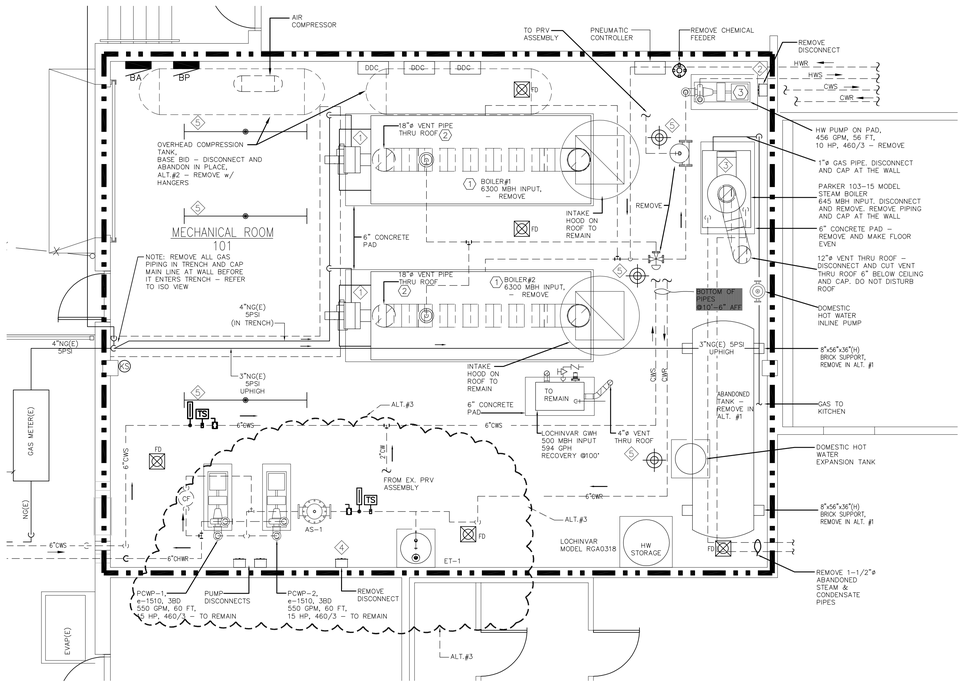


1 ME1.1 BOILER ROOM PLAN – DEMOLITION FLOOR PLAN
SCALE: 1/4"=1'-0"

DEMOLITION NOTES

1. DEMOLISH AND REMOVE EXISTING SYSTEMS ONLY TO THE EXTENT REQUIRED BY NEW CONSTRUCTION AND AS INDICATED ON PLANS. ALL PIPES/DUCTS DISCONNECTED FROM SYSTEM AND ABANDONED IN PLACE SHALL BE CAPPED ON BOTH SIDES.
2. THE OWNER RESERVES THE RIGHT TO RETAIN ANY MATERIALS REMOVED. ALL MATERIALS NOT RETAINED BY THE OWNER MUST BE DISPOSED OF OFF SITE.
3. ALL OPENINGS LEFT BY DEMOLITION/CONSTRUCTION SHALL BE INFILLED AND PATCHED AS REQUIRED TO RECEIVE NEW FINISHES OR MATCH TO EXISTING. BRICK COLOR SHALL BE APPROVED BY OWNER. FIRE SEAL ALL WALLS/FLOOR PENETRATIONS.
4. CAUTION: EXISTING PIPES/EQUIPMENT MAY CONTAIN ASBESTOS INSULATION. NOTIFY OWNER IMMEDIATELY WHERE OCCUR. THE OWNER IS RESPONSIBLE TO REMOVE ASBESTOS.

NOTES APPLY UNLESS OTHERWISE NOTED ON DRAWINGS.

DEMOLITION KEY NOTES

1. REMOVE BOILER W/ ALL PIPING. REMOVE DISCONNECTS AND WIRING. CONCRETE PAD TO REMAIN.
2. REMOVE FLUE VENT FROM BOILER TO 6" BELOW HARD CEILING. REST OF VENT THRU ROOF WILL BE REUSED.
3. REMOVE FLOOR MOUNTED HW PUMP W/ PIPING & CONCRETE PADS. DISCONNECTS AND WIRING.

NOTES APPLY UNLESS OTHERWISE NOTED ON DRAWINGS.

ELECTRICAL DEMO KEY NOTES

1. DISCONNECT EXISTING BOILERS HWB-1 AND HWB-2. REMOVE WIRING BACK TO PANEL.
2. DISCONNECT EXISTING HW PUMP MOTOR. REMOVE WIRING BACK TO DISCONNECT/STARTER, AND BACK TO PANEL.
3. DISCONNECT EXISTING STEAM BOILER. REMOVE WIRING BACK TO DISCONNECT/STARTER, AND BACK TO PANEL.
4. DISCONNECT AND REMOVE EXISTING STARTER. REMOVE CONDUIT BACK TO PANEL.
5. REMOVE EXISITNG LIGHT FIXTURES IN BOILER ROOM. SEE NEW WORK FOR ADDITIONAL INFORMATION. (TYP OF 6)

GENERAL NOTES

1. THESE DRAWINGS ARE BASED ON EXISTING FACILITY AS-BUILT DRAWINGS AND ARE NOT GUARANTEED TO BE COMPLETE OR FULLY ACCURATE. THE CONTRACTOR SHOULD VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING AND STARTING ANY DEMOLITION WORK
2. ALL FIRE RATINGS ARE TO BE MAINTAINED
3. SEE SHEET M0.1 FOR PROJECT ALTERNATES.
4. EQUIPMENT LABELS REPRESENTED ON THESE DRAWINGS ARE BASED ON EXISTING FACILITY AS-BUILT DOCUMENTS AND ARE NOT GUARANTEED TO MATCH ON SITE EQUIPMENT LABELS.
5. COORDINATE ALL ELECTRICAL SHUTDOWNS WITH THE OWNER A MINIMUM OF 3 DAYS AHEAD OF SCHEDULED INTERRUPTION.
6. DISCONNECTS, MOTOR CONTROLLERS, MOTOR RATED AND MOTOR SENTINEL SWITCHES, ETC. FOR HVAC EQUIPMENT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING TO THE LINE SIDE AND WIRING FROM THE LOAD SIDE OF THE DISCONNECTS, CONTROLLERS, ETC. INTO THE EQUIPMENT. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING TO MECHANICAL EQUIPMENT. ALL DISCONNECTS SHALL BE RATED AS "HEAVY DUTY" AND FUSED OR NON-FUSED AS REQUIRED.
7. MECHANICAL CONTRACTOR SHALL PROVIDE THE EQUIPMENT (START UP) TECHNICIAN AND MANUFACTURER CONTROLS. TECHNICIAN SHALL BE PRESENT ON SITE FOR 1 WEEK AFTER OCCUPANCY AND 1 WEEK AT THE BEGINNING OF THE FOLLOWING SEASON TO PROVIDE SUPPORT, TROUBLESHOOT AND REPAIR MECHANICAL MALFUNCTIONS.

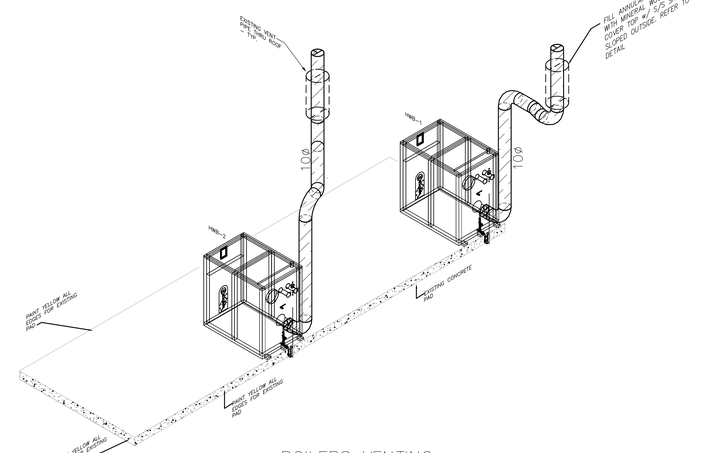
ELECTRICAL REVISED KEY NOTES

1. E.C. SHALL INSTALL NEW CONDUIT AND WIRING FOR NEW CONTROL CIRCUIT AS FOLLOWS: INSTALL 2-#12 & #12 GRD IN 3/4" CONDUIT FROM PANEL BP (CIRCUIT #13) PROVIDE NEW 20 AMP, 1POLE BREAKER IN PANEL BP. MAKE ALL FINAL TERMINATIONS AT CONTROL AND PANEL BP. COORDINATE THIS WORK WITH M.C. AND CONTROL CONTRACTOR.
2. E.C. SHALL INSTALL NEW CONDUIT AND WIRING FOR NEW CHEMICAL FEEDER AS FOLLOWS: INSTALL 2-#12 & #12 GRD IN 3/4" CONDUIT FROM PANEL BP (CIRCUIT #14) PROVIDE NEW 20 AMP, 1POLE BREAKER IN PANEL BP. MAKE ALL FINAL TERMINATIONS AT CONTROL AND PANEL BP. COORDINATE THIS WORK WITH M.C. AND CONTROL CONTRACTOR.
3. SENSORS AND DETECTORS TO BE PROVIDED AND INSTALLED BY COMMERCIAL SOUND. E.C. TO PROVIDE 3/4" CONDUIT TO SENSORS AND DETECTORS TO NEAREST FIRE ALARM JUNCTION BOXES. CONTACT DEMITRI BERRY AT 336-345-1542 FOR COORDINATION. SENSORS AND DETECTORS ARE TO BE INSTALLED WITHIN THE BOILER ROOM. CARBON MONOXIDE AND SMOKE HEAT/DETECTOR TO BE CONNECTED TO BUILDING FIRE ALARM SYSTEM. ALL FIRE ALARM WORK IS PROVIDED BY THE OWNER AND IS OUTSIDE OF PROJECT SCOPE.
4. E.C. TO REPLACE EXISTING LIGHT FIXTURES WITH (14) NEW LED 1'X4' CHAIN HUNG LIGHT FIXTURES. REMOVE EXISTING LIGHT FIXTURES AND INSTALL NEW LIGHT FIXTURES AS SHOWN. INSTALL NEW CONDUIT AND WIRING TO LIGHT FIXTURES. CONNECT TO EXISTING LIGHT CIRCUIT AND SWITCH. COORDINATE LOCATION OF LIGHTS FIXTURES WITH MECHANICAL WORK AND WITH OWNER. (CAT # LITHONIA ZLID-7000LM-FST-MVOLT-4000K-80CR10)

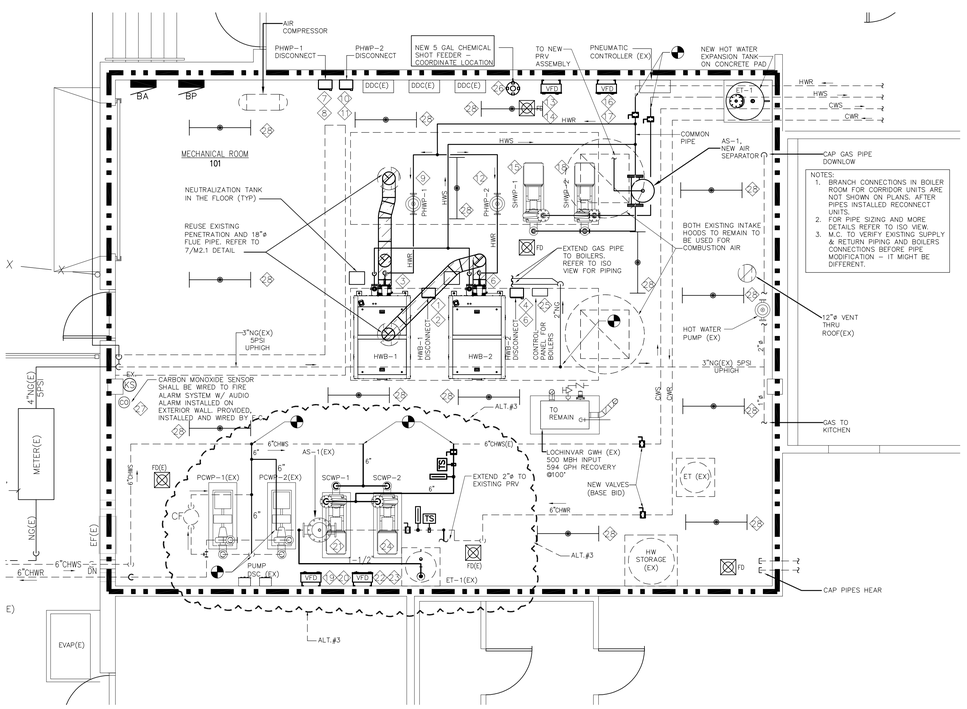
LEGEND

(SOLID) NEW PIPING & EQUIPMENT

(DASH) EXISTING PIPING & EQUIPMENT TO REMAIN



3 ME1.1 BOILERS VENTING PLAN – ISOMETRIC VIEW
SCALE: NTS



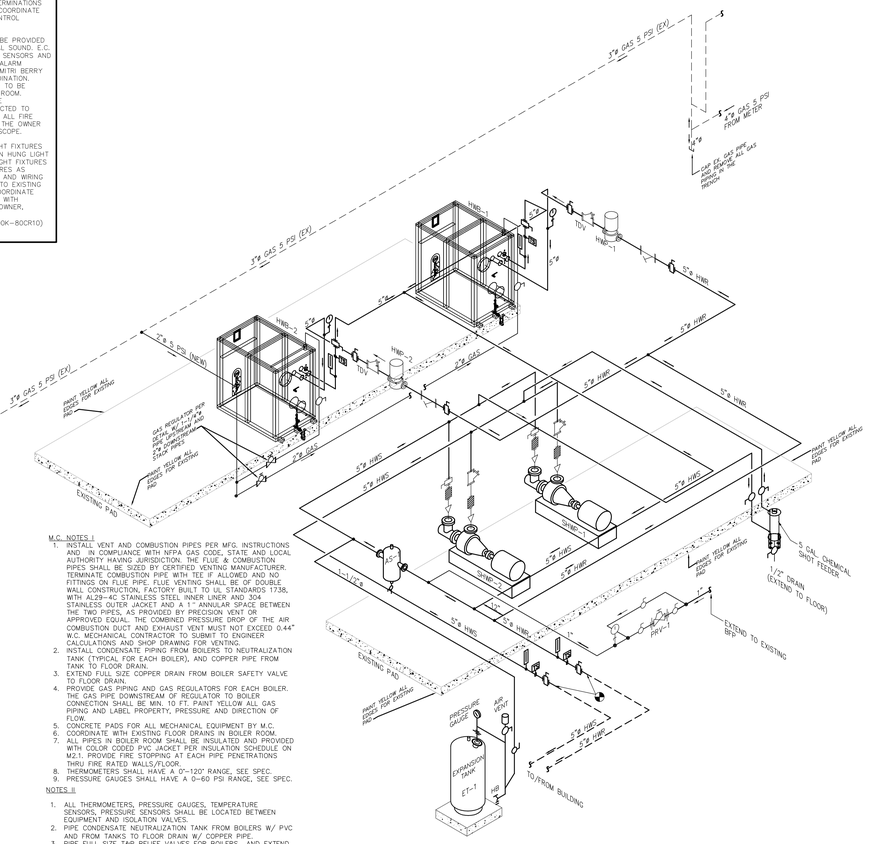
2 ME1.1 BOILER ROOM PLAN – REVISED FLOOR PLAN
SCALE: 1/4"=1'-0"

ELECTRICAL REVISED KEY NOTES

1. E.C. SHALL INSTALL NEW CONDUIT AND WIRING FOR NEW HWB-1 AS FOLLOWS: INSTALL 3-#12 & #12 GRD IN 3/4" CONDUIT FROM PANEL BA (CIRCUIT #1,3,5-20 AMP 3P BREAKER) TO DISCONNECT. MAKE ALL FINAL TERMINATIONS AT DISCONNECT SWITCH AND PANEL BA. COORDINATE THIS WORK WITH OWNER.
2. E.C. TO PROVIDE AND INSTALL NEW 30AMP 480V, 3P, 3W, N1, HEAVY DUTY, FUSED DISCONNECT. FUSED AT 20AMP.
3. E.C. TO PROVIDE AND INSTALL 3-#12 AND & #12 GRD IN 3/4" CONDUIT. FROM DISCONNECT TO HWB-1. MAKE ALL FINAL TERMINATIONS AT DISCONNECT SWITCH AND HWB-1. RELABEL PANEL SCHEDULE TO REFLECT CHANGES.
4. E.C. SHALL INSTALL NEW CONDUIT AND WIRING FOR NEW HWB-2 AS FOLLOWS: INSTALL 3-#12 & #12 GRD IN 3/4" CONDUIT FROM PANEL BA (CIRCUIT #2,4,6-20 AMP 3P BREAKER) TO DISCONNECT. E.C. TO PROVIDE NEW BREAKER. MAKE ALL FINAL TERMINATIONS AT DISCONNECT SWITCH AND EXISTING PANEL BA. COORDINATE THIS WORK WITH OWNER.
5. E.C. TO PROVIDE AND INSTALL NEW 30AMP 480V, 3P, 3W, N1,HEAVY DUTY, FUSED DISCONNECT. FUSED AT 20AMP.
6. E.C. TO PROVIDE AND INSTALL 3-#12 AND & #12 GRD IN 3/4" CONDUIT. FROM DISCONNECT TO HWB-2. MAKE ALL FINAL TERMINATIONS AT DISCONNECT SWITCH AND HWB-2. RELABEL PANEL SCHEDULE TO REFLECT CHANGES.
7. E.C. SHALL INSTALL NEW CONDUIT AND WIRING FOR NEW PHWP-1 AS FOLLOWS: INSTALL 3-#12 & #12 GRD IN 3/4" CONDUIT FROM PANEL BA (CIRCUIT #7,9,11) E.C. TO TO DISCONNECT/STARTER. PROVIDE NEW 15AMP, 3P, BREAKER IN PANEL. MAKE ALL FINAL TERMINATIONS AT DISCONNECT/STARTER SWITCH AND PANEL BA. COORDINATE THIS WORK WITH M.C..
8. E.C. TO INSTALL NEW 30AMP 480V, 3P, 3W, N1, HEAVY DUTY, FUSED DISCONNECT/STARTER. FUSED AT 15AMP.
9. E.C. TO PROVIDE AND INSTALL 3-#12 AND & #12 GRD IN 3/4" CONDUIT. FROM DISCONNECT/STARTER TO PHWP-1. MAKE ALL FINAL TERMINATIONS AT DISCONNECT SWITCH AND PHWP-1. RELABEL PANEL SCHEDULE TO REFLECT CHANGES.
10. E.C. SHALL INSTALL NEW CONDUIT AND WIRING FOR NEW PHWP-2 AS FOLLOWS: INSTALL 3-#12 & #12 GRD IN 3/4" CONDUIT FROM PANEL EA (CIRCUIT #8,10,12) E.C. TO TO DISCONNECT/STARTER. PROVIDE NEW 15AMP, 3P BREAKER IN PANEL. MAKE ALL FINAL TERMINATIONS AT DISCONNECT/STARTER SWITCH AND PANEL BA. COORDINATE THIS WORK WITH M.C..
11. E.C. TO INSTALL NEW 30AMP 480V, 3P, 3W, N1, HEAVY DUTY, FUSED DISCONNECT/STARTER. FUSED AT 15AMP.
12. E.C. TO PROVIDE AND INSTALL 3-#12 AND & #12 GRD IN 3/4" CONDUIT. FROM DISCONNECT/STARTER TO PHWP-2. MAKE ALL FINAL TERMINATIONS AT DISCONNECT SWITCH AND PHWP-2. RELABEL PANEL SCHEDULE TO REFLECT CHANGES.

ELECTRICAL REVISED KEY NOTES

13. E.C. SHALL INSTALL NEW CONDUIT AND WIRING FOR NEW SHWP-1 AS FOLLOWS: INSTALL 3-#10 & #10 GRD IN 3/4" CONDUIT FROM PANEL BA (CIRCUIT #1,3,5) E.C. TO TO DISCONNECT/VFD. PROVIDE NEW 25AMP 3P BREAKER IN PANEL. MAKE ALL FINAL TERMINATIONS AT DISCONNECT/VFD SWITCH AND PANEL BA. COORDINATE THIS WORK WITH M.C..
14. E.C. TO INSTALL NEW 30AMP, 480V, 3P, 3W; N1, HEAVY DUTY, FUSED DISCONNECT. FUSED AT 25AMP.
15. E.C. TO PROVIDE AND INSTALL 3-#10 AND & #10 GRD IN 3/4" CONDUIT. FROM DISCONNECT/VFD TO SHWP-1. MAKE ALL FINAL TERMINATIONS AT DISCONNECT SWITCH AND SHWP-1. RELABEL PANEL SCHEDULE TO REFLECT CHANGES.
16. E.C. SHALL INSTALL NEW CONDUIT AND WIRING FOR NEW SHWP-2 AS FOLLOWS: INSTALL 3-#10 & #10 GRD IN 3/4" CONDUIT FROM PANEL BA (CIRCUIT #7,9,11) E.C. TO TO DISCONNECT/VFD. PROVIDE NEW 25AMP, 3P BREAKER IN PANEL. MAKE ALL FINAL TERMINATIONS AT DISCONNECT/VFD SWITCH AND PANEL BA. COORDINATE THIS WORK WITH M.C..
17. E.C. TO INSTALL NEW 30AMP, 480V, 3P, 3W; N1, HEAVY DUTY, FUSED DISCONNECT. FUSED AT 25AMP.
18. E.C. TO PROVIDE AND INSTALL 3-#10 AND & #10 GRD IN 3/4" CONDUIT. FROM DISCONNECT/VFD TO SHWP-2. MAKE ALL FINAL TERMINATIONS AT DISCONNECT SWITCH AND SHWP-2. RELABEL PANEL SCHEDULE TO REFLECT CHANGES.
19. E.C. SHALL INSTALL NEW CONDUIT AND WIRING FOR NEW SCWP-1 AS FOLLOWS: INSTALL 3-#8 & #10 GRD IN 3/4" CONDUIT FROM PANEL BA (CIRCUIT #14,16,18) E.C. TO TO DISCONNECT/VFD. PROVIDE NEW 60AMP 3P BREAKER IN PANEL. MAKE ALL FINAL TERMINATIONS AT DISCONNECT/VFD SWITCH AND PANEL BA. COORDINATE THIS WORK WITH M.C.. (ATL #3)
20. E.C. TO INSTALL NEW 60AMP, 480V, 3P, 3W; N1, HEAVY DUTY, FUSED DISCONNECT. FUSED AT 60AMP. (ATL #3)
21. E.C. TO PROVIDE AND INSTALL 3-#8 AND & #10 GRD IN 3/4" CONDUIT. FROM DISCONNECT/VFD TO SCWP-1. MAKE ALL FINAL TERMINATIONS AT DISCONNECT SWITCH AND SHWP-1. RELABEL PANEL SCHEDULE TO REFLECT CHANGES. (ATL #3)
22. E.C. SHALL INSTALL NEW CONDUIT AND WIRING FOR NEW SCWP-2 AS FOLLOWS: INSTALL 3-#8 & #10 GRD IN 3/4" CONDUIT FROM PANEL BA (CIRCUIT #13,15,17) E.C. TO TO DISCONNECT/VFD. PROVIDE NEW 60AMP, 3P BREAKER IN PANEL. MAKE ALL FINAL TERMINATIONS AT DISCONNECT/VFD SWITCH AND PANEL BA. COORDINATE THIS WORK WITH M.C.. (ATL #3)
23. E.C. TO INSTALL NEW 60AMP, 480V, 3P, 3W; N1, HEAVY DUTY, FUSED DISCONNECT. FUSED AT 60AMP. (ATL #3)
24. E.C. TO PROVIDE AND INSTALL 3-#8 AND & #10 GRD IN 3/4" CONDUIT. FROM DISCONNECT/VFD TO SCWP-2. MAKE ALL FINAL TERMINATIONS AT DISCONNECT SWITCH AND SHWP-2. RELABEL PANEL SCHEDULE TO REFLECT CHANGES. (ATL #3)



M.C. NOTES I

1. INSTALL VENT AND COMBUSTION PIPES PER MFG. INSTRUCTIONS AND IN COMPLIANCE WITH NFPA GAS CODE, STATE AND LOCAL AUTHORITY HAVING JURISDICTION. THE FLUE & COMBUSTION PIPES SHALL BE SIZED BY CERTIFIED VENTING MANUFACTURER. TERMINATE COMBUSTION PIPE WITH TEE IF ALLOWED AND NO FITTINGS ON FLUE PIPE. FLUE VENTING SHALL BE OF DOUBLE WALL CONSTRUCTION, FACTORY BUILT TO UL STANDARDS 1738, WITH AL29-4C STAINLESS STEEL INNER LINER AND 304 STAINLESS OUTER JACKET AND A 1" ANNULAR SPACE BETWEEN THE TWO PIPES, AS PROVIDED BY PRECISION VENT OR APPROVED EQUAL. THE COMBINED PRESSURE DROP OF THE AIR COMBUSTION DUCT AND EXHAUST VENT MUST NOT EXCEED 0.44" W.C. MECHANICAL CONTRACTOR TO SUBMIT TO ENGINEER CALCULATIONS AND SHOP DRAWING FOR VENTING.
2. INSTALL CONDENSATE PIPING FROM BOILERS TO NEUTRALIZATION TANK (TYPICAL FOR EACH BOILER), AND COPPER PIPE FROM TANK TO FLOOR DRAIN.
3. EXTEND FULL SIZE COPPER DRAIN FROM BOILER SAFETY VALVE TO FLOOR DRAIN.
4. PROVIDE GAS PIPING AND GAS REGULATORS FOR EACH BOILER. THE GAS PIPE DOWNSTREAM OF REGULATOR TO BOILER CONNECTION SHALL BE MIN. 10 FT. PAINT YELLOW ALL GAS PIPING AND LABEL PROPERTY, PRESSURE AND DIRECTION OF FLOW.
5. COMPLETE PADS FOR ALL MECHANICAL EQUIPMENT BY M.C.
6. COORDINATE WITH EXISTING FLOOR DRAINS IN BOILER ROOM.
7. ALL PIPES IN BOILER ROOM SHALL BE INSULATED AND PROVIDED WITH COLOR CODED PVC JACKET PER INSULATION SCHEDULE ON M2.1. PROVIDE FIRE STOPPING AT EACH PIPE PENETRATIONS THRU FIRE RATED WALLS/FLOOR.
8. THERMOMETERS SHALL HAVE A 0"-120" RANGE, SEE SPEC.
9. PRESSURE GAUGES SHALL HAVE A 0-60 PSI RANGE, SEE SPEC.

NOTES II

1. ALL THERMOMETERS, PRESSURE GAUGES, TEMPERATURE SENSORS, PRESSURE SENSORS SHALL BE LOCATED BETWEEN EQUIPMENT AND ISOLATION VALVES.
2. PIPE CONDENSATE NEUTRALIZATION TANK FROM BOILERS W/ PVC AND FROM TANKS TO FLOOR DRAIN W/ COPPER PIPE.
3. PIPE FULL SIZE T&P RELIEF VALVES FOR BOILERS AND EXTEND TO FLOOR DRAIN.
4. MAINTAIN ALL REQUIRED SERVICE CLEARANCES FOR EQUIPMENT.
5. PROVIDE 4" CONCRETE PADS FOR ALL MECHANICAL EQUIPMENT. PAD SHALL BE THE SIZE OF EQUIPMENT FOOTPRINT PLUS 4" ON EACH SIDE UNLESS OTHERWISE NOTED.

4 ME1.1 BOILER ROOM PLAN – ISOMETRIC VIEW
SCALE: NTS

CONSULTANT ENGINEERING SERVICE, INC.
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NORTH CAROLINA PROFESSIONAL SEAL 15866 ENGINEER CHRISTOPHER R. STROUPE 11-21-2024

JEFFERSON MIDDLE SCHOOL BOILERS REPLACEMENT

3500 Sally Kirk Rd, Winston-Salem, NC 27106

DATE 11/21/2024

CES LICENSE NO. F-0238

SHEET TITLE: DEMOLITION & REVISED BOILER ROOM PLANS

PROJECT NO. 4243B

DRAWN BY: EJ/JRH

APPROVED BY: CSR

REVISION

REVISION

REVISION

SHEET NUMBER: ME1.1

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