

### MINI SPLIT SYSTEM SCHEDULE

BASIS OF DESIGN, MANUFACTURER	LG
TOTAL CAPACITY AT ARI, MBH	18.0
HEATING CAPACITY AT ARI, MBH	21.6
<b>AIR HANDLING UNIT</b>	
MARK	WU-1
SUPPLY AIR CFM	706
MODEL	LSN180HSV5
<b>HEAT PUMP UNIT</b>	
MARK	HP-1
MCA	13.0
MOCF	20.0
VOLT / PHASE	208/1/60
MODEL	LSU180HSV5

NOTES:  
 1. INSTALL UNITS PER MANUFACTURER'S SPECIFICATIONS.  
 2. UNIT TO BE CONTROLLED BY LG WIRELESS UNIT PROGRAMMABLE THERMOSTAT

### THRU-WALL HEAT PUMP SCHEDULE

UNIT	MANUFACTURER	MODEL NO.	VOLTAGE	BTU/HR COOLING	BTU/HR HEATING COMPRESSOR ONLY	KW AUX. HEAT	OUTSIDE AIR CFM
TW-1	TRANE	PTHF120IG	208/1	11800	10600	3.45	65

MINIMUM FEATURES:  
 1. ROOM LOW TEMPERATURE PROTECTION  
 2. CONDENSATE DRAIN FROM INDOOR AND OUTDOOR COILS  
 3. HARDWARE KIT  
 4. SUBBASE ASSEMBLY WITH LEVELING LEGS, IF REQUIRED.  
 5. SLEEVE INSULATION KIT  
 6. ROUTE CONDENSATE DRAIN FROM INTERNAL DRAIN FITTING TO EXTERIOR WALL, EXTEND TO DRYWELL.  
 7. INSTALL PER MANUFACTURER'S SPECIFICATIONS

### ROUND DUCT SYSTEM GAGES

DUCT DIAMETER, IN.	ROUND DUCTWORK, GALVANIZED STEEL, GAGE SELECTION					
	MAXIMUM 2-IN. WG STATIC POSITIVE		MAXIMUM 10-IN. WG STATIC POSITIVE		MAXIMUM 24-IN. WG STATIC POSITIVE	
	WALL GAGE, IN.	CONNECTION GAGE, IN.	WALL GAGE, IN.	CONNECTION GAGE, IN.	WALL GAGE, IN.	CONNECTION GAGE, IN.
3-8	28	28	26	24	28	24
9-14	28	26	26	24	26	24

### FAN SCHEDULE

MARK	EF-1	EF-2
TYPE	CEILING	CEILING
DRIVE	DIRECT	DIRECT
MOTOR HP / W	20.0 W	12.0 W
AIRFLOW (CFM)	100	300
STATIC PRESSURE (IN WC)	.25	.25
ELECTRICAL (VOLTS/PH/Hz)	120/1/60	120/1/60
MANUFACTURER	GREENHECK	GREENHECK
MODEL	SP-A125	SP-A410
ACCESSORIES	DISCONNECT, BACK-DRAFT DAMPER,	DISCONNECT, BACK-DRAFT DAMPER,
CONTROL	SWITCH W/LIGHTS	SWITCH W/LIGHTS

NOTES:  
 1. DISCHARGE THRU LOUVER.

### LOUVER SCHEDULE

MARK	EL-1
SERVICE	EXHAUST
CONSTRUCTION	ALUMINUM
FREE AREA (SQUARE FEET)	.70
LOUVER SIZE (INCHES)	20X14
AIRFLOW (CFM)	400
MANUFACTURER	GREENHECK
MODEL	EDJ-401
ACCESSORIES	1,2,3

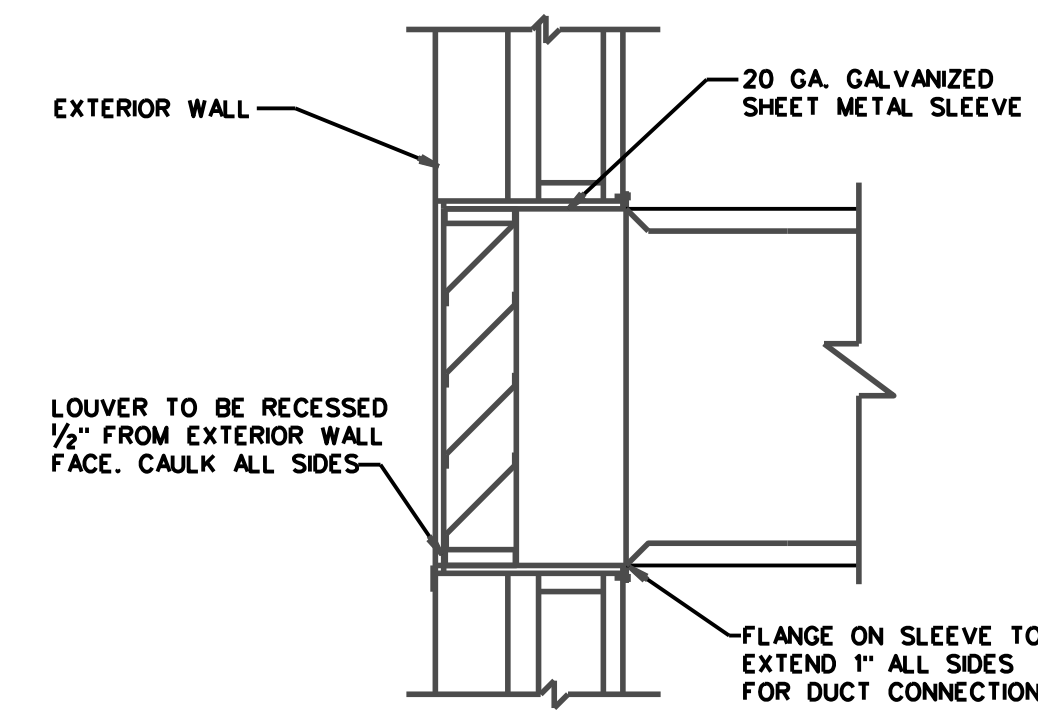
ACCESSORIES:  
 1. BIRD SCREEN  
 2. FACTORY APPLIED EPOXY FINISH, COLOR SELECTED BY ARCHITECT.  
 3. BACKDRAFT DAMPER

### MECHANICAL NOTES

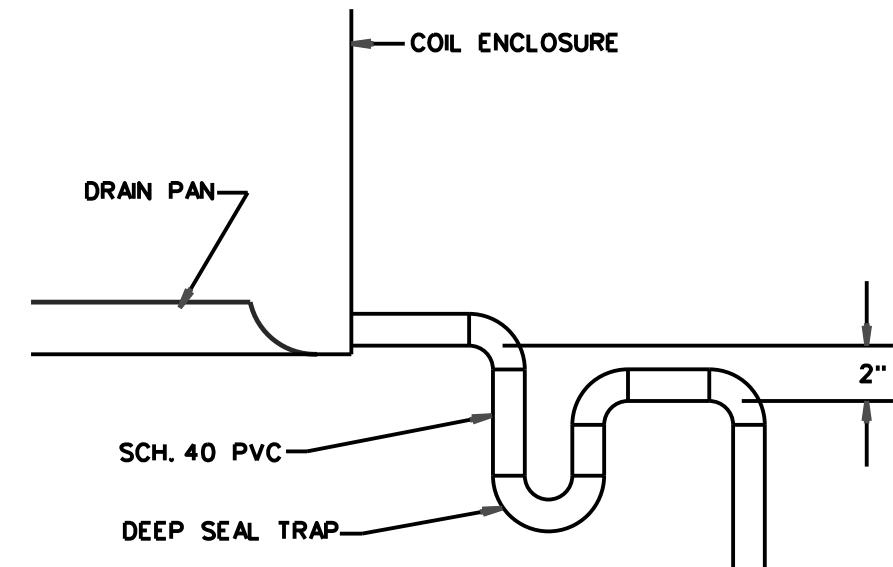
- DUCT SIZES ARE BASED ON FREE AREA OPENING.
- REFERENCE TO SPECIFIC MANUFACTURERS ARE USED IN TO ESTABLISH MINIMUM PERFORMANCE REQUIREMENTS AND QUALITY. OTHER MANUFACTURER'S WITH EQUAL OR BETTER QUALITY EQUIPMENT ARE ALLOWED TO SUBSTITUTE THEIR PRODUCTS. EQUAL MANUFACTURER'S ARE MITSUBISHI, CARRIER, AMERICAN STANDARD.
- MECHANICAL CONTRACTOR TO VERIFY EXACT LOCATION OF T-STATS WITH OWNER.

### MECHANICAL LEGEND

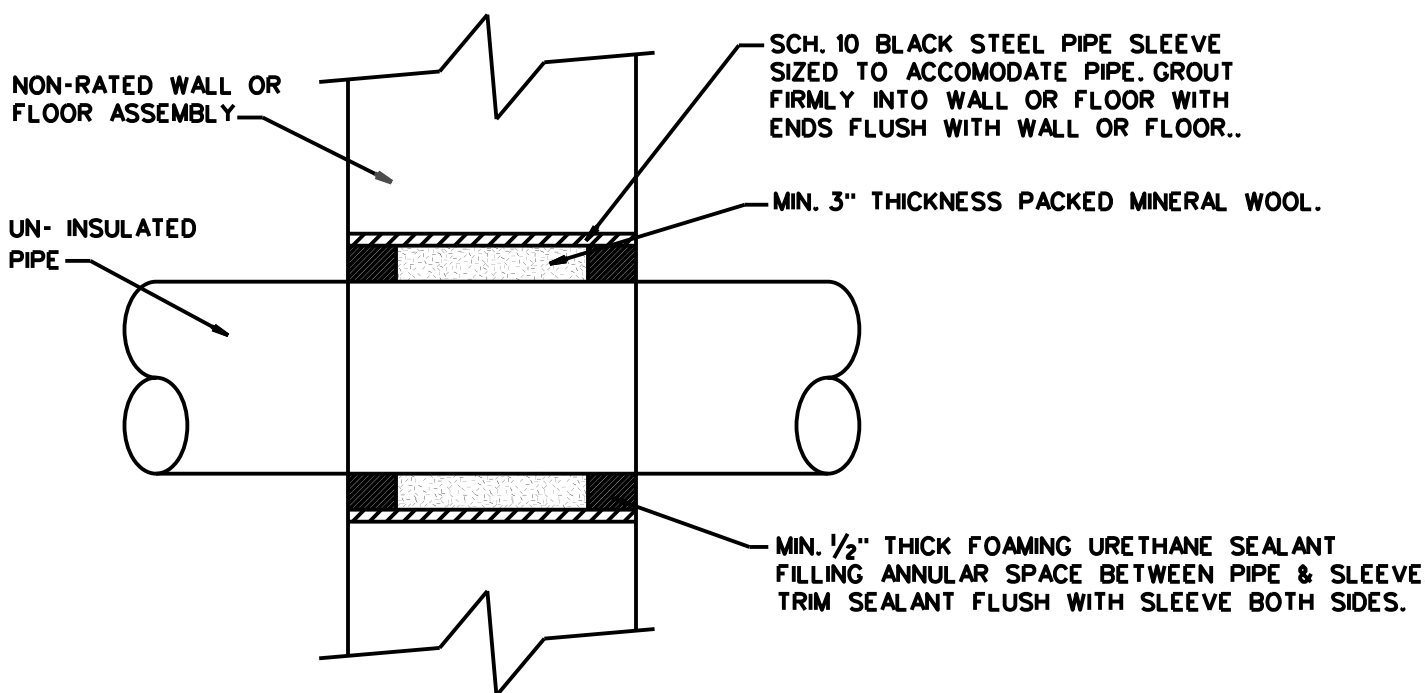
- ① THERMOSTAT



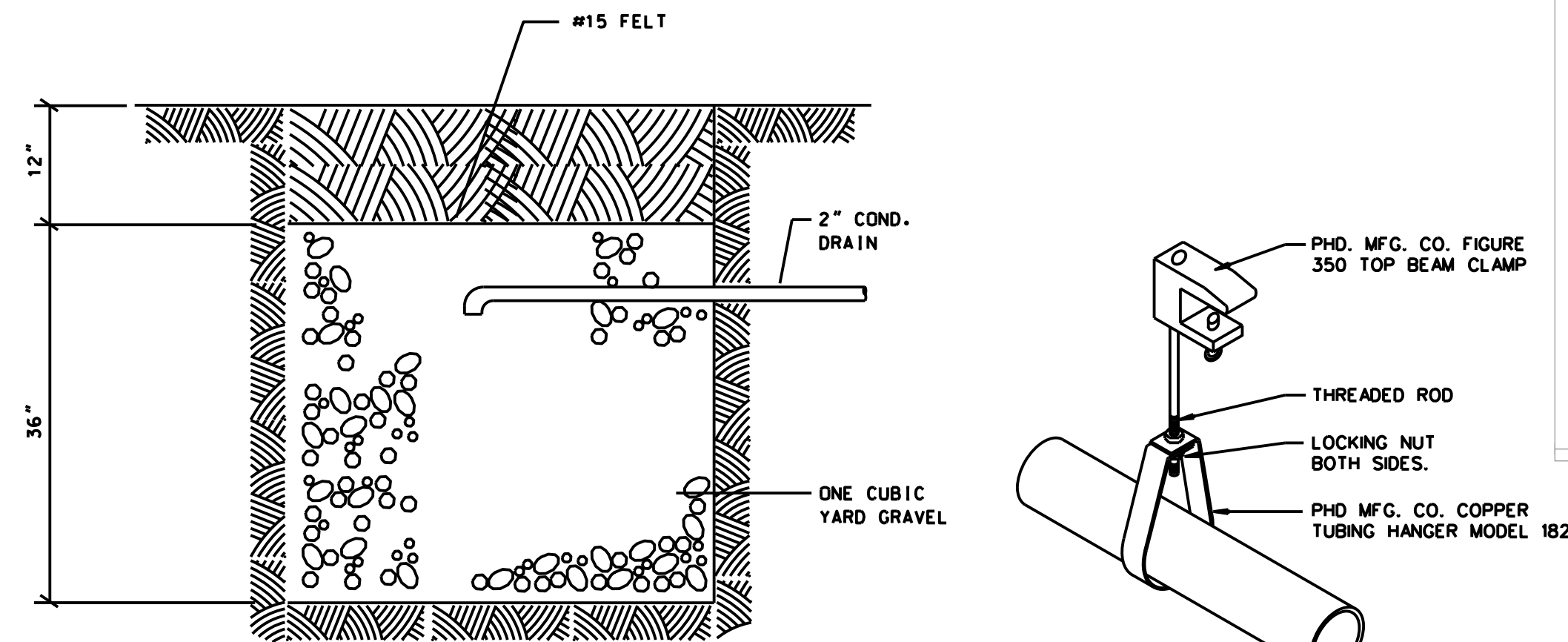
**LOUVER MOUNTING DETAIL**  
NOT TO SCALE



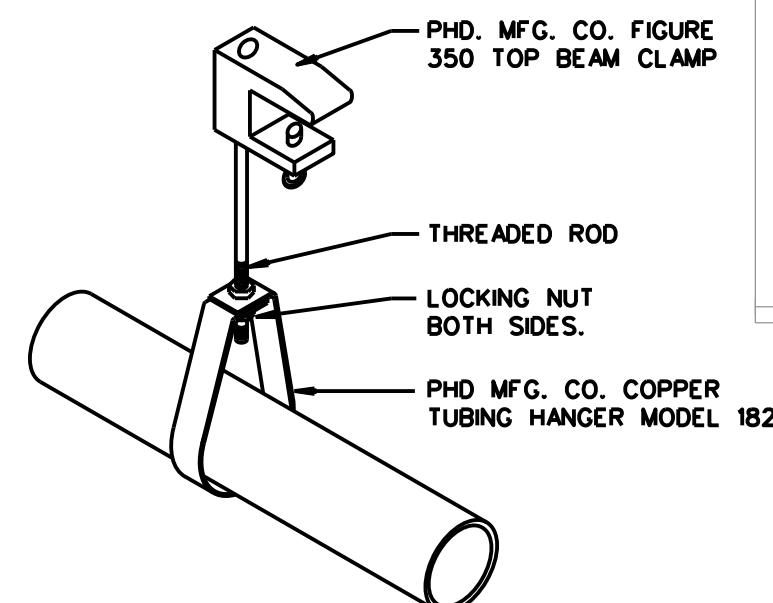
**TYPICAL CONDENSATE CONNECTION & TRAP**  
NOT TO SCALE



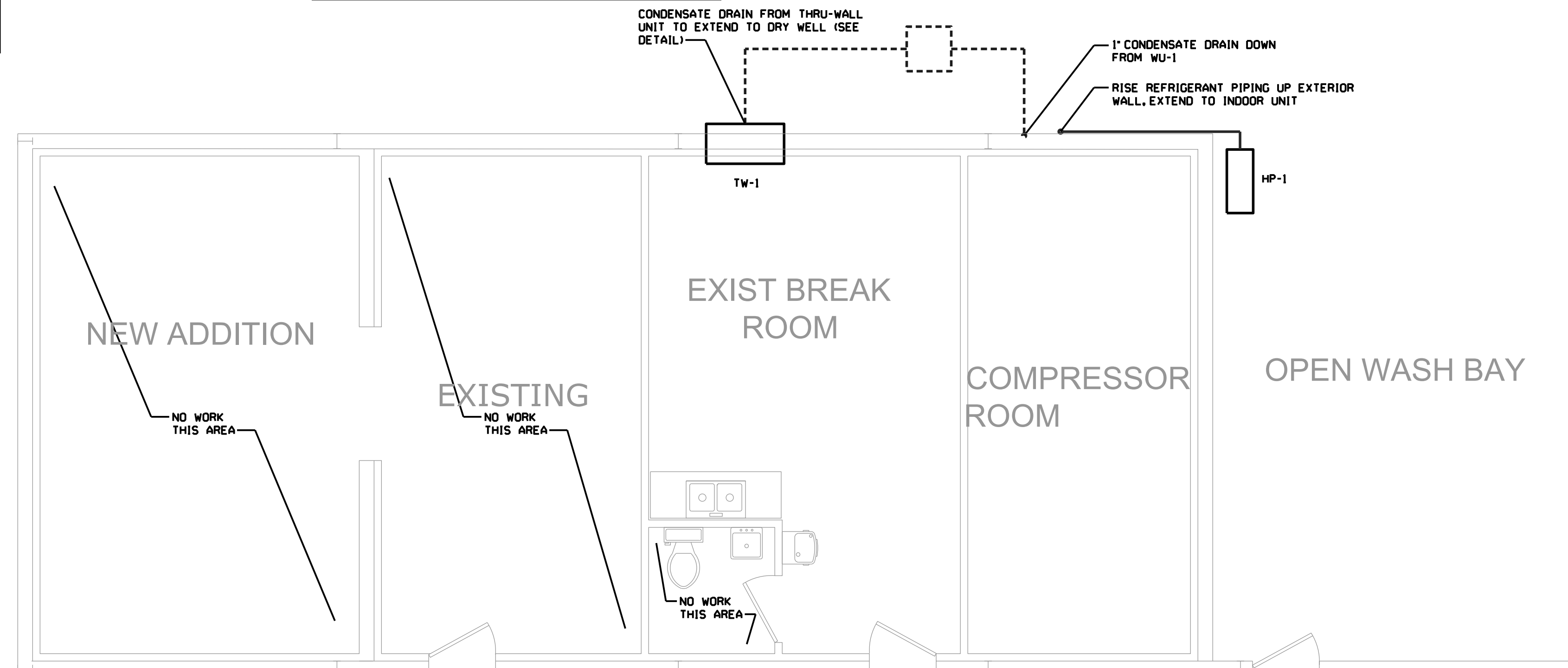
**NON-RATED PIPE SLEEVE DETAIL**  
NOT TO SCALE



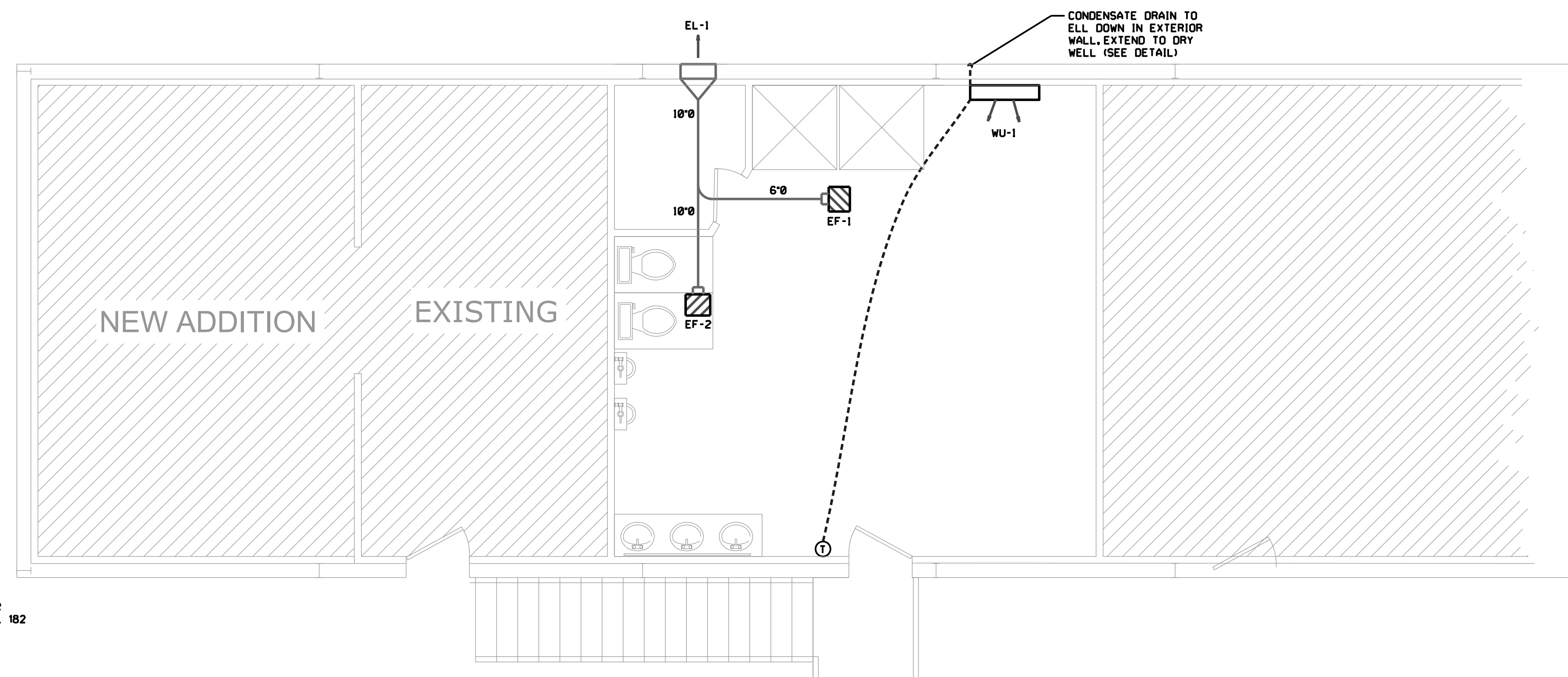
**DRY WELL DETAIL**  
NOT TO SCALE



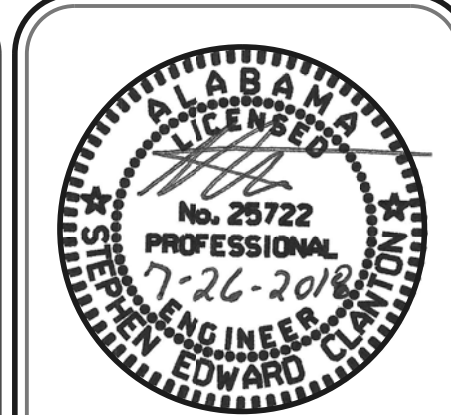
**REFRIGERANT PIPE HANGER DETAIL**  
NOT TO SCALE



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



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



**TOTAL DESIGN ENGINEERING**  
 1014 MERIDIAN STREET, SUITE B  
 HUNTSVILLE, ALABAMA 35891  
 PHONE: 256-539-8585, FAX: 256-539-8508  
 EMAIL: SCLANTON@TOTALDESIGNENGINEERING.COM  
 EMAIL: RSTEADMAN@TOTALDESIGNENGINEERING.COM

**KENWORTH ADDITION**  
 MADISON ALABAMA  
**MECHANICAL FLOOR PLAN**

DRAWN: JLW  
 CHECKED: SEC/RJS  
 DATE: 07/26/2018

SHEET **M-1** OF **1**

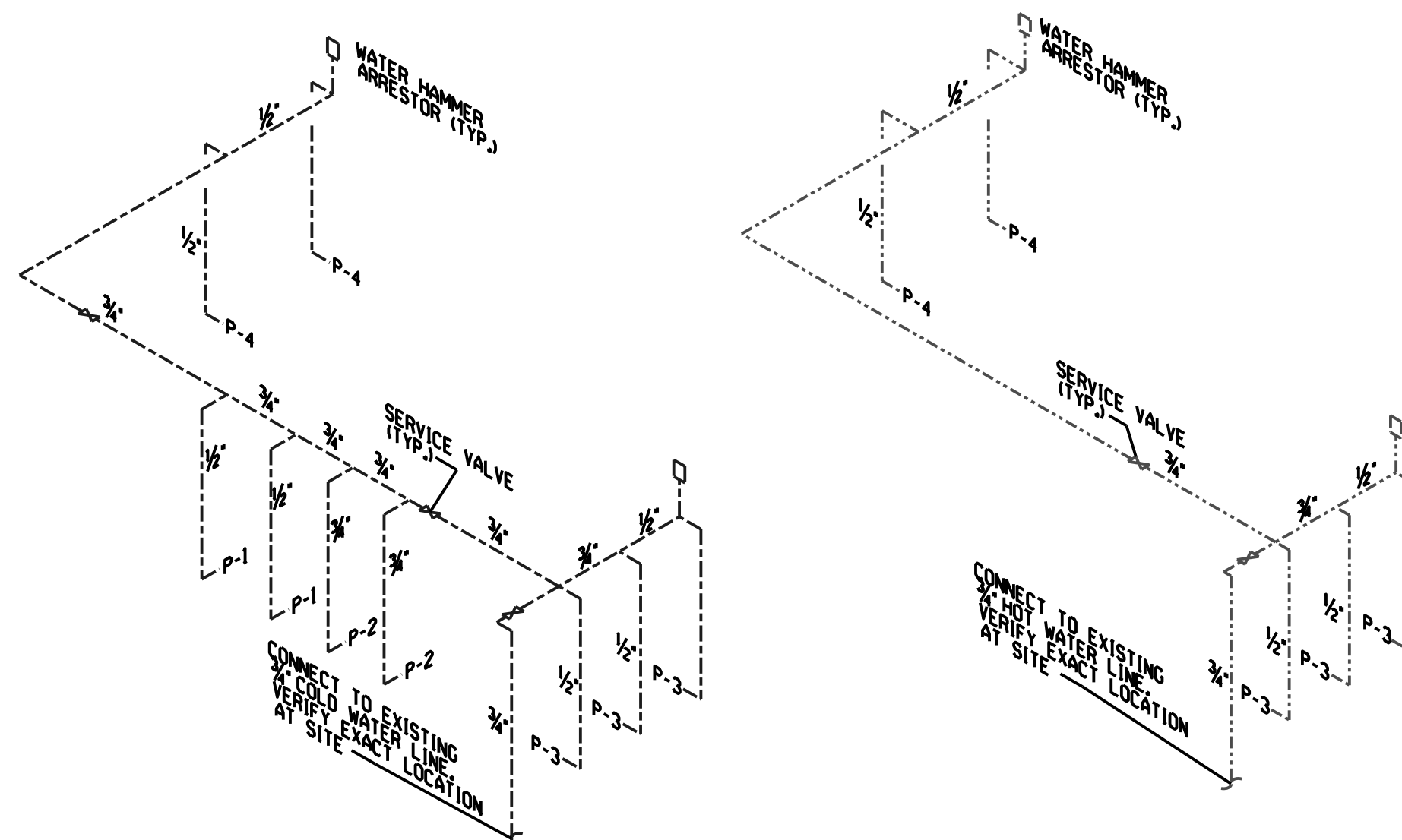
REV. DATE JOB # TSK-18-131

# PLUMBING FIXTURE SCHEDULE

FIXTURE NUMBER	DESCRIPTION	PIPE SIZE		
		WASTE	C.W.	H.W.
P-1	WATER CLOSET: GERBER MAXWELL NO. MX-21-412 FLOOR MOUNTED TANK TYPE WITH ELONGATED SAPHON ACTION BOWL, WHITE SOLID PLASTIC OPEN FRONT SEAT WITH SELF-SUSTAINING CHECK HINGE, CHINAL BOLT CAPS, MCGUIRE 2165LK SUPPLY AND STOP.	4"	1/2"	-
P-2	URINAL: AMERICAN STANDARD NO. 6541132, WHITE, VITREOUS CHINA, WALL HUNG, WITH SMITH FIG. 0615 FIXTURE SUPPORT AND SLOAN REGAL FLUSH VALVE NO. 186-YK.	2"	3/4"	-
P-3	LAVATORY: AMERICAN STANDARD NO. 0476.028, WHITE VITREOUS CHINA, COUNTER MOUNTED, 20" X 17", WITH NO. 2385.000 SINGLE LEVER MIXING FAUCET WITH POP-UP DRAIN, 17 GAUGE TRAP & MCGUIRE 2165LK SUPPLIES AND STOPS.	2"	1/2"	1/2"
P-4	SHOWER: CLARION MODEL RE5843 ACRYLIC ENCLOSURE, FINISH SELECTED BY ARCHITECT, 2" POLISHED BRASS STRAINER AND VALVE ASSEMBLY TO BE DELTA MODEL T14003-T20-LHP VALVE WITH SCREWDRIVER STOPS, HAND OF SHOWER TO BE VERIFIED BEFORE ORDERING, FINISH SHALL BE SELECTED BY ARCHITECT, PROVIDE 1" TYPE 304 STAINLESS STEEL CURTAIN ROD, SHOWER CURTAIN TO BE COMMERCIAL GRADE VINYL CHOSEN BY ARCHITECT.	2"	1/2"	1/2"

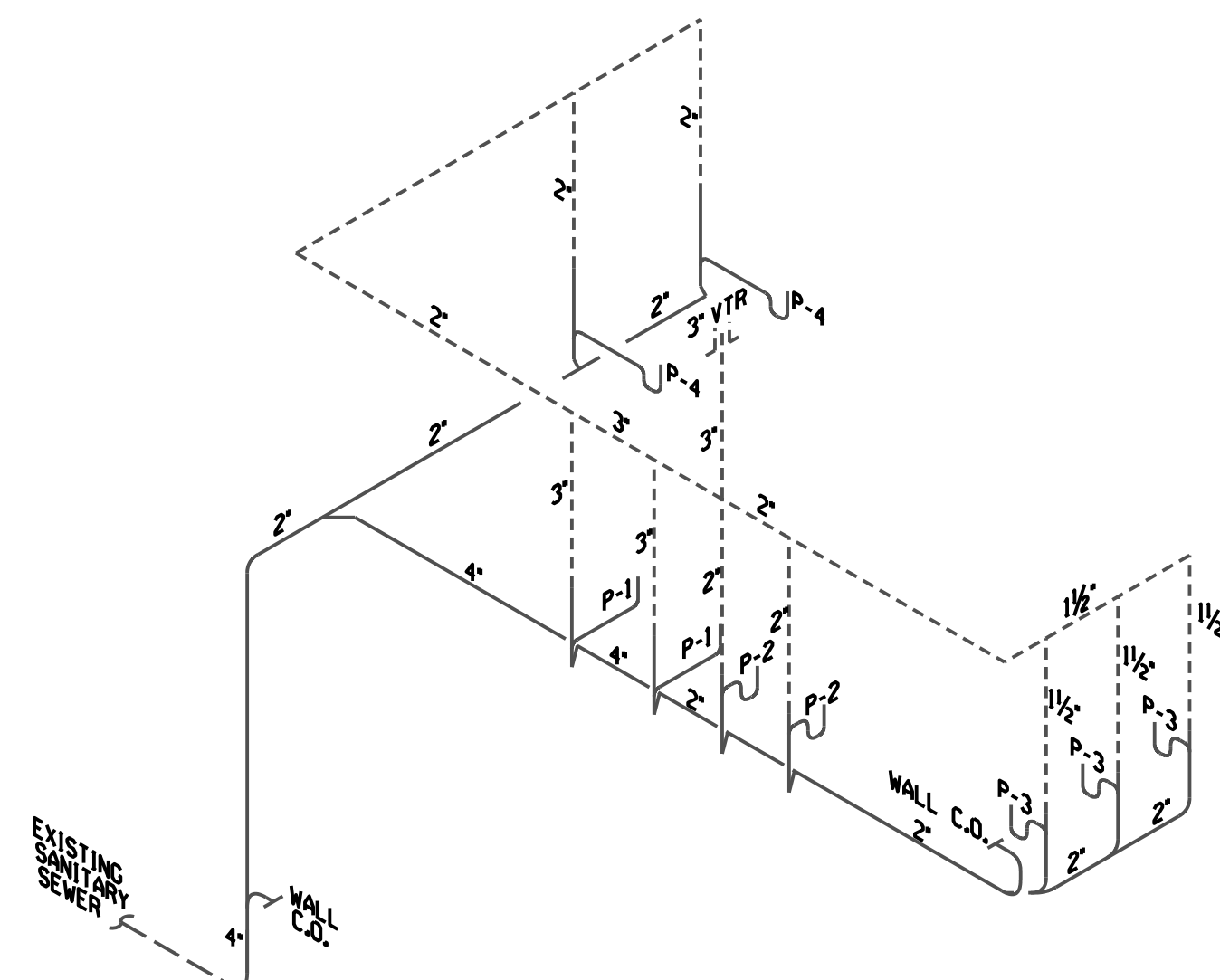
## PLUMBING NOTES

- ALL PLUMBING VENTS TO BE INSTALLED WITH A MINIMUM OF 10'-0" CLEARANCE FROM ALL OUTSIDE AIR INTAKE SYSTEMS ON THE MECHANICAL EQUIPMENT.
- ALL WATER PIPES AT EXTERIOR WALLS SHALL BE INSTALLED ON THE BUILDING SIDE OF THE INSULATION. FURTHER: ALL WATER PIPES SHALL BE INSULATED WITH 1" THICK FIBERGLASS INSULATION WITH VAPOR BARRIER JACKET.
- UNDERGROUND WATER MAIN TO BE SCHEDULE 40 PVC PIPE WITH GLUED JOINTS. INSTALL THE PIPING WITH DETECTOR TAPE PER DETAILS ON THE DRAWINGS.
- ADD TO THE DOMESTIC WATER MAIN 50 PPM (PARTS PER MILLION) AVAILABLE CHLORINE. ALLOW THE SOLUTION TO STAND FOR SIX HOURS, THEN FLUSH THOROUGHLY. THE PROCEDURE WILL BE OBSERVED BY THE LOCAL PLUMBING OFFICIAL. COORDINATE SAMPLING OF THE CLEAN WATER WITH THE LOCAL HEALTH DEPARTMENT.
- EQUAL FIXTURES CAN BE SUBMITTED IN PLACE OF SPECIFIED FIXTURES.
- PEX PLUMBING PIPE CAN BE INSTALLED IN PLACE OF COPPER PIPING.

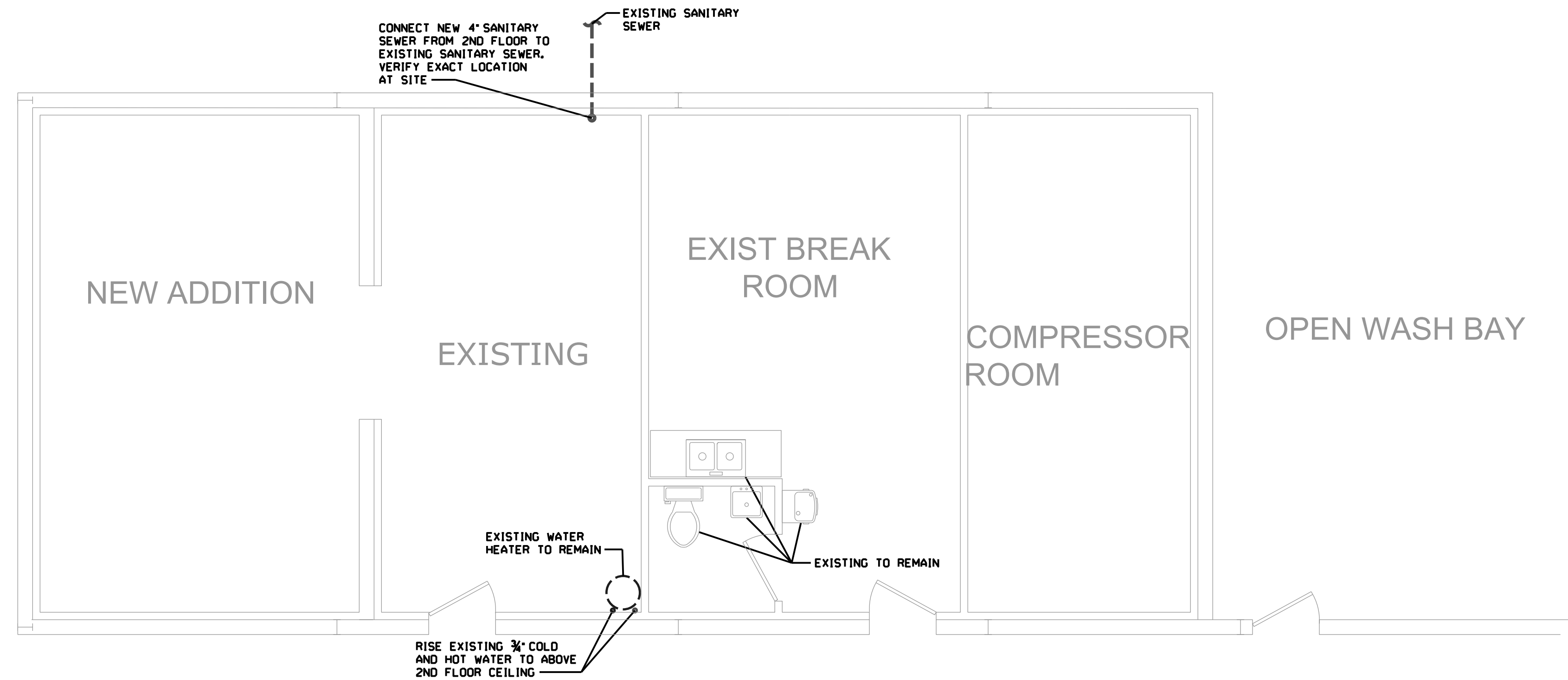


**COLD WATER DIAGRAM**  
NOT TO SCALE

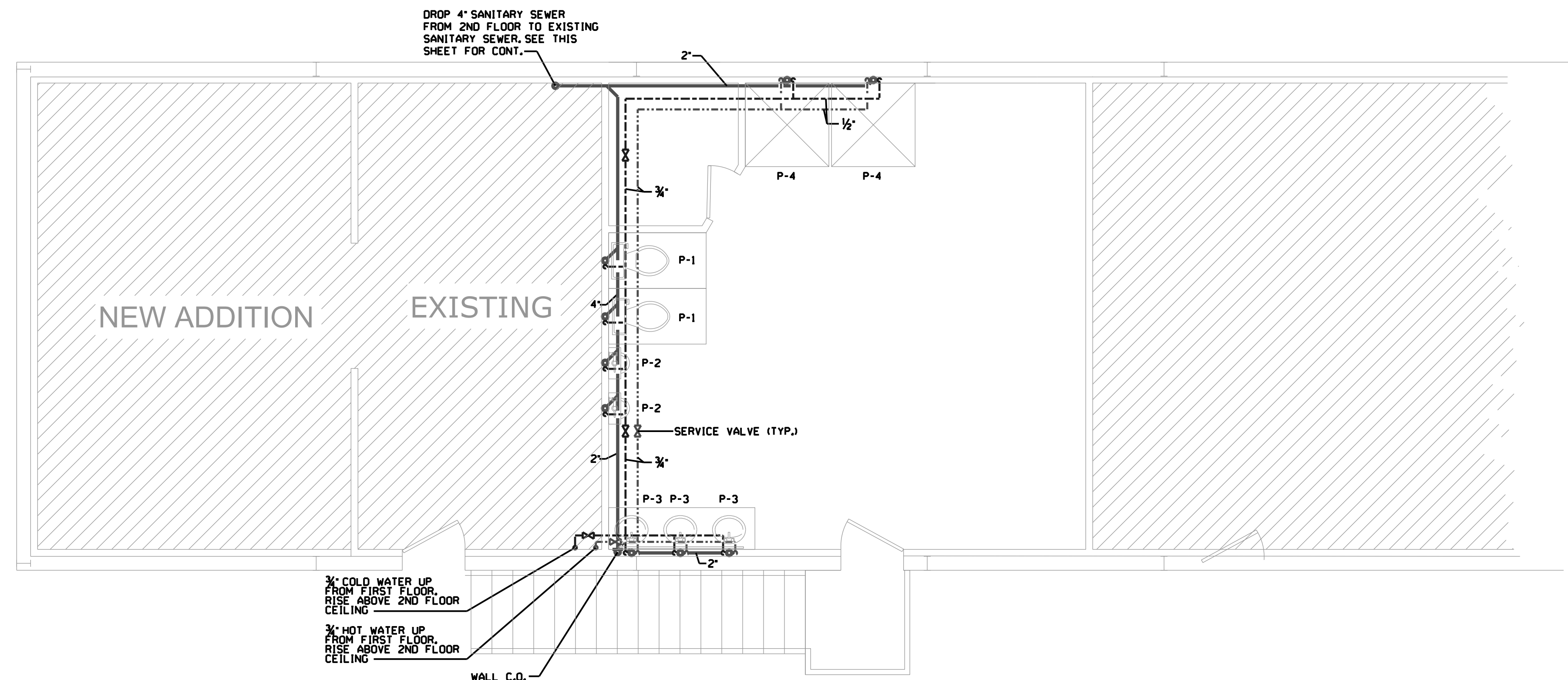
**HOT WATER DIAGRAM**  
NOT TO SCALE



**WASTE & VENT DIAGRAM**  
NOT TO SCALE



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



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



**TOTAL DESIGN ENGINEERING**  
1014 MERIDIAN STREET, SUITE B  
HUNTSVILLE, ALABAMA 35891  
PHONE: 256-539-8585, FAX: 256-539-8508  
EMAIL: SCLANTON@TOTALDESIGNENGINEERING.COM  
EMAIL: RSTEADMAN@TOTALDESIGNENGINEERING.COM

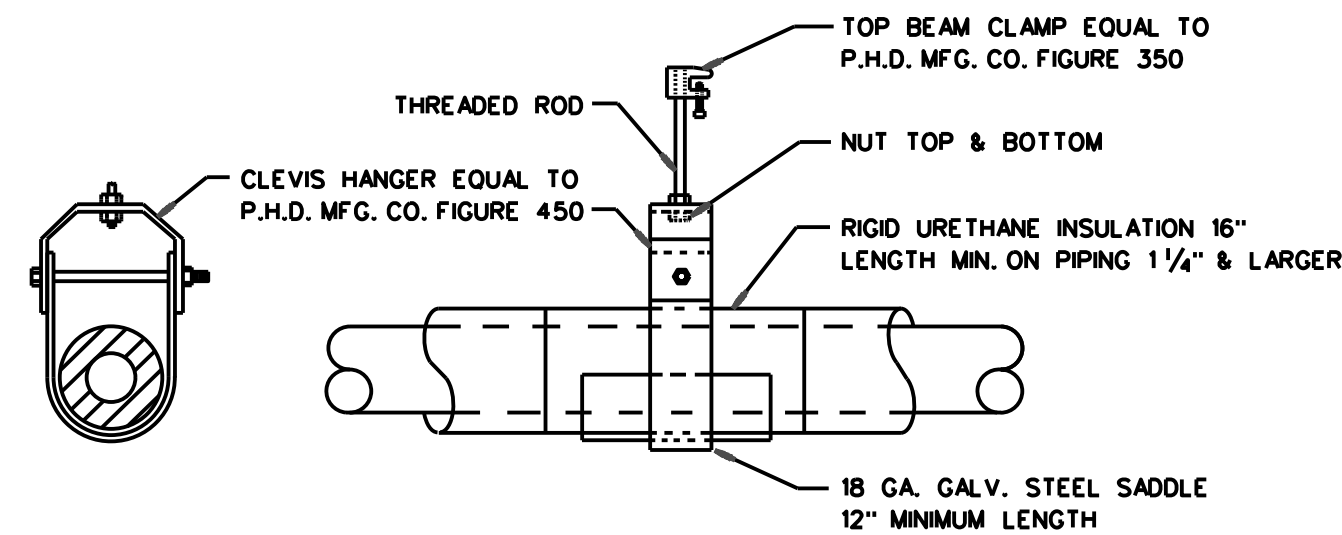
**KENWORTH ADDITION**  
MADISON ALABAMA  
**PLUMBING FLOOR PLAN**

DRAWN: JLW  
CHECKED: SEC/RJS  
DATE: 07/26/2018

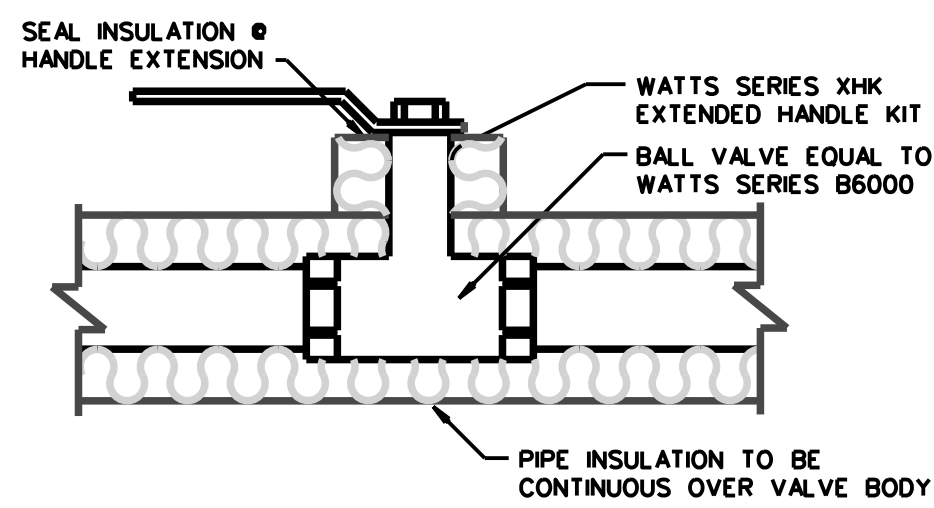
SHEET **P-1** OF **2**

REV. DATE  
JOB # TSK-18-131

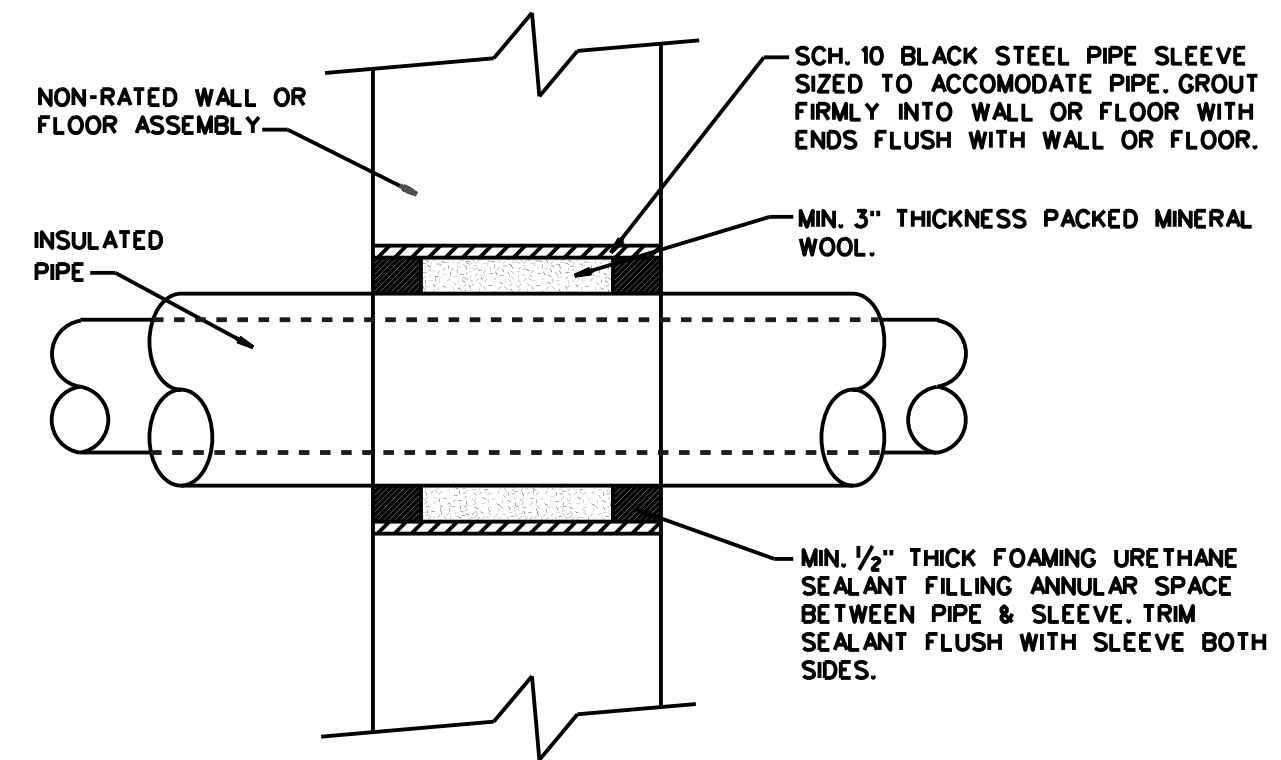
PIPE SIZE	HANGER SPACING
1/2"	6'
3/4"	6'
1"	8'
1 1/4"	8'
1 1/2"	8'
2"	10'
2 1/2"	10'
3"	12'
4"	12'
6"	12'
8"	12'



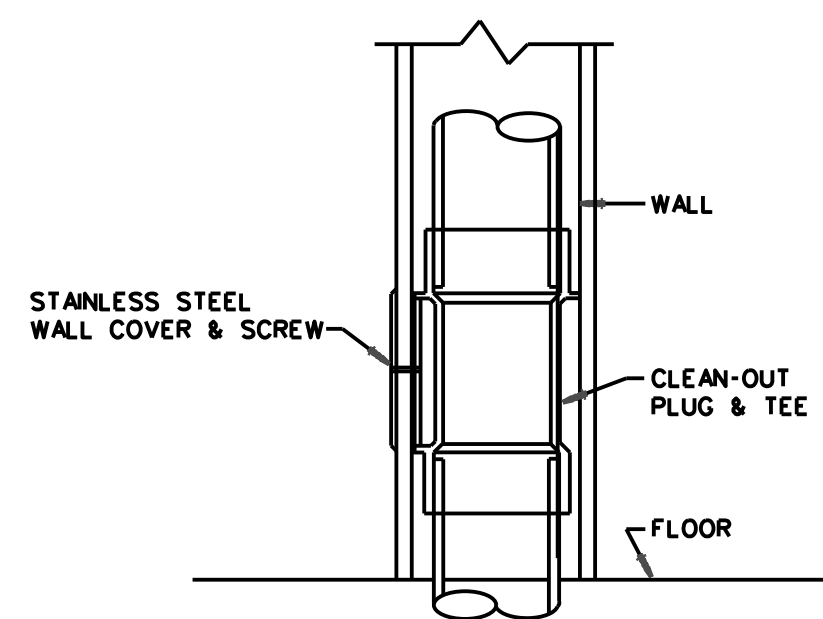
**HOT & COLD WATER PIPE HANGER DETAIL**  
 NOT TO SCALE



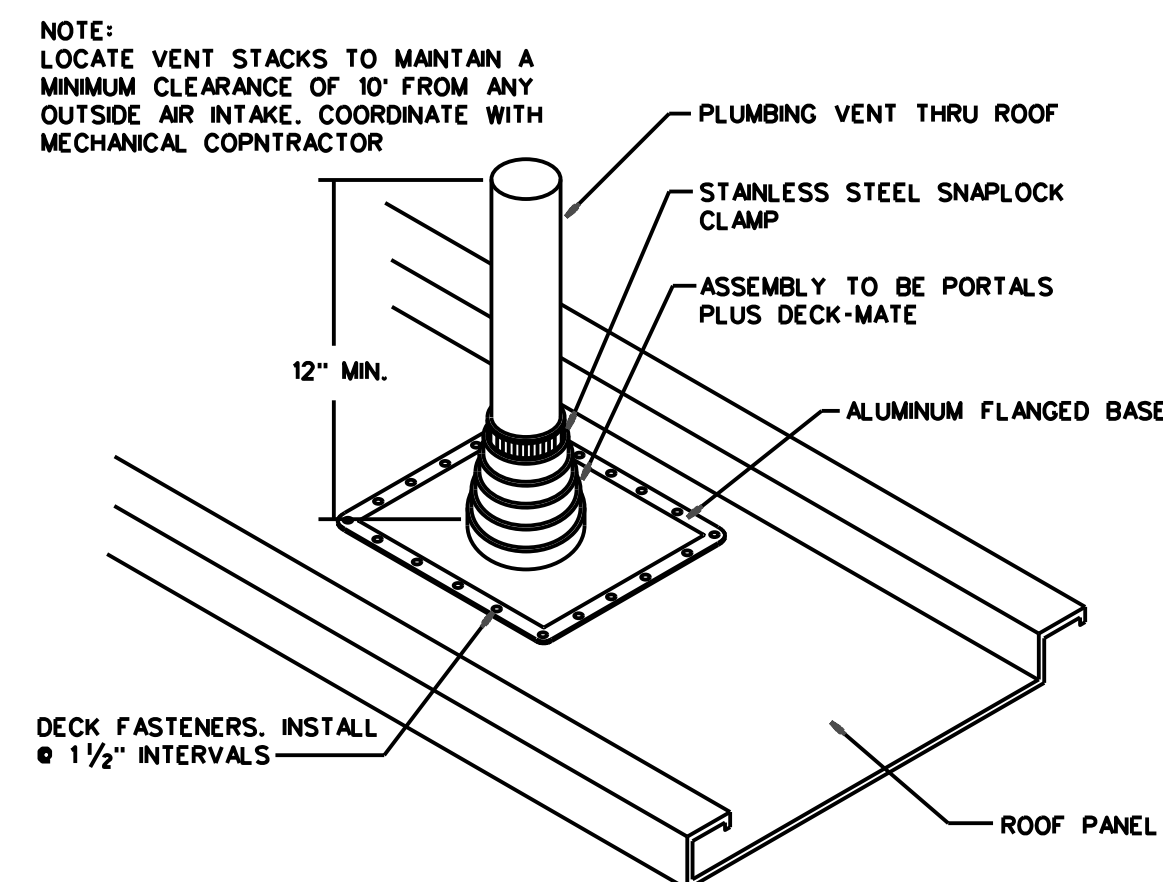
HOT & COLD WATER PIPING  
**SERVICE VALVE INSTALLATION DETAIL**  
 NOT TO SCALE



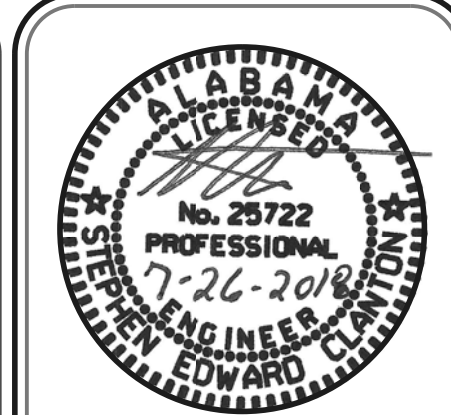
**NON-RATED PIPE SLEEVE DETAIL**  
 NOT TO SCALE



**WALL CLEANOUT DETAIL**  
 NOT TO SCALE



**PIPE FLASHING DETAIL**  
 NOT TO SCALE



**TOTAL DESIGN ENGINEERING**  
 1014 MERIDIAN STREET, SUITE B  
 HUNTSVILLE, ALABAMA 35801  
 PHONE: 256-539-8585, FAX: 256-539-8505  
 EMAIL: SCLANTON@TOTALDESIGNENGINEERING.COM  
 EMAIL: RSTEADMAN@TOTALDESIGNENGINEERING.COM

**KENWORTH ADDITION**  
 MADISON ALABAMA

**PLUMBING DETAILS**

<b>DRAWN</b>	JLW	<b>CHECKED</b>	SEC/RJS	<b>DATE</b>	07/26/2018
--------------	-----	----------------	---------	-------------	------------

**SHEET P-2 OF 2**

REV.	DATE	JOB #
		TSK-18-131