PLUMBING SYMBOLS SCHEDULE			
SYMBOL	ABBREV	DESCRIPTION	
	cw	COLD WATER	
	HW	HOT WATER	
	HWR	HOT WATER RECIRCULATION	
TW	TW	TEMPERED WATER	
	SAN	SANITARY SEWER	
PSAN	PSAN	PUMPED SANITARY	
CV	cv	CIRCUIT VENT	
CW&V	CW&V	COMBINATION WASTE & VENT	
0	v	SANITARY VENT	
SD	SD	STORM DRAIN, RAINWATER DRAIN	
PSD	PSD	PUMPED STORM DRAIN	
OFD	OFD	OVERFLOW ROOF DRAINAGE	
TP	TP	TRAP PRIMER PIPING	
G	G	GAS	
GV	GV	GAS VENT	
A	A	COMPRESSED AIR	
[XXX°]——		HOT WATER [XXX°]	
[XXX°] — —	[XXX°] HWR	HOT WATER RETURN [XXX °]	
LA	LA	LABORATORY COMPRESSED AIR	
LV	LV	LABORATORY VACUUM	
R0	RO	REVERSE OSMOSIS WATER	
DI	DI	DISTILLED WATER	
DE	DE	DEIONIZED WATER	
AW	AW	ACID WASTE	
AV	AV	ACID VENT	
GW	GW	GREASE WASTE	
OW	OW	OIL LADEN WASTE	
MA	MA	MEDICAL COMPRESSED AIR	
MV	MV	MEDICAL VACUUM	
OX	ОХ	OXYGEN	
N	N	NITROGEN	
NO	NO	NITROUS OXIDE	
WAGD		WASTE ANESTHESIA GAS DISPOSAL	
CO2		CARBON DIOXIDE	
F FIRE PROTECTION WATER SUPPLY		FIRE PROTECTION WATER SUPPLY	
SP	SP	AUTOMATIC FIRE SPRINKLER	
ASD	ASD	AUTOMATIC FIRE SPRINKLER SYSTEM DRAIN	
○		ELBOW TURNED UP	
Cl		ELBOW TURNED DOWN	
		TEE TURNED UP	
		TEE TURNED DOWN	
—— I———		PIPE UNION	
		FLEXIBLE PIPE CONNECTION	
×		PIPE ANCHOR	
<u> </u>		PIPE GUIDE	
	EXC	EXPANSION COMPENSATOR	
		FLOW ARROW	
	GA	GATE VALVE	
— Б—	BF	BUTTERFLY VALVE	
<u> </u>	СК	CHECK VALVE	
	CBL	CALIBRATED BALANCING VALVE	
<u> </u>	TCBV	THERMOSTATICALLY CONTROLLED BALANCING VALVE	
—-Б-	ВА	BALL VALVE	
Г	DI DI	DI HO VALVE	
——√——	PL	PLUG VALVE	

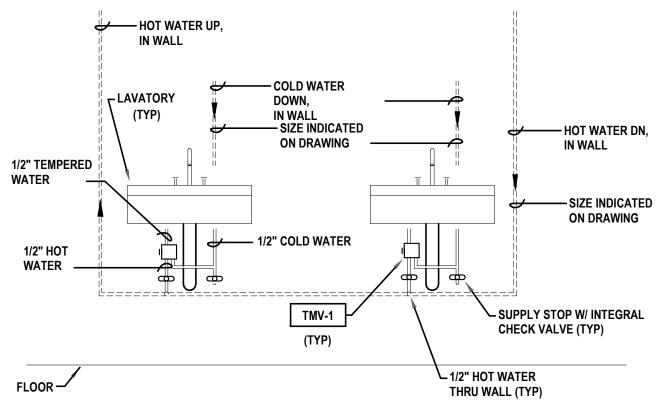
DESCRIPTION **GAS COCK** BACKFLOW PREVENTER 000 CO CLEANOUT FLUSH IN FLOOR —∰i wco WCO WALL CLEANOUT FLUSH IN WALL WHA-() WATER HAMMER ARRESTER (PDI TYPE) PRV PRESSURE REDUCING VALVE PS PRESSURE SWITCH TS VALVE WITH TAMPER SWITCH FS VALVE WITH FLOW SWITCH ----0----UPRIGHT FIRE SPRINKLER HEADS PENDANT FIRE SPRINKLER HEADS SIDEWALL FIRE SPRINKLER HEADS \bigcirc HHHH FHR FIRE HOSE RACK FHC FIRE HOSE CABINET (SURFACE MTD.) FHC FIRE HOSE CABINET (RECESSED) FVC FIRE VALVE CABINET FH FIRE HYDRANT FDC FIRE DEPARTMENT CONNECTION MEDICAL GAS OUTLET Ç-◀ VS MEDICAL VACUUM SLIDE BRACKET l VS THERMOMETER PRESSURE GAGE 'Y' STRAINER WITH BLOWDOWN VALVE WH WALL HYDRANT ----- \leftarrow HB HOSE BIBB FD FLOOR DRAIN FS FLOOR SINK RD ROOF DRAIN OFD OVERFLOW ROOF DRAIN, EMERGENCY ROOF DRAIN OFDN OVERFLOW DRAIN NOZZLE C CIRCULATOR **ACCESS PANEL ACCESS DOOR** / 0'-0" / DISTANCE FROM FLOOR TO BOTTOM OF OBJECT **CONNECT TO EXISTING** POINT OF DEMOLITION TXFR AUTOMATIC FIXTURE TRANSFORMER RISER TYPE TO DW 1 RISER NUMBER REFERENCE NUMBER — 1 P-101 SHEET CROSS REFERENCE SECTION REFERENCE LETTER P-101 DIRECTION OF VIEW

PLUMBING SYMBOLS SCHEDULE

	PLUMBING FIXTURE SC	HEDUL	E VO	L 2		
DESIG	DESCRIPTION	CW	HW	TW	SAN	VENT
2"FS	FLOOR SINK	-	-	-	2"	2"
3"FD	FLOOR DRAIN	-	-	-	3"	-
4"FD	FLOOR DRAIN	-	-	-	4"	-
L-1*	LAVATORY: ADA, OVAL UNDERMOUNT, MANUAL FAUCET.	1/2"	1/2"	3/8"	1-1/4"	1-1/4"
RH	ROOF HYDRANT	1/2"	-	-	-	-
SK-1*	SINK: STAINLESS STEEL, SPEED BAR.	1/2"	1/2"	3/8"	1-1/2"	1-1/2"
UR-1	URINAL	3/4"	-	-	2"	2"
WC-1	WATER CLOSET: ADA, MANUAL FLUSH VALVE, FLOOR SET.	1"	-	-	4"	2"
WH	WALL HYDRANT	1/2"	-	•	-	-

SHEET CROSS REFERENCE

PLUMBING EQUIPMENT SCHEDULE			
SYMBOL	DESCRIPTION		
TMV-1	THERMOSTATIC MIXING VALVE: 1.0 GPM @ 15 PSI PRESSURE DROP ACROSS VALVE (FLOW RANGE 0.25-2.25 GPM). SET OUTLET TEMPERATURE @ 110° F		



1. DETAIL SHOWS TWO FIXTURES TO ILLUSTRATE TYPICAL LOOPED PIPING IN WALL TO SERVE MULTIPLE FIXTURES. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION AND QUANTITY OF FIXTURES.



GENERAL NOTES (APPLY TO ALL DRAWINGS):

- 1. COMPLY WITH LOCAL, STATE, AND NATIONAL CODES AND REGULATIONS.
 - PLAN DOCUMENTS ARE SCHEMATIC TO CONVEY THE DESIGN INTENT. DO NOT SCALE DRAWINGS FOR EXACT PLACEMENT OF EQUIPMENT AND DISTRIBUTION SYSTEMS.
- COORDINATION BETWEEN DISCIPLINES IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND/OR CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
- THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. IN A CASE OF A CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS, REQUEST A DOCUMENTED INTERPRETATION FROM THE
- ARCHITECT / ENGINEER. INSTALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND INSURANCE
- UNDERWRITER REQUIREMENTS.
- THE LINE-TYPE AND SYMBOLS LEGENDS SHOW ITEMS TYPICALLY INCLUDED WITH THE SPECIFIED SYSTEMS. NOT ALL SYMBOLS AND/OR LINE TYPES ARE UTILIZED.
- INCLUDE DETAILS IN THE SCOPE OF WORK FOR EVERY SITUATION TO WHICH THAT DETAIL APPLIES EXCEPT WHERE A SPECIFIC DETAIL REFERENCE IS DESIGNATED TO INDICATE OTHERWISE.
- EXISTING PLUMBING EQUIPMENT, PIPING, AND FIXTURES SHALL REMAIN UNLESS NOTED OTHERWISE. SCHEDULE SYSTEM MODIFICATIONS TO MINIMIZE DISRUPTIONS TO EXISTING BUILDING SERVICES.

COORDINATE SHUTDOWN REQUESTS PER SPECIFICATIONS AND OWNER REQUIREMENTS.

- 10. LOCATE PIPING AS HIGH AS POSSIBLE, UNLESS NOTED OTHERWISE.
- SEAL PENETRATIONS THROUGH FIRE AND/OR SMOKE BARRIERS WITH AN APPROVED SYSTEM TO MAINTAIN THE INTEGRITY OF THE BARRIER AND SHALL BE MARKED APPROPRIATELY IN ACCORDANCE
- INSTALL EXTERIOR FUEL GAS REGULATORS AND METERS AT LEAST 10 FT FROM DOORS, OPERABLE WINDOWS, FRESH AIR OPENINGS, ETC.
- COORDINATE ROOF PENETRATIONS WITH THE ROOFING CONTRACTOR OR ROOF WARRANTY UNDERWRITER TO MAINTAIN ROOFING SYSTEM INTEGRITY.
- 14. MINIMUM PLUMBING PIPING SIZE SHALL BE 1/2" UNLESS NOTED OTHERWISE.
- 15. INSTALL FLEXIBLE CONNECTIONS BETWEEN ALL MOTORIZED EQUIPMENT AND THE CONNECTED
- SYSTEM. REFER TO SPECIFICATIONS FOR CONNECTION TYPE AND APPLICATION.
- CONNECTION TO GAS FIRE EQUIPMENT.
- SANITARY PIPING UNDERGROUND AND BENEATH SLAB ON GRADE SHALL BE NO LESS THAN 2" IN

PROVIDE ALL FUEL GAS PIPING WITH A SHUT OFF VALVE, UNION, AND DRIP LEG AT EACH

COORDINATE INSPECTION AND TESTING REQUIREMENTS OF PIPING ENCLOSED IN CMU WALLS WITH AHJ PRIOR TO CONSTRUCTION. DURING CONSTRUCTION, DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT HAS BEEN INSPECTED AND APPROVED BY AUTHORITIES HAVING JURISDICTION.

PLUMBING LINETYPE KEY

(APPLIES TO ALL PLUMBING SERVICES OR SYMBOLS)

SYMBOL	DESCRIPTION		
	HEAVY LINEWEIGHT INDICATES PIPING AND EQUIPMENT TO BE FURNISHED UNDER THIS PROJECT		
	THIN LINEWEIGHT INDICATES PIPING AND EQUIPMENT THAT ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE		
	DASHED LINETYPE INDICATES PIPING AND EQUIPMENT THAT ARE EXISTING TO BE REMOVED, UNLESS NOTED OTHERWISE		

PLUMBING ABBREVIATIONS

AB CL ABOVE CEILING AT ST AT STRUCTURE BL GD BELOW GRADE AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE BJ BETWEEN JOIST CFM CUBIC FEET PER MINUTE CIP CAST IRON PIPE Dia. DIAMETER

EX EXISTING FPM FEET PER MINUTE

EC ELECTRICAL CONTRACTOR ECH EXTENDED COVERAGE HEAD FT HD FEET OF HEAD GC GENERAL CONTRACTOR GPM GALLONS PER MINUTE

HOT WATER DOWN,

IN WALL

HOT WATER UP,

SIZE INDICATED ON DRAWING —

IN WALL

SUPPLY STOPS AND TMV TO BE LOCATED UNDER LAVATORY

HC HEATING/HVAC CONTRACTOR HP HORSEPOWER KW KILOWATT MC MECHANICAL CONTRACTOR PC PLUMBING CONTRACTOR PSIG POUNDS PER SQUARE INCH GAGE RPM REVOLUTIONS PER MINUTE S & WS SOIL & WASTE STACK SV STACK VENT

TJ THRU JOIST TR THROUGH ROOF UN FL UNDER FLOOR US S UNDERSIDE STEEL UNO UNLESS NOTED OTHERWISE VTR VENT THRU ROOF

WS WASTE STACK

3804 BRANDON AVENUE, ROANOKE, VA 24018 REVISIONS NO. DATE DESCRIPTION COLD WATER DOWN, IN WALL SIZE INDICATED ON DRAWING ----LAVATORY ── TMV-1

> —— 3/8" COLD AND HOT WATER SUPPLY, COPPER TUBING (TYP) SUPPLY STOP W/ INTEGRAL CHECK VALVE (TYP)

VASTE & TRAP

DETAIL (1 NO SCALE HOW WATER LOOP FOR LAVATORY

∠3/8" COMPRESSION FITTING(S) (TYP)

> DRAWING TITLE: SYMBOLS & GENERAL PLUMBING

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RENOVATIONS

LUTHERAN

HOMES, INC

PROJECT ADDRESS:

COMMUNITY

PROJECT NAME:

SCALE: AS NOTED DRAWN BY:

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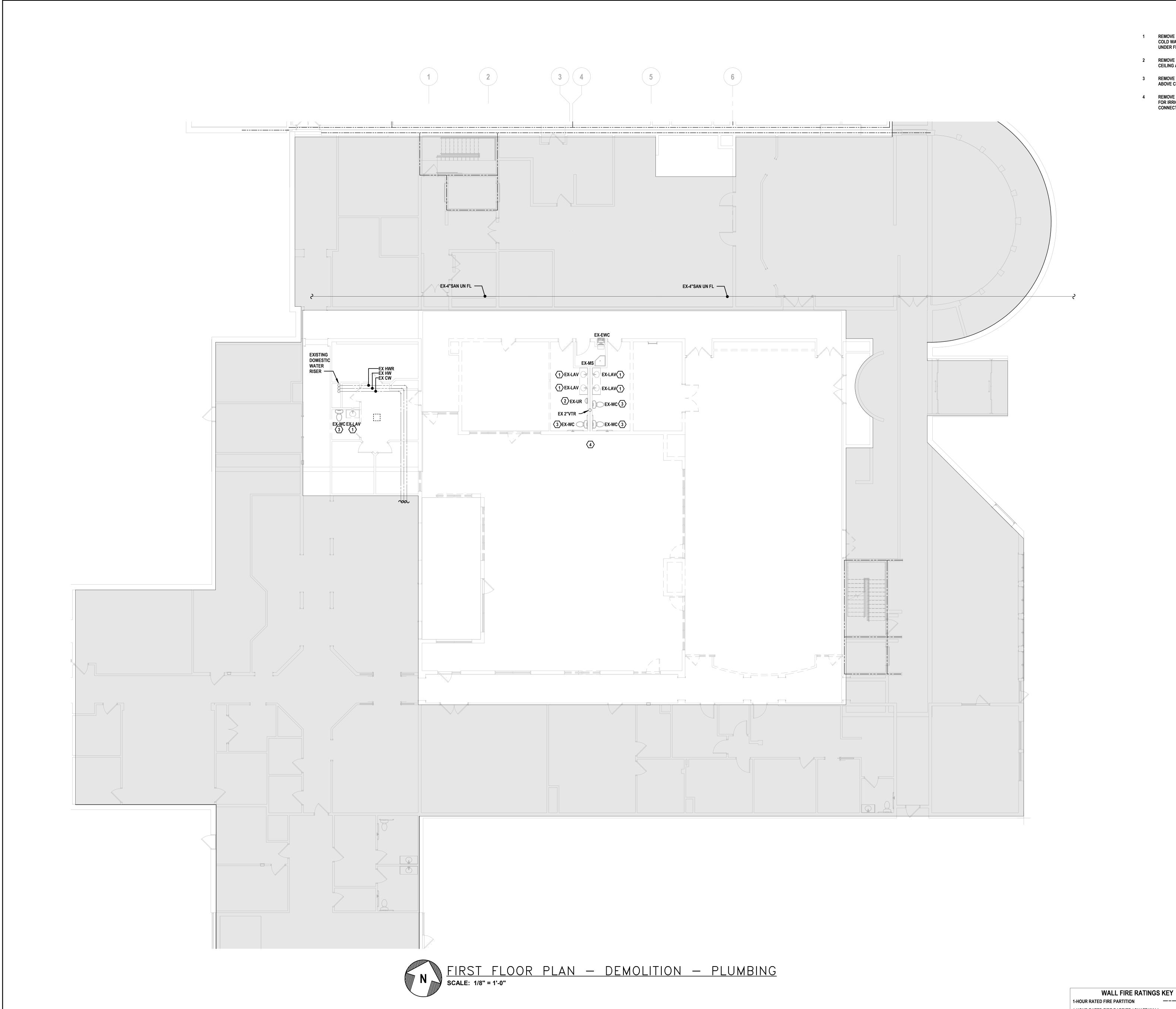
VOLUME II

2 MAY 2025

DRAWING NO: COMMISSION NO: 2024109

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Consulting engineers BAI Engineering, PLLC 708 St. Marys St An Employee Owned Company ~ We Make Buildings Work 2024352.00 KNB

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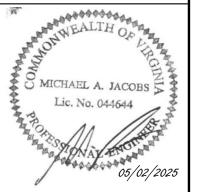


- REMOVE LAVATORY, FAUCET, ASSOCIATED PIPING, AND APPURTENANCES. CAP HOT WATER, COLD WATER, AND VENT ABOVE CEILING AT BRANCH CONNECTIONS TO MAINS. CAP SANITARY UNDER FLOOR.
- REMOVE URINAL, ASSOCIATED PIPING, AND APPURTENANCES. CAP COLD WATER ABOVE CEILING AT BRANCH CONNECTIONS TO MAINS. CAP SANITARY UNDER FLOOR.
- REMOVE WATER CLOSET, ASSOCIATED PIPING, AND APPURTENANCES. CAP COLD WATER ABOVE CEILING AT BRANCH CONNECTION TO MAINS. CAP SANITARY UNDER FLOOR.
- REMOVE BACKFLOW PREVENTER, HOSE BIBB, ASSOCIATED PIPING AND APPURTENANCES FOR IRRIGATION SYSTEM IN THIS VICINITY. CAP COLD WATER ABOVE CEILING AT BRANCH CONNECTIONS TO MAINS.

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HOMES, INC

PROJECT ADDRESS: 3804 BRANDON AVENUE, ROANOKE, VA 24018

REVISIONS

NO.	DATE	DESCRIPTION

DRAWING TITLE:
FIRST FLOOR PLAN -DEMOLITION -PLUMBING

SCALE: AS NOTED DRAWN BY:

COORDINATED BY: CHECKED BY:

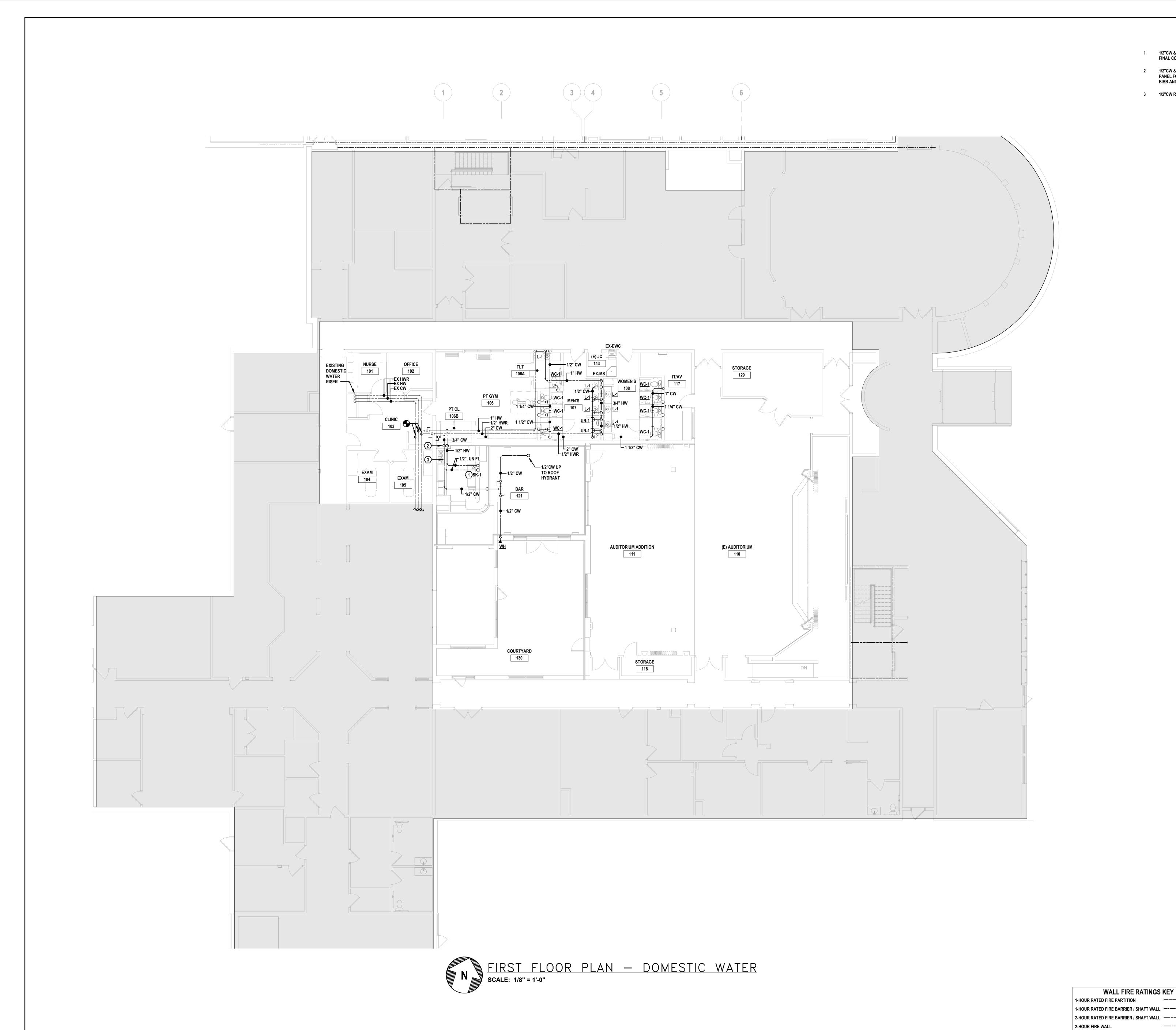
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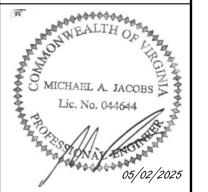
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2-HOUR FIRE WALL



- 1/2"CW & HW TO STUB UP AND SERVE SINK. PROVIDE CW TAP OFF TO ICEMAKER AND MAKE
- 1/2"CW & HW TO DROP IN WALL BELOW FLOOR AND SERVE BAR SINK, PROVIDE ACCESS PANEL FOR ISOLATION VALVES. 1/2"CW TO ROUTE ABOVE NEW CEILING TO SERVE HOSE BIBB AND ROOF HYDRANT.
- 3 1/2"CW ROUTED STACKED ABOVE CEILING AND BELOW FLOOR,

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PROJECT ADDRESS:

3804 BRANDON AVENUE, ROANOKE, VA 24018 REVISIONS NO. DATE DESCRIPTION

DRAWING TITLE:
FIRST FLOOR PLAN -DOMESTIC

SCALE: AS NOTED

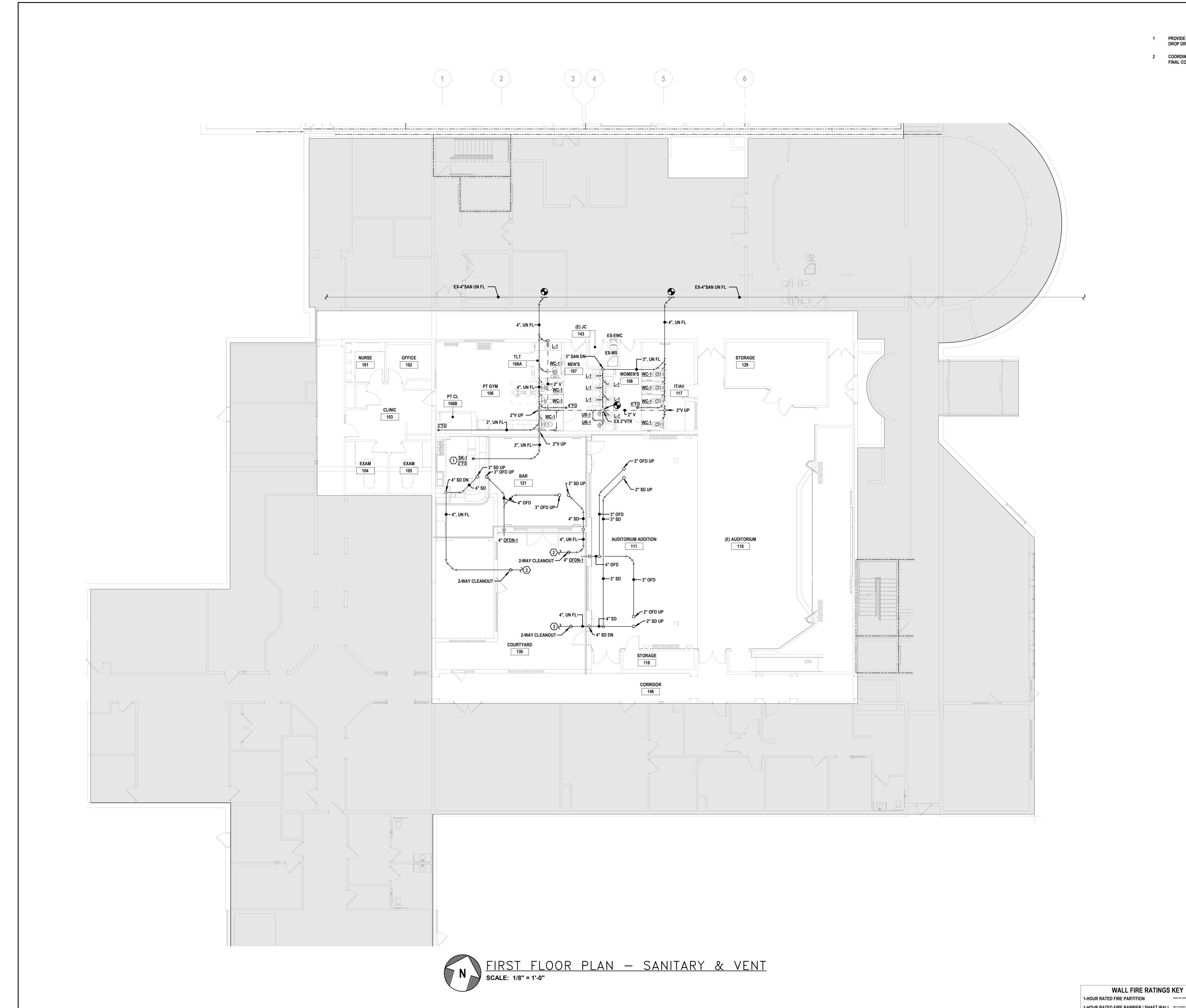
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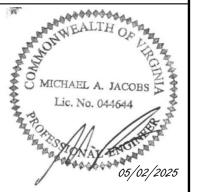
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- PROVIDE DRAIN CONNECTIONS TO BAR SINK, DRAIN-BOARD, ICE BIN, AND ICE DISPENSER. DROP DRAINS PROVIDED TO FLOOR SINK WITH AIR GAP.
- COORDINATE EXACT TIE IN TO EXISTING STORM DRAIN WITH CIVIL IN THIS VICINITY AND MAKE FINAL CONNECTION.

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LUTHERAN HOMES, INC

PROJECT ADDRESS:

3804 BRANDON AVENUE, ROANOKE, VA 24018 REVISIONS NO. DATE DESCRIPTION

	·

DRAWING TITLE:
FIRST FLOOR SANITARY &

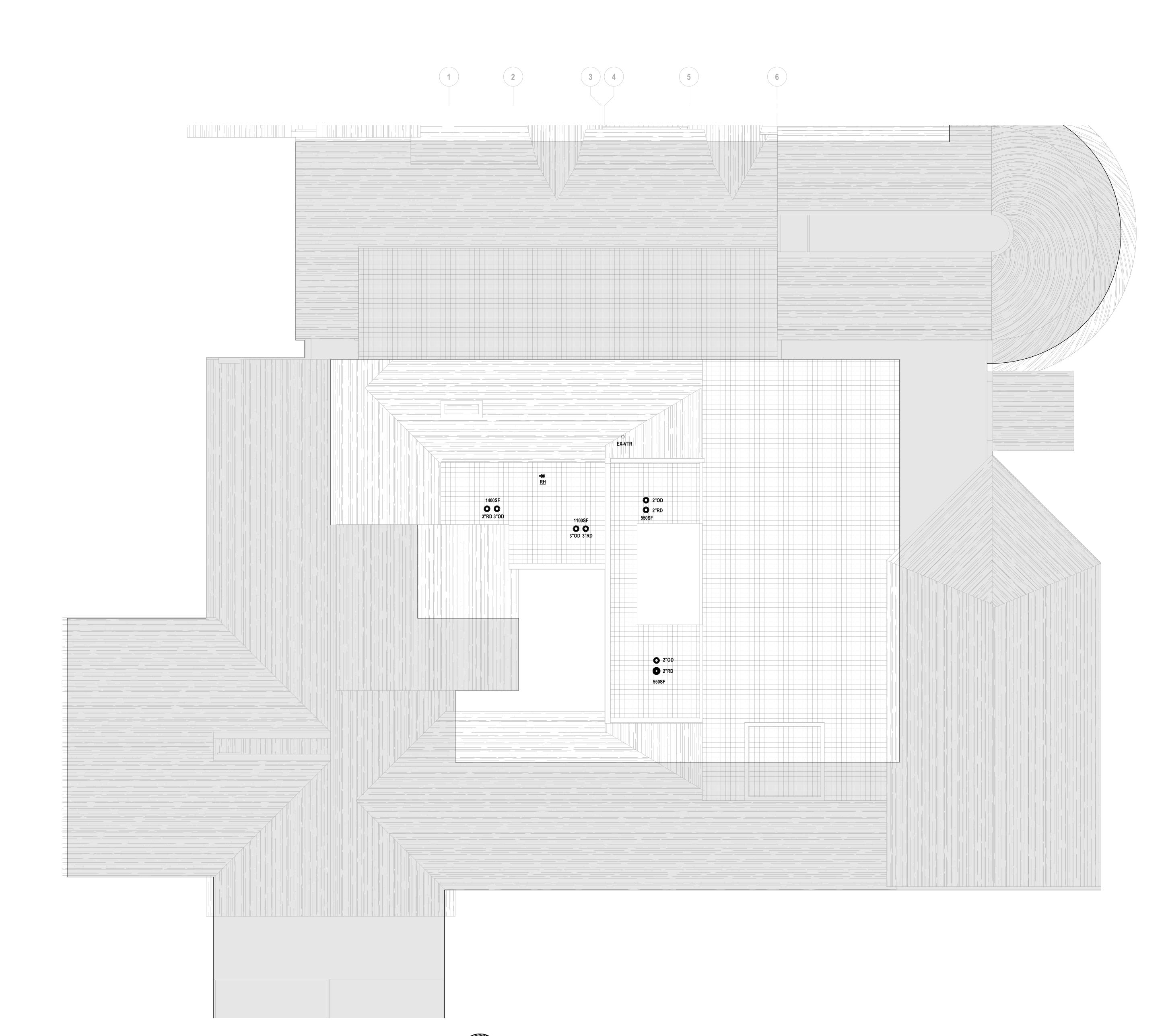
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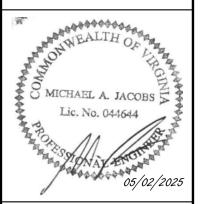
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COMMUNITY CENTER/DINING RENOVATIONS

HOMES, INC

PROJECT ADDRESS:

3804 BRANDON AVENUE, ROANOKE, VA 24018 NO. DATE DESCRIPTION

DRAWING TITLE:
ROOF PLAN DOMESTIC
WATER, STORM

SCALE: AS NOTED

COORDINATED BY:

APPROVED BY:

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VOLUME II COMMISSION NO: 2024109

SECOND FLOOR PLAN — DOMESTIC WATER, STORM & VENT scale: 1/8" = 1'-0"

HVAC SYMBOLS SCHEDULE			
SYMBOL	ABBREV	DESCRIPTION	
——нws——	HWS	HOT WATER SUPPLY	
HWR	HWR	HOT WATER RETURN	
CHWS	CHWS	CHILLED WATER SUPPLY	
CHWR	CHWR	CHILLED WATER RETURN	
ST-#	ST	STEAM SUPPLY LINE - # PSIG	
c-#	С	CONDENSATE RETURN LINE - # PSIG	
СР	СР	CONDENSATE PUMPED RETURN	
cd	CD	CONDENSATE DRAINAGE	
——ми——	MU	MAKE-UP WATER	
RL	RL	REFRIGERANT LIQUID	
RS	RS	REFRIGERANT SUCTION	
RG	RG	REFRIGERANT HOT GAS	
FOS	FOS	FUEL OIL SUPPLY	
FOR	FOR	FUEL OIL RETURN	
FOV	FOV	FUEL OIL VENT	
FOG	FOG	FUEL OIL GAGE	
cs	CS	CONDENSER WATER SUPPLY	
CR	CR	CONDENSER WATER RETURN	
O+		ELBOW TURNED UP	
G-I		ELBOW TURNED DOWN	
		TEE TURNED UP	
		TEE TURNED DOWN	
——II——		PIPE UNION	
		FLEXIBLE PIPE CONNECTION	
×		PIPE ANCHOR	
		PIPE GUIDE	
	EXC	EXPANSION COMPENSATOR	
		FLOW ARROW	
T	GA, BF	GATE OR BUTTERFLY VALVE (SEE SPEC)	
	GL, BF	GLOBE OR BUTTERFLY VALVE (SEE SPEC)	
	СК	CHECK VALVE	
	BL	BALANCING VALVE	
—	ВА	BALL VALVE	
——————————————————————————————————————	CBL	CALIBRATED BALANCING VALVE	
<u> </u>	PRV	PRESSURE REDUCING VALVE	
TO ROOF	s	SAFETY VALVE (STEAM)	
П.	R	SAFETY RELIEF VALVE (WATER)	
TO DRAIN	VFS	VENTURI FLOW STATION	
	-,, 5	BACKFLOW PREVENTER	
		CAP ON END OF PIPE	
		TWO WAY CONTROL VALVE	
×		THREE WAY CONTROL VALVE	
——————————————————————————————————————		SHUT-OFF VALVE (SEE SPEC)	
<u> </u>		THERMOSTAT	
© T			
<u> </u>		PRESSURE GAGE	
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	F 4 -	"Y" STRAINER WITH BLOWDOWN VALVE	
	F&T	FLOAT & THERMOSTATIC STEAM TRAP	
	TD	THERMO-DYNAMIC STEAM TRAP	
y co	СО	CLEANOUT IN HORIZONTAL RUN	
(T)	T'STAT	THERMOSTAT	
(H)	H'STAT	HUMIDISTAT	
Û	DT	DUCT TEMPERATURE SENSOR	
(H)	DH	DUCT HUMIDITY SENSOR	
⊞s	TH	COMBINATION TEMPERATURE & HUMIDITY SENSOR	
(T) _S		TEMPERATURE SENSOR	
⊕s		HUMIDITY SENSOR	
©₅	CO2	CARBON DIOXIDE SENSOR	
© _s	со	CARBON MONOXIDE SENSOR	

CO CARBON MONOXIDE SENSOR

HVAC SYMBOLS SCHEDULE			
SYMBOL	ABBRE\	DESCRIPTION	
	SA	SUPPLY AIR DUCT SECTION	
	RA	RETURN AIR DUCT SECTION	
	EA	EXHAUST AIR DUCT SECTION	
	DEA	DISHWASHER, DISHWASHER HOOD, AND HIGH HUMIDITY EXHAUST AIR DUCT SECTION	
	FEA	FUME HOOD, LABORATORY AND PROCESS EXHAUST AIR DUCT	
	KEA	SECTION KITCHEN HOOD EXHAUST AIR DUCT SECTION	
	OA	OUTSIDE AIR DUCT SECTION	
	Rel A	RELIEF AIR DUCT SECTION	
	TA	TRANSFER AIR	
	SA	SUPPLY AIR	
<u> </u>	RA, EA		
**	Rel A	RETURN, EXHAUST OR RELIEF AIR	
_/ <u></u>	OA	OUTSIDE AIR	
X/Y		SQUARE OR RECTANGULAR DUCT SIZE	
X"Ø		ROUND DUCT SIZE	
Х/Ү↔		FLAT OVAL DUCT SIZE - MAJOR AXIS/MINOR AXIS	
DL —	DL	DOOR LOUVER	
UC *-	UC	UNDER CUT	
T ₁ VD	VD	VOLUME DAMPER	
	TV	TURNING VANES	
₹ ∭ FC →	FC	FLEXIBLE CONNECTION	
MOD	MOD	MOTOR OPERATED DAMPER	
{		CHANGE OF ELEVATION: RISE - R, DROP - D	
FRD	FR D	FIRE DAMPER (HORIZ. RUN)	
∑ ⁴ FR D	FR D	FIRE DAMPER (VERT. RISE)	
◆ SFD	SFD	SECONDARY FIRE DAMPER	
F/S D	F/S D	COMBINATION FIRE/SMOKE DAMPER (HORIZ RUN)	
F/S D	F/S D	COMBINATION FIRE/SMOKE DAMPER (VERT RISE)	
SKD	SK D	SMOKE DAMPER	
F RDD	RD D	RADIATION DAMPER	
	DD	DUCT SMOKE DETECTOR	
	AP	ACCESS PANEL	
L-J L-J	AD	ACCESS DOOR	
/ 0'-0" /		DISTANCE FROM FLOOR TO BOTTOM OF OBJECT	
/		CONNECT TO EXISTING	
$\overline{\hspace{1cm}}$		POINT OF DISCONNECT	
	 REFERENCE		
DETAIL		SHEET WHERE DRAWN	
SECTION	REFERENC	DIRECTION OF VIEW SHEET WHERE DRAWN	
SYME		& IDENTIFICATION OF GRILLES, GISTERS, & DIFFUSERS	
		IDENTIFICATION	
[LENGTH	OR] NECK S	12/12 CD-200-5.2-1 NO. OF SLOTS (LD ONLY) [DEGREE OF DEFLECTION SIZE STYLE (SR ONLY)] RIPTION (LD ONLY)	
		DESCRIPTION	
SR - SUPPLY REGISTE	R	RG - RETURN GRILLE CD - CEILING DIFFUSER	
RR - RETURN REGISTE		EG - EXHAUST GRILLE LD - LINEAR DIFFUSER	
ER - EXHAUST REGIST	ER	LFD - LAMINAR FLOW DIFFUSER TG - TRANSFER GRILLE	
RLR - RELIEF REGISTE	R		
		STYLE	
		SQUARE DIFFUSER (HATCHED SECTOR INDICATES DIRECTION WITHOUT AIRFLOW)	
	- 1		

ROUND DIFFUSER W/ ADJUSTABLE PATTERN

SIDEWALL REGISTER OR GRILLE

CEILING REGISTER OR GRILLE

LINEAR DIFFUSER W/ 1 WAY PATTERN

LINEAR DIFFUSER W/ 2 WAY PATTERN

LINEAR DIFFUSER FOR RETURN AIR

STYLE 5.1

STYLE 5.2

STYLE 5.3

GENERAL NOTES (APPLY TO ALL DRAWINGS):

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- COORDINATION BETWEEN DISCIPLINES IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND/OR CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
- 4. THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. IN A CASE OF A CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS, REQUEST A DOCUMENTED INTERPRETATION FROM THE
- 5. INSTALL EQUIPMENT PER MANUFACTURER'S INSTALLATION AND INSURANCE UNDERWRITER
- 6. THE LINE-TYPE AND SYMBOLS LEGENDS SHOW ITEMS TYPICALLY INCLUDED WITH THE SPECIFIED
- SYSTEMS. NOT ALL SYMBOLS AND/OR LINETYPES ARE UTILIZED. INCLUDE DETAILS IN THE SCOPE OF WORK FOR EVERY SITUATION TO WHICH THAT DETAIL APPLIES
- EXCEPT WHERE A SPECIFIC DETAIL REFERENCE IS DESIGNATED TO INDICATE OTHERWISE.
- 8. EXISTING HVAC EQUIPMENT, PIPING AND DUCTWORK SHALL REMAIN UNLESS NOTED OTHERWISE. SCHEDULE SYSTEM MODIFICATIONS TO MINIMIZE DISRUPTIONS TO EXISTING BUILDING SERVICES.
- COORDINATE SHUTDOWN REQUESTS PER SPECIFICATION AND OWNER REQUIREMENTS.
- 10. LOCATE DUCTWORK AND PIPING AS HIGH AS POSSIBLE, UNLESS NOTED OTHERWISE. 11. SEAL PENETRATIONS THROUGH FIRE AND/OR SMOKE BARRIERS WITH AN APPROVED SYSTEM TO

MAINTAIN THE INTEGRITY OF THE BARRIER.

DEVIATIONS WITH THE ENGINEER OF RECORD.

- 12. INSTALL FIRE DAMPERS, FIRE/SMOKE DAMPERS AND SMOKE DAMPERS TO MAINTAIN THE INTEGRITY OF THE STRUCTURE PER NFPA REQUIREMENTS.
- 13. MAINTAIN DISTANCE, CONFIGURATION AND NUMBER OF ELBOWS FROM UNIT OR VAV BOXES TO FIRST DIFFUSER AS SHOWN ON PLANS FOR SOUND ATTENUATION. CONTRACTOR SHALL COORDINATE
- 14. PROVIDE TRANSITIONS REQUIRED FROM DUCT SIZE INDICATED ON PLANS TO HVAC EQUIPMENT CONNECTION SIZE. MAINTAIN 30 DEGREE MAXIMUM ANGLE FOR TRANSITION. CONTRACTOR SHALL COORDINATE DEVIATIONS WITH THE ENGINEER OF RECORD.
- 15. COORDINATE EXACT GRILLE/REGISTER/DIFFUSER LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN BEFORE ROUGH-IN.
- 16. COORDINATE ROOF PENETRATIONS WITH THE ROOFING CONTRACTOR OR ROOF WARRANTY UNDERWRITER TO MAINTAIN ROOFING SYSTEM INTEGRITY.
- 17. MINIMUM MECHANICAL PIPING SIZE SHALL BE 3/4" UNLESS NOTED OTHERWISE.
- 18. INSTALL FLEXIBLE CONNECTIONS BETWEEN ALL MOTORIZED EQUIPMENT AND THE CONNECTED SYSTEM. REFER TO SPECIFICATIONS FOR CONNECTION TYPE AND APPLICATION.

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PROJECT NAME: **BRANDON OAKS** COMMUNITY CENTER/DINING RENOVATIONS **VIRGINIA LUTHERAN** HOMES, INC

PROJECT ADDRESS:

3804 BRANDON AVENUE, **ROANOKE, VA 24018** REVISIONS O. DATE DESCRIPTION

MECHANICAL ABBREVIATIONS

MECHANICAL LINETYPE KEY

(APPLIES TO ALL MECHANICAL SERVICES OR SYMBOLS)

DESCRIPTION

HEAVY LINEWEIGHT INDICATES DUCTWORK, PIPING AND EQUIPMENT TO BE FURNISHED

THIN LINEWEIGHT INDICATES DUCTWORK, PIPING AND EQUIPMENT THAT ARE EXISTING TO

DASHED LINETYPE INDICATES DUCTWORK, PIPING AND EQUIPMENT THAT ARE EXISTING TO

AB CL ABOVE CEILING AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE APD AIR PRESSURE DROP ATC AUTOMATIC TEMPERATURE CONTROL BJ BETWEEN JOIST BL GD BELOW GRADE CFM CUBIC FEET PER MINUTE DB DRY BULB

UNDER THIS PROJECT

REMAIN, UNLESS NOTED OTHERWISE

BE REMOVED, UNLESS NOTED OTHERWISE

DIA DIAMETER DIFF DIFFUSER EAT ENTERING AIR TEMP EC ELECTRICAL CONTRACTOR ESP EXTERNAL STATIC PRESSURE EWT ENTERING WATER TEMPERATURE EX EXISTING FPM FEET PER MINUTE FRP FIBERGLASS REINFORCED PLASTIC FV FACE VELOCITY

GC GENERAL CONTRACTOR GPM GALLONS PER MINUTE HC HEATING/HVAC CONTRACTOR FT HD FEET OF HEAD HP HORSEPOWER HZ HERTZ

KW KILOWATT LAT LEAVING AIR TEMPERATURE LF LINEAL FEET LWT LEAVING WATER TEMPERATURE MC MECHANICAL CONTRACTOR PC PLUMBING CONTRACTOR PSIG POUNDS PER SQUARE INCH GAGE RPM REVOLUTIONS PER MINUTE TJ THRU JOIST TR THROUGH ROOF TP TOTAL PRESSURE TSP TOTAL STATIC PRESSURE

> WB WET BULB IN WG INCHES WATER GAGE WPD WATER PRESSURE DROP V VOLTS S & WS SOIL & WASTE STACK SV STACK VENT UNO UNLESS NOTED OTHERWISE US S UNDERSIDE STEEL

VTR VENT THRU ROOF

WS WASTE STACK

UNO UNLESS NOTED OTHERWISE

TYP TYPICAL

DRAWING TITLE: SYMBOLS & **GENERAL** NOTES - HVAC

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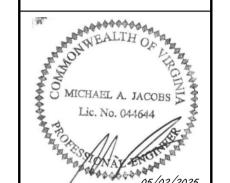
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- 1 REMOVE TRANSFER GRILLE AND DUCTWORK TO POINT SHOWN.
- REMOVE VERTICAL FAN COIL IN CLOSET. REMOVE CONNECTED SUPPLY DUCTWORK ABOVE CEILING. CAP HYDRONIC PIPING ABOVE CEILING.
- REMOVE FAN COIL ABOVE CEILING. REMOVE CONNECTED DUCTWORK AND ASSOCIATED GRILLES. REMOVE CONTROLS, PIPING, AND APPURTENANCES. CAP HYDRONIC PIPING ABOVE CEILING FOR CONNECTION TO REPLACEMENT UNIT.
- 4 REMOVE THERMOSTAT AND CONTROL WIRING.
- 5 REMOVE BASEBOARD HEATERS AND ASSOCIATED CONTROLS AND APPURTENANCES.
- REMOVE EXHAUST GRILLE IN BATHROOM. REMOVE DUCTWORK BACK TO MAIN EXHAUST IN HALLWAY. PATCH AND SEAL DUCT OPENING.
- RELOCATE HEAT PUMP FROM GRADE UP TO NEW ROOF ABOVE BAR. RELOCATE AND EXTEND REFRIGERANT PIPING TO EXISTING LINES ABOVE CEILING. RECLAIM REFRIGERANT PIPING ON EXTERIOR AND VERTICALLY UP IN WALL.
- MINI-SPLIT AIR HANDLER RECESSED IN CEILING TO REMAIN.
- 9 EXHAUST GRILLE AND DUCTWORK TO REMAIN. REFERENCE PLAN FOR NEW AIR BALANCE.
- 10 REMOVE EXTERIOR REFRIGERANT PIPING AND VERTICAL PIPING IN WALL. PIPING ABOVE **CEILING TO REMAIN.**



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NO.	DATE	DESCRIPTION

FIRST FLOOR PLAN -DEMOLITION -HVAC

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2 MAY 2025

Barton Associates WALL FIRE RATINGS KEY

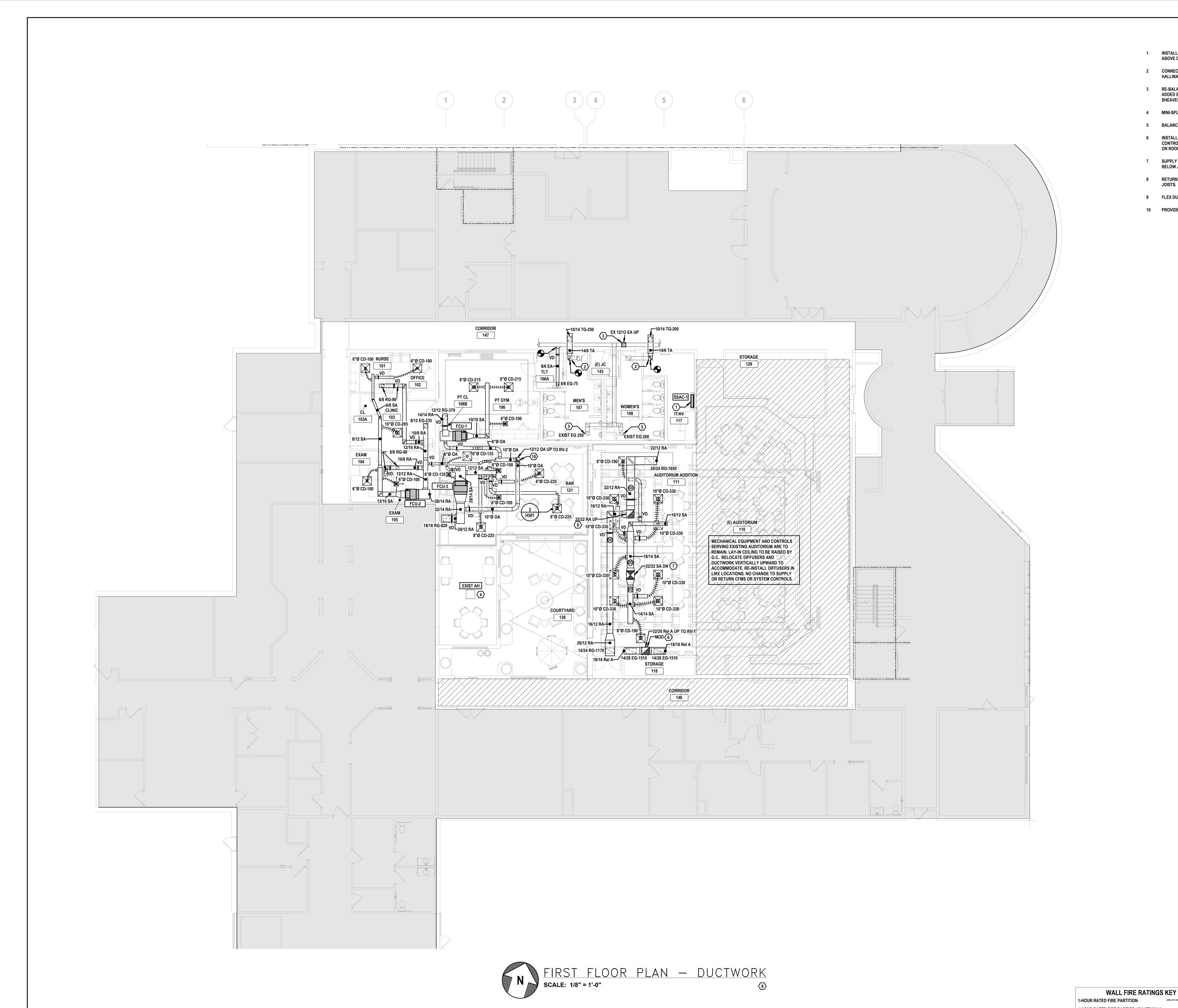
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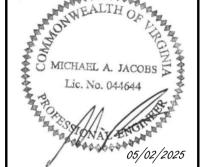
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- INSTALL WALL MOUNTED MINI SPLIT AIR HANDLER HIGH ON WALL. BOTTOM OF UNIT TO BE 6"
- CONNECT NEW TRANSFER DUCT TO EXISTING DUCT. INSTALL NEW TRANSFER GRILLE IN
- RE-BALANCE EXHAUST FAN FOR ADJUSTED EXHAUST CFM IN MEN'S 107/WOMENS'S 108 AND ADDED EXHAUST IN TLT 106A. INCREASE OF 125 CFM EXHAUST. REPLACE BELTS, PULLEYS & SHEAVES AS REQUIRED TO OBTAIN NEW AIRFLOW.
- MINI-SPLIT AIR HANDLER RECESSED IN CEILING TO REMAIN.
- BALANCE EXISTING EXHAUST GRILLE TO CFM AS INDICATED.
- INSTALL MOTORIZED DAMPER IN VERTICAL RELIEF DUCT ABOVE CEILING. DAMPER TO BE CONTROLLED BY PRESSURE DIFFERENTIAL SENSORS INSTALLED IN AUDITORIUM SPACE AND ON ROOF. DAMPER TO BE OPEN WHEN THERE IS AN EXCESS OF BUILDING PRESSURE.
- SUPPLY AIR DOWN FROM RTAHU-1 ON ROOF ABOVE. ELBOW DUCT IN BOTH DIRECTIONS BELOW JOISTS.
 - RETURN AIR UP TO RTAHU-1 ON ROOF ABOVE. ELBOW DUCT IN TWO DIRECTIONS BELOW
- FLEX DUCT SHALL BE SAME SIZE AS DIFFUSER NECK UNLESS OTHERWISE NOTED.
- 10 PROVIDE BACKDRAFT DAMPER AT DUCT CONNECTION TO ROOF VENTILATOR.



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FIRST FLOOR DUCTWORK

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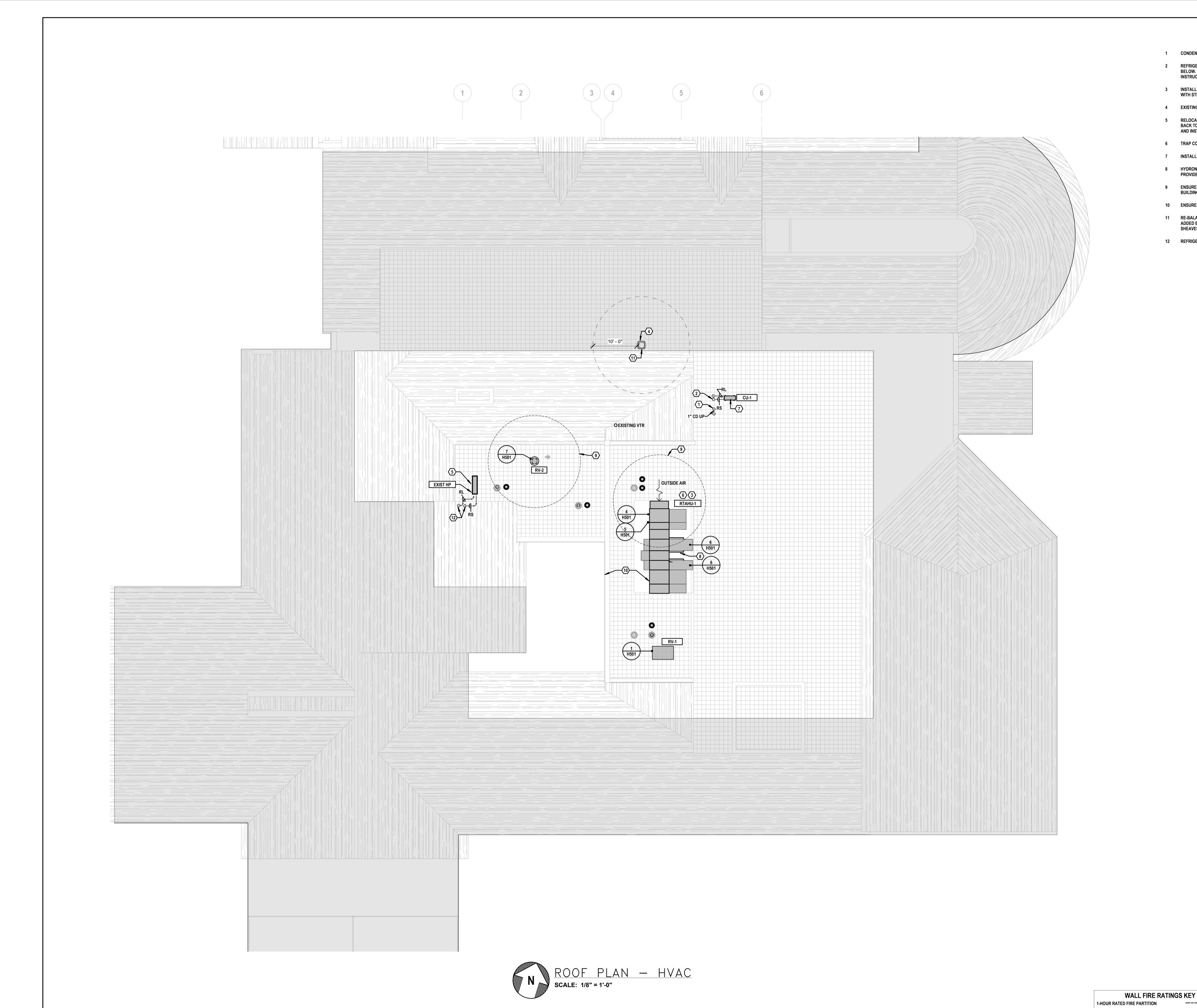
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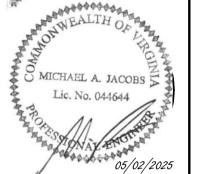
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- 1 CONDENSATE UP FROM BELOW TO TERMINATE ABOVE ROOF.
- REFRIGERANT LINES DOWN THROUGH ROOF TO WALL MOUNTED AIR HANDLER DIRECTLY BELOW. SIZE, TRAP, AND INSTALL REFRIGERANT PIPING PER MANUFACTURER'S WRITTEN
- INSTALL ROOFTOP AIR HANDLER ON VIBRATION ISOLATION CURB. COORDINATE LOCATION WITH STRUCTURAL.
- 4 EXISTING ROOFTOP EXHAUST FAN TO REMAIN.
- RELOCATE MINI SPLIT HEAT PUMP TO ROOF. PROVIDE NEW REFRIGERANT LINES TO CONNECT BACK TO EXISTING LINES TO AIR HANDLER. INSTALL ON EQUIPMENT SUPPORTS. SIZE, TRAP, AND INSTALL REFRIGERANT PIPING PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- TRAP CONDENSATE PER MANUFACTURER'S DIRECTION. DRAIN TO NEAREST ROOF DRAIN.
- 7 INSTALL CONDENSER ON EQUIPMENT SUPPORTS.
- HYDRONIC SUPPLY AND RETURN PIPING ABOVE ROOF AND WITHIN PIPE CABINET SHALL BE PROVIDED WITH ELECTRIC HEATING CABLE RATED AT 5 WATTS PER FOOT.
- ENSURE 10' MINIMUM HORIZONTAL CLEARANCE BETWEEN OUTSIDE AIR INTAKE AND ANY BUILDING EXHAUST OR PLUMBING VENTS.
- ENSURE A MINIMUM OF 10' BETWEEN RTAHU-1 AND ROOF EDGE.
- 11 RE-BALANCE EXHAUST FAN FOR ADJUSTED EXHAUST CFM IN MEN'S 107/WOMENS'S 108 AND ADDED EXHAUST IN TLT 106A. INCREASE OF 125 CFM EXHAUST. REPLACE BELTS, PULLEYS & SHEAVES AS REQUIRED TO OBTAIN NEW AIRFLOW.
- 12 REFRIGERANT LINES DOWN THROUGH ROOF TO CONNECT TO EXISTING LINES ABOVE CEILING.



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ROOF PLAN -DUCTWORK

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2-HOUR FIRE WALL

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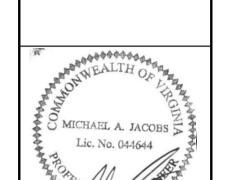
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- ROUTE CONDENSATE UP TO ROOF VIA MANUFACTURER'S CONDENSATE PUMP ACCESSORY.
- INSTALL REFRIGERANT LINES DOWN FROM CONDENSER DIRECTLY ABOVE ON ROOF. SIZE,

TRAP, AND INSTALL REFRIGERANT PIPING PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

- PROVIDE CONDENSATE PUMP ABOVE CEILING.
- THREE CONDENSATE LINES DOWN TO FLOOR DRAIN. DRAIN INDIVIDUALLY VIA AIR GAP. COORDINATE DRAIN WITH P.C.
- SUPPLY AND RETURN PIPING UP TO RTAHU-1 ON ROOF ABOVE.
- HYDRONIC PIPING UP/DOWN IN CHASE TO ABOVE CEILING. REFER TO VOLUME 1 DRAWINGS FOR NEW PIPING ON LOWER LEVEL.
- 7 MINI-SPLIT AIR HANDLER RECESSED IN CEILING TO REMAIN.
- VERIFY LOCATION OF EXISTING CONDENSATE DRAIN. RELOCATE TO EXTERIOR COURTYARD IF REQUIRED FOR NEW CONSTRUCTION.
- PROVIDE TAPS AND VALVES FOR AS SHOWN FOR FUTURE CONNECTION TO REPLACEMENT AUDITORIUM UNIT. CAP LINES AFTER SHUTOFF VALVE.
- PRIOR TO NEW WORK, PERFORM PRE-CONSTRUCTION AUDIT TO CONFIRM ALL EXISTING HOT AND CHILLED WATER FLOWS. AT THE COMPLETION OF CONSTRUCTION, CONFIRM NEW FLOWS AND VERIFY EXISTING ARE UNCHANGED.



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HOMES, INC

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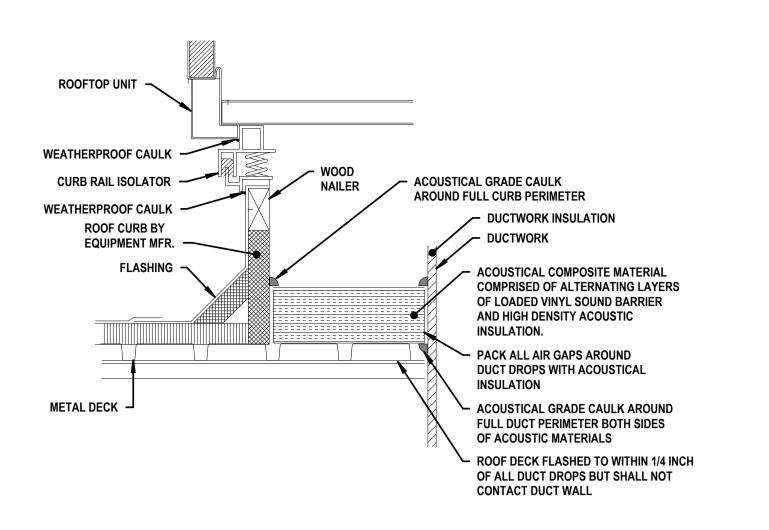
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Barton Associates WALL FIRE RATINGS KEY

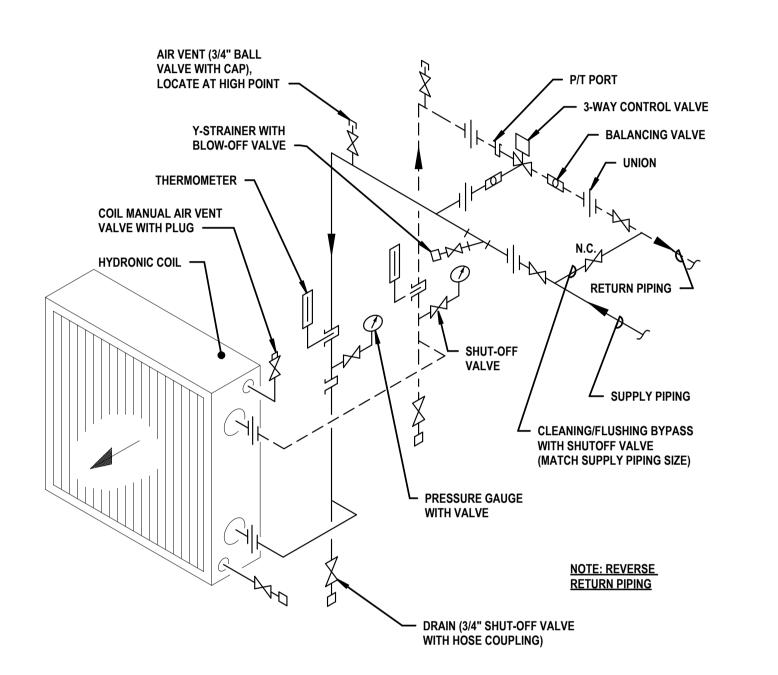
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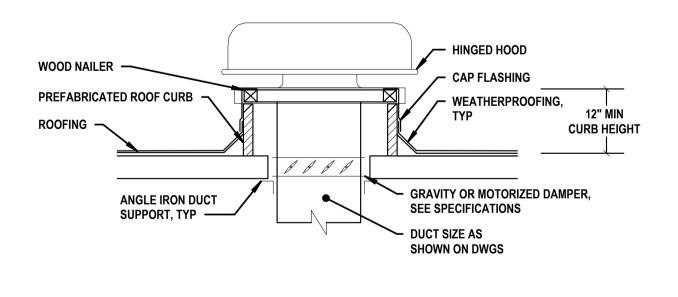
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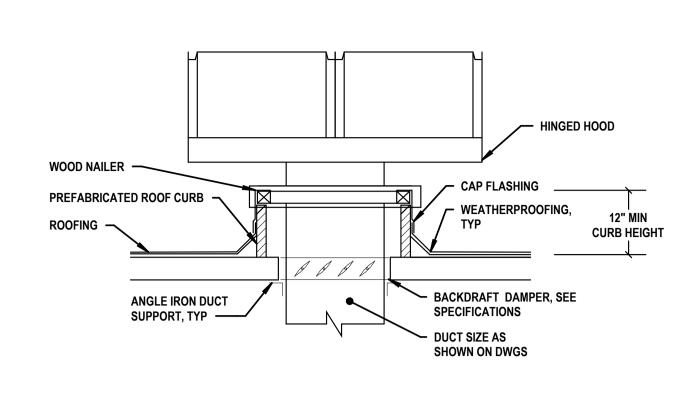




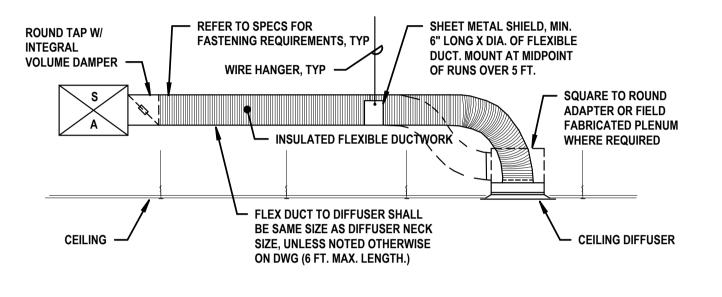






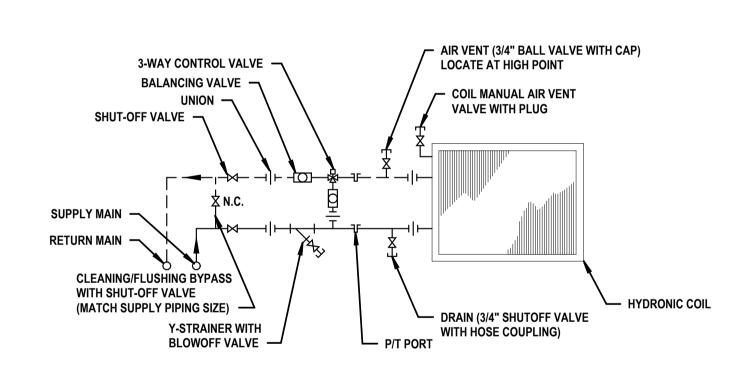






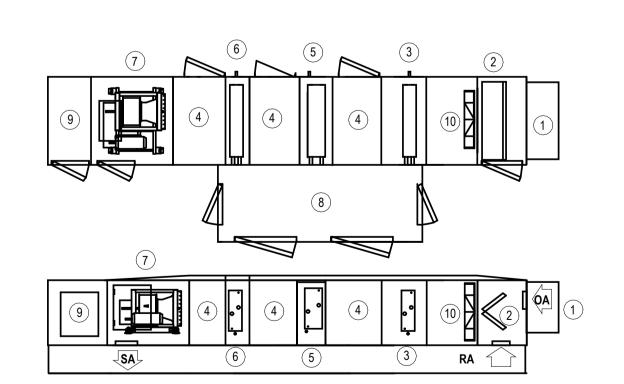
DETAIL 2

NO SCALE
FLEXIBLE DUCT TO SQUARE DIFFUSER



DETAIL 3

NO SCALE
COIL CONNECTION, FCU, 3-WAY



POSITION N

- 1 INTAKE HOOD
 2 FILTER/MIXING SECTION
- 2 FILTEF
- 3 PREHEAT WATER COIL
 4 ACCESS SECTION
 5 CHILLED WATER COIL
- POSITION MODULE

 6 HOT WATER COIL
- 8 PIPE CABINET
 9 CONTROL SECTION
 10 AIR BLENDER

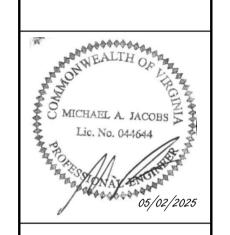




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FOR
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HOMES, INC

PROJECT ADDRESS:

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					F	AN C	OIL (W	/ATER	COO	LING,	WATE	R HE	AT) SC	CHEDI	JLE							
		CFM		FOD	ELECTRICAL			COOLING COIL, WATER							HEATING COIL, WATER (IN REHEAT POSITION)							
DESIG	AREA SERVED	TYPE	TOTAL	OA	ESP (IN WG)	INPUT WATTS	VOLT	PHASE	MBH		EAT (°F)		EWT	GPM	WPD	ROWS	МВН	EAT	EWT	GPM	WPD	ROW
				UA			VOLI	PHASE	TOTAL	SENS	DB	WB	(°F)	GPIVI	(IN WG)	KOW5	INIDLI	(°F)	(°F)	GPIVI	(IN WG)	RU
FCU-1	PT GYM	HORIZONTAL	530	160	0.4	323	120	1	18.8	14.1	79.7	66.3	45	5.1	7.2	4	21	51	180	1.2	0.9	1
FCU-2	CLINIC	HORIZONTAL	695	100	0.6	509	120	1	23.8	17.7	76.2	64.5	45	4.4	3.6	6	20	61	180	0.8	0.2	
FCU-3	BAR	HORIZONTAL	1145	325	0.7	744	120	1	39.5	29.9	79.2	66.1	45	7.6	8.9	1	49	52	180	2.5	2.0	

ROOFTOP AIR HANDLING UNIT SCHEDULE, WATER PREHEAT & WATER REHEAT, WATER COOLING

ROWS FINS PER INCH (FPS) MBH EAT (°F) LAT (°F) LWT (°F) WPD (IN WG) FT HD) GPM COIL FA (SQ FT) (FPM)

COIL FA (SQ FT) (FPM)

DESCRIPTION AND

| DESIGN | AREA SERVED | TOT | OA | MIN | ESP (IN WG) | RPM | TYPE | DIA. | DRIVE | HP | BHP | VOLT | PHASE | SCR (KA) | CFM (SQ FT) | CFM (SQ CONTRACTOR SHALL VERIFY
ALL DIMENSIONS AND
CONDITIONS AT THE SITE
BEFORE PROCEEDING WITH
THE WORK SPLIT SYSTEM EVAPORATOR

*Powered through CU-1 MBH
TOTAL SENS ASSOCIATED CONDENSING UNIT CU-1 SSAC-2 300 12 9 CU-2

NECK SIZE HOOD SIZE

RELIEF INTAKE

5.0 28" x 28" 42" x 51"

SPLIT SYSTEM CONDENSER-COMPRESSOR

 DESIG
 NOMINAL TONS
 AIR ON COND (°F)
 SEER
 EER
 MCA
 MOCP
 VOLT
 PHASE
 SCCR (kA)

 CU-1
 1
 95
 23.1
 13.5
 10
 15
 208
 1
 5

 CU-2
 1
 95
 23.1
 13.5
 10
 15
 208
 1
 5
 ROOF VENTILATOR SCHEDULE

0.8

NECK NECK AREA NECK AREA SQ FT

AIRFLOW CFM

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