

LYNCHBURG CITY ARMORY

BOILER REPLACEMENT

THE CITY OF LYNCHBURG

LYNCHBURG, VIRGINIA

LIST OF DRAWINGS

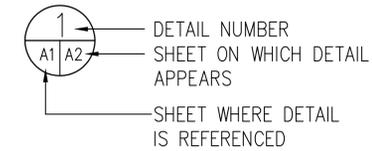
G0.0	TITLE SHEET
M0.0	MECHANICAL LEGENDS, SCHEDULES, AND DETAILS
M1.0	MECHANICAL FLOOR PLANS, CONTROLS
E0.0	ELECTRICAL LEGENDS, FLOOR PLANS



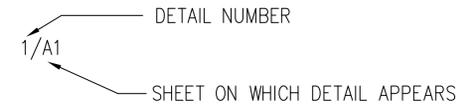
MAY 03, 2013

SYMBOLS

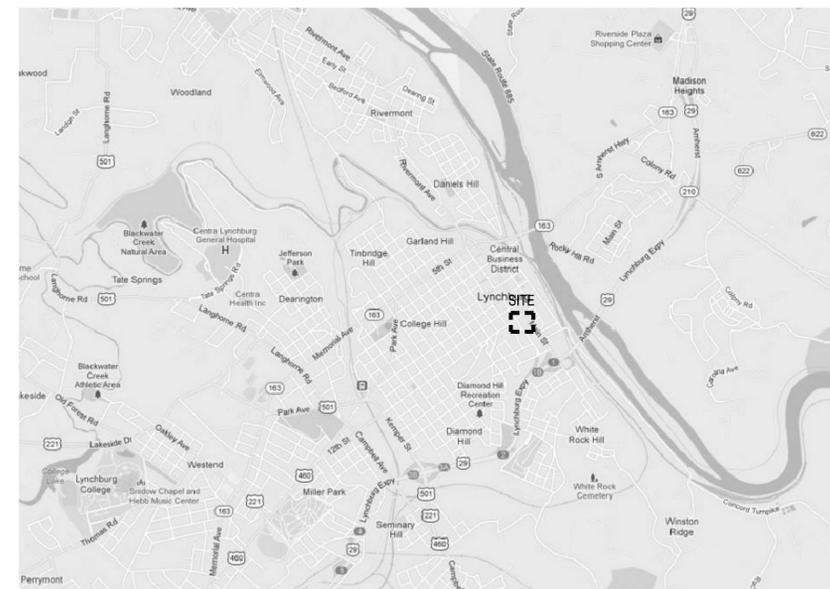
DETAIL INDICATOR SYMBOL



TEXT DETAIL REFERENCE



SITE MAP - CITY ARMORY BUILDING



VICINITY MAP - LYNCHBURG, VA



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CITY ARMORY
BOILER REPLACEMENT

CITY OF LYNCHBURG
LYNCHBURG, VIRGINIA

sheet title

TITLE SHEET

e-file: ARMORY-G

des	drf	chk
DJC	BJP	RRS

proj no.	13212
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100% CD	05.03.13
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23 5233.13: BOILER SCHEDULE

MARK	SERVICE	MODEL	FUEL		GAS PRESSURE		CAPACITY		WATER FLOW				VENTING		ELECTRICAL	
			TYPE	MIN IWC	MAX IWC	INPUT MBH	OUTPUT MBH	GPM	WPD FT	EWT	LWT	EXHAUST VENT, IN	INTAKE VENT, IN	V-PH	MAX FLA	MOP
B-1	HEATING WATER	KB-400	NG	4.0	10.5	399	372	21	8	145	180	4	4	120-1	7	15
B-2	HEATING WATER	KB-400	NG	4.0	10.5	399	372	21	8	145	180	4	4	120-1	7	15

- NOTES:**
- DESIGN AND PERFORMANCE BASED ON LOCHINVAR.
 - BOILER SHALL HAVE MODULATING GAS BURNER (5:1 TURNDOWN).
 - INSTALL INTAKE/EXHAUST SYSTEM PER MFR'S INSTALLATION INSTRUCTIONS.
 - PROVIDE CONTROLS AS REQUIRED TO ACHIEVE SEQUENCE OF OPERATION AS INDICATED ON DRAWINGS.
 - WATER PRESSURE DROP INCLUDES 20 FEET OF STRAIGHT PIPE 4 - 90° ELBOWS AND 2 FULL PORT BALL VALVES.

23 2123: PUMP SCHEDULE

MARK	MODEL	TYPE	SERVICE	EFFICIENCY %	GPM	HEAD FT	IMPELLER DIA, IN	MAX IMPELLER DIA, IN	RPM	HP	V-PH
P-1	1510 1-1/4 BC	BASE MOUNTED	BUILDING-PRIMARY	54.5	55	60.0	7.875	9.500	1750	2.0	230-3
CP-B1	60 1x5-1/4	IN-LINE CIRCULATOR	B-1, SECONDARY	44.6	21	16.5	4.250	5.250	1750	1/3	120-1
CP-B2	60 1x5-1/4	IN-LINE CIRCULATOR	B-1, SECONDARY	44.6	21	16.5	4.250	5.250	1750	1/3	120-1

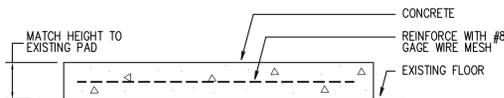
- NOTES:**
- DESIGN AND PERFORMANCE BASED ON BELL & GOSSETT.
 - REFER TO BOILER SYSTEM SEQUENCE OF OPERATIONS FOR CIRCULATOR PUMP CONTROL.
 - PUMP P-1 SHALL BE ON CONTINUOUSLY.

23 0719: HYDRONIC PIPING INSULATION SCHEDULE

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

22 0719: PIPE & INSULATION SCHEDULE

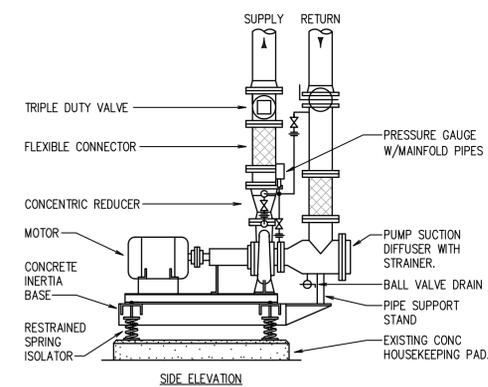
SYSTEM	INSULATION	
	TYPE	THICKNESS, IN
CW, HW	GLASS FIBER, RIGID	1



1 EQUIPMENT PAD DETAIL

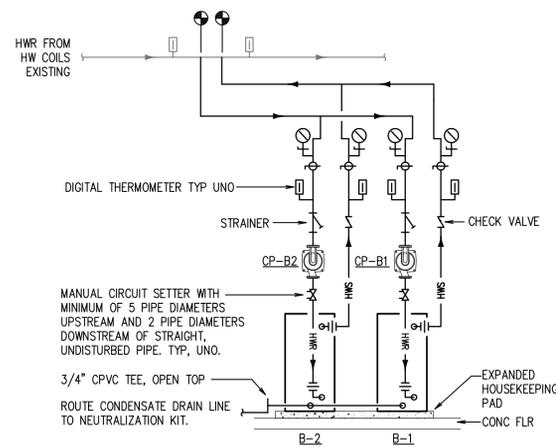
SCALE: NONE

- NOTES:**
- EXPAND EXISTING PAD TO EXTEND MIN. 6" BEYOND NEW EQUIPMENT ON ALL SIDES.



2 BASE MOUNTED PUMP DETAIL

SCALE: NONE



3 BOILER PIPING DETAIL

SCALE: NONE

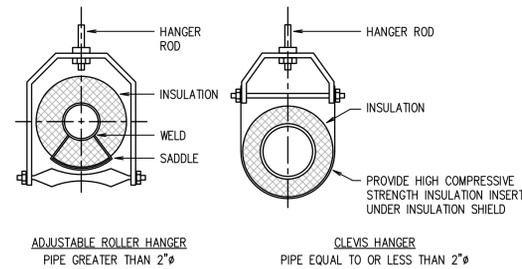
- NOTES:**
- INSULATE CP-B1,B2 IMPELLERS SIMILAR TO PIPING.
 - PROVIDE CONDENSATE NEUTRALIZATION KIT FOR EACH BOILER. TERMINATE CONDENSATE LINES FROM BOILER AND EXHAUST STACK TO NEUTRALIZATION KIT. TERMINATE NEUTRALIZATION DISCHARGE AT NEAREST FLOOR DRAIN COMPLETE WITH AIR GAP.

GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH IEBC 2009, IPC 2009.
- MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL EXTERNAL STARTERS FROM MECHANICAL EQUIPMENT, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL COORDINATE LOCATION OF ALL EQUIPMENT, PIPING AND DUCTWORK WITH OTHER TRADES. MAINTAIN REQUIRED SERVICE ACCESS.
- VERIFY ROUTING OF PIPING WITH CEILING HEIGHTS, STRUCTURAL SYSTEM, AND OTHER TRADES PRIOR TO INSTALLATION.
- HVAC CONTRACTOR(S) SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES AND EXISTING COMPONENTS PRIOR TO FABRICATIONS OF SYSTEMS AND COMMENCEMENT OF INSTALLATION. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO REVIEW THE WORK OF OTHER TRADES (INCLUDING, BUT NOT LIMITED TO ELECTRICAL) AS IT AFFECTS THEIR WORK, AND AS THEIR WORK AFFECTS OTHER TRADES, TO INSURE THAT THE CONSTRUCTION DOCUMENTS ARE CLOSELY FOLLOWED. WHERE DISCREPANCIES ARISE, THEY SHALL BE REFERRED TO THE A/E FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.
- PENETRATIONS THRU FIRE RATED CEILINGS, FLOOR OR WALLS SHALL BE SEALED TO MAINTAIN FIRE RATING INTEGRITY.
- DO NOT INSTALL BULL HEAD TEES IN PIPING SYSTEMS.
- COORDINATE WORK, PRIOR TO INSTALLATION OF ARCHITECTURAL FINISHES AS REQUIRED.
- FIRESTOP ALL NEW PENETRATIONS THROUGH EXISTING FIRE RATED PARTITIONS TO MAINTAIN EXISTING RATING.
- CONTRACTOR SHALL PROVIDE COORDINATED SHOP DRAWINGS OF DIVISION 22 AND 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 SECTIONS FOR TECHNICAL REQUIREMENTS.
- ALL CW, HW, PRESSURE RELIEF VALVES AND PIPING SHALL BE TYPE L COPPER. ALL HYDRONIC HEATING AND NG PIPING SHALL BE SCHEDULE 40 BLACK STEEL.
- ENSURE PROPER GROUNDING OF NG PIPING.

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 MODIFIED TO ACCOMMODATE THE RENOVATION, WHETHER OR NOT SHOWN ON THESE PLANS. UNO, 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.
- COMPONENTS EMBEDDED WITHIN OR BENEATH THE EXISTING STRUCTURE MAY BE ABANDONED IN PLACE, CUT BEHIND WALL/FLOOR/CEILING/ROOF SURFACE AS REQUIRED FOR PATCHING OF FINISH. SYSTEMS SHALL BE CAPPED WATER TIGHT.
- 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.



4 PIPE HANGER DETAIL

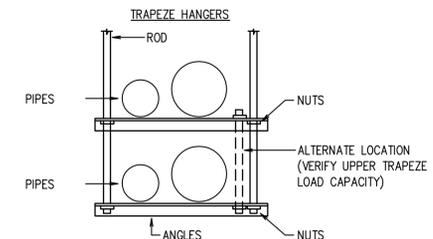
SCALE: NONE

ABBREVIATIONS

- | | |
|--------|---|
| A/E | ARCHITECT/ENGINEER |
| ASHRAE | AMERICAN SOCIETY OF HTG, REFRIG, AND AC ENGINEERS |
| BTUH | BRITISH THERMAL UNITS PER HOUR |
| CD | CONDENSATE DRAIN CIRCULATION |
| CIRC | CONCRETE |
| CONC | CONCRETE |
| CPVC | CHLORINATED POLYVINYL CHLORIDE |
| CSR | CURRENT SENSING RELAY |
| CW | COLD WATER (DOMESTIC) |
| DB | DRY BULB |
| DIA | DIAMETER |
| EL | ELECTRIC |
| EQPT | EQUIPMENT |
| ET | EXPANSION TANK |
| EWT | ENTERING WATER TEMPERATURE |
| EXIST | EXISTING |
| F | DEGREE FAHRENHEIT |
| FLA | FULL LOAD AMPS |
| FLR | FLOOR |
| FT | FEET OR FOOT |
| GAL | GALLON |
| GPH | GALLONS PER HOUR |
| GPM | GALLONS PER MINUTE |
| HHW | HEATING HOT WATER |
| HP | HORSEPOWER |
| HTG | HEATING |
| HVAC | HEATING, VENTILATING & AIR CONDITIONING |
| HW | HOT WATER (DOMESTIC) |
| HWR | HOT WATER RETURN |
| HWS | HOT WATER SUPPLY |
| IEBC | INTERNATIONAL EXISTING BUILDING CODE |
| IN | INCH, INCHES |
| IPC | INTERNATIONAL PLUMBING CODE |
| IWC | IN WATER COLUMN |
| LWT | LEAVING WATER TEMPERATURE |
| MAX | MAXIMUM |
| MBH | THOUSAND BTUH |
| MFR | MANUFACTURER |
| MIN | MINIMUM |
| MOP | MAXIMUM OVERCURRENT PROTECTION |
| NEC | NATIONAL ELECTRIC CODE |
| NG | NATURAL GAS |
| OAT | OUTSIDE AIR TEMPERATURE |
| REFRIG | REFRIGERATION |
| RM | ROOM |
| RPM | REVOLUTIONS PER MINUTE |
| T&P | TEMPERATURE AND PRESSURE |
| TTL | TOTAL |
| TYP | TYPICAL |
| UNO | UNLESS NOTED OTHERWISE |
| V-PH | VOLTAGE-PHASE |
| WB | WET BULB |
| WPD | WATER PRESSURE DROP |

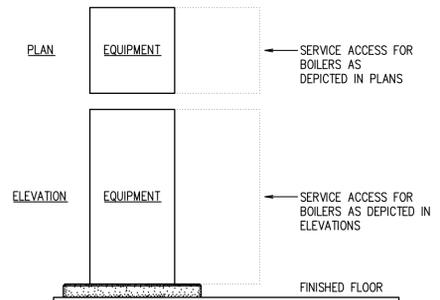
MECH LEGEND

- | | |
|---------------------------|---------------------------------------|
| ----- | EXISTING TO BE REMOVED |
| _____ | EXISTING TO REMAIN |
| ● | POINT OF CONNECTION, NEW-TO-EXISTING |
| ○ | POINT OF DISCONNECTION FOR DEMOLITION |
| PIPING | |
| —HWS— | HEATING WATER SUPPLY |
| —HWR— | HEATING WATER RETURN |
| —G— | GAS |
| —CD— | CONDENSATE DRAIN |
| ----- | DOMESTIC COLD WATER |
| ----- | DOMESTIC HOT WATER |
| FITTINGS | |
| — | CAP |
| ○ | CONNECTION, BOTTOM |
| ○ | CONNECTION, TOP |
| ○ | ELBOW, 90° TURNED UP |
| ○ | ELBOW, 90° TURNED DOWN |
| — — | UNION |
| VALVES | |
| ○ | BALL |
| ○ | BALANCING VALVE |
| ○ | GAS STOP |
| ○ | BACKFLOW PREVENTER |
| ○ | CHECK VALVE |
| PIPING SPECIALTIES | |
| ○ | PRESSURE GAUGE |
| ○ | THERMOMETER |
| ○ | PUMP |
| ○ | STRAINER |
| DUCTWORK | |
| ○ | ROUND ELBOW TURNING UP (EXHAUST) |
| ○ | ROUND ELBOW TURNING DOWN (EXHAUST) |



5 COMBUSTION AIR INTAKE AND VENT HANGER

SCALE: NONE



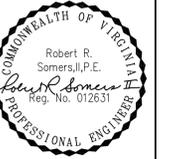
6 EQUIPMENT SERVICE CLEARANCE DETAIL

SCALE: NONE

- NOTES:**
- LOCATE ALL EQUIPMENT, WHICH MUST BE SERVICED, OPERATED, OR MAINTAINED IN FULLY ACCESSIBLE POSITIONS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - MAINTAIN A CLEAR PATH WITHOUT OBSTRUCTION TO ALLOW FOR ACCESS TO EQUIPMENT.
 - PROVIDE A MINIMUM OF TWO FEET OF CLEARANCE IN FRONT OF EQUIPMENT ACCESS DOORS AND COMPONENTS REQUIRING SERVICE.

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sheet title

LEGEND,
SCHEDULES,
DETAILS

e-file: ARMORY-M

des	drf	chk
DJC	BJP	RRS

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DEMO NOTES [X]

1. REMOVE AND RECYCLE BOILER, ALL ASSOCIATED PRIMARY EQUIPMENT AND PIPING AS SHOWN. BUILDING HEATING WATER LOOP TO REMAIN.
2. EXISTING EXPANSION TANK TO REMAIN.
3. EXISTING AIR SEPARATOR TO REMAIN.
4. REMOVE/SALVAGE THREE-WAY CONTROL VALVE AND RETURN TO OWNER.
5. DOMESTIC HOT WATER HEATER AND STORAGE TANK TO REMAIN.
6. REMOVE AND RECYCLE EXISTING FLUE AND SEAL PENETRATION IN EXISTING BREECHING.
7. REMOVE AND RECYCLE EXISTING BOILER CONTROL PANELS, ASSOCIATED WIRING AND APPURTENANCES.
8. REMOVE AND RECYCLE EXISTING HHW SYSTEM PUMP.

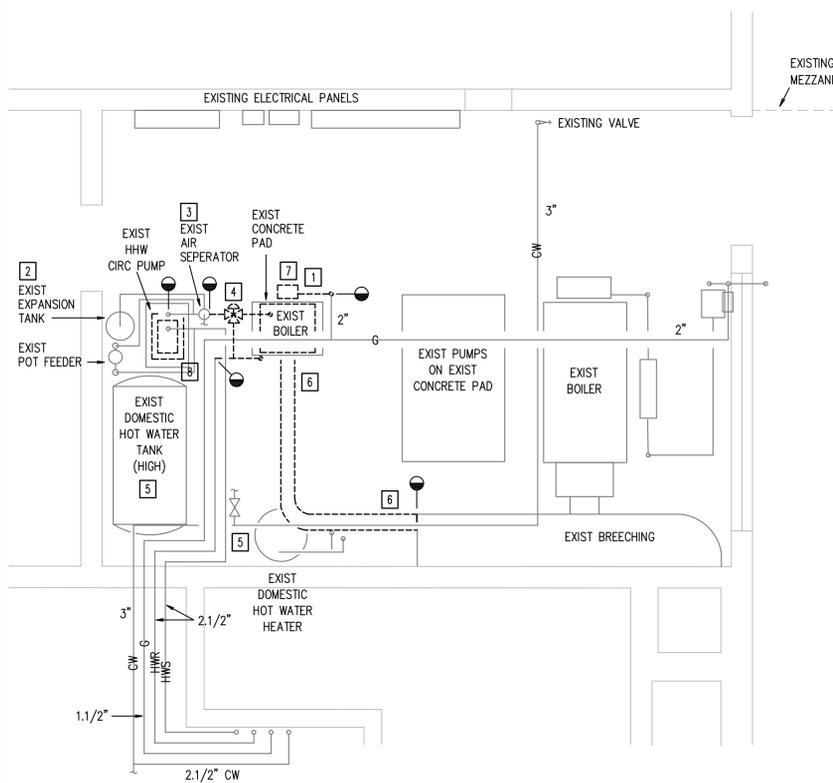
NEW WORK NOTES [X]

1. PROVIDE 4" CPVC BOILER COMBUSTION AIR INTAKES AND BOILER VENTS. NEITHER THE BOILER COMBUSTION AIR INTAKES NOR THE BOILER VENTS SHALL EXCEED 100 EQUIVALENT FEET IN LENGTH. EACH 90° ELBOW SHALL EQUAL 5 EQUIVALENT FEET AND EACH 45° ELBOW SHALL EQUAL 3 EQUIVALENT FEET. ROUTE TO MINIMIZE EQUIVALENT LENGTH.
2. ROUTE BOILER VENTS AND AIR INTAKES UP EXTERIOR WALL AND ALONG BOTTOM OF CONDENSER MEZZANINE.
3. TERMINATE USING CONCENTRIC VENT KIT INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
4. MAINTAIN 12" MINIMUM CLEARANCE BETWEEN COMBUSTION AIR INTAKES.
5. PROVIDE GAS STOP AND PRESSURE REGULATOR FOR NEW 2" GAS LINE TO NEW BOILER. PROVIDE 4 INCH DRIP LEG AT BOTTOM OF ALL GAS RISERS.
6. PROVIDE CONDENSATE DRAIN LINE PIPE USING 3/4 INCH CPVC TO NEUTRALIZER KIT AND ALONG FLOOR TO NEAREST FLOOR DRAIN.
7. PATCH AND SEAL CONNECTION TO EXISTING BREECHING.
8. PROVIDE AND INSTALL NEW BOILER, ASSOCIATED PIPING, AND APPURTENANCES. SEE 3/M0.0.
9. EXPAND EXISTING CONCRETE HOUSEKEEPING PAD. SEE DETAIL 1/M0.0.
10. PRESERVE NEC 2008 REQUIRED WORKING CLEARANCES FOR ALL ELECTRICAL EQUIPMENT.
11. SLEEVE PENETRATIONS WITH MINIMUM SCHEDULE 20 BLACK STEEL PIPE FOR FULL THICKNESS OF EXTERIOR WALL. CAULK INNER AND OUTER CIRCUMFERENCES OF PENETRATION ON EXTERIOR WALL. FIRESTOP INTERIOR PENETRATION AS REQUIRED TO PRESERVE CURRENT FIRESTOP RATING.
12. PROVIDE AND INSTALL NEW HHW PUMP, ASSOCIATED PIPING, AND APPURTENANCES. RECONNECT TO EXISTING BUILDING HEATING WATER LOOP. SEE 2/M0.0.

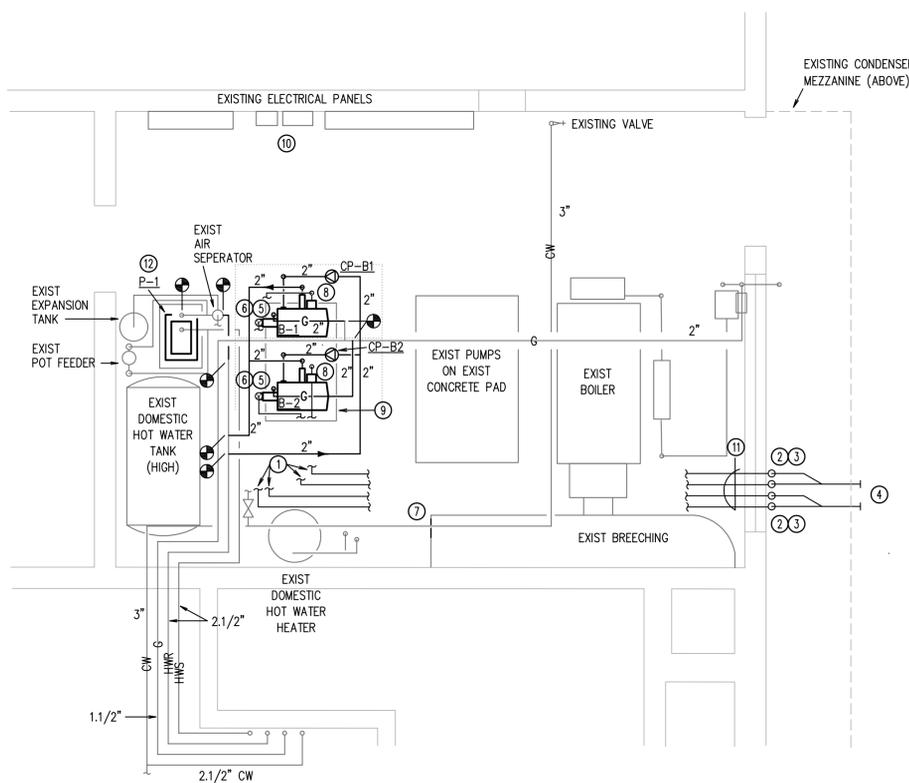
SEQUENCE OF OPERATIONS

BOILER SYSTEM - 3/M1.0

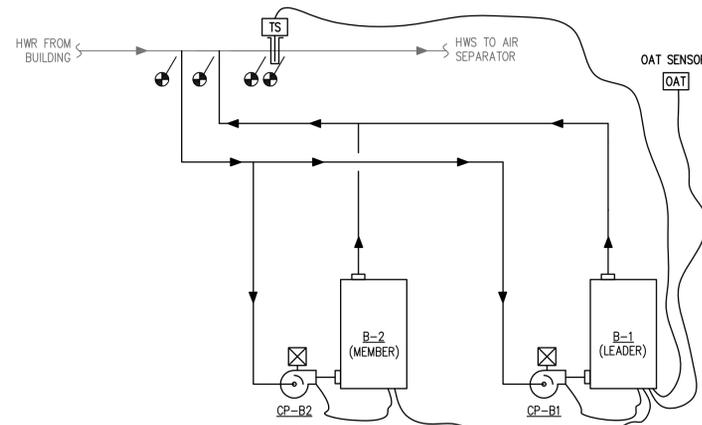
1. THE BOILER MFR SHALL PROVIDE BOILERS COMPLETE WITH AN INTEGRATED CONTROLLER WHICH SHALL MONITOR AND CONTROL THE BOILER SYSTEM (2 BOILERS AND ASSOCIATED CIRCULATION PUMPS) IN A STAND-ALONE MODE. INTERNAL CONTROLS INCLUDE BUT ARE NOT LIMITED TO OA RESET, SYSTEM SENSORS, FLOW SWITCHES, AND LOW WATER CUT-OFF.
2. BOILER B-1 SHALL BE THE LEAD BOILER. STANDBY BOILER B-2 SHALL BE ALTERNATED WEEKLY TO MAINTAIN SIMILAR RUNTIME.
3. THE BOILER SYSTEM SHALL BE CONTINUOUSLY ENABLED BY THE INTEGRATED CONTROLLER.
4. THE CONTROLLER SHALL RESET THE HEATING WATER SUPPLY TEMPERATURE SETPOINT INVERSELY WITH THE OUTSIDE AIR TEMPERATURE. THE LINEAR RELATIONSHIP SHALL BE AS DEFINED BELOW:
 - a. 100° F AT 50° F OUTDOOR AIR TEMPERATURE OR ABOVE (ALL VALUES ADJUSTABLE).
 - b. 180° F AT 10° F OUTDOOR AIR TEMPERATURE OR LOWER (ALL VALUES ADJUSTABLE).
5. UPON PROVEN FLOW AND INTERNAL SAFETY CONTROL CHECK, BOILERS SHALL MODULATE TO MAINTAIN BUILDING HEATING LOOP SUPPLY TEMPERATURE SET POINT DIRECTLY DOWNSTREAM OF THE BOILERS.
6. THE CONTROLLER WILL OPERATE THE BOILERS USING CASCADING CONTROL EFFICIENCY OPTIMIZATION MODE SUCH THAT BOTH BOILERS WILL OPERATE TOGETHER AT A LOW INPUT RATE TO MEET SYSTEM DEMAND.
7. THE CONTROLLER SHALL DISABLE THE BOILERS IN REVERSE ORDER TO MAINTAIN SET POINT.
8. SHOULD A BOILER FAIL, THE STANDBY BOILER SHALL AUTOMATICALLY BE STARTED AND AN ALARM SHALL BE GENERATED AT THE BOILER CONTROL PANEL TO INDICATE THAT THE BOILER HAS FAILED.
9. ALL SETPOINTS SHALL BE ADJUSTABLE.



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



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

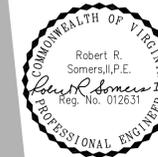


3 BOILER SYSTEM CONTROL SCHEMATIC
SCALE: NONE

NOTES:
1. BOILER CIRCULATOR PUMP HARD WIRED TO CORRESPONDING BOILER. COORDINATE ELECTRICAL CONNECTIONS FOR BOILERS WITH ELECTRICAL CONTRACTOR.



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CITY OF LYNCHBURG
LYNCHBURG, VIRGINIA

sheet title

FLOOR PLANS,
CONTROLS

e-file: Armory-M

des	drf	chk
DJC	BJP	RRS

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date	05.03.13
scale	

100% CD	05.03.13
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GENERAL NOTES DEMOLITION

- PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH THE 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 DEMOLITION PLANS AND ACCEPTANCE OF ON-SITE CONDITIONS AS THEY EXIST.
- 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.
- CONTRACTOR SHALL REMOVE ALL PORTIONS OF EXPOSED SYSTEMS. COMPONENTS EMBEDDED WITHIN OR BENEATH THE EXISTING STRUCTURE MAY BE ABANDONED IN PLACE, CUT BEHIND WALL/FLOOR/CEILING SURFACE AS REQUIRED FOR PATCHING OF FINISH. WATER-CONTAINING SYSTEMS SHALL BE CAPPED WATERTIGHT.
- REMOVE EACH ITEM OF EQUIPMENT, DEVICE, AND FIXTURE INDICATED ON DEMOLITION PLANS AND ITS ASSOCIATED CIRCUITRY BACK TO THE PROTECTIVE DEVICE IN THE PANEL, SWITCHBOARD, OR CONTROLLER, EXCEPT AS OTHERWISE NOTED.
 - ASSOCIATED CIRCUITRY INCLUDES CONDUIT, CONDUCTORS, BOXES, WIRING DEVICES, COVER PLATES, LAMPS, FIXTURES WIREWAYS, SWITCHES, STARTERS, ETC., WHICH ARE ASSOCIATED WITH THE ITEM TO BE REMOVED.
 - REMOVE ABANDONED WIRING TO SOURCE OF SUPPLY.
 - REMOVE EXPOSED ABANDONED CONDUIT, INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE CEILING FINISHES. CUT CONDUIT FLUSH WITH WALLS AND FLOORS. PATCH SURFACES.
 - DISCONNECT AND REMOVE ELECTRICAL DEVICES AND EQUIPMENT SERVING UTILIZATION EQUIPMENT THAT HAS BEEN REMOVED.
 - REPAIR ADJACENT CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION AND EXTENSION WORK TO MATCH EXISTING.
- EXACT CIRCUITING FOR LOADS NOTED FOR DEMOLITION SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO DEMOLITION.
- CLEAN AND REPAIR EXISTING MATERIALS AND EQUIPMENT THAT ARE TO REMAIN OR THAT ARE TO BE REUSED.

GENERAL NOTES NEW WORK

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH VUSBC 2009, IEBC 2009 AND 2008 NEC.
- PROVIDE GROUNDING CONDUCTORS IN ALL BRANCH CIRCUIT RACEWAYS.
- MECHANICAL AND PLUMBING EQUIPMENT IS SHOWN IN APPROXIMATE LOCATIONS. FOR EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT AND PIPING SEE MECHANICAL AND PLUMBING DRAWINGS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL EXTERNAL STARTERS FOR MECHANICAL EQUIPMENT UNLESS OTHERWISE NOTED ON MECHANICAL DRAWINGS.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE NEUTRAL CONDUCTORS WHERE REQUIRED.
- MANUAL MOTOR STARTERS TO HAVE THERMAL OVERLOADS AND HAND-OFF-AUTO SELECTOR SWITCH.
- ELECTRICAL CONTRACTOR(S) SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES PRIOR TO FABRICATION OF SYSTEMS AND COMMENCEMENT OF INSTALLATION. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO REVIEW THE WORK OF OTHER TRADES (INCLUDING, BUT NOT LIMITED TO MECHANICAL, AND PLUMBING) AS IT AFFECTS THE ELECTRICAL WORK, AND AS THE ELECTRICAL WORK AFFECTS OTHER TRADES, TO INSURE THAT THE CONSTRUCTION DOCUMENTS ARE CLOSELY FOLLOWED. WHERE DISCREPANCIES ARISE, THEY SHALL BE REFERRED TO THE A/E FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.
- 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 SYSTEM(S) WITH RELATION TO THE OTHER BUILDING/SYSTEMS. SEE SPECIFICATION SECTIONS FOR TECHNICAL REQUIREMENTS.

DEMO NOTES [X]

- REMOVE AND RECYCLE CONDUCTORS AND CONDUIT TO CIRCUIT BREAKER. CIRCUIT BREAKER TO REMAIN AS SPARE. UPDATE PANEL DIRECTORY TO REFLECT CHANGES.

NEW WORK NOTES [X]

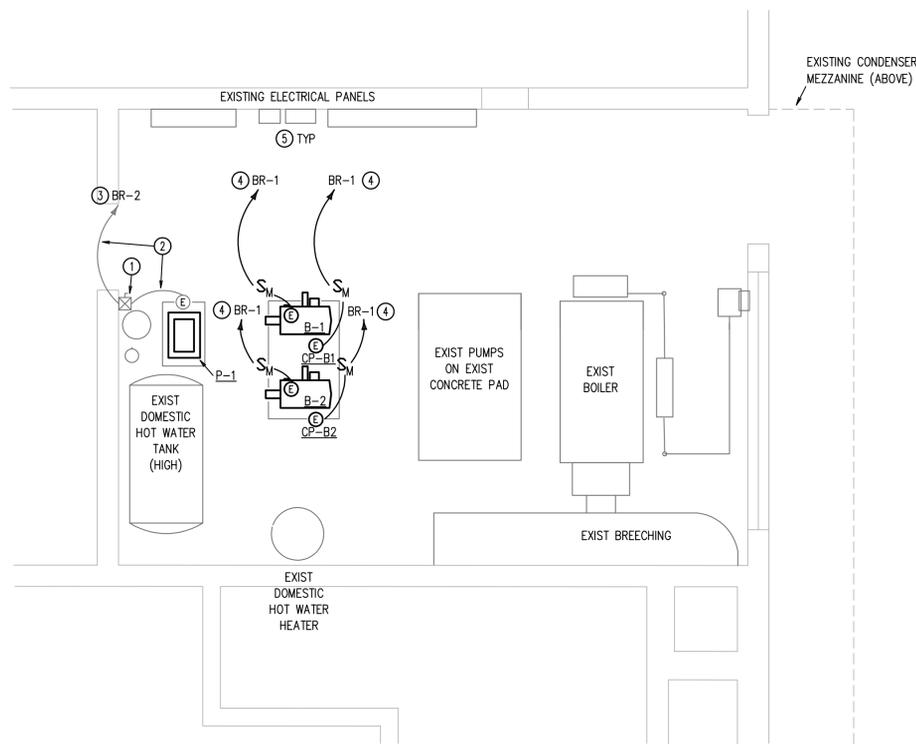
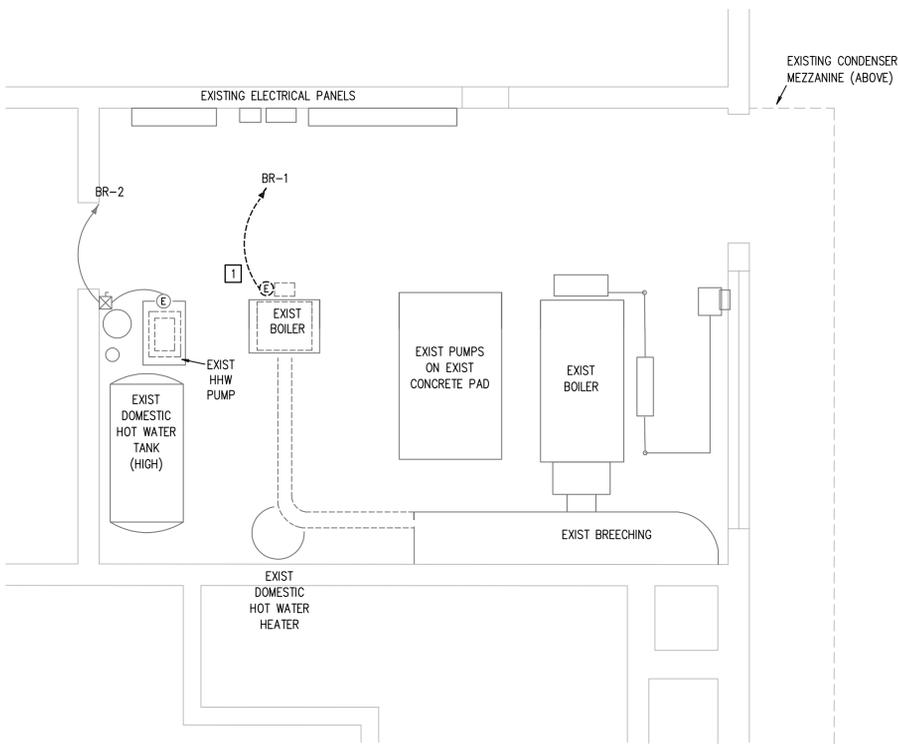
- FIELD VERIFY THAT EXISTING MOTOR STARTER MEETS NEC 2008 REQUIREMENT FOR DISCONNECTING MEANS. IF NOT, ADD SEPARATE DISCONNECT MEETING NEC 2008 REQUIREMENTS.
- FIELD VERIFY CONDUCTORS AND REPLACE IF LESS THAN #12.
- FIELD VERIFY 15A/3P BREAKER IN BR-2. IF BREAKER IS NOT AS LISTED, PROVIDE NEW.
- PROVIDE 15A/1P BREAKER IN BR-1.
- EXISTING PANEL TO REMAIN. PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED TO SERVE NEW LOADS. UPDATE SCHEDULE TO REFLECT CHANGES. IF PANEL CONTAINS INSUFFICIENT SPACES FOR NEW CIRCUIT BREAKERS, CONSULT WITH CITY PROJECT MANAGER AND ENGINEER FOR RESOLUTION.

ABBREVIATIONS

A	AMPERE
AFF	ABOVE FINISHED FLOOR
A/E	ARCHITECT/ENGINEER
EXIST	EXISTING
IEBC	INTERNATIONAL EXISTING BUILDING CODE
NEC	NATIONAL ELECTRIC CODE
P	POLE
PNL	PANEL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VUSBC	VIRGINIA UNIFORM STATEWIDE BUILDING CODE

ELECTRICAL LEGEND [X]

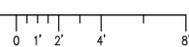
	CIRCUIT HOMERUN		POWER DISTRIBUTION
	EXISTING TO BE REMOVED		PANELBOARD, SURFACE MOUNTED, EXISTING
	EXISTING TO REMAIN		COMBINATION MOTOR STARTER
WIRING DEVICES			
	WALL SWITCH, AT 48" AFF UNO. SUBSCRIPTS INDICATE THE FOLLOWING: (NONE) SINGLE POLE M MANUAL MOTOR STARTER		
	EQUIPMENT CONNECTION		



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



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



**CITY ARMORY
BOILER REPLACEMENT**
 CITY OF LYNCHBURG
 LYNCHBURG, VIRGINIA

sheet title
**LEGEND,
 GENERAL NOTES
 FLOOR PLANS**

e-file: ARMORY-E

des	drf	chk
DJC	BJP	RRS

proj no.	13212
date	05.03.13
scale	

100% CD	05.03.13
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revision	date
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