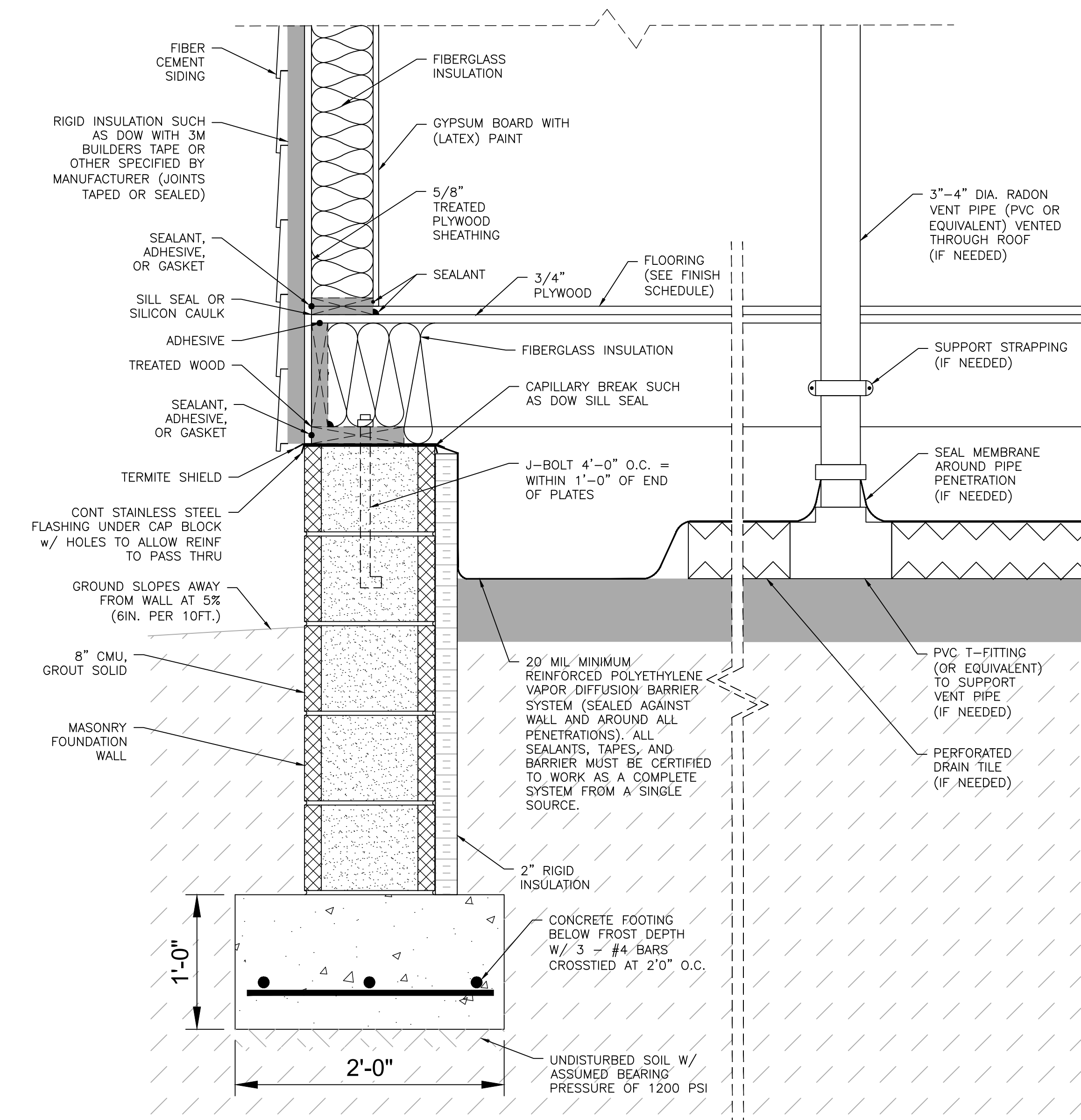
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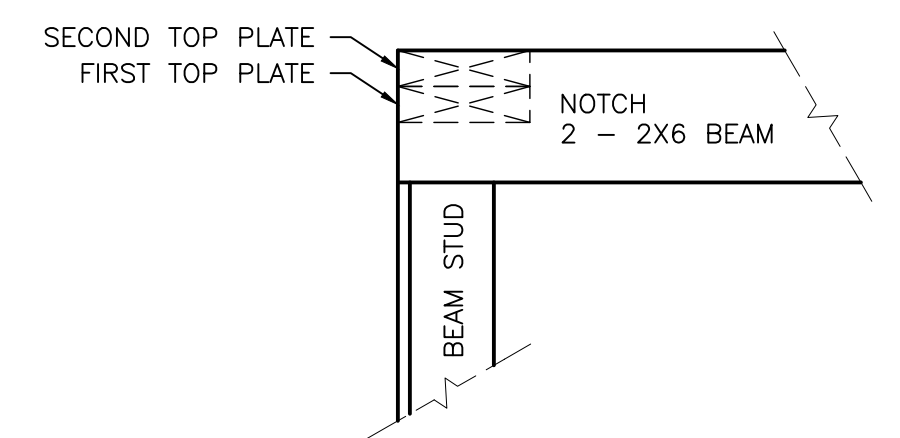
**ROOF DETAIL**  
3/4" = 1'-0"



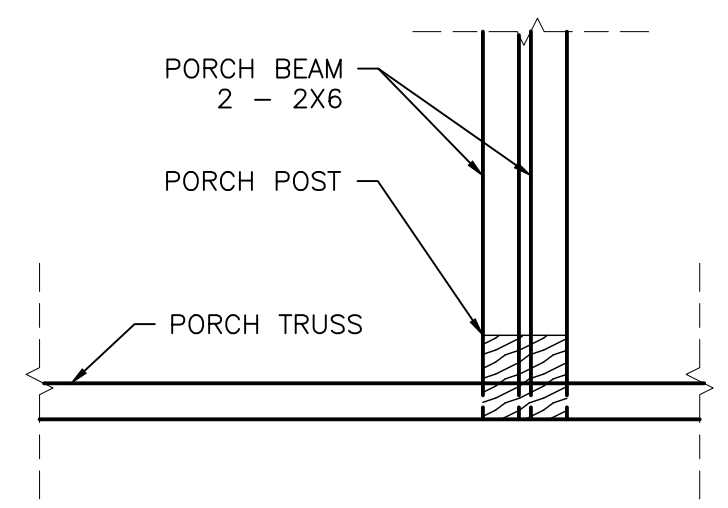
**ROOF FRAMING DETAIL**



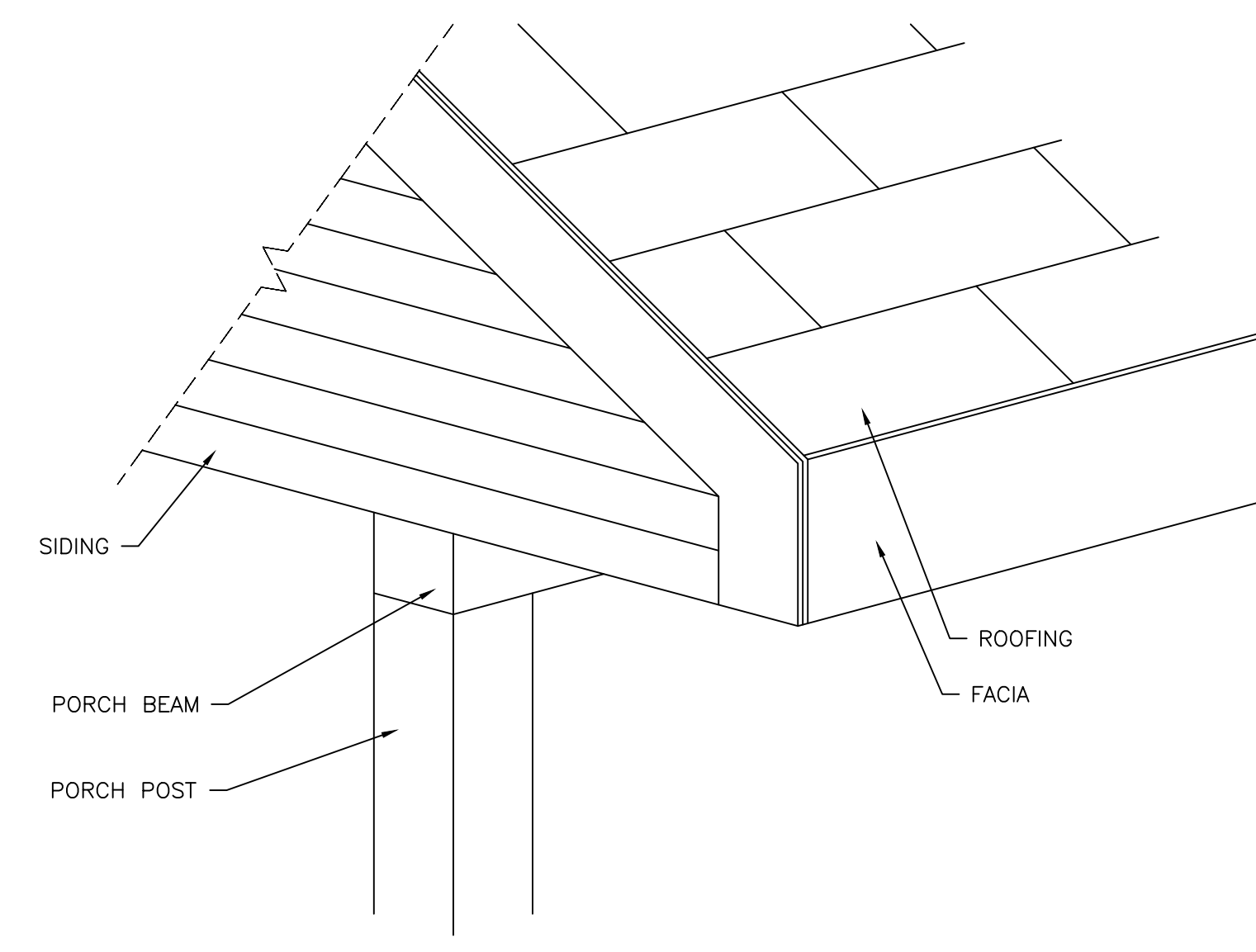
**CRAWL SPACE SECTION**  
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**PORCH ROOF DETAIL A**



**PORCH ROOF DETAIL B**



**PORCH DETAIL**

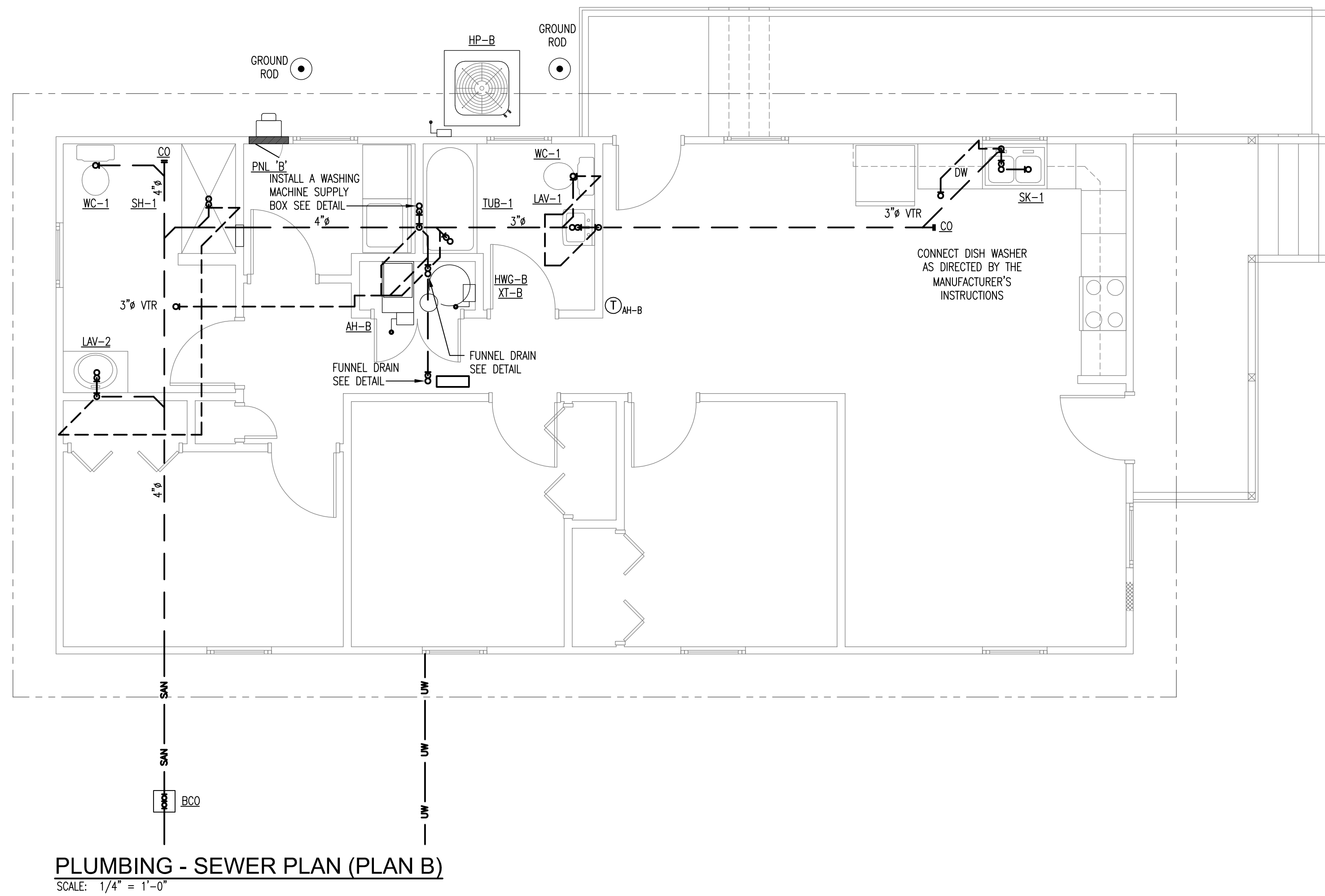
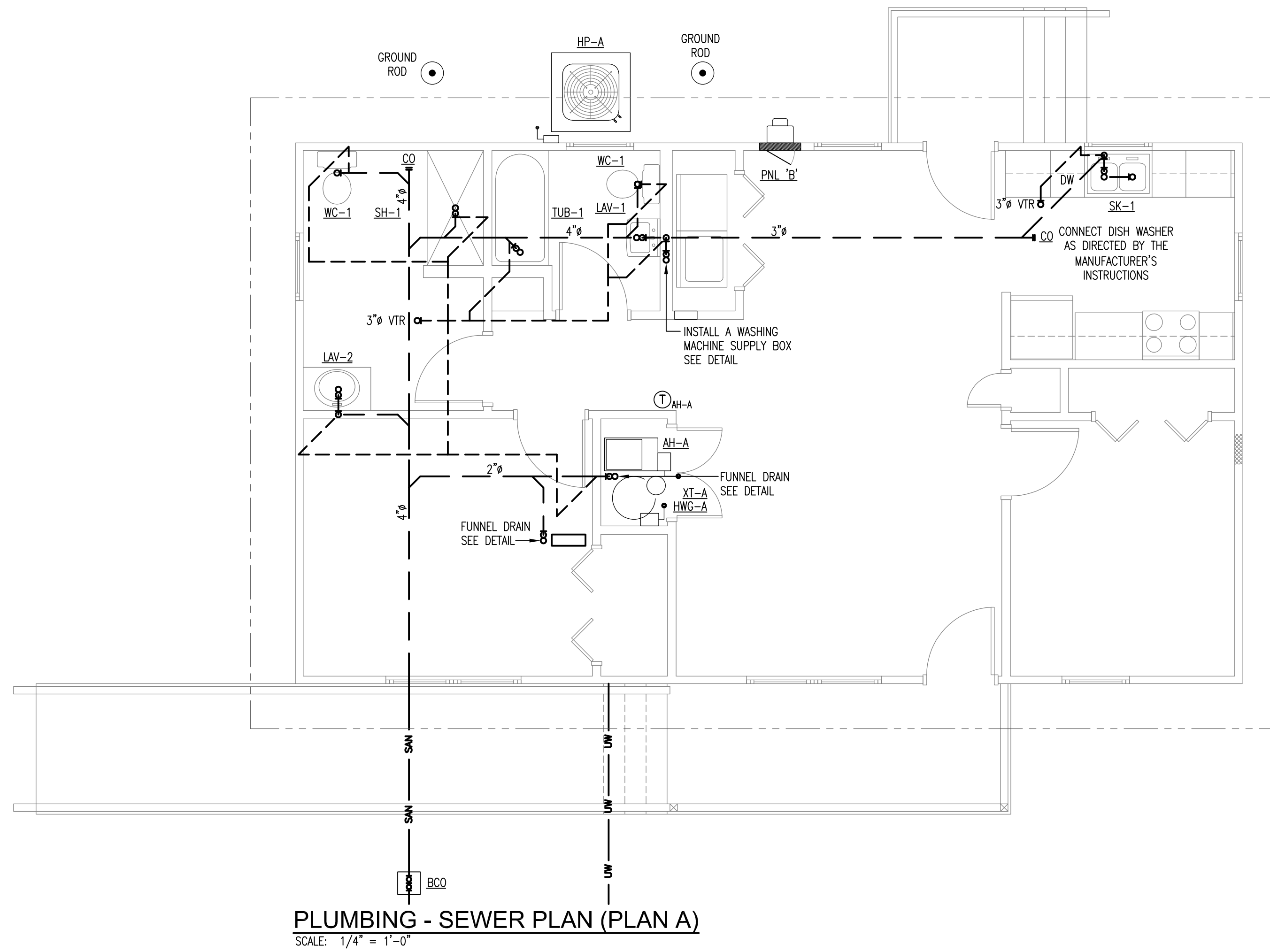
SIDING

PORCH BEAM

PORCH POST

ROOFING

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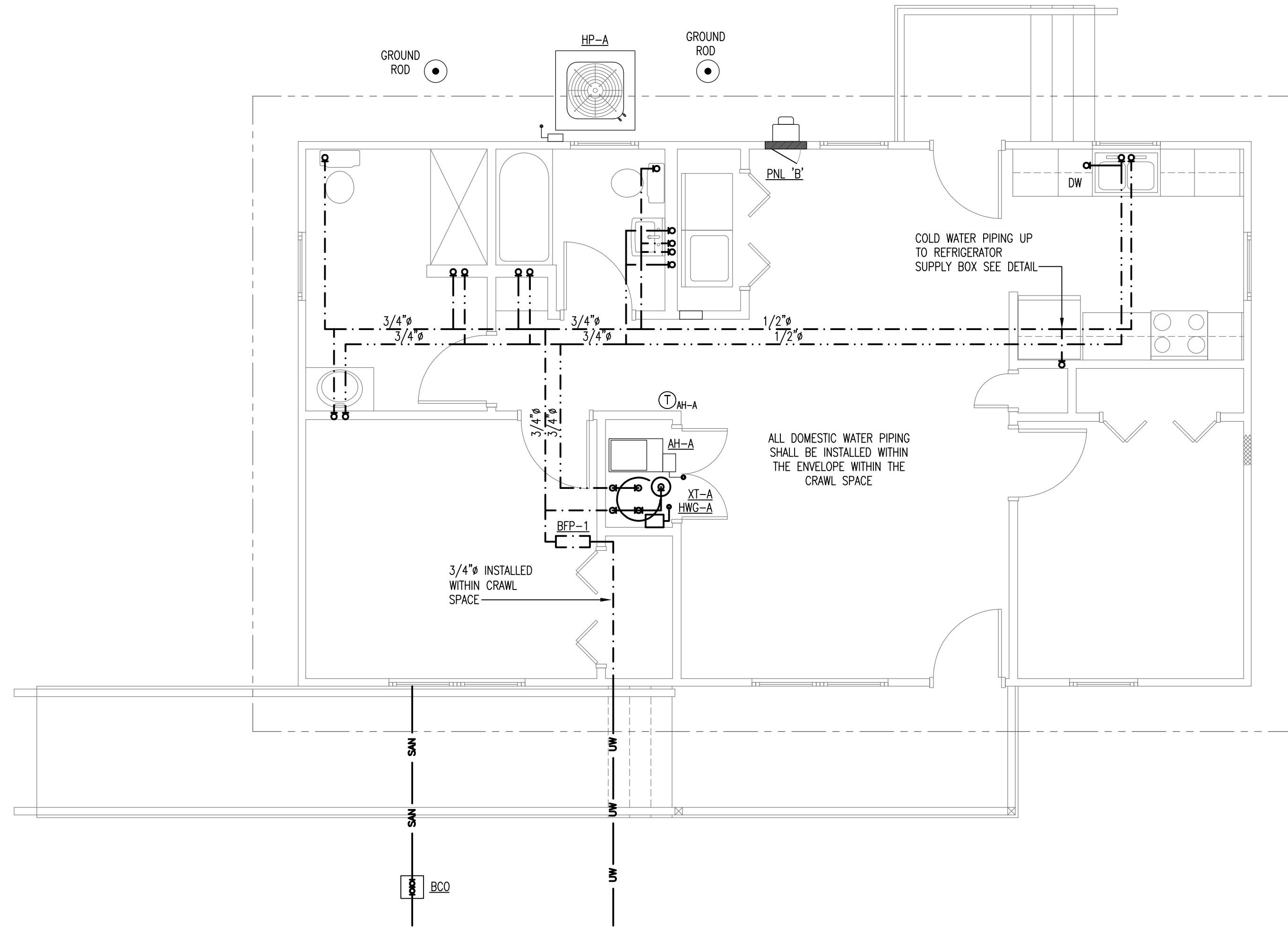
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**PLUMBING SEWER PLAN A & PLAN B**

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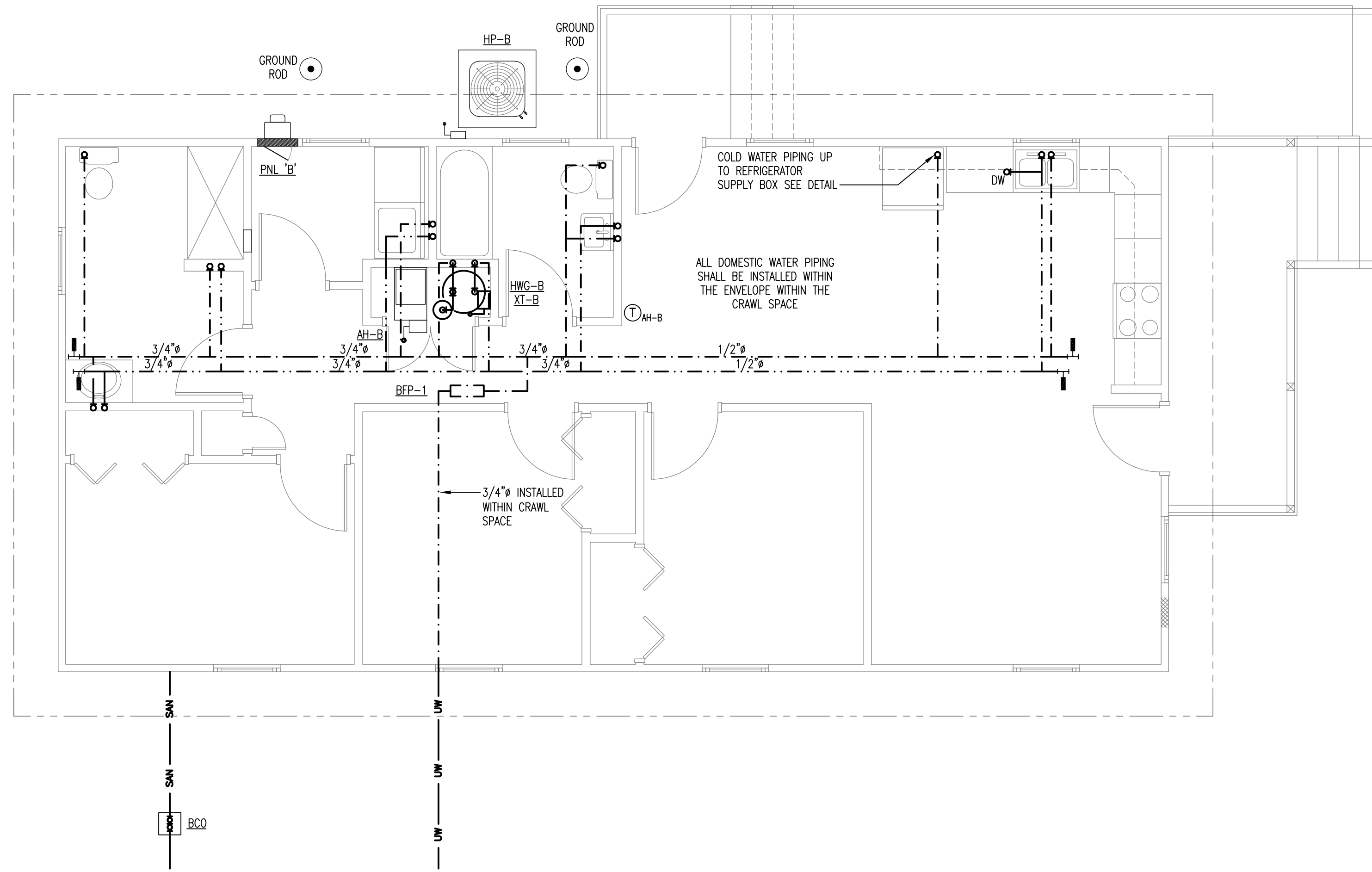
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July 26, 2018



PLUMBING - DOMESTIC WATER PLAN (PLAN A)

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



PLUMBING - DOMESTIC WATER PLAN (PLAN B)

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

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**PLUMBING DOMESTIC WATER PLAN A & PLAN B**

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PLUMBING SPECIALTIES

Table with columns: MARK, MANUFACTURER, DESCRIPTION, MODEL, PIPE SIZE. Rows include BFP-1, WHA, and HP.

BACKFLOW PREVENTER (BFP-1): 1. REDUCED PRESSURE ASSEMBLY CAPABLE OF PROTECTING POTABLE WATER FROM HEALTH HAZARD CROSS-CONNECTIONS.

WATER HAMMER ARRESTOR (WHA): 1. MAY BE INSTALLED IN CONCEALED LOCATION WITH ACCESS PANELS. 2. FACTORY AIR-CHARGED, NOT RECHARGEABLE.

WATER HYDRANT (HD): 1. INTEGRAL ANTI-SIPHON VACUUM BREAKER/BACKFLOW PREVENTER. 2. CERAMIC VALVE CARTRIDGE. 3. COPPER TUBING CASING. 4. 304 STAINLESS STEEL FACEPLATE WITH STAINLESS STEEL BOX AND HINGED COVER WITH AN OPERATING KEY LOCK AND WATER STAMPED ON THE COVER.

DOMESTIC WATER PIPE SPECIFICATION: PEX

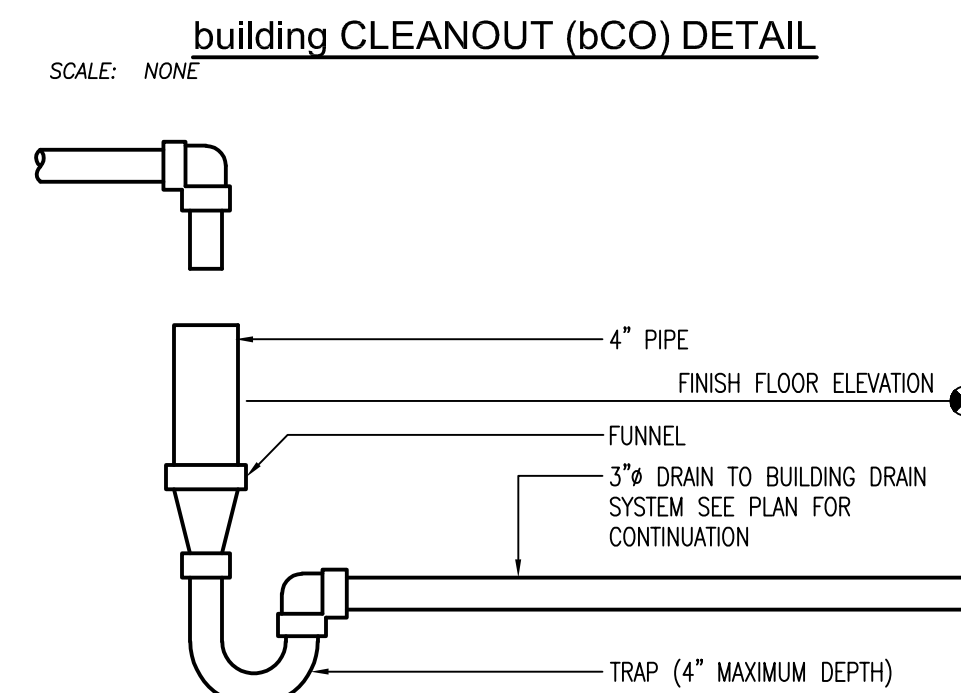
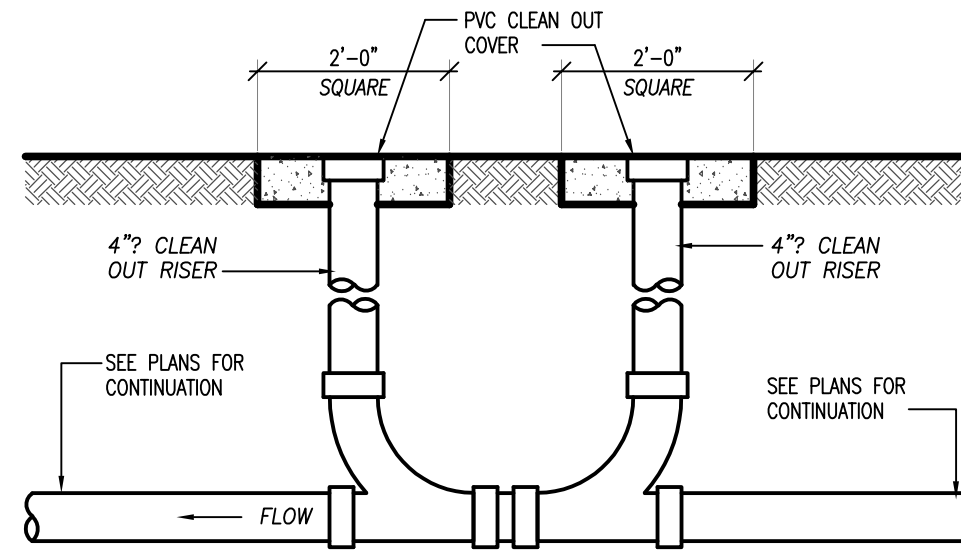
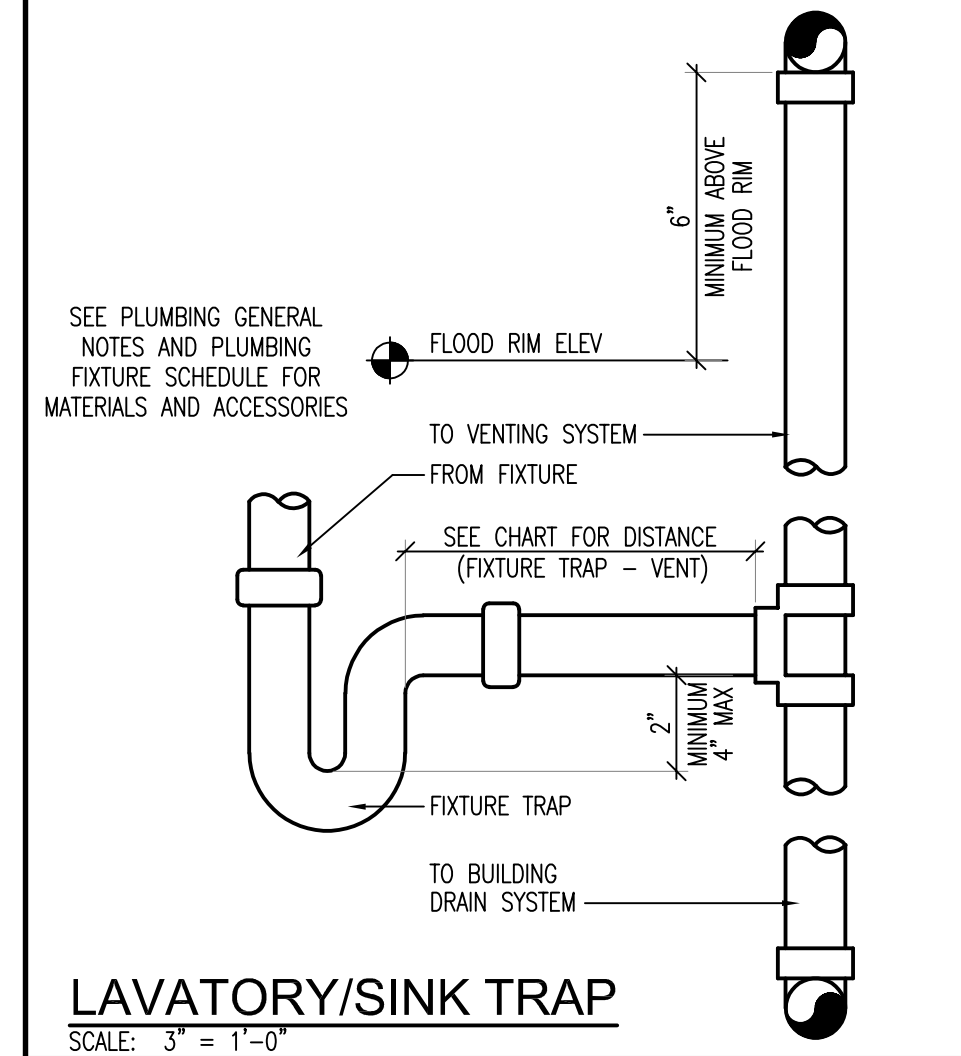
- PEX TUBE AND FITTINGS: 1. PEX (CROSS LINKED POLYETHYLENE) DISTRIBUTION SYSTEM: ASTM F 877, SDR 9 TUBING. FITTINGS: 1. FITTINGS FOR PEX TUBE: ASTM F 1807, METAL-INSERT TYPE WITH COPPER OR STAINLESS-STEEL CRIMP RINGS AND MATCHING PEX TUBE DIMENSIONS. JOINT CONSTRUCTION: 1. JOINTS FOR PEX PIPING: JOIN ACCORDING TO ASTM F 1807. HANGAR AND SUPPORT INSTALLATION: 1. INSTALL VINYL-COATED HANGERS FOR PEX PIPING WITH THE FOLLOWING MAXIMUM HORIZONTAL SPACING AND MINIMUM ROD DIAMETERS. a. NPS 1 AND SMALLER: 32 INCHES WITH 1/4-INCH ROD. 2. INSTALL HANGERS FOR VERTICAL PEX PIPING EVERY 48 INCHES.

MINIMUM CONNECTION SIZE

Table with columns: FIXTURE TYPE, MIN SUPPLY SIZE, MIN WASTE SIZE. Rows include DRINKING FOUNTAIN, DISHWASHING MACHINE, KITCHEN SINK (DOMESTIC), LAVATORY, SHOWER, SINK (SERVICE), URINAL, WATER CLOSET (FLUSH TANK), WATER CLOSET (FLUSH VALVE).

FIXTURE TRAP - VENT DISTANCE

Table with columns: TRAP SIZE (in), FIXTURE DRAIN SIZE (in), SLOPE (in/ft), MAXIMUM DISTANCE FROM TRAP (ft), MINIMUM DISTANCE FROM TRAP (ft).

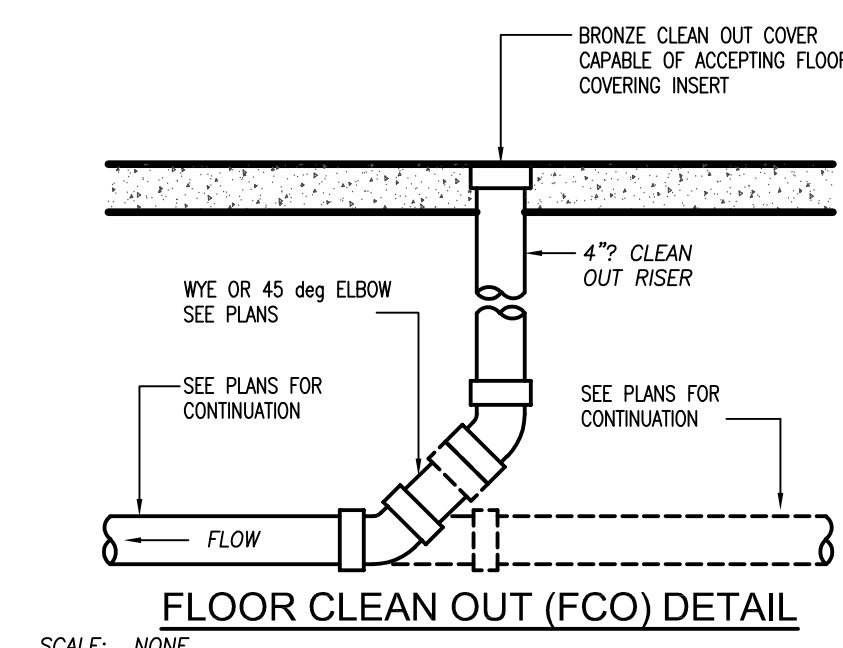


PIPING SYMBOLS LEGEND

Legend table mapping line types to pipe labels. Includes categories like NEW CONCEALED DOMESTIC COLD WATER PIPING, NEW UNDERGROUND DOMESTIC COLD WATER PIPING, EXISTING UNDERGROUND DOMESTIC COLD WATER PIPING, etc. Also includes symbols for valves, fittings, and special features like fire protection piping and circulation pumps.

GENERAL SANITARY NOTES:

- COMPONENTS AND INSTALLATION SHALL BE CAPABLE OF WITHSTANDING THE FOLLOWING MINIMUM WORKING PRESSURE, UNLESS OTHERWISE INDICATED: SOIL, WASTE, AND VENT PIPING: 10-FOOT HEAD OF WATER. SUBMIT PRODUCT DATA: FOR PIPE, TUBE, FITTINGS, AND COUPLINGS, INDICATING LOCATION AND USE (ABOVE GROUND, UNDERGROUND, PLENUM AREA, ETC.). PIPING MATERIALS SHALL BEAR LABEL, STAMP, OR OTHER MARKINGS OF SPECIFIED TESTING AGENCY. HUBLESS CAST-IRON SOIL PIPE AND FITTINGS: ASTM A 888 OR CISPI 301. SHIELDED COUPLINGS: ASTM C 1277 ASSEMBLY OF METAL SHIELD OR HOUSING, CORROSION-RESISTANT FASTENERS, AND RUBBER SLEEVE WITH INTEGRAL CENTER PIPE STOP. STANDARD, SHIELDED, STAINLESS-STEEL COUPLINGS: CISPI 310, WITH STAINLESS-STEEL CORRUGATED SHIELD; STAINLESS-STEEL BANDS AND TIGHTENING DEVICES; AND ASTM C 564, RUBBER SLEEVE. COPPER TUBE AND FITTINGS: COPPER DW TUBE: ASTM B 306, DRAINAGE TUBE, DRAWN TEMPER. COPPER DRAINAGE FITTINGS: ASME B16.23, CAST COPPER OR ASME B16.29, WROUGHT COPPER, SOLDER-JOINT FITTINGS. UNDERGROUND BUILDING DRAINAGE, WASTE AND VENT PIPE (UPTO 6" ABOVE RIM) SHALL BE SCH 40 PVC. ABOVEGROUND, VENT PIPING NPS 4 AND SMALLER (6" ABOVE FIXTURE RIM) SHALL BE ANY OF THE FOLLOWING: SERVICE CLASS, CAST-IRON SOIL PIPE AND FITTINGS; GASKETS; AND GASKETED JOINTS. HUBLESS CAST-IRON SOIL PIPE AND FITTINGS; STANDARD, SHIELDED, STAINLESS-STEEL COUPLINGS; AND HUBLESS-COUPLING JOINTS. COPPER DW TUBE, COPPER DRAINAGE FITTINGS, AND SOLDERED JOINTS. OPTION FOR VENT PIPING, NPS 2-1/2 AND NPS 3-1/2: HARD COPPER TUBE, TYPE M (TYPE C); COPPER PRESSURE FITTINGS; AND SOLDERED JOINTS. SCHEDULE 40 PVC. MAKE CHANGES IN DIRECTION FOR SOIL AND WASTE DRAINAGE AND VENT PIPING USING APPROPRIATE BRANCHES, BENDS, AND LONG-SWEEP BENDS. SANITARY TEES AND SHORT-SWEEP 1/4 BENDS MAY BE USED ON VERTICAL STACKS IF CHANGE IN DIRECTION OF FLOW IS FROM HORIZONTAL TO VERTICAL. USE LONG-TURN, DOUBLE Y-BRANCH AND 1/8-BEND FITTINGS IF 2 FIXTURES ARE INSTALLED BACK TO BACK OR SIDE BY SIDE WITH COMMON DRAIN PIPE. STRAIGHT TEES, ELBOWS, AND CROSSES MAY BE USED ON VENT LINES. DO NOT CHANGE DIRECTION OF FLOW MORE THAN 90 DEGREES. USE PROPER SIZE OF STANDARD INCREASERS AND REDUCERS IF PIPES OF DIFFERENT SIZES ARE CONNECTED. REDUCING SIZE OF DRAINAGE PIPING IN DIRECTION OF FLOW IS PROHIBITED. LAY BURIED BUILDING DRAINAGE PIPING BEGINNING AT LOW POINT OF EACH SYSTEM. INSTALL TRUE TO GRADES AND ALIGNMENT INDICATED, WITH UNBROKEN CONTINUITY OF INVERT. PLACE HUB ENDS OF PIPING UPSTREAM. INSTALL REQUIRED GASKETS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR USE OF LUBRICANTS, CEMENTS, AND OTHER INSTALLATION REQUIREMENTS. MAINTAIN SWAB IN PIPING AND PULL PAST EACH JOINT AS COMPLETED. INSTALL SOIL AND WASTE DRAINAGE AND VENT PIPING AT THE FOLLOWING MINIMUM SLOPES, UNLESS OTHERWISE INDICATED: BUILDING SANITARY DRAIN: 2 PERCENT DOWNWARD IN DIRECTION OF FLOW FOR PIPING NPS 3 AND SMALLER; 1 PERCENT DOWNWARD IN DIRECTION OF FLOW FOR PIPING NPS 4 AND LARGER. HORIZONTAL SANITARY DRAINAGE PIPING: 2% DOWNWARD IN DIRECTION OF FLOW. VENT PIPING: 1% DOWN TOWARD VERTICAL FIXTURE VENT OR TOWARD VENT STACK. INSTALL PVC SOIL AND WASTE DRAINAGE AND VENT PIPING ACCORDING TO ASTM D 2665. DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT IS INSPECTED AND APPROVED BY AUTHORITIES HAVING JURISDICTION. JOIN HUBLESS CAST-IRON SOIL PIPING ACCORDING TO CISPI 310 AND CISPI'S 'CAST IRON SOIL PIPE AND FITTINGS HANDBOOK' FOR HUBLESS-COUPLING JOINTS. SOLDERED JOINTS: USE ASTM B 813, WATER-FLUSHABLE, LEAD-FREE FLUX; ASTM B 32, LEAD-FREE-ALLOY SOLDER; AND ASTM B 828 PROCEDURE, UNLESS OTHERWISE INDICATED. PVC NONPRESSURE PIPING JOINTS: JOIN PIPING ACCORDING TO ASTM D 2665. BACKWATER VALVES: INSTALL BACKWATER VALVES IN PIPING SUBJECT TO SEWAGE BACKFLOW. HORIZONTAL PIPING: HORIZONTAL BACKWATER VALVES. USE NORMALLY CLOSED TYPE, UNLESS OTHERWISE INDICATED. FLOOR DRAINS: DRAIN OUTLET BACKWATER VALVES, UNLESS DRAIN HAS INTEGRAL BACKWATER VALVE. INSTALL BACKWATER VALVES IN ACCESSIBLE LOCATIONS. INSTALL BACKWATER VALVES ON THE INFLUENT OF THE GREASE INTERCEPTOR. INSTALL PIPE HANGARS AND SUPPORTS AS INDICATED BELOW: BASE OF VERTICAL PIPING: MSS TYPE 52, SPRING HANGERS. SUPPORT VERTICAL PIPING AND TUBING AT BASE AND AT EACH FLOOR. ROD DIAMETER MAY BE REDUCED 1 SIZE FOR DOUBLE-ROD HANGERS, WITH 3/8-INCH MINIMUM RODS. INSTALL HANGERS FOR CAST-IRON SOIL PIPING WITH THE FOLLOWING MAXIMUM HORIZONTAL SPACING AND MINIMUM ROD DIAMETERS: NPS 1-1/2 AND NPS 2: 60 INCHES WITH 3/8-INCH ROD. NPS 3: 60 INCHES WITH 1/2-INCH ROD. NPS 4 AND NPS 5: 60 INCHES WITH 5/8-INCH ROD. NPS 6: 60 INCHES WITH 3/4-INCH ROD. INSTALL HANGERS FOR VERTICAL CAST-IRON SOIL PIPING EVERY 15 FEET. INSTALL HANGERS FOR COPPER TUBING WITH THE FOLLOWING MAXIMUM HORIZONTAL SPACING AND MINIMUM ROD DIAMETERS: NPS 1-1/4: 72 INCHES WITH 3/8-INCH ROD. NPS 1-1/2 AND NPS 2: 96 INCHES WITH 3/8-INCH ROD. NPS 2-1/2: 108 INCHES WITH 1/2-INCH ROD. NPS 3 TO NPS 5: 10 FEET WITH 1/2-INCH ROD. NPS 6: 10 FEET WITH 5/8-INCH ROD. INSTALL SUPPORTS FOR VERTICAL COPPER TUBING EVERY 10 FEET (3 M). SUPPORT PIPING AND TUBING NOT LISTED ABOVE ACCORDING TO MSS SP-69 AND MANUFACTURER'S WRITTEN INSTRUCTIONS. DRAWINGS INDICATE GENERAL ARRANGEMENT OF PIPING, FITTINGS, AND SPECIALTIES. THE CONTRACTOR MUST COORDINATE ALL WORK WITH OTHER TRADES. CONNECT SOIL AND WASTE PIPING TO EXTERIOR SANITARY SEWERAGE PIPING. USE TRANSITION FITTING TO JOIN DISSIMILAR PIPING MATERIALS. CONNECT DRAINAGE AND VENT PIPING TO THE FOLLOWING: PLUMBING FIXTURES: CONNECT DRAINAGE PIPING IN SIZES INDICATED, BUT NOT SMALLER THAN REQUIRED BY PLUMBING CODE. PLUMBING SPECIALTIES: CONNECT DRAINAGE AND VENT PIPING IN SIZES INDICATED, BUT NOT SMALLER THAN REQUIRED BY PLUMBING CODE. EVERY CLEAN OUT SHALL BE INSTALLED TO OPEN TO ALLOW CLEANING IN THE DIRECTION OF THE FLOW OF THE DRAINAGE PIPE OR AT RIGHT ANGLES THERETO. CLEAN OUTS SHALL BE THE SAME NOMINAL SIZE AS THE PIPE THEY SERVE UP TO 4 INCHES NOMINAL SIZE, THE MINIMUM SIZE OF THE CLEAN OUT SHALL BE 4 INCHES WITH THE EXCEPTION OF: 'P' TRAP CONNECTIONS WITH SLIP JOINTS OR GROUND JOINT CONNECTIONS. STACK CLEAN OUTS THAT ARE NOT MORE THAN ONE PIPE DIAMETER SMALLER THAN THE DRAIN SERVED. CLEAN OUTS ON 6" AND SMALLER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 18 INCHES FOR RODDING. CLEAN OUTS ON 8" AND LARGER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 36" DURING INSTALLATION, NOTIFY AUTHORITIES HAVING JURISDICTION AT LEAST 24 HOURS BEFORE INSPECTION MUST BE MADE. PERFORM TESTS SPECIFIED BELOW IN PRESENCE OF AUTHORITIES HAVING JURISDICTION. ROUGHING-IN INSPECTION: ARRANGE FOR INSPECTION OF PIPING BEFORE CONCEALING OR CLOSING-IN AFTER ROUGHING-IN AND BEFORE SETTING FIXTURES. FINAL INSPECTION: ARRANGE FOR FINAL INSPECTION BY AUTHORITIES HAVING JURISDICTION TO OBSERVE TESTS SPECIFIED BELOW AND TO ENSURE COMPLIANCE WITH REQUIREMENTS. REINSPECTION: IF AUTHORITIES HAVING JURISDICTION FIND THAT PIPING WILL NOT PASS TEST OR INSPECTION, MAKE REQUIRED CORRECTIONS AND ARRANGE FOR REINSPECTION. REPORTS: PREPARE INSPECTION REPORTS AND HAVE THEM SIGNED BY AUTHORITIES HAVING JURISDICTION. TEST SANITARY DRAINAGE AND VENT PIPING ACCORDING TO PROCEDURES OF AUTHORITIES HAVING JURISDICTION OR, IN ABSENCE OF PUBLISHED PROCEDURES, AS FOLLOWS: TEST FOR LEAKS AND DEFECTS IN NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED. IF TESTING IS PERFORMED IN SECTIONS, SUBMIT SEPARATE REPORT FOR EACH TEST, COMPLETE WITH DIAGRAM OF PORTION OF PIPING TESTED. LEAVE UNCOVERED AND UNCONCEALED NEW, ALTERED, EXTENDED, OR REPLACED DRAINAGE AND VENT PIPING UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE WORK THAT WAS COVERED OR CONCEALED BEFORE IT WAS TESTED. ROUGHING-IN PLUMBING TEST PROCEDURE: TEST DRAINAGE AND VENT PIPING, EXCEPT OUTSIDE LEADERS, ON COMPLETION OF ROUGHING-IN. CLOSE OPENINGS IN PIPING SYSTEM AND FILL WITH WATER TO POINT OF OVERFLOW, BUT NOT LESS THAN 10-FOOT HEAD OF WATER. FROM 15 MINUTES BEFORE INSPECTION STARTS TO COMPLETION OF INSPECTION, WATER LEVEL MUST NOT DROP. INSPECT JOINTS FOR LEAKS. FINISHED PLUMBING TEST PROCEDURE: AFTER PLUMBING FIXTURES HAVE BEEN SET AND TRAPS FILLED WITH WATER, TEST CONNECTIONS AND PROVE THEY ARE GAS TIGHT AND WATERTIGHT. PLUG VENT-STACK OPENINGS ON ROOF AND BUILDING DRAINS WHERE THEY LEAVE BUILDING. INTRODUCE AIR INTO PIPING SYSTEM EQUAL TO PRESSURE OF 1-INCH WG. USE U-TUBE OR MANOMETER INSERTED IN TRAP OF WATER CLOSET TO MEASURE THIS PRESSURE. AIR PRESSURE MUST REMAIN CONSTANT WITHOUT INTRODUCING ADDITIONAL AIR THROUGHOUT PERIOD OF INSPECTION. INSPECT PLUMBING FIXTURE CONNECTIONS FOR GAS AND WATER LEAKS. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING, OR PORTION THEREOF, UNTIL SATISFACTORY RESULTS ARE OBTAINED. PREPARE REPORTS FOR TESTS AND REQUIRED CORRECTIVE ACTION. CLEAN INTERIOR OF PIPING. REMOVE DIRT AND DEBRIS AS WORK PROGRESSES. PROTECT DRAINS DURING REMAINDER OF CONSTRUCTION PERIOD TO AVOID CLOGGING WITH DIRT AND DEBRIS AND TO PREVENT DAMAGE FROM TRAFFIC AND CONSTRUCTION WORK. PLACE PLUGS IN ENDS OF UNCOMPLETED PIPING AT END OF DAY AND WHEN WORK STOPS. ALL CONDENSATE PIPING SHALL BE INSULATED. ALL SEWER PIPING INVERTS INDICATED ARE REFERENCED FROM THE FINISH FLOOR ELEVATION.

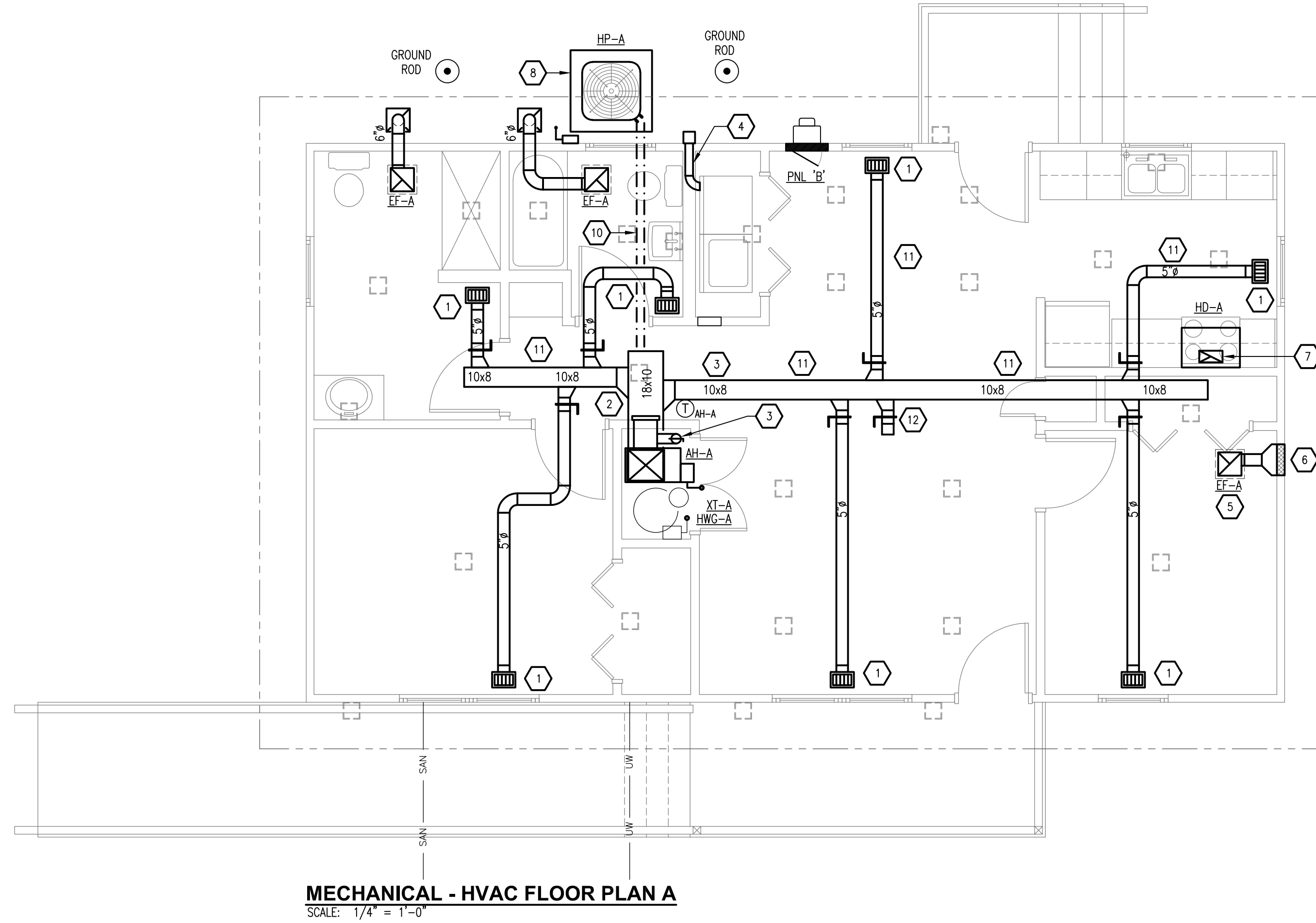


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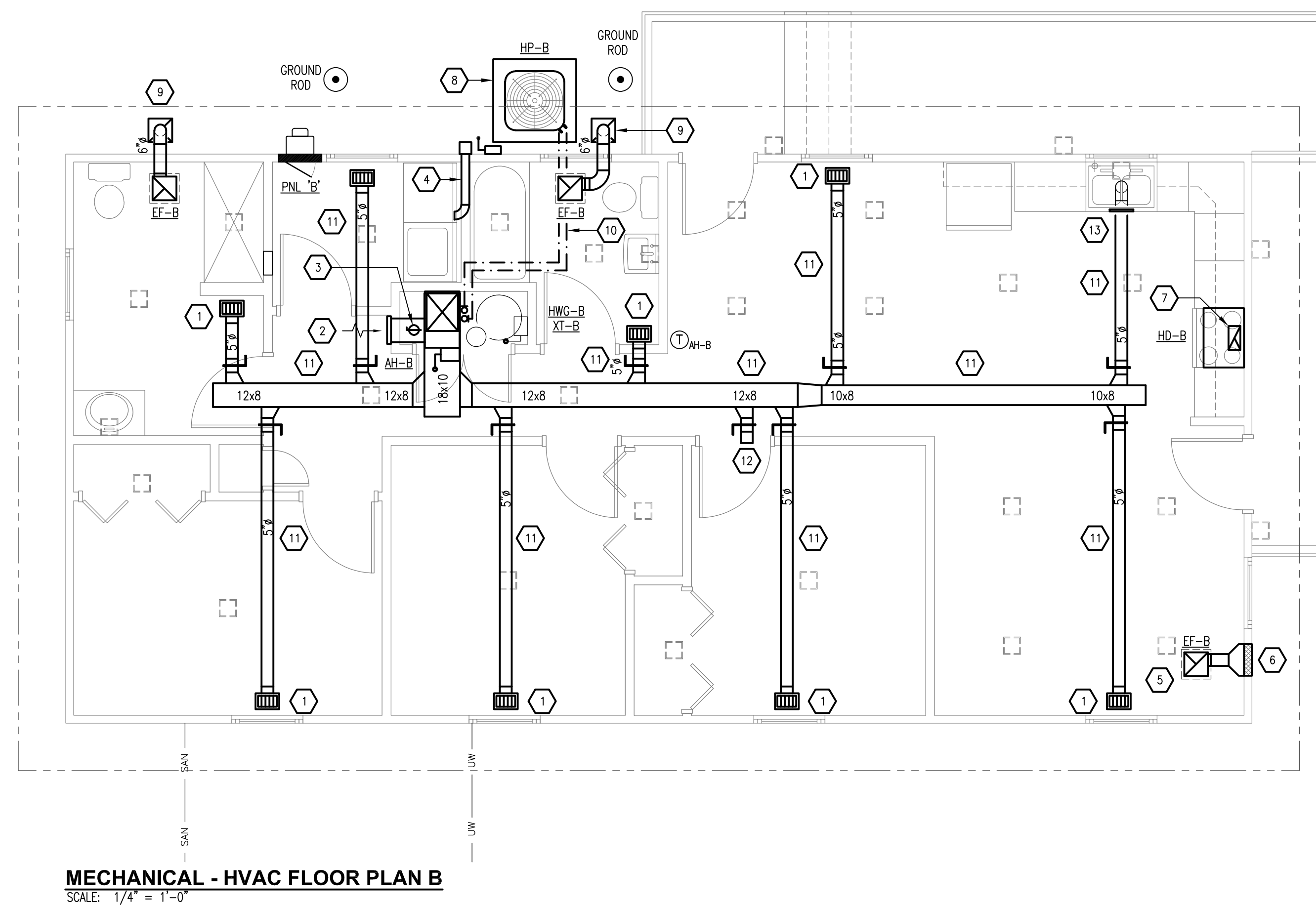
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PLUMBING DETAILS, NOTES AND SCHEDULE. DRAWN: MWE. CHECKED: MWE. DATE: July 26, 2018. COMM. NO.: 18065. P511





**MECHANICAL - HVAC FLOOR PLAN A**  
SCALE: 1/4" = 1'-0"



**MECHANICAL - HVAC FLOOR PLAN B**  
SCALE: 1/4" = 1'-0"

**PLAN NOTES:**

- 5" STOD TAP FOR 60 CFM - HART & COOLEY 210
- 12x18 WITH TAP FOR 540 CFM - HART & COOLEY 672 12x18 STEEL STAMPED RETURN AIR GRILLE - FILTER SHALL BE INSTALLED AFTER RETURN AIR GRILLE AND AFTER OUTSIDE AIR CONNECTION. SEE AIR HANDLER DETAIL.
- 5" OUTSIDE AIR DUCT WITH BALANCING DAMPER AND TAP INTO RETURN AIR DUCT. EXTEND DUCT UP THROUGH ROOF WITH FLASHING, STORM COLLAR AND CAP. BALANCE OUTSIDE AIR DUCT TO 60 CFM.
- 4" DRYER VENT PIPE. CONNECT VENT PIPE TO DRYER AND TERMINATE WITH A WALL MOUNTED VENT CAP TO THE OUTSIDE WALL. SEAL PIPE JOINTS. DO NOT USE SCREWS. VENT PIPE SHALL BE G60 GALVANIZED STEEL.
- CRAWL SPACE MECHANICAL VENTILATION EXHAUST FAN - SEE SCHEDULE. INSTALL EXHAUST FAN WITHIN CRAWL SPACE.
- 16x8 ALUMINUM EQUAL TO GREENHECK BRICK VENT WITH INSECT SCREEN EQUAL TO BVE.
- RANGE HOOD - DUCT RANGE HOOD UP THROUGH ROOF WITH FLASHING, STORM COLLAR AND CAP. DUCT INSTALLATION SHALL COMPLY WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- HEAT PUMP INSTALLED ON FACTORY SUPPLIED STANDS ON CONCRETE - SEE DETAIL.
- EXHAUST GRILLED MOUNTED WITHIN SOFFIT
- INSTALL REFRIGERANT LINE IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- SUPPLY AIR DUCT INSTALLED WITHIN THE CRAWL SPACE.
- 5" STOD AND 1"-0" OF 5" FOR CRAWL SPACE CONDITIONING - 60 cfm.
- INSTALL A REGISTER IN THE TOE KICK AS A SIDE WALL REGISTER TO DISCHARGE AT THE FLOOR LEVEL.

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**MECHANICAL  
HVAC  
FLOOR PLAN A  
FLOOR PLAN B**

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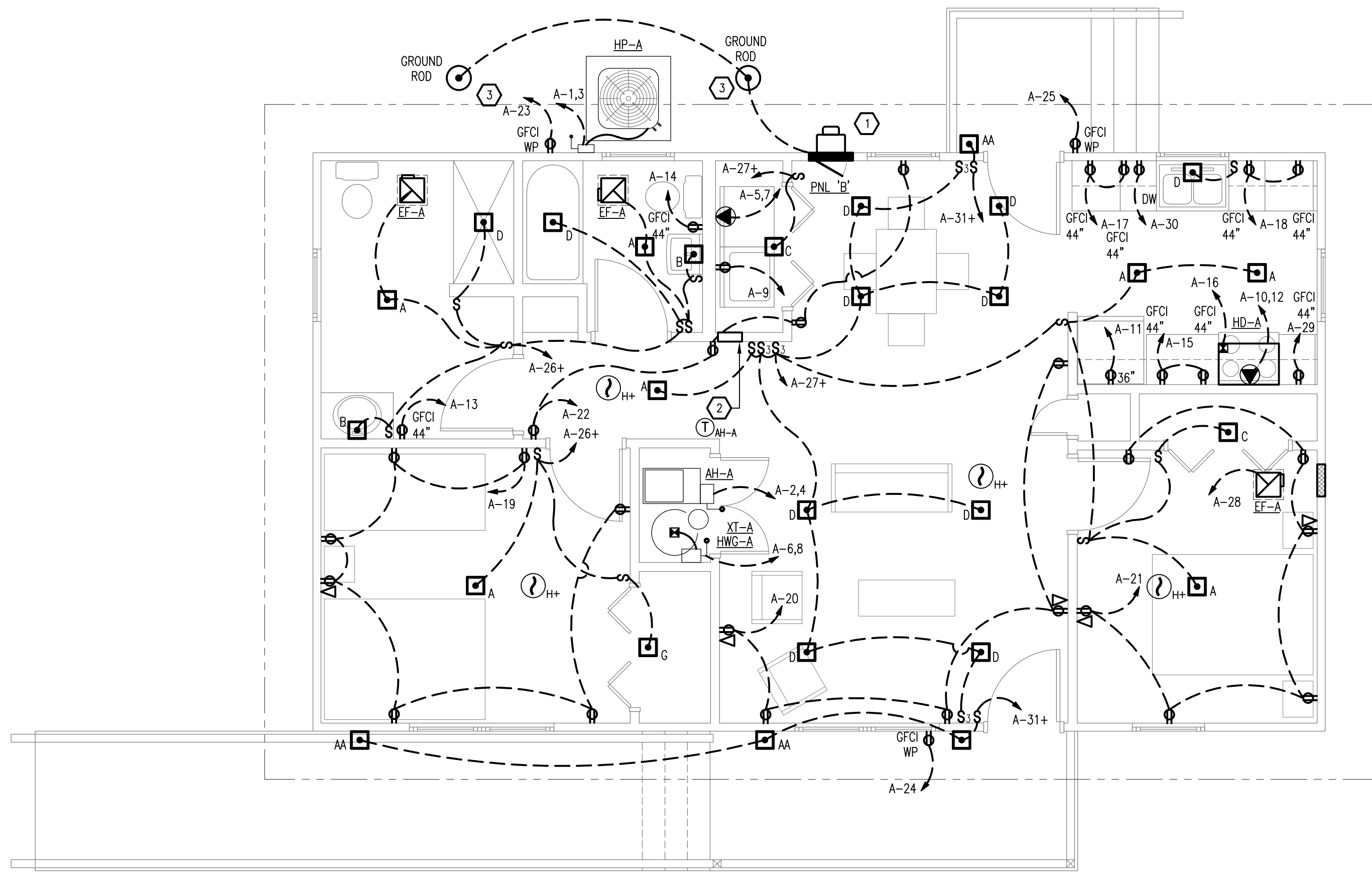
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**CONSTRUCTION DOCUMENTS**









**ELECTRICAL - PLAN A**  
SCALE: 1/4" = 1'-0"

**PLAN NOTES:**

1. METER BASE & METER - SEE ELECTRICAL RISER SCHEMATIC.
2. DEMARCATION FOR PHONE, INTERNET AND TELEVISION CABLE. PROVIDERS SHALL INSTALL CABLE TO DEMARCATION LOCATION
3. GROUND ROD - SEE GROUND ROD DETAIL.

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**ELECTRICAL  
PLAN A & PLAN B**

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ELECTRICAL SYMBOLS LEGEND

Table with columns: SYMBOL, DEVICE, DESCRIPTION, COLOR, PLATE, MOUNTING. Rows include symbols for 2-pole, 3-wire grounding heavy duty, GFCI, WP, GFCI, 2-pole, 3-wire grounding heavy duty, 120V-20A commercial series, and voice/data outlet.

\*\*\* COORDINATION WITH OTHER TRADES:

- 1. TAKE STEPS TO INSURE THAT DEVICES AND THEIR BOXES ARE PROTECTED. DO NOT PLACE WALL FINISH MATERIALS OVER DEVICE BOXES AND DO NOT CUT HOLES FOR BOXES WITH ROUTERS THAT ARE GUIDED BY RIDING AGAINST OUTSIDE OF THE BOXES.

\*\*\* IDENTIFICATION:

- 1. RECEPTACLES: IDENTIFY PANELBOARD AND CIRCUIT NUMBER FROM WHICH SERVED. USE HOT, STAMPED OR ENGRAVED MACHINE PRINTING WITH BLACK-FILLED LETTERING ON FACE OF PLATE, AND DURABLE WIRE MARKERS OR TAGS INSIDE OUTLET BOXES.

GENERAL ELECTRICAL NOTES:

\*\*\* MOUNTING HEIGHTS

- 1. ALL MOUNTING HEIGHTS GIVEN ARE MEASURED FROM FINISHED FLOOR TO THE CENTERLINE OF THE DEVICE.
- 2. ALL WIRING DEVICE MOUNTING HEIGHTS SHALL COMPLY WITH THE AMERICAN WITH DISABILITIES ACT.

\*\*\* RECEIVING, STORING AND PROTECTING MATERIALS

- 1. MATERIALS AND EQUIPMENT SHALL BE CAREFULLY UNLOADED, OBSERVING ALL PACKING LABEL WARNINGS.
- 2. PACKAGES WITH PACKING SLIPS AND/OR PURCHASE ORDERS SHALL BE INVENTORIED. BACK ORDERS SHALL BE DOCUMENTED AND NEW SHIPPING SCHEDULES VERIFIED.

\*\*\* GENERAL REQUIREMENTS

- 1. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.
- 2. SUBMIT PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

ALL ELECTRICAL CIRCUITS, BREAKERS, DISCONNECTS, ETC. MUST BE VERIFIED AND MODIFIED TO ACCOMMODATE THE HVAC EQUIPMENT BEING SUPPLIED WITH NO ADDITIONAL COST TO THE OWNER.

- 12. ALL REQUIRED PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AND SHALL BE INCLUDED WITHIN THE BID.
- 13. ALL INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- 14. THE CONTRACTOR SHALL, AFTER COMPLETION OF THE ORIGINAL TEST OF THE INSTALLATION AND ACCEPTANCE BY THE OWNER, PROVIDE ANY SERVICE INCIDENTAL TO THE PROPER PERFORMANCE OF THE ELECTRICAL SYSTEMS UNDER GUARANTEES OUTLINED ABOVE FOR A PERIOD OF TWELVE (12) MONTHS.

\*\*\* HANGARS AND SUPPORTS

- 1. HANGARS AND SUPPORTS SHALL BE USED TO PROPERLY AND FIRMLY SUPPORT ELECTRICAL MATERIALS OR EQUIPMENT IN A SAFE AND PERMANENT MANNER.
- 2. HANGARS AND SUPPORTS SHALL BE OF A TYPE FOR THE PURPOSE, HAVE A NEAT AND FINISHED APPEARANCE AND COMPLEMENT THE INSTALLATION.

\*\*\* OUTLET BOXES

- 1. OUTLET BOXES SHALL BE OF A TYPE DESIGNED FOR THE USE AND LOCATION.
- 2. OUTLET AND DEVICE BOXES SHALL BE SECURELY AND RIGIDLY ATTACHED OR SUPPORTED PLUMB, LEVEL, AND TRUE.
- 3. BOX SUPPORTS, HANGERS OR BRACKETS, SHALL BE OF A TYPE DESIGNED OR SUITABLE FOR THE TYPE OF BOX USED AND THE BUILDING STRUCTURAL MEMBER TO WHICH THEY ARE ATTACHED.

\*\*\* WIRES AND CABLES (SERVICE ENTRANCE CONDUCTORS, FEEDER CIRCUIT CONDUCTORS AND BRANCH CIRCUITS)

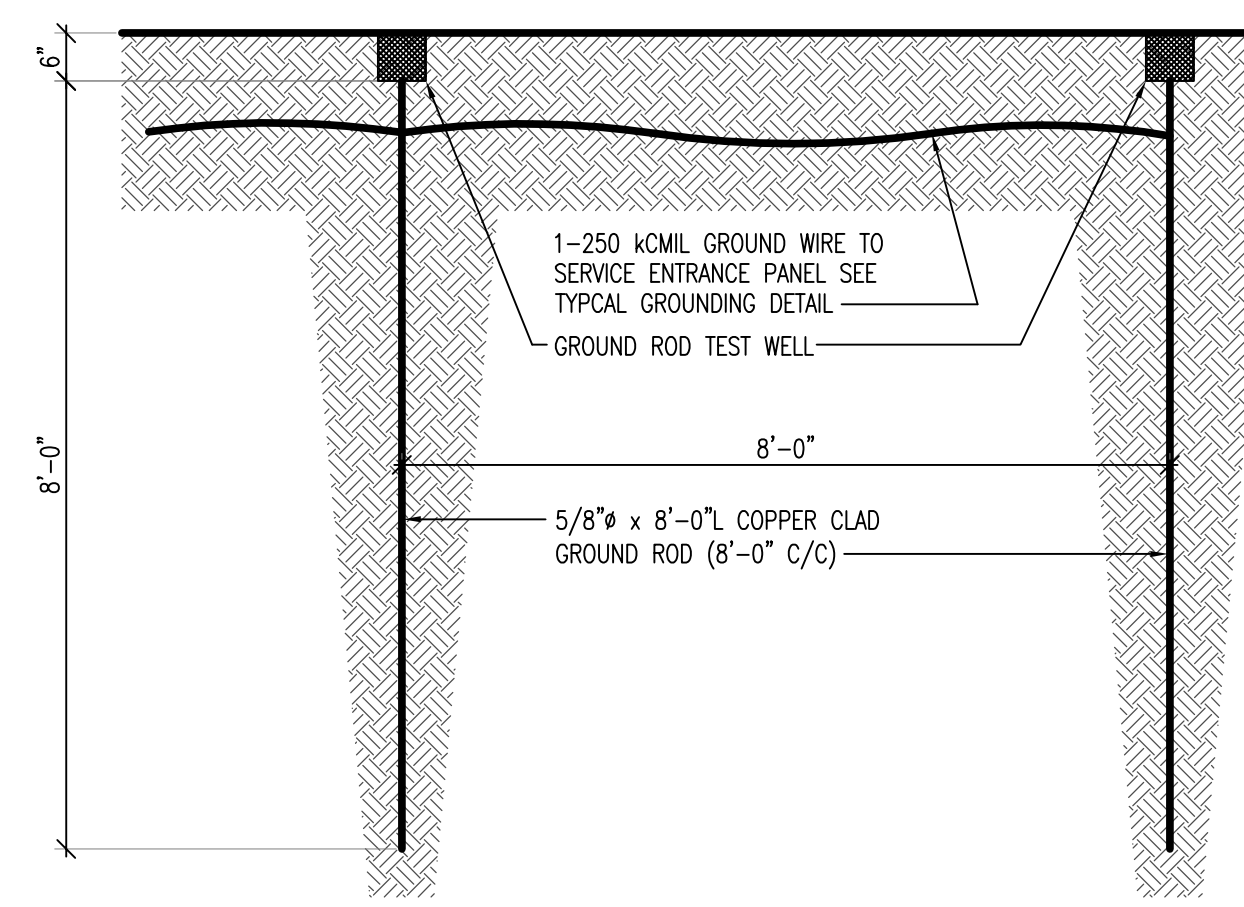
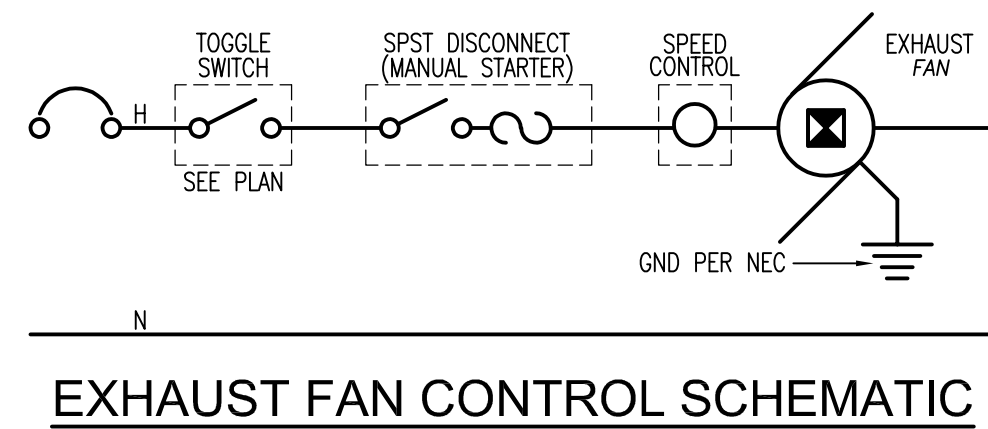
- 1. SHEATHED NON-METALLIC CABLE MAY BE INSTALLED FOR BRANCH CIRCUITS.
- 2. ALL CONDUCTORS INSTALLED WITHIN RACEWAY ABOVE GRADE SHALL HAVE AN INSULATION SUITABLE FOR DRY AND DAMP LOCATIONS AT 90° C, THHN-2.
- 3. ALL CONDUCTORS INSTALLED WITHIN CONDUIT BELOW GRADE SHALL HAVE AN INSULATION SUITABLE FOR DRY AND WET LOCATIONS AT 90° C, THHN-2.

Table with columns: REVISIONS, NO., DESCRIPTION, DATE.

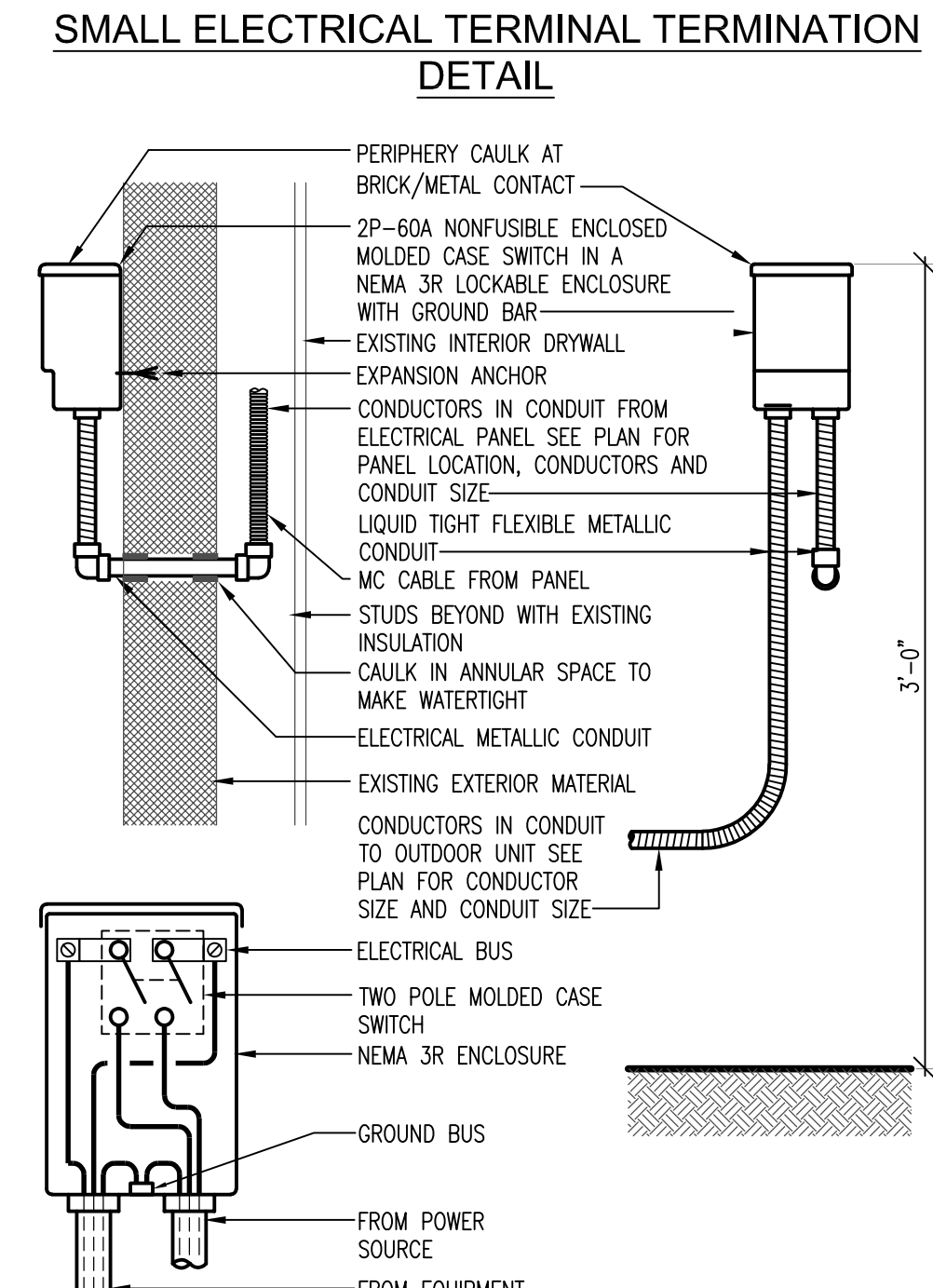
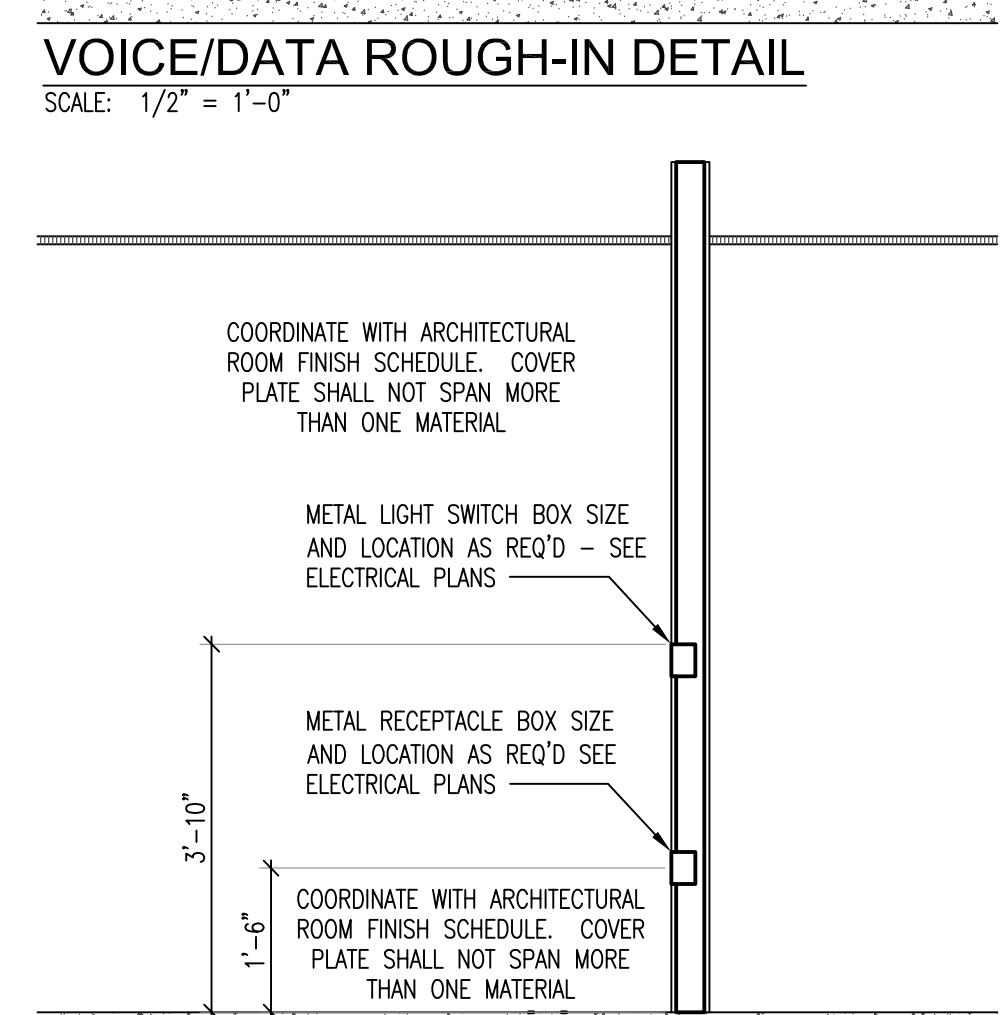
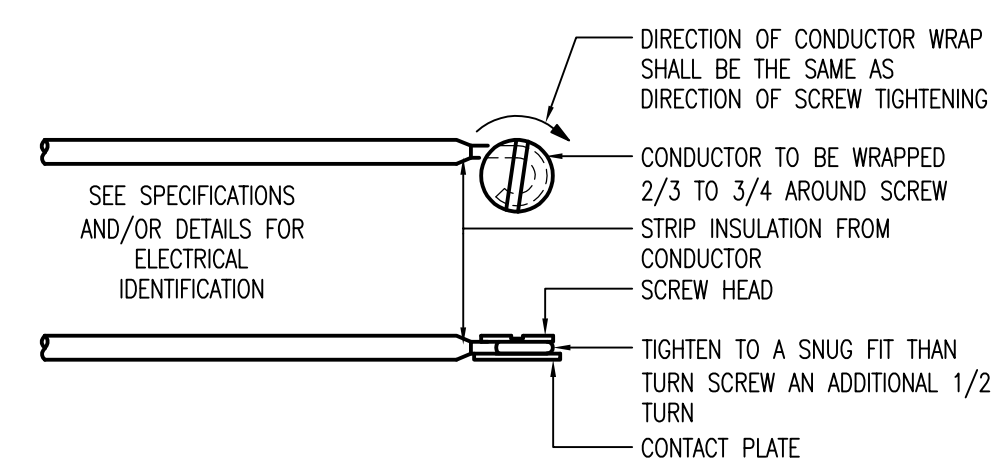
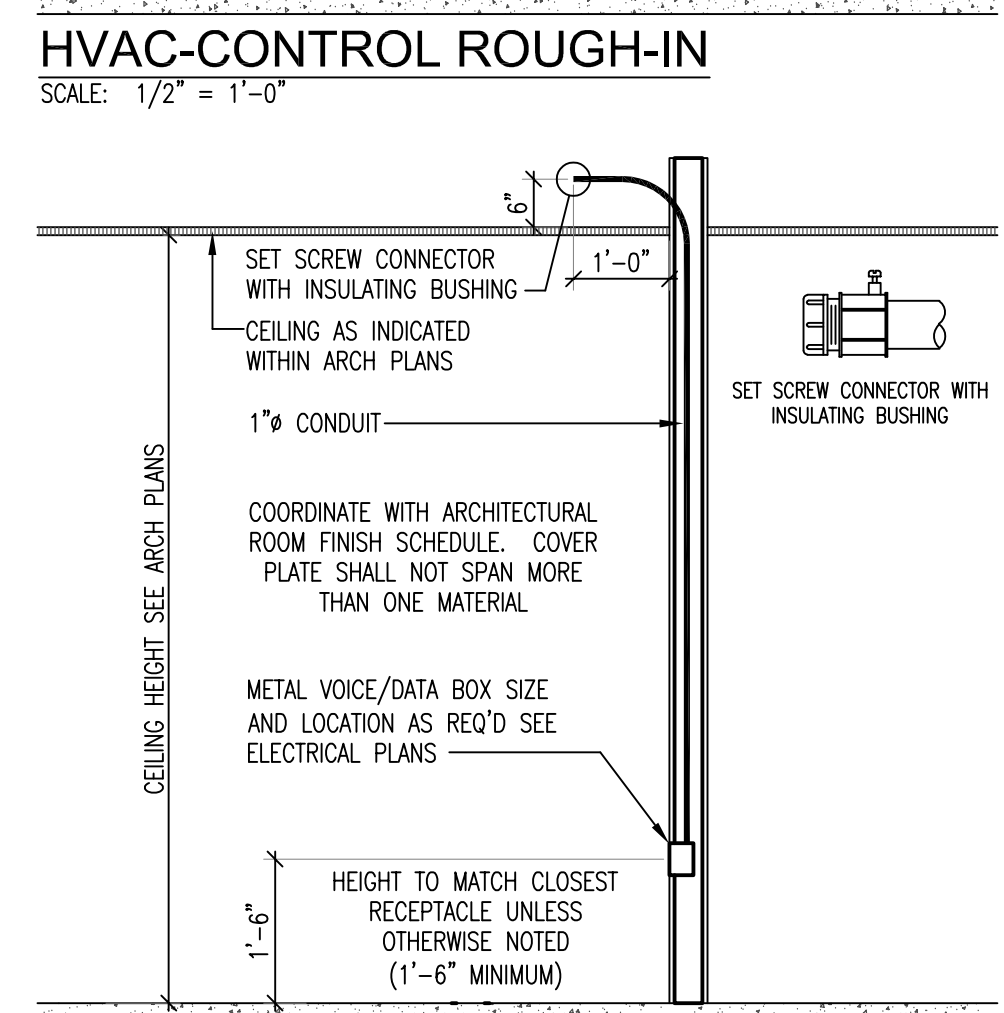
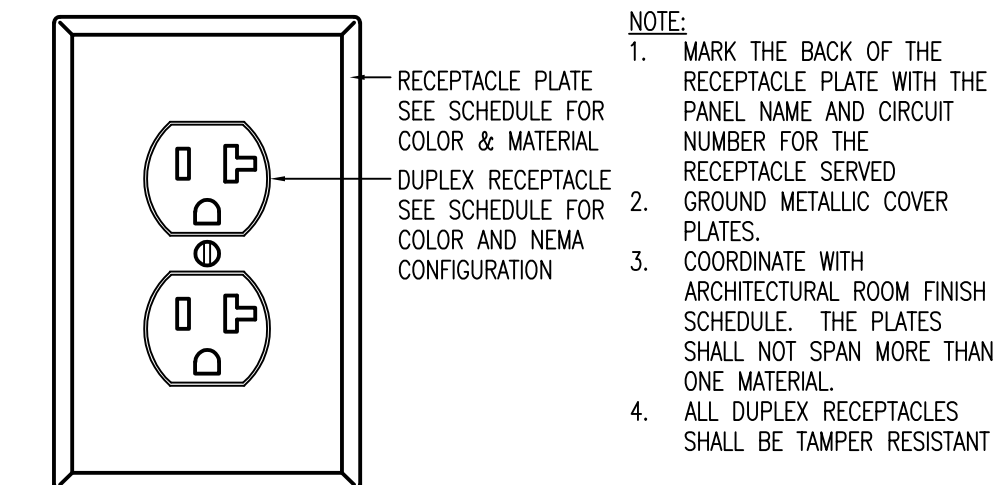
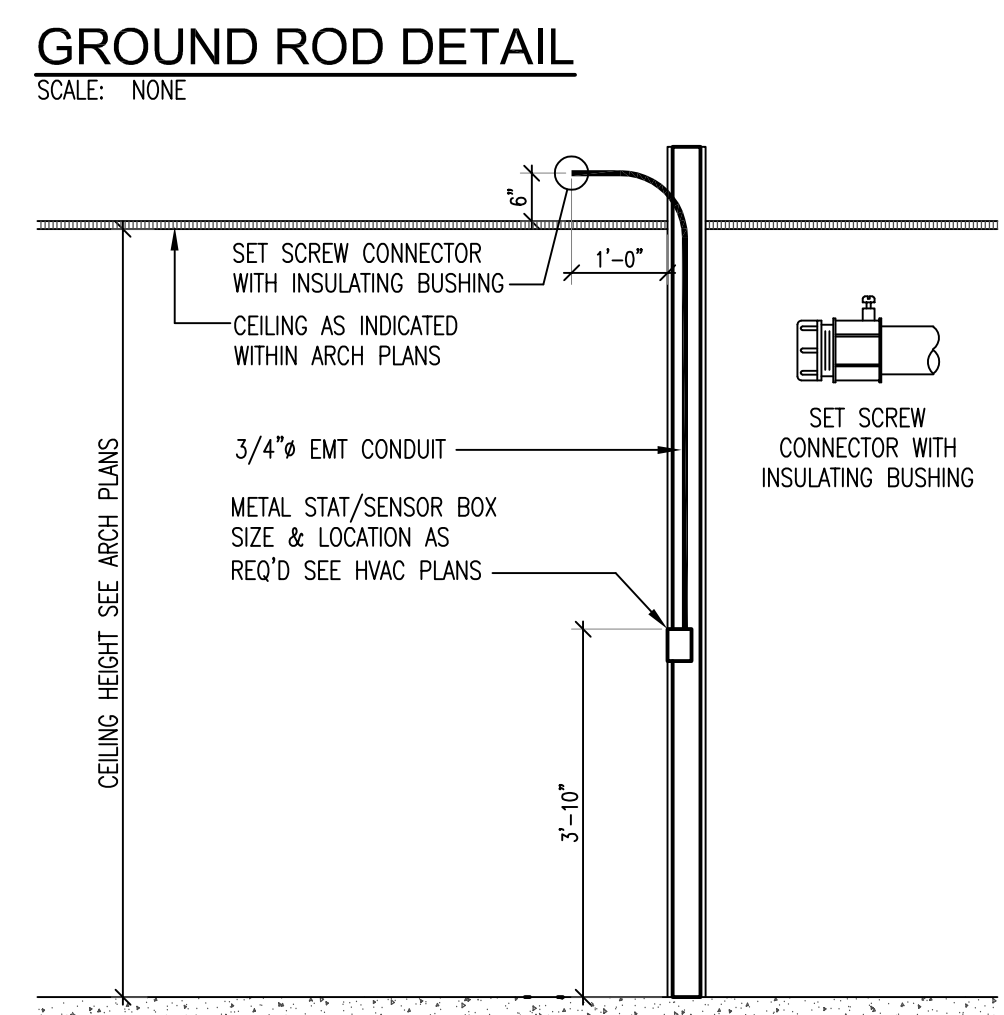
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Table with columns: DRAWN (MWE), CHECKED (MWE), DATE (July 26, 2018), COMM. NO. (18065).

ELECTRICAL DETAILS, NOTES AND SCHEDULES

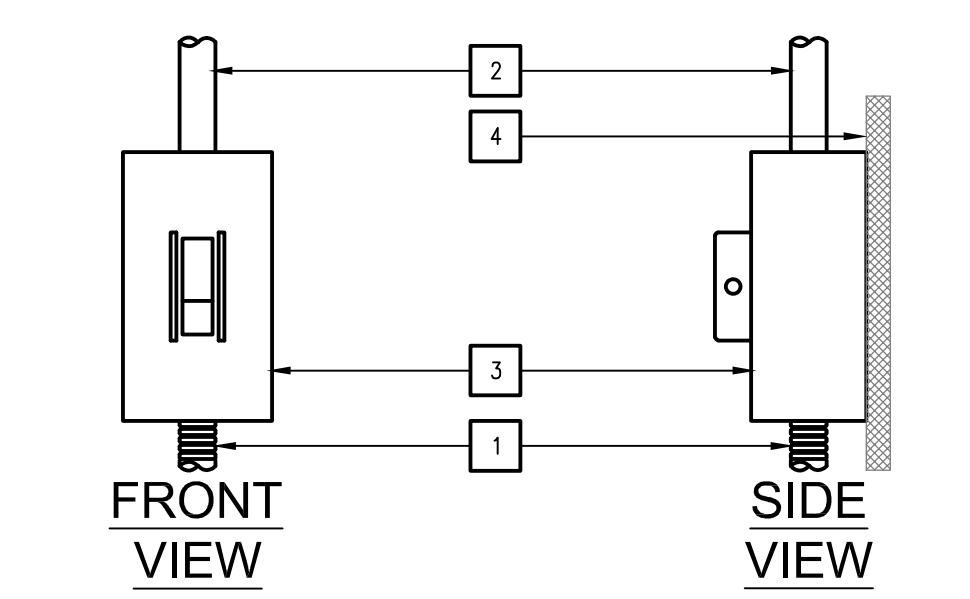


- GROUND TESTING NOTES:**
- PERFORM TESTS AND INSPECTIONS.
  - AFTER INSTALLING GROUNDING SYSTEM BUT BEFORE PERMANENT ELECTRICAL CIRCUITS HAVE BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS.
  - INSPECT PHYSICAL AND MECHANICAL CONDITION. VERIFY TIGHTNESS OF ACCESSIBLE, BOLTED, ELECTRICAL CONNECTIONS WITH A CALIBRATED TORQUE WRENCH ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
  - TEST COMPLETED GROUNDING SYSTEM AT EACH LOCATION WHERE A MAXIMUM GROUND-RESISTANCE LEVEL IS SPECIFIED, AT SERVICE DISCONNECT ENCLOSURE GROUNDING TERMINAL, AND AT INDIVIDUAL GROUND RODS. MAKE TESTS AT GROUND RODS BEFORE ANY CONDUCTORS ARE CONNECTED.
    - MEASURE GROUND RESISTANCE NO FEWER THAN TWO FULL DAYS AFTER LAST TRACE OF PRECIPITATION AND WITHOUT SOIL BEING MOISTENED BY ANY MEANS OTHER THAN NATURAL DRAINAGE OR SEEPAGE AND WITHOUT CHEMICAL TREATMENT OR OTHER ARTIFICIAL MEANS OF REDUCING NATURAL GROUND RESISTANCE.
    - PERFORM TESTS BY FALL-OF-POTENTIAL METHOD ACCORDING TO IEEE 81.
  - GROUNDING SYSTEM WILL BE CONSIDERED DEFECTIVE IF IT DOES NOT PASS TESTS AND INSPECTIONS.
  - PREPARE TEST AND INSPECTION REPORTS & REPORT MEASURED GROUND RESISTANCES THAT EXCEED THE FOLLOWING VALUES:
    - POWER AND LIGHTING EQUIPMENT OR SYSTEM WITH CAPACITY OF 500 KVA AND LESS: 10 OHMS.
    - POWER AND LIGHTING EQUIPMENT OR SYSTEM WITH CAPACITY OF 500 TO 1000 KVA: 5 OHMS.
    - POWER AND LIGHTING EQUIPMENT OR SYSTEM WITH CAPACITY MORE THAN 1000 KVA: 3 OHMS.
    - POWER DISTRIBUTION UNITS OR PANELBOARDS SERVING ELECTRONIC EQUIPMENT: 1 OHM.
    - MANHOLE GROUNDS: 10 OHMS.
    - EXCESSIVE GROUND RESISTANCE: IF RESISTANCE TO GROUND EXCEEDS SPECIFIED VALUES, NOTIFY ENGINEER PROMPTLY AND INCLUDE RECOMMENDATIONS TO REDUCE GROUND RESISTANCE.

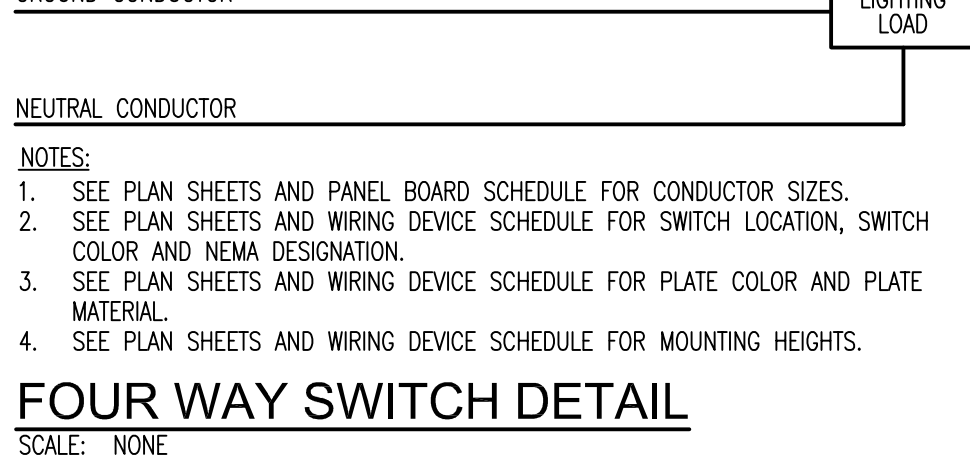
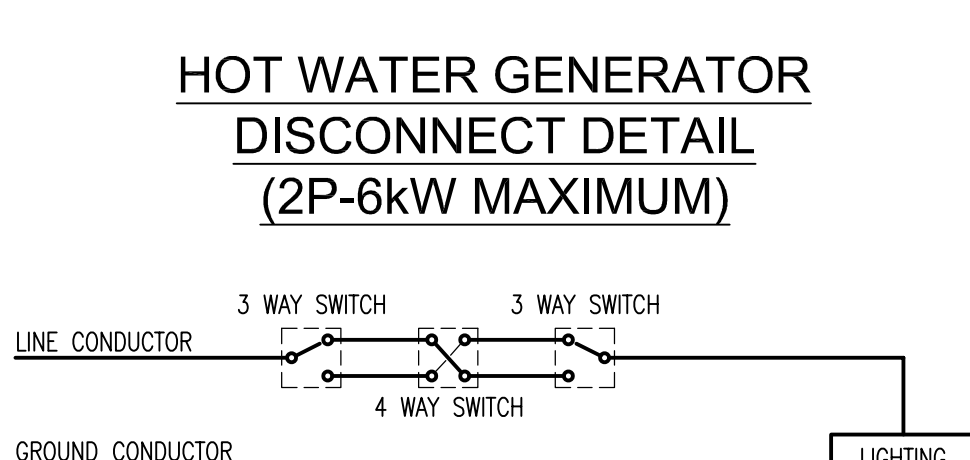


FIRE ALARM SYMBOLS LEGEND	
SYMBOL	DEVICE
FAUC	FIRE ALARM CONTROL UNIT
FAA	FIRE ALARM ANNUNCIATOR PANEL
FSCU DC	FIRE ALARM SYSTEM CONTROL UNIT (DRY CHEMICAL)
HVA	CONTROL PANEL FOR HVAC, EXHAUST, PRESSURIZATION, ETC.
FADC	FIRE ALARM DOCUMENT CABINET
(Square with circle)	FIRE ALARM MANUAL STATION
(Circle with H)	FIRE ALARM HEAT DETECTOR
(Circle with F)	FIRE ALARM HEAT DETECTOR (FIXED TEMPERATURE)
(Circle with R)	FIRE ALARM HEAT DETECTOR (RATE OF RISE)
(Circle with R/F)	FIRE ALARM HEAT DETECTOR (RATE OF RISE & FIXED TEMPERATURE)
(Circle with R/F)	FIRE ALARM HEAT DETECTOR (RATE OF RISE & FIXED TEMPERATURE)
(Circle with H)	SINGLE STATION HEAT ALARM WITH HEAT DETECTOR & AUDIBLE NOTIFICATION (HORN)
(Circle with H+)	MULTIPLE STATION HEAT ALARM WITH HEAT DETECTOR & AUDIBLE NOTIFICATION (HORN)
(Circle with S)	FIRE ALARM SMOKE DETECTOR
(Circle with H)	SINGLE STATION SMOKE ALARM WITH SMOKE DETECTOR & AUDIBLE NOTIFICATION (HORN) - 120V WITH BATTERY BACKUP
(Circle with CO H)	SINGLE STATION SMOKE ALARM / CARBON MONOXIDE WITH SMOKE DETECTOR & AUDIBLE NOTIFICATION (HORN) - 120V WITH BATTERY BACKUP
(Circle with CO H+)	MULTIPLE STATION SMOKE ALARM / CARBON MONOXIDE WITH SMOKE DETECTOR & AUDIBLE NOTIFICATION (HORN) - 120V WITH BATTERY BACKUP
(Circle with CO)	CARBON MONOXIDE DETECTOR
(Circle with S)	FIRE ALARM DUCT SMOKE DETECTOR
(Square with H)	FIRE ALARM HORN
(Square with S)	FIRE ALARM HORN & STROBE WITH CANDELA RATING
(Square with S)	FIRE ALARM STROBE WITH CANDELA RATING
TS	SPRINKLER VALVE TAMPER SWITCH
FS	WATER FLOW SWITCH
PS	LOW PRESSURE SWITCH

- NOTES:**
- THE FIRE ALARM INSTALLATION SHALL SATISFY THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
  - APPROVAL FROM THE AUTHORITY HAVING JURISDICTION SHALL BE OBTAINED PRIOR TO INSTALLATION.



- DETAIL NOTES:**
- MC CABLE - SEE PANEL SCHEDULE FOR NUMBER OF CONDUCTORS AND MC SIZE
  - ELECTRICAL METALLIC TUBING - SEE PANEL SCHEDULE FOR NUMBER OF CONDUCTORS & EMT SIZE
  - 2P-40A - 600V MANUAL STARTER WITH NEMA 1 ENCLOSURE AND LOCKOUT WALL PLATE (EQUAL TO LEVITON MS402-BW, NEMA 1 ENCLOSURE AND LOCKOUT WALL PLATE)
  - WALL - SEE ARCHITECTURAL DRAWINGS FOR MATERIALS PROVIDE BLOCKING AS REQUIRED



ELECTRICAL SYMBOLS LEGEND	
(Circle with B)	BREAKER
(Circle with S)	SINGLE POLE SINGLE THROW SWITCH
(Square with D)	DISCONNECT SWITCH SEE PANEL SCHEDULE
(Square with D)	DIRECT CONNECTION
(Circle with S)	SPECIAL CONNECTION - SEE PANEL SCHEDULE FOR RATINGS
(Circle with S)	EGRESS LIGHT - SINGLE REMOTE HEAD
(Circle with S)	EGRESS LIGHT - DOUBLE HEAD
(Circle with A3)	HOME RUN TO PANEL NAME 'A' AND CIRCUIT NUMBER '3'
(Circle with A3+)	HOME RUN TO PANEL NAME 'A' AND CIRCUIT NUMBER '3' (NOTE: '+' INDICATES THERE IS MORE ON CIRCUIT #3)
(Line with dots)	CONDUIT AND CONDUCTORS CONCEALED BELOW FLOOR, WITHIN WALLS OR ABOVE CEILINGS
(Line with dots)	EXPOSED ELECTRICAL METAL TUBING AND CONDUCTORS UNLESS OTHERWISE NOTED
(Line with dots)	EXPOSED RACEMIX (WIRE MULD) AND CONDUCTORS UNLESS OTHERWISE NOTED
POT	PLAIN OLD TELEPHONE SYSTEM CONDUIT
E	OVERHEAD CONDUCTORS - NEW
SE	SERVICE ENTRANCE CONDUITS AND CONDUCTORS
US	UNDERGROUND CONDUITS
UE	EXISTING UNDERGROUND CONDUITS
OE	OVERHEAD CONDUCTORS - EXISTING
(Circle with dot)	PLAN VIEW OF GROUND ROD WITH TEST WELL
(Line with dot)	NORMALLY OPEN CONTACT
(Line with bar)	NORMALLY CLOSED CONTACT
(Line with F)	FUSE
(Circle with M)	ELECTRIC MOTOR
(Line with X)	OVERLOAD
(Line with E)	EMERGENCY STOP BUTTON
(Line with S)	PUSH BUTTON - START
(Line with S)	PUSH BUTTON - STOP
(Line with S)	NORMALLY OPEN FLOW SWITCH
(Line with S)	NORMALLY CLOSED FLOW SWITCH
(Line with S)	NORMALLY OPEN TEMPERATURE SWITCH
(Line with S)	NORMALLY CLOSED TEMPERATURE SWITCH
(Line with S)	COIL TO OPERATE CONTACTS
(Line with S)	HAND - OFF - AUTOMATIC CONTROL
(Line with S)	SURFACE MOUNTED ELECTRICAL PANEL - NEW
(Line with S)	RECESSED ELECTRICAL PANEL - NEW

NO.	REVISIONS DESCRIPTION	DATE

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**FLOOD RECOVERY**  
**HOUSE DESIGN**  
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DRAWN MWE	CHECKED MWE
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**E512**

