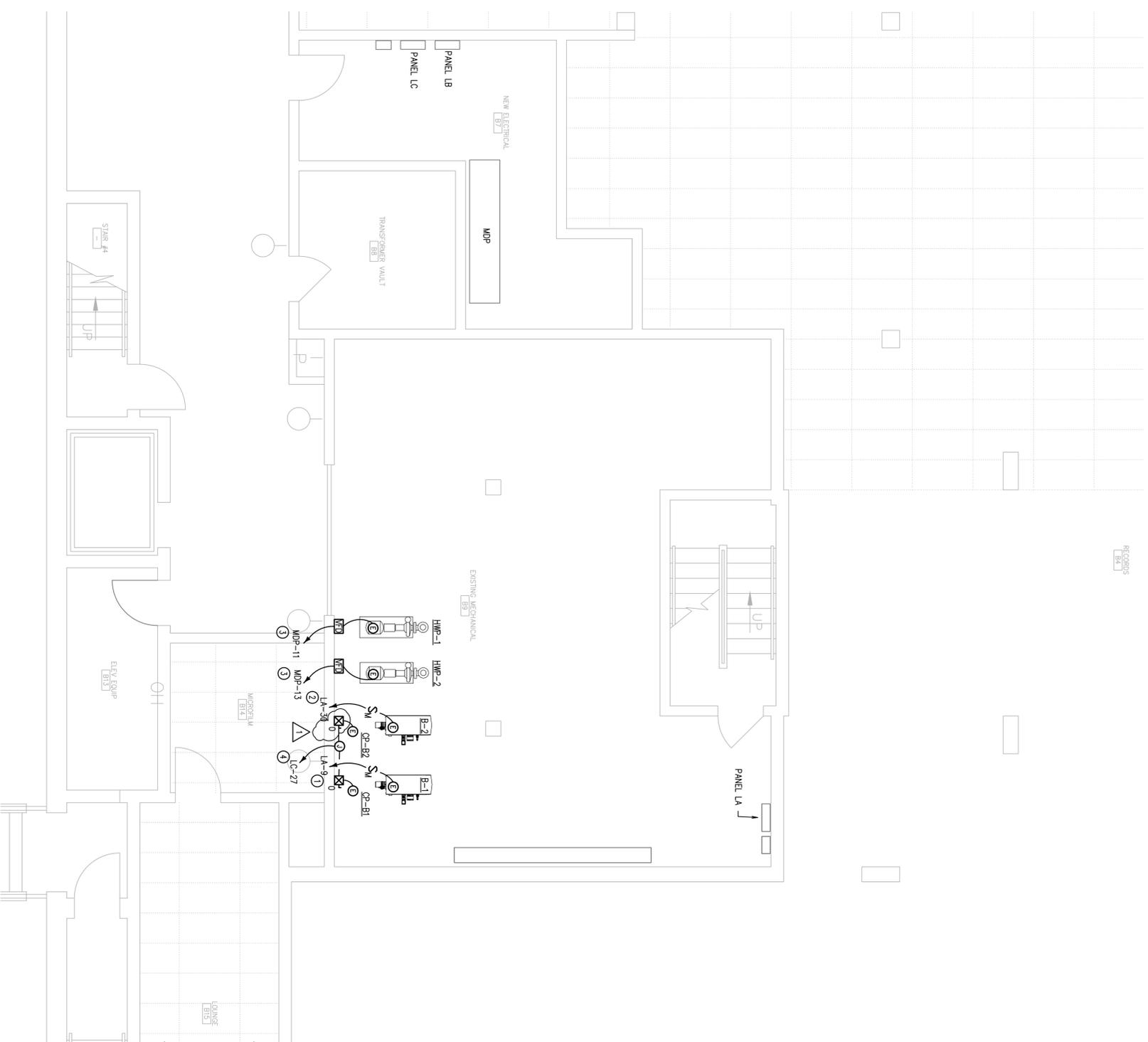


**NEW WORK NOTES** (3)

1. CIRCUIT TO NEW 15A, SINGLE POLE BREAKER INSTALLED IN CIRCUIT NUMBER 9 IN PANEL LA.
2. CIRCUIT TO NEW 15A, SINGLE POLE BREAKER INSTALLED IN CIRCUIT NUMBER 30 IN PANEL LA.
3. CIRCUIT TO EXISTING BREAKER IN MOP. REUSE EXISTING BREAKER.
4. CIRCUIT TO NEW 25A, THREE POLE BREAKER INSTALLED IN CIRCUIT NUMBER 27 IN PANEL LC WITH 4 #10 IN 3/4 INCH EMT.



1 NEW WORK PLAN  
SCALE: 1/4" = 1'-0"



sheet title  
**FLOOR PLANS -  
NEW WORK**

**CIRCUIT COURT BUILDING  
BOILER REPLACEMENT**

CITY OF LYNCHBURG  
LYNCHBURG, VIRGINIA



**Zvy Consultants, Inc.**  
101 10th Street NE  
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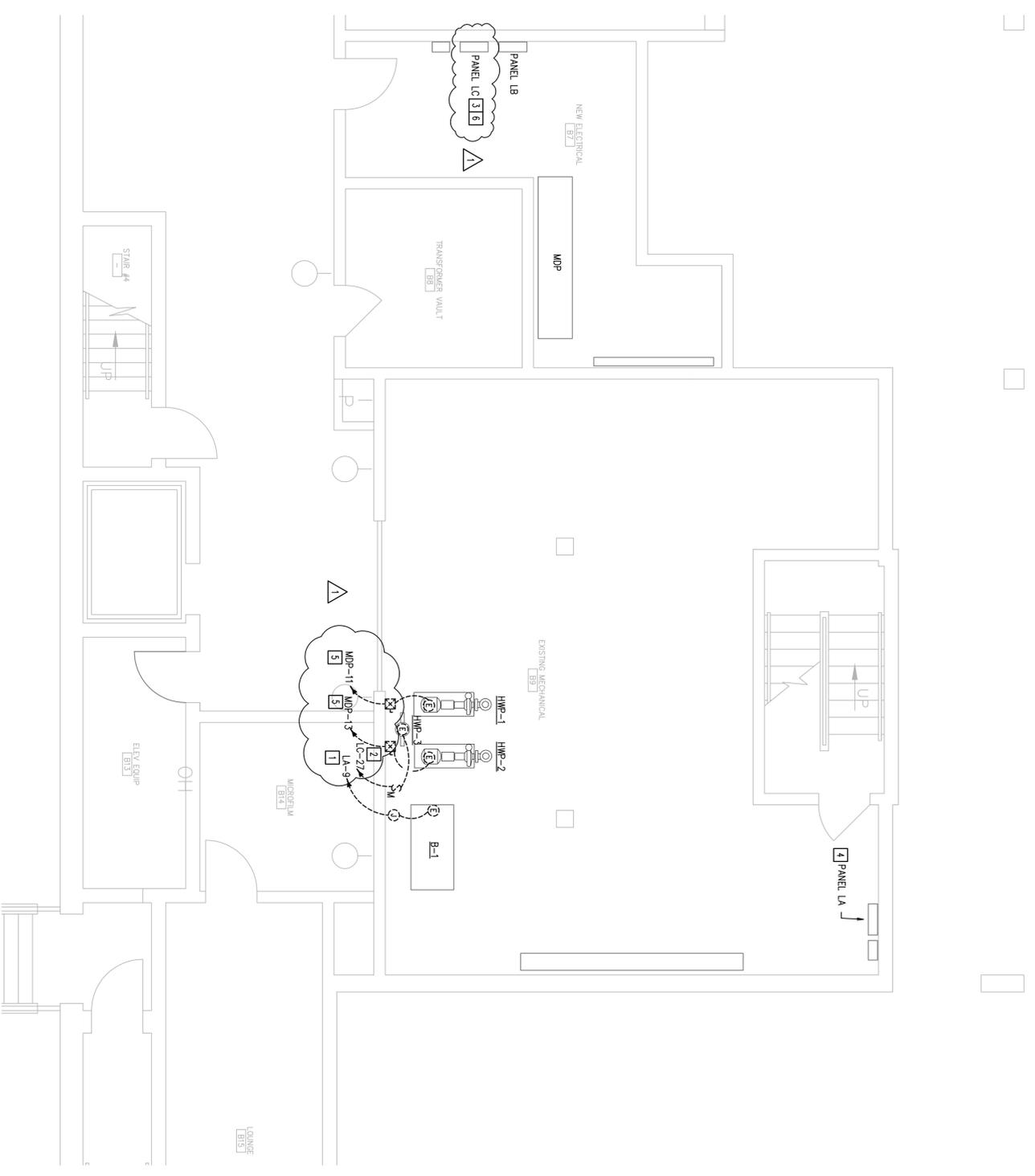


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**DEMO NOTES** [X]

1. REMOVE AND RECYCLE WIRE AND CONDUIT BACK TO PANEL LA FROM BOILER TO BE REMOVED.
2. REMOVE AND RECYCLE SWITCH, WIRE, AND CONDUIT BACK TO PANEL LC FROM HOT WATER PUMP TO BE REMOVED.
3. DISCONNECT, REMOVE, AND RECYCLE BREAKER IN CIRCUIT 27 (20A, 3P, HOT WATER PUMP).
4. DISCONNECT, REMOVE, AND RECYCLE BREAKER IN CIRCUIT 9 (20A, 1P, BOILER).
5. REMOVE AND RECYCLE STARTER, WIRE, AND CONDUIT BACK TO PANEL MDP.
6. PRIOR TO BEGINNING DEMOLITION OF ANY EXISTING EQUIPMENT, CONTRACTOR SHALL METER PANEL LC FOR ONE WEEK AND REPORT RESULTS TO ENGINEER. METER READINGS SHALL BE TAKEN IN 15 MINUTE INTERVALS.



1 DEMOLITION PLAN - POWER  
 SCALE: 1/4" = 1'-0"  
 0 1' 2' 4' 8'



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sheet title  
**FLOOR PLANS -  
 DEMOLITION**

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### 23 0719: HYDRONIC PIPING INSULATION SCHEDULE

SYSTEM	TYPE	PIPE SIZE IN	THICKNESS IN	NOTES
HEATING WATER PIPING	GLASS FIBER RIGID	LESS THAN 2	1 1/2	
HEATING WATER PIPING	GLASS FIBER RIGID	2 OR GREATER	2	

### 23 2123: PUMP SCHEDULE

MARK	MODEL	TYPE	SERVICE	EFFICIENCY %	HPM	HEAD FT	IMPELLER DIA, IN	MAX IMPELLER DIA, IN	RPM	HP	V-PH
HWP-1	1510 1-1/2AC	BASE MOUNTED	HEATING WATER	67.8	34	6.375	7	1750	2	208-3	
HWP-2	1510 1-1/2AC	BASE MOUNTED	HEATING WATER	67.8	34	6.375	7	1750	2	208-3	
CR-B1	60 1-1/2 x 6-1/4	CIRCULATOR	BOILER LOOP	63.6	55	6.125	6.25	1750	1.5	208-3	
CR-B2	60 1-1/2 x 6-1/4	CIRCULATOR	BOILER LOOP	63.6	55	6.125	6.25	1750	1.5	208-3	

- NOTES:
- DESIGN AND PERFORMANCE BASED ON LOCKHART
  - HWP-1, HWP-2 IMPELLER SHALL BE TRIMMED TO MATCH LOAD
  - HWP-1, HWP-2 SHALL BE CONTROLLED BY VARIABLE FREQUENCY DRIVES. ELECTRICAL CONTRACTOR SHALL PROVIDE VFD'S.

### 23 5233.13: BOILER SCHEDULE

MARK	SERVICE	MODEL	GAS PRESSURE		CAPACITY		WATER FLOW		VENTING		ELECTRICAL				
			MIN	MAX	INPUT MBH	OUTPUT MBH	WPD	FT	EXHAUST VERT. IN	INTAKE VERT. IN	V-PH	FLA	MAX MOP (AMPS)		
B-1	HEATING WATER	KB-601	4.0	14.0	600	564	55	31	160	180	4	4	120-1	8.8	15
B-2	HEATING WATER	KB-601	4.0	14.0	600	564	55	31	160	180	4	4	120-1	8.8	15

- NOTES:
- DESIGN AND PERFORMANCE BASED ON LOCKHART
  - BOILER SHALL HAVE MODULATING GAS BURNER (S1 TURNDOWN)
  - INSTALL INTAKE/EXHAUST SYSTEM PER MFR'S INSTALLATION INSTRUCTIONS
  - PROVIDE CONTROLS AS REQUIRED TO ACHIEVE SEQUENCE OF OPERATION AS INDICATED ON CONTROL DRAWINGS
  - WATER PRESSURE DROP INCLUDES 20 FEET OF STRAIGHT PIPE, 4 - 90° ELBOWS AND 2 FULL PORT BALL VALVES

### 23 2114: AIR SEPARATOR SCHEDULE

MARK	SERVICE	MODEL	HPM	WPD, FT
ADS-1	HEATING WATER	4903ADR-42	106	2.4

- NOTES:
- DESIGN AND PERFORMANCE DATA BASED ON TACO
  - PROVIDE WITH BRASS (EXTERNAL) / NON-FERROUS (INTERNAL) AIR VENT.
  - PROVIDE WITH REMOVABLE COVER FOR ACCESS TO COALSING MEDIUM
  - PROVIDE WITH STAINLESS STEEL COALSING MEDIUM
  - PROVIDE FACTORY INSTALLED BLOW DOWN VALVE PRE VALVE TO FLOOR SLUMP

### 23 2114 BUFFER TANK SCHEDULE

MARK	SERVICES	MODEL	CONING	MOUNTING	TANK VOLUME GAL
BT-1	HEATING WATER SYSTEM	BV200	VERTICAL	FLOOR	200

- NOTES:
- DESIGN AND PERFORMANCE BASED ON LOCKHART
  - TANK SHALL BE ASME RATED TO 125 PSIG
  - PROVIDE 2" HCFC FREE FOAM INSULATION
  - PROVIDE AUTOMATIC AIR/VENT AND RELIEF VALVE

### GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH VISO 2009, IBC 2009, IMC 2009.
- MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL EXTERNAL STARTERS FOR MECHANICAL EQUIPMENT, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL CORROBORATE LOCATION OF ALL EQUIPMENT, PIPING AND DUCTWORK WITH OTHER TRADES. MAINTAIN REQUIRED SERVICE ACCESS.
- VERIFY ROUTING OF PIPING WITH CEILING HEIGHTS, STRUCTURAL SYSTEMS AND OTHER TRADES PRIOR TO INSTALLATION. UNLESS OTHERWISE NOTED OR WHERE CONNECTING TO EXISTING INFRASTRUCTURE, ALL PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE TO UNDISTURB EXISTING STRUCTURE.
- HVAC CONTRACTOR(S) SHALL CORROBORATE THEIR WORK WITH ALL OTHER TRADES AND EXISTING COMPONENTS PRIOR TO INSTALLATION. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO REVIEW THE WORK OF OTHER TRADES (INCLUDING, BUT NOT LIMITED TO ELECTRICAL, STRUCTURAL, MECHANICAL, AND FIRE PROTECTION) AS IT AFFECTS THEIR WORK, AND AS THEIR WORK AFFECTS OTHER TRADES. TO PROTECT THE CONTRACTOR'S INVESTMENT AND CLOSELY COORDINATE ALL TRADES, ALL TRADES SHALL BE REFERRED TO THE A/E FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.
- PENETRATIONS THRU FIVE RATED CEILING, FLOORS & WALLS SHALL BE SEALED TO MAINTAIN FIRE RATING INTEGRITY.
- DO NOT INSTALL BULL HEAD TEES IN PIPING SYSTEMS.
- CONTRACTOR SHALL PROVIDE CORROBATED SHOP DRAWINGS OF DIVISION 23 SYSTEMS. SHOP DRAWINGS SHALL BE PREPARED IN ELECTRONIC FORMAT AND SUBMITTED IN PRINTED AND ELECTRONIC FORM.
- THE DESIGN IS BASED ON MANUFACTURERS AND MODELS INDICATED, AND IS INTENDED TO SHOW THE GENERAL SIZE, CONFIGURATION, LOCATION, CONNECTIONS AND/OR SUPPORT FOR EQUIPMENT OR SYSTEMS SPECIFIED WITH RELATION TO THE OTHER BUILDING SYSTEMS. SEE SPECIFICATION SECTION FOR TECHNICAL REQUIREMENTS.
- ALL HYDRONIC HEATING AND CHILLING SHALL BE SCHEDULE 40 BLACK STEEL OR TYPE L COPPER.
- CONTRACTOR SHALL PROVIDE FLEXIBLE CONNECTIONS TO ALL MOTOR-DRIVEN EQUIPMENT.
- ALL EQUIPMENT SHALL BE RECYCLED OR DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS.

### GENERAL NOTES DEMOLITION

- PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS, AND TO VERIFY LOCATION, SIZE AND QUANTITY OF ITEMS TO BE REMOVED. SUBMITTAL OF A BID SHALL SIGNIFY WILLINGNESS TO COMPLY WITH THE DESIGN AND ACCEPTANCE OF ON-SITE CONDITIONS AS THEY EXIST.
- IN GENERAL, EXISTING MECHANICAL SYSTEMS SHALL BE REMOVED AND SUPPLIED INCORPORATED INTO THE DEMOLITION, WHETHER OR NOT SHOWN ON THESE PLANS. UNDO DOCUMENTATION OF EXISTING SYSTEMS IS BASED ON AVAILABLE RECORD DRAWINGS AND CASUAL FIELD OBSERVATION. MAJOR DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT/ENGINEER FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK.
- WHERE EXISTING MECHANICAL SYSTEMS PENETRATE EXTERIOR WALLS/ROOF, CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING SUCH PENETRATIONS TO MATCH EXISTING, UNO.
- THE CONTRACTOR SHALL AVOID DISRUPTION OF THE ACTIVITIES OF THE OCCUPANTS TO THE BEST EXTENT POSSIBLE. SCHEDULE WORK TO AVOID PROLONGED DISRUPTION OF THE USE OF THE SPACE. COORDINATE NEW WORK REQUIREMENTS WITH OTHER TRADES TO ACCOMPLISH THE WORK WHILE THE FACILITY REMAINS IN OPERATION. SCHEDULE ANY DISRUPTIONS TO THE SPACES ADJACENT TO THE PROJECT AREA WITH THE PROJECT MANAGER.

### ABBREVIATIONS

F	DEGREES FAHRENHEIT
A/E	ARCHITECT/ENGINEER
ADS	AIR-DIRT SEPARATOR
AU	AUTHORITY HAVING JURISDICTION
AS	AIR SEPARATOR
B	BOILER
BRP	BACKFLOW PREVENTER
BS	BOILER STOP RETURN
BLS	BOILER LOOP SUPPLY
CHWS	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
COEF	COEFFICIENT
CONC	CONCRETE
DIA	DIAMETER
EAO	EXHAUST AIR DUCT
EQIP	EQUIPMENT
ETC	ETCETERA
ENT	ENTERING WATER TEMPERATURE (°F)
FLA	FULL LOAD AMPS
FLR	FLOOR
FT	FEET OR FOOT
GAL	GALLONS
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HVAC	HEATING, VENTILATING & AIR CONDITIONING
HWP	HEATING WATER PUMP
HWS	HEATING WATER RETURN/SUPPLY
IBC	INTERNATIONAL BUILDING CODE
IMC	ISSUE FOR BIDS
INT	INTERNATIONAL MECHANICAL CODE
IN	INCH, INCHES
WC	WATER COLUMN
LWT	LEAVING WATER TEMPERATURE (°F)
LX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MOP	MAXIMUM OVERCURRENT PROTECTION
NG	NATURAL GAS
OAT	OUTSIDE AIR DUCT
OUT	OUTSIDE AIR TEMPERATURE
PSIG	POUNDS PER SQUARE INCH, GAUGE
PSHM	POUNDS PER SQUARE INCH, GAUGE
PSI	POUNDS PER SQUARE INCH, ABSOLUTE
REV	REVOLUTIONS PER MINUTE
TH	THESE NOTES OTHERWISE
V-PH	VOLTAGE-PHASE
VFD	VARIABLE FREQUENCY DRIVE
VISO	VIRGINIA UNIFORM STATEWIDE BUILDING CODE
WPD	WATER PRESSURE DROP

### MECH LEGEND

-----	EXISTING TO BE REMOVED
_____	EXISTING TO REMAIN
—●—	POINT OF CONNECTION, NEW-TO-EXISTING
—○—	POINT OF DISCONNECTION FOR DEMOLITION
—	PIPING
—HWR—	HEATING WATER RETURN
—HWS—	HEATING WATER SUPPLY
—	FITTINGS
—	CONNECTION, BOTTOM
—	CONNECTION, TOP
—	ELBOW, 90° TURNED UP
—	ELBOW, 90° TURNED DOWN
— —	UNION
— —	VALVES
— —	BALL
— —	BUTTERFLY
— —	CHECK VALVE
— —	PRESSURE RELIEF
— —	PIPING SPECIALTIES
— —	PRESSURE GAUGE
— —	THERMOMETER
— —	PUMP
— —	STRAINER
— —	AIR/VENT, AUTOMATIC/MANUAL
— —	BACKFLOW PREVENTER
— —	FLEXIBLE CONNECTOR
— —	DUCTWORK
— —	ROUND ELBOW TURNING UP (SUPPLY)
— —	ROUND ELBOW TURNING UP (EXHAUST)
— —	ROUND ELBOW TURNING DOWN (SUPPLY)
— —	ROUND ELBOW TURNING DOWN (EXHAUST)

### LEGENDS, SCHEDULES

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## CIRCUIT COURT BUILDING BOILER REPLACEMENT

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