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Houston, Texas 77064
281.664.1900 | Registration No. F-4111

Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES
CSP #23.18

JONES CLARK ELEMENTARY SCHOOL
3525 CLEVELAND ST, BEAUMONT, TX 77703

FEHL-PRICE CLASSICAL ACADEMY
3350 BLANCHETTE ST, BEAUMONT, TX 77701

CHARLTON-POLLARD ELEMENTARY SCHOOL
1695 IRVING ST, BEAUMONT, TX 77701

SOUTH PARK MIDDLE SCHOOL
4500 HIGHLAND AVE, BEAUMONT, TX 77705

BEAUMONT UNITED HIGH SCHOOL
3443 FANNETT RD, BEAUMONT, TX 77705

BLANCHETTE ELEMENTARY SCHOOL
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5850 REGINA LN, BEAUMONT, TX 77706

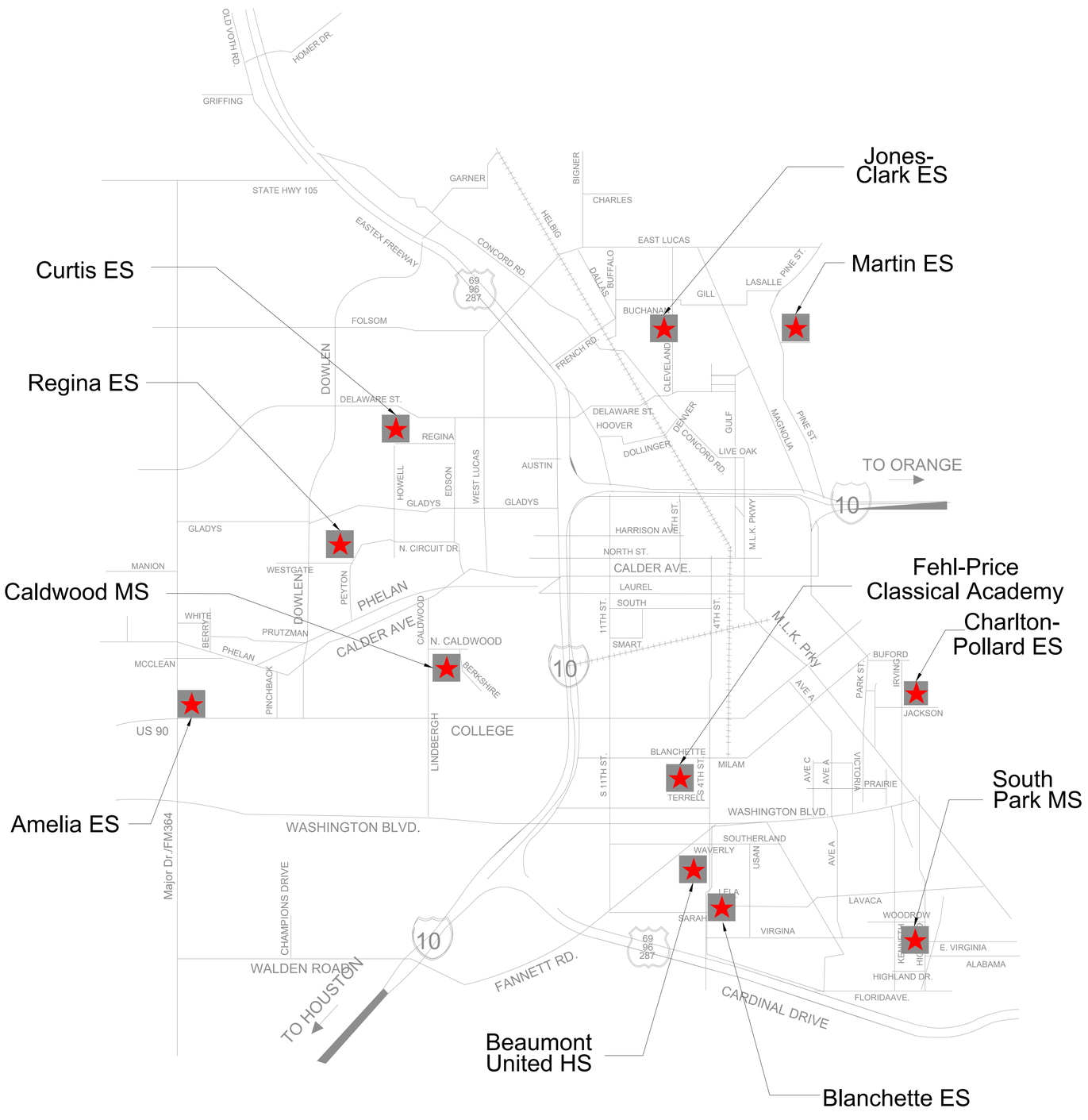
MARTIN ELEMENTARY SCHOOL
3500 PINE ST, BEAUMONT, TX 77703

SALLIE CURTIS ELEMENTARY SCHOOL
6225 N CIRCUIT DR, BEAUMONT, TX 77706

CALDWOOD ELEMENTARY SCHOOL
102 BERKSHIRE LN, BEAUMONT, TX 77707

AMELIA ELEMENTARY SCHOOL
555 MAJOR DR, BEAUMONT, TX 77707

SITE LOCATIONS



LIST OF DRAWINGS:

CS-1 COVER SHEET - LIST OF DRAWINGS
CS-2 COVER SHEET - SITES (1 OF 2)
CS-3 COVER SHEET - SITES (2 OF 2)
S-1 TYPICAL STRUCTURAL DETAILS

JONES CLARK ELEMENTARY SCHOOL
M1.1 MECHANICAL FLOOR PLANS - JONES-CLARK ES
M2.1 MECHANICAL DETAILS - JONES-CLARK ES
E1.1 ELECTRICAL FLOOR PLANS - JONES-CLARK ES
P1.1 PLUMBING FLOOR PLANS - JONES-CLARK ES
P2.1 PLUMBING DETAILS - JONES-CLARK ES

FEHL-PRICE CLASSICAL ACADEMY
M1.1 MECHANICAL FLOOR PLANS - FEHL-PRICE CLASSICAL ACADEMY
M2.1 MECHANICAL DETAILS - FEHL-PRICE CLASSICAL ACADEMY
E1.1 ELECTRICAL FLOOR PLANS - FEHL-PRICE CLASSICAL ACADEMY
P1.1 PLUMBING FLOOR PLANS - FEHL-PRICE CLASSICAL ACADEMY
P2.1 PLUMBING DETAILS - FEHL-PRICE CLASSICAL ACADEMY

CHARLTON-POLLARD ELEMENTARY SCHOOL
M1.1 MECHANICAL FLOOR PLANS - CHARLTON-POLLARD ES
M2.1 MECHANICAL DETAILS - CHARLTON-POLLARD ES
E1.1 ELECTRICAL FLOOR PLANS - CHARLTON-POLLARD ES
P1.1 PLUMBING FLOOR PLANS - CHARLTON-POLLARD ES
P2.1 PLUMBING DETAILS - CHARLTON-POLLARD ES

SOUTH PARK MIDDLE SCHOOL
M1.1 MECHANICAL FLOOR PLANS - SOUTH PARK MS
M2.1 MECHANICAL DETAILS - SOUTH PARK MS
E1.1 ELECTRICAL FLOOR PLANS - SOUTH PARK MS
P1.1 PLUMBING FLOOR PLANS - SOUTH PARK MS
P2.1 PLUMBING DETAILS - SOUTH PARK MS

BEAUMONT UNITED HIGH SCHOOL
M1.1 MECHANICAL FLOOR PLANS -CENTRAL PLANT - HALL A - BEAUMONT UNITED HS
M1.2 MECHANICAL FLOOR PLANS -CENTRAL PLANT - HALL B & C - BEAUMONT UNITED HS
M1.3 MECHANICAL FLOOR PLANS -CENTRAL PLANT - PAC - BEAUMONT UNITED HS
M2.1 MECHANICAL DETAILS - BEAUMONT UNITED HS
E1.1 ELECTRICAL FLOOR PLANS -CENTRAL PLANT - HALL A - BEAUMONT UNITED HS
E1.2 ELECTRICAL FLOOR PLANS -CENTRAL PLANT - HALL B & C - BEAUMONT UNITED HS
E1.3 ELECTRICAL FLOOR PLANS -CENTRAL PLANT - PAC - BEAUMONT UNITED HS
P1.1 PLUMBING FLOOR PLANS -CENTRAL PLANT - HALL A - BEAUMONT UNITED HS
P1.2 PLUMBING FLOOR PLANS -CENTRAL PLANT - HALL B & C - BEAUMONT UNITED HS
P1.3 PLUMBING FLOOR PLANS -CENTRAL PLANT - PAC - BEAUMONT UNITED HS
P2.1 PLUMBING DETAILS - BEAUMONT UNITED HS

BLANCHETTE ELEMENTARY SCHOOL
M1.1 MECHANICAL FLOOR PLANS - BLANCHETTE ES
M1.2 MECHANICAL MEZZANINE PLANS - BLANCHETTE ES
M2.1 MECHANICAL DETAILS - BLANCHETTE ES
E1.1 ELECTRICAL FLOOR PLANS - BLANCHETTE ES
E1.2 ELECTRICAL MEZZANINE PLANS - BLANCHETTE ES
P1.1 PLUMBING FLOOR PLANS - BLANCHETTE ES
P2.1 PLUMBING DETAILS - BLANCHETTE ES

REGINA HOWELL ELEMENTARY SCHOOL
M1.1 MECHANICAL FLOOR PLANS - REGINA ES
M1.2 MECHANICAL MEZZANINE PLANS - REGINA ES
M2.1 MECHANICAL DETAILS - REGINA ES
E1.1 ELECTRICAL FLOOR PLANS - REGINA ES
E1.2 ELECTRICAL MEZZANINE PLANS - REGINA ES
P1.1 PLUMBING FLOOR PLANS - REGINA ES
P2.1 PLUMBING DETAILS - REGINA ES

MARTIN ELEMENTARY SCHOOL
M1.1 MECHANICAL FLOOR PLANS - MARTIN ES
M1.2 MECHANICAL MEZZANINE PLANS - MARTIN ES
M2.1 MECHANICAL DETAILS - MARTIN ES
E1.1 ELECTRICAL FLOOR PLANS - MARTIN ES
E1.2 ELECTRICAL MEZZANINE PLANS - MARTIN ES
P1.1 PLUMBING FLOOR PLANS - MARTIN ES
P2.1 PLUMBING DETAILS - MARTIN ES

SALLIE CURTIS ELEMENTARY SCHOOL
M1.1 MECHANICAL FLOOR PLANS - CURTIS ES
M1.2 MECHANICAL MEZZANINE PLANS - CURTIS ES
M2.1 MECHANICAL DETAILS - CURTIS ES
E1.1 ELECTRICAL FLOOR PLANS - CURTIS ES
E1.2 ELECTRICAL MEZZANINE PLANS - CURTIS ES
P1.1 PLUMBING FLOOR PLANS - CURTIS ES
P2.1 PLUMBING DETAILS - CURTIS ES

CALDWOOD ELEMENTARY SCHOOL
M1.1 MECHANICAL FLOOR PLANS - CALDWOOD ES
M1.2 MECHANICAL MEZZANINE PLANS - CALDWOOD ES
M2.1 MECHANICAL DETAILS - CALDWOOD ES
E1.1 ELECTRICAL FLOOR PLANS - CALDWOOD ES
E1.2 ELECTRICAL MEZZANINE PLANS - CALDWOOD ES
P1.1 PLUMBING FLOOR PLANS - CALDWOOD ES
P2.1 PLUMBING DETAILS - CALDWOOD ES

AMELIA ELEMENTARY SCHOOL
M1.1 MECHANICAL FLOOR PLANS - AMELIA ES
M1.2 MECHANICAL MEZZANINE PLANS - AMELIA ES
M2.1 MECHANICAL DETAILS - AMELIA ES
E1.1 ELECTRICAL FLOOR PLANS - AMELIA ES
E1.2 ELECTRICAL MEZZANINE PLANS - AMELIA ES
P1.1 PLUMBING FLOOR PLANS - AMELIA ES
P2.1 PLUMBING DETAILS - AMELIA ES

BRADLEY KALMANS
80219
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PROFESSIONAL ENGINEER
STATE OF TEXAS

04-06-2023

COVER SHEET – LIST OF DRAWINGS
CS-1

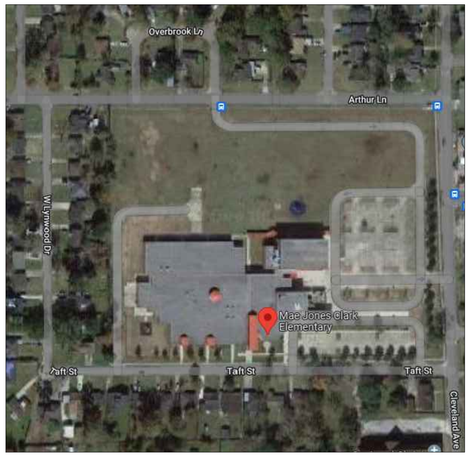
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BOILER UPGRADES
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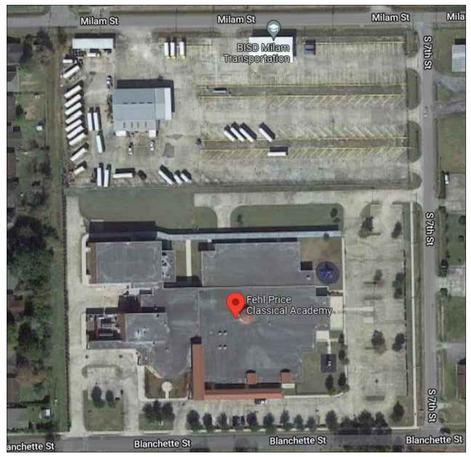
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SITE LOCATIONS

JONES CLARK ELEMENTARY SCHOOL
3525 CLEVELAND ST, BEAUMONT, TX 77703



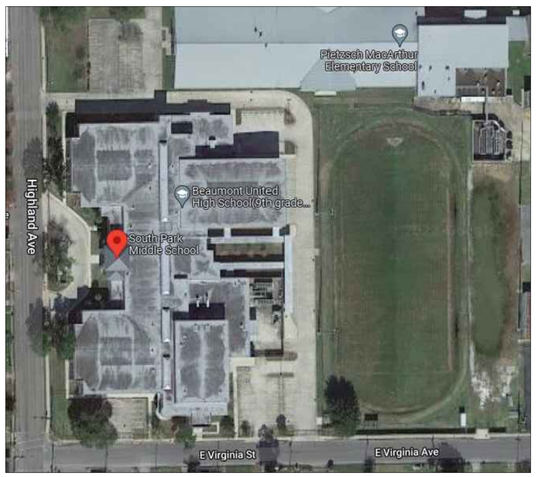
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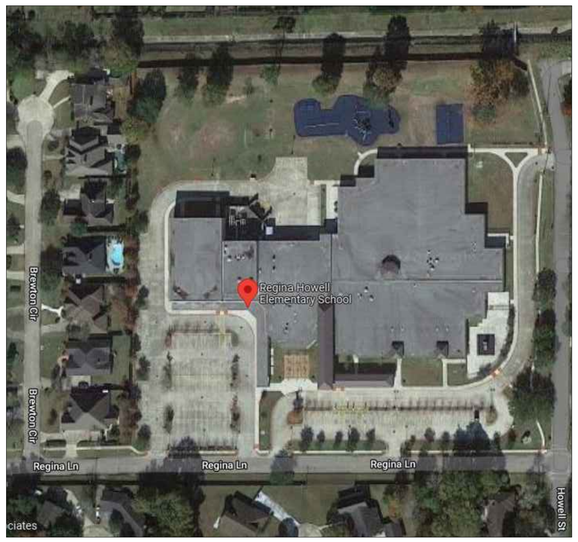
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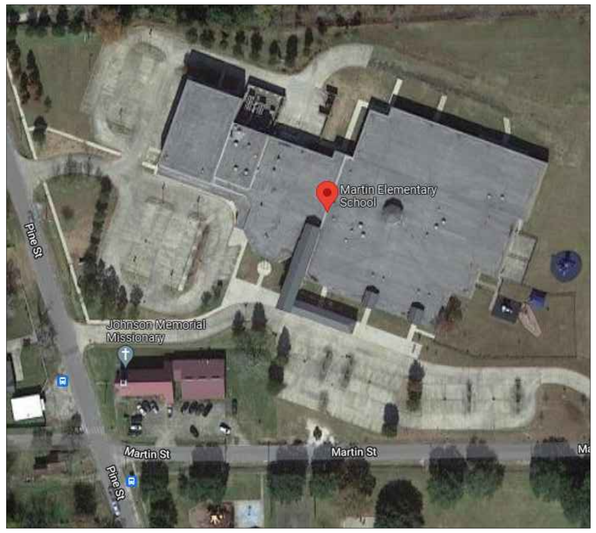
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SITE LOCATIONS

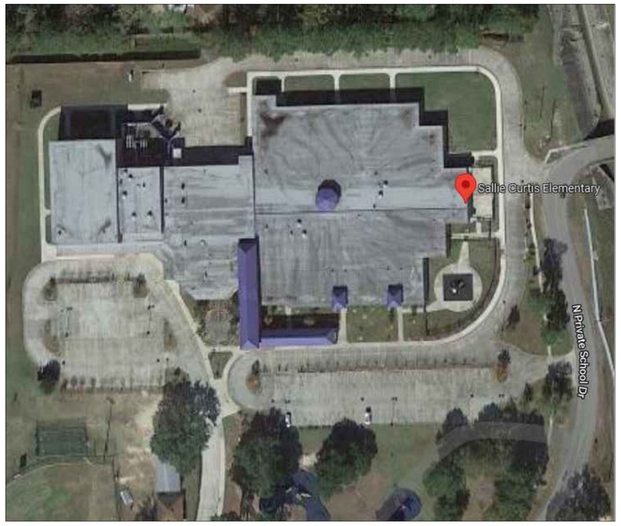
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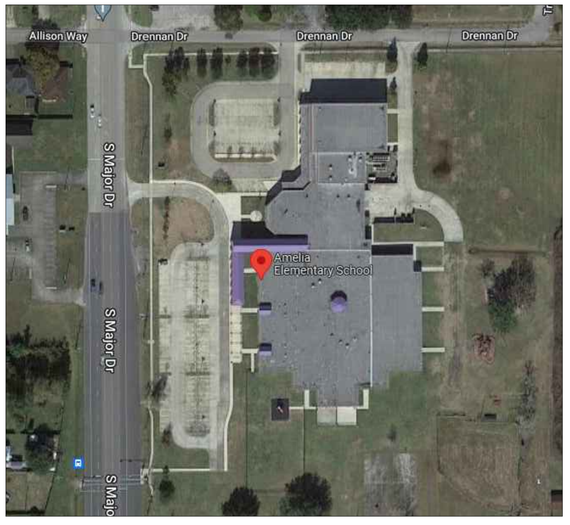
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04-06-2023

COVER SHEET – SITES (2 OF 2)
CS-3

GENERAL NOTES

BUILDING CODE

BUILDING CODE USED ..... IBC 2018

DESIGN LIVE LOADS

ROOF ..... 20 P.S.F.
MECHANICAL ROOMS ..... 150 P.S.F.

STRUCTURAL STEEL

ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM SPECIFICATION. STRUCTURAL STEEL DETAILS AND CONNECTIONS SHALL CONFORM TO THE STANDARDS OF THE AISC. FIELD CONNECTIONS SHALL BE EQUIVALENT TO STANDARD BOLTED CONNECTIONS USING 3/4" ASTM A307 BOLTS UNLESS OTHERWISE SHOWN. CONNECTIONS SHALL BE BOLTED OR WELDED - SEE DETAILS. SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ARCHITECT AS TO LOCATION AND TYPE OF SPLICE TO BE MADE. ANY MEMBER HAVING SPLICE NOT SHOWN AND DETAILED ON SHOP DRAWINGS WILL BE REJECTED. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE. WHEN CAMBER OF STEEL MEMBERS IS REQUIRED BY THE DRAWINGS.

MISCELLANEOUS

THE CONTRACTOR SHALL EXAMINE THE FIELD CONDITIONS AND MECHANICAL DRAWINGS FOR REQUIRED OPENINGS AND SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL DRAWINGS.

NOMINAL PIPE SLEEVES THROUGH THE DECK WILL NOT REQUIRE FRAMING UNLESS THE OPENING EXCEEDS 10" IN DIAMETER.

THE CONTRACTOR SHALL COMPARE EXISTING FIELD CONDITIONS TO STRUCTURAL SECTIONS AND MECHANICAL SECTIONS AND REPORT ANY DISCREPANCY TO THE ENGINEERS PRIOR TO FABRICATION OR INSTALLING STRUCTURAL MEMBERS.

REPRODUCTION NOTE

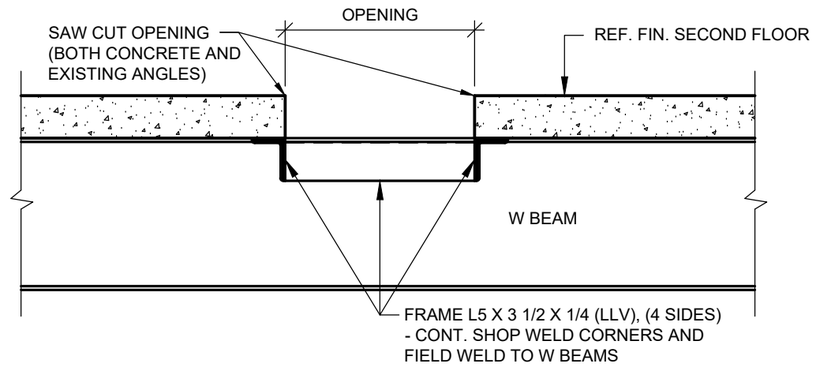
THE USE OF THESE CONTRACT DRAWINGS IN LIEU OF PREPARATION OF SHOP DRAWINGS CONSTITUTES ACCEPTANCE THAT ALL INFORMATION SHOWN HEREON IS CORRECT, AND CONSTITUTES ACCEPTANCE OF ANY JOB EXPENSE, REAL OR IMPLIED, ARISING DUE TO THEIR USE. SHOP DRAWINGS MAY NOT BE PRODUCED BY USING REPRODUCTIONS OF THESE CONTRACT DRAWINGS. ANY SHOP DRAWINGS SUBMITTED FOR APPROVAL, WHICH WERE PRODUCED IN THIS MANNER, WILL BE REJECTED.

USE OF CADD FILES

UPON THE SIGNING OF A RELEASE, FITTZ & SHIPMAN, INC. WILL PROVIDE CADD FILES STRIPPED OF TITLE BLOCKS AND SEALS. A FEE WILL BE ACCESSED IN ACCORDANCE WITH THE FOLLOWING FEE SCHEDULE:
MINIMUM CHARGE OF $100 FOR THE FIRST SHEET AND $50 FOR EACH ADDITIONAL SHEET. SALES TAX WILL BE ADDED TO THE ABOVE FEES UNLESS A SALES TAX EXEMPT CERTIFICATE IS PROVIDED. WHEN PLAN SHEETS ARE PRINTED ON MULTIPLE SHEETS THE FEE WILL BE ACCESSED PER PRINTED SHEET BUT ONE CADD FILE WILL BE PRESENTED.

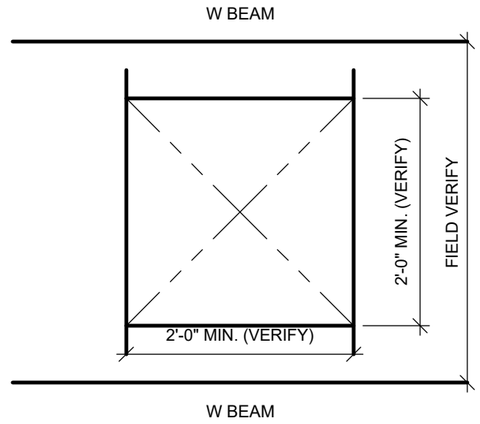


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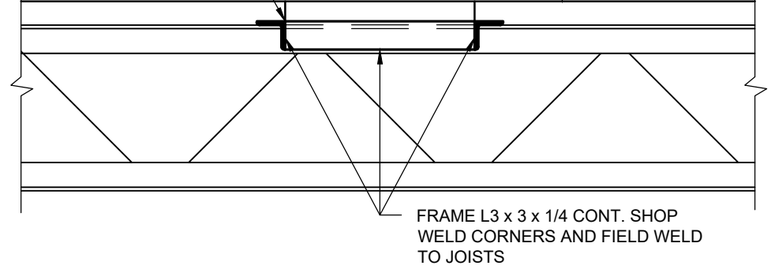


NOTE:
REFER TO MECHANICAL DRAWINGS FOR SECOND FLOOR OPENING LOCATIONS & SIZES

TYPICAL SECOND FLOOR OPENING DETAIL

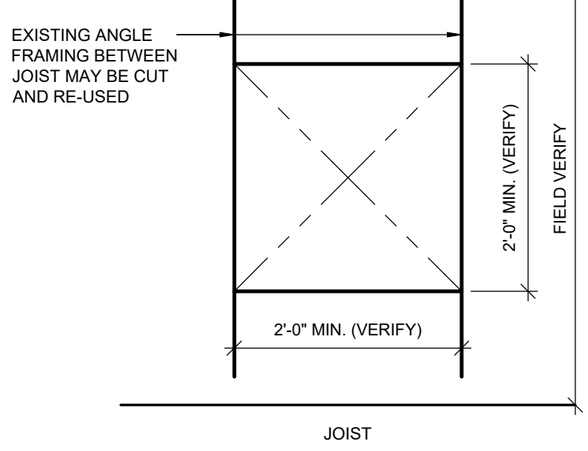


SECOND FLOOR PLAN VIEW



NOTE:
REFER TO MECHANICAL DRAWINGS FOR ROOF OPENING LOCATIONS & SIZES

TYPICAL ROOF OPENING DETAIL



ROOF PLAN VIEW

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

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DATE:	JOB NO.	SKETCH NO.
04-06-2023	2022-04652-00	S1

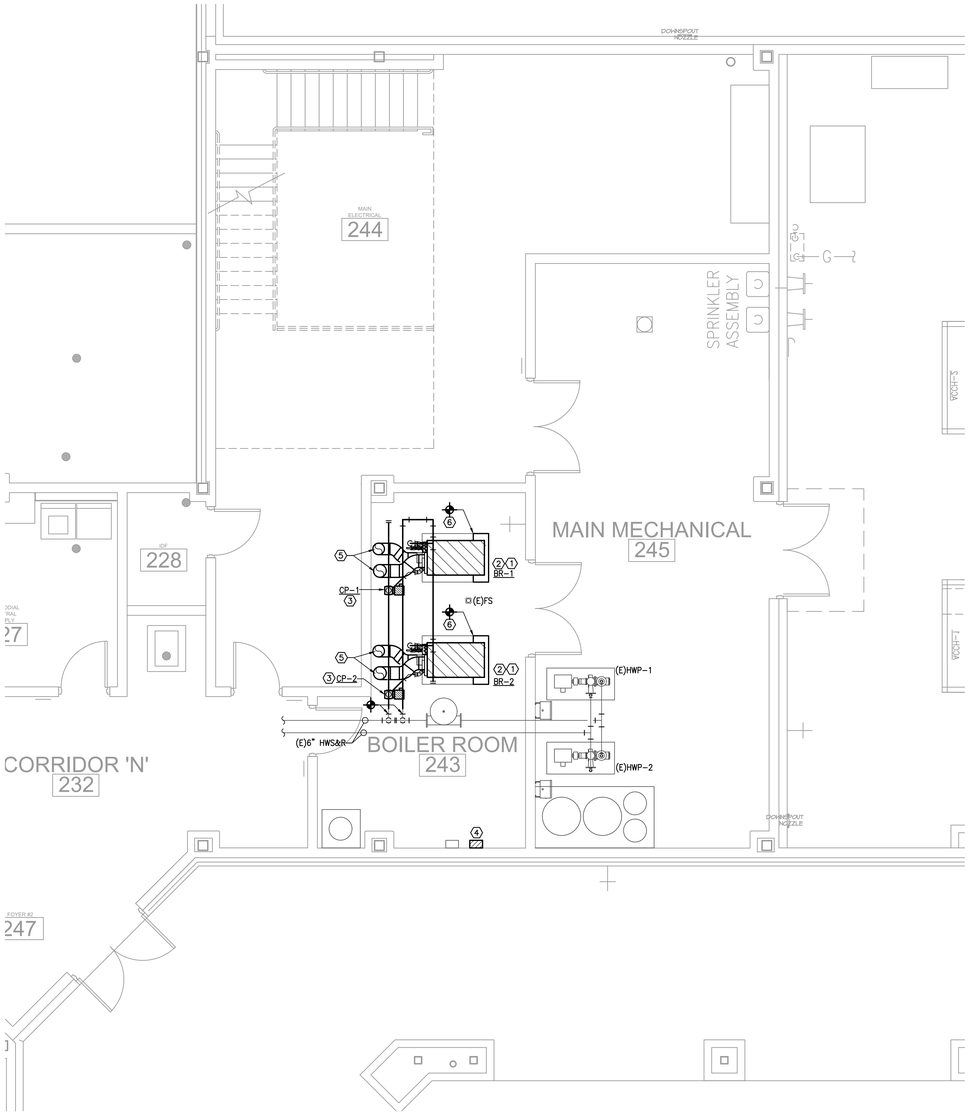
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SCHEDULED. REFER TO SPECIFICATIONS. BOILER SYSTEM TO BE SIZED BY BOILER MANUFACTURER.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. PROVIDE (CO) CARBON MONOXIDE MONITORING STATION. MOUNT ENCLOSURE AT 5'-0" AFF. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
5. PROVIDE THROUGH PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH CHAPTER 7 OF THE 2018 IBC.
6. CONCRETE EXTENSION TO EXISTING CONCRETE PAD. NOTCH OUT CONCRETE EXTENSION TO AVOID EXISTING FLOOR SINK.



NORTH

2 **MECHANICAL FLOOR PLAN - JONES-CLARK ES**
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

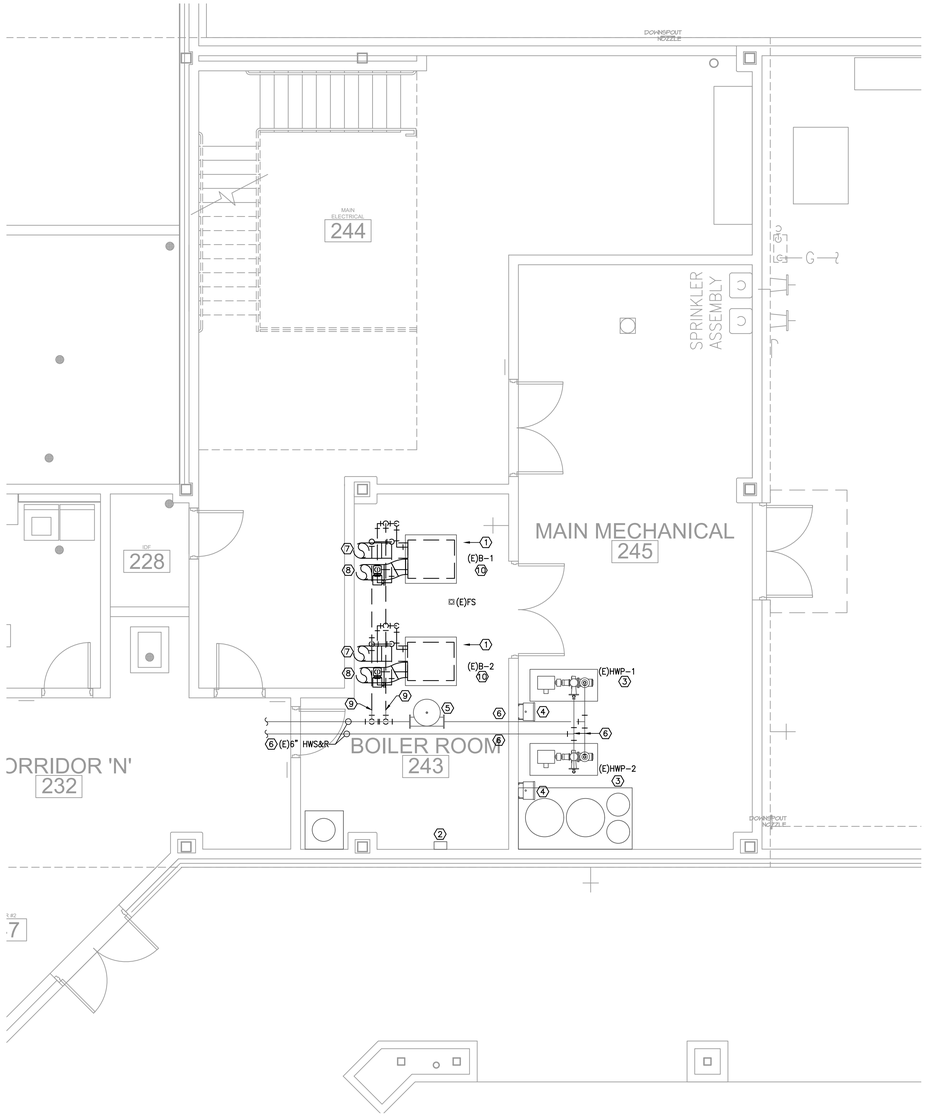
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND

RENOVATIONS	
	ITEM TO REMAIN
	ITEM TO BE REMOVED
	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING CO (CARBON MONOXIDE) MONITOR PANEL SHALL REMAIN.
3. EXISTING HOT WATER PUMP SHALL REMAIN.
4. EXISTING VFD SHALL REMAIN.
5. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
6. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
7. EXISTING FLUE VENT SHALL BE REMOVED. EXISTING FLOOR PENETRATION TO REMAIN. MODIFY FLOOR PENETRATION TO ACCOMMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
8. EXISTING COMBUSTION AIR DUCTWORK SHALL BE REMOVED. EXISTING FLOOR PENETRATION TO REMAIN.
9. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
10. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - JONES-CLARK ES**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

CONSULTANTS

MEP ENGINEERS

SALAS O'BRIEN
10930 W. SAM HOUSTON PKWY N., SUITE 900
HOUSTON, TX 77064
OFFICE: 281-664-1900
FAX: 281-664-1912

SALAS O'BRIEN | expect a difference
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BOILER UPGRADES

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MECHANICAL FLOOR PLAN - JONES-CLARK ES

M1.1

SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
(#)	NOTE SPECIFIC TO DETAIL TAG
1	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	THERMOSTAT AND TEMPERATURE SENSOR
H	HUMIDISTAT
S	SMOKE DETECTOR
HD	HEAT DETECTOR
AIR DEVICES	
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWS&R-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—CWS—	CONDENSER WATER SUPPLY
—CWR—	CONDENSER WATER RETURN
-CHWS&R-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—CHWS—	CHILLED WATER SUPPLY
—CHWR—	CHILLED WATER RETURN
-HWS&R-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—HWS—	HOT WATER FOR HYDRONIC HEATING SUPPLY
—HWR—	HOT WATER FOR HYDRONIC HEATING RETURN
—D—	CONDENSATE DRAIN LINE
—AD—	AUXILLARY CONDENSATE DRAIN LINE
—RLR—	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—RL—	REFRIGERANT LIQUID LINE
—HG—	REFRIGERANT HOT GAS LINE
—RS—	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR

PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MAXIMUM RPM	MOTOR HORSEPOWER	CURRENT	MANUFACTURER	MODEL	REMARKS
CP-1	HOT WATER	INLINE CIRCULATOR	217	20	1,800	2.0	480/3/60	BELL & GOSSETT	E-80	(1,2)
CP-2	HOT WATER	INLINE CIRCULATOR	217	20	1,800	2.0	480/3/60	BELL & GOSSETT	E-80	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

BOILER - FORCED AIR

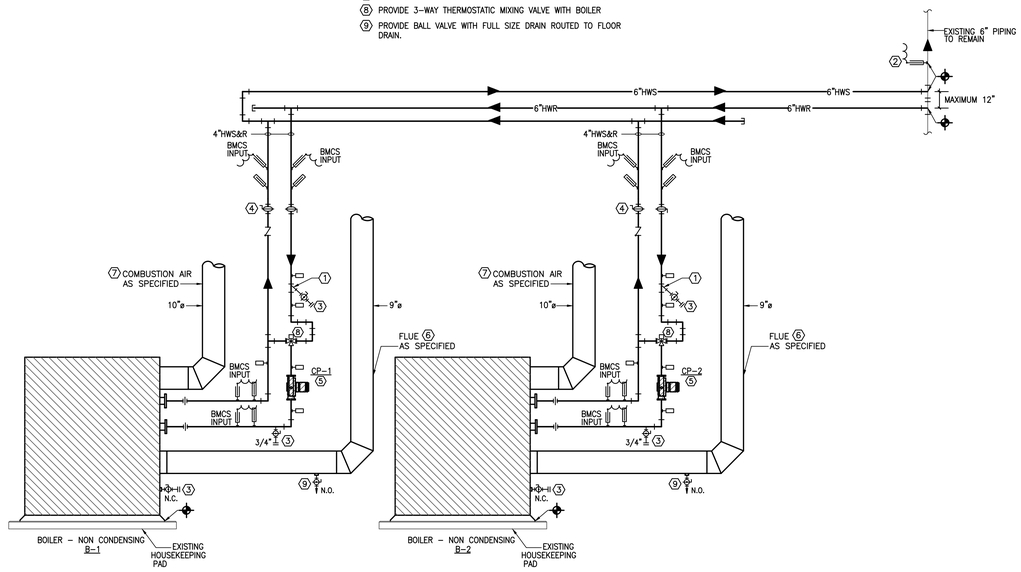
MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL		MANUFACTURER	MODEL	REMARKS
							BLOWER HORSEPOWER	CURRENT CHARAC. (V/PH/Hz)			
BR-1	HOT WATER SYSTEM	2,500	2,175	10	217	9	1	208/1/60	LOCHINVAR	POWER FIN PB-2500	(1,2)
BR-2	HOT WATER SYSTEM	2,500	2,175	10	217	9	1	208/1/60	LOCHINVAR	POWER FIN PB-2500	(1,2)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

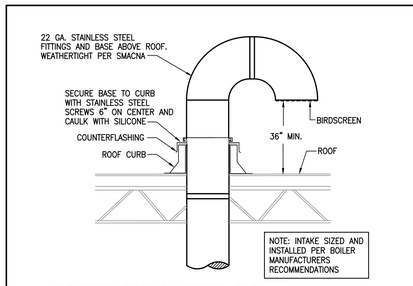
REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.

MECHANICAL HOT WATER KEYED NOTES:

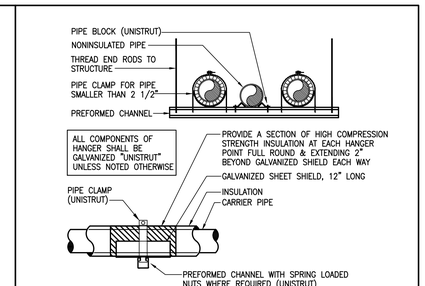
1. PROVIDE INLINE STRAINER.
2. HEADER TEMPERATURE SENSOR. PROVIDED BY BOILER MANUFACTURER.
3. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE UNLESS OTHERWISE NOTED.
4. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE.
5. CIRCULATING PUMP SIZED AND PROVIDED BY BOILER MANUFACTURER.
6. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER.
7. PROVIDE POWER COMBUSTION AIR INTAKE. REFER TO DETAIL.
8. PROVIDE 3-WAY THERMOSTATIC MIXING VALVE WITH BOILER
9. PROVIDE BALL VALVE WITH FULL SIZE DRAIN ROUTED TO FLOOR DRAIN.



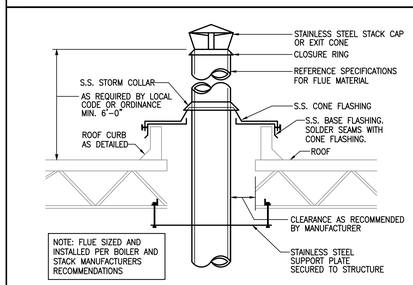
5 **HOT WATER PIPING DIAGRAM**
SCALE: NO SCALE



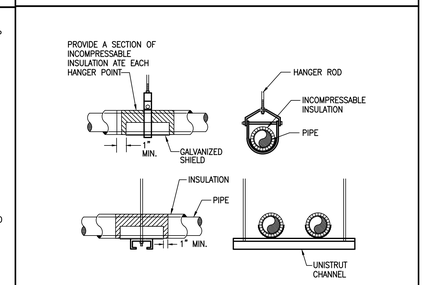
4 **POWER EXHAUSTED BOILER COMBUSTION AIR INTAKE THRU ROOF**
SCALE: NONE



2 **MULTI-PIPE TRAPEZE HANGER**
SCALE: NONE
PS001



3 **POWER EXHAUSTED BOILER FLUE THRU ROOF**
SCALE: NONE



1 **PIPE HANGERS**
SCALE: NONE
PS002

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BISD Preparing Our Next Generation

BRADLEY KALMANS 80219 LICENSED MECHANICAL ENGINEER
04-06-2023

MECHANICAL DETAILS - JONES-CLARK ES

M2.1

ELECTRICAL GENERAL NOTES:

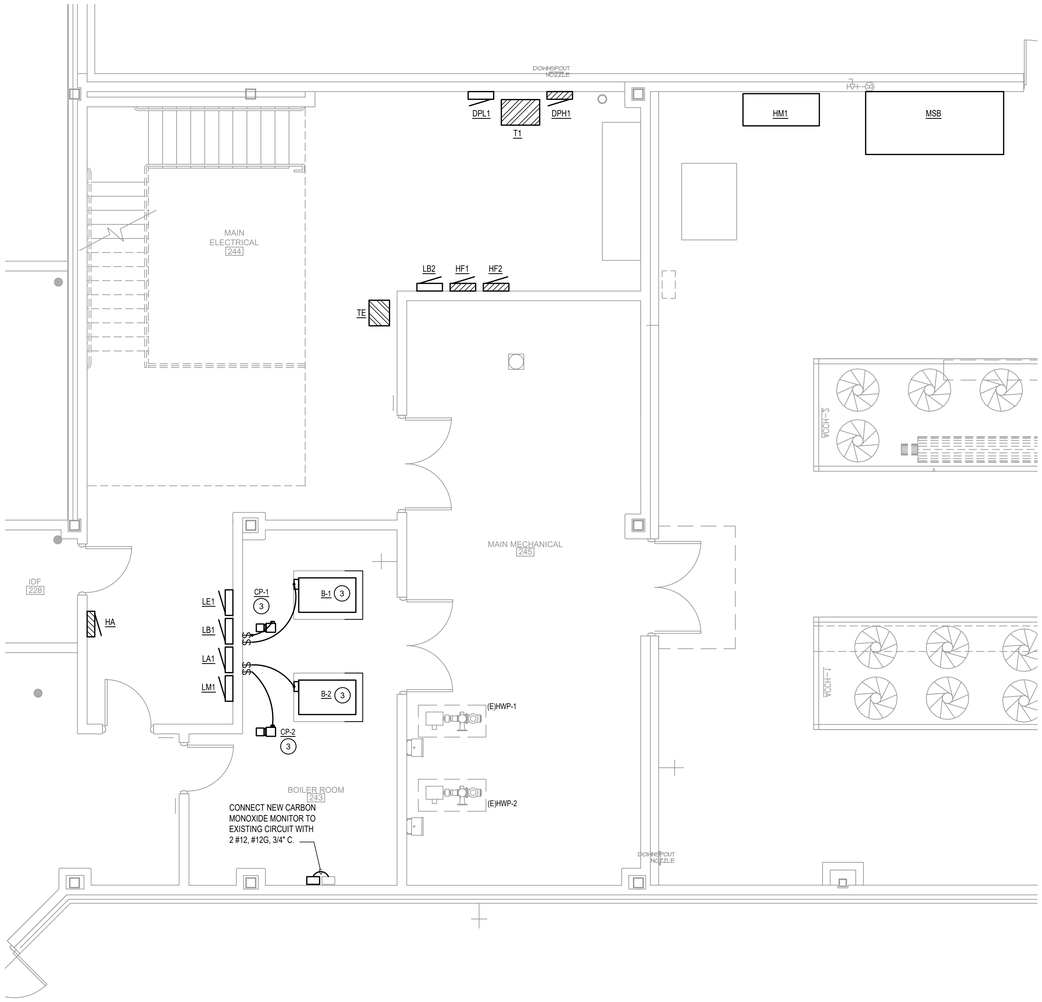
1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

ELECTRICAL KEYED NOTES:

1. DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.
2. NOT USED
3. CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

LINETYPE LEGEND

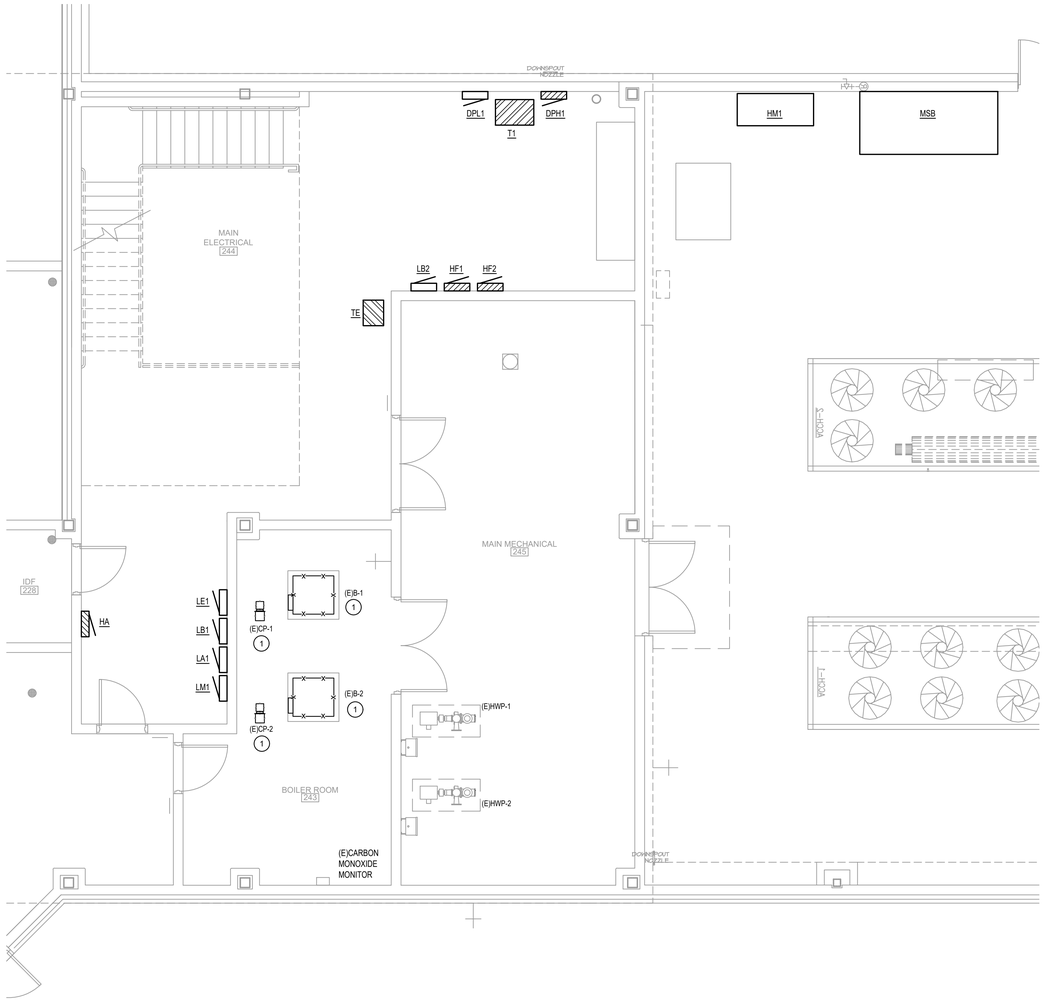
DISCONNECT AND REMOVE	—x—x—x—
EXISTING TO REMAIN	— — — —
NEW WORK	———



NORTH

2 ELECTRICAL FLOOR PLAN - JONES-CLARK ES

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



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - JONES-CLARK ES

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

Project No: 2022-04652-00

Drawn By: AW

Checked By: JZ

Date: 04-06-2023

Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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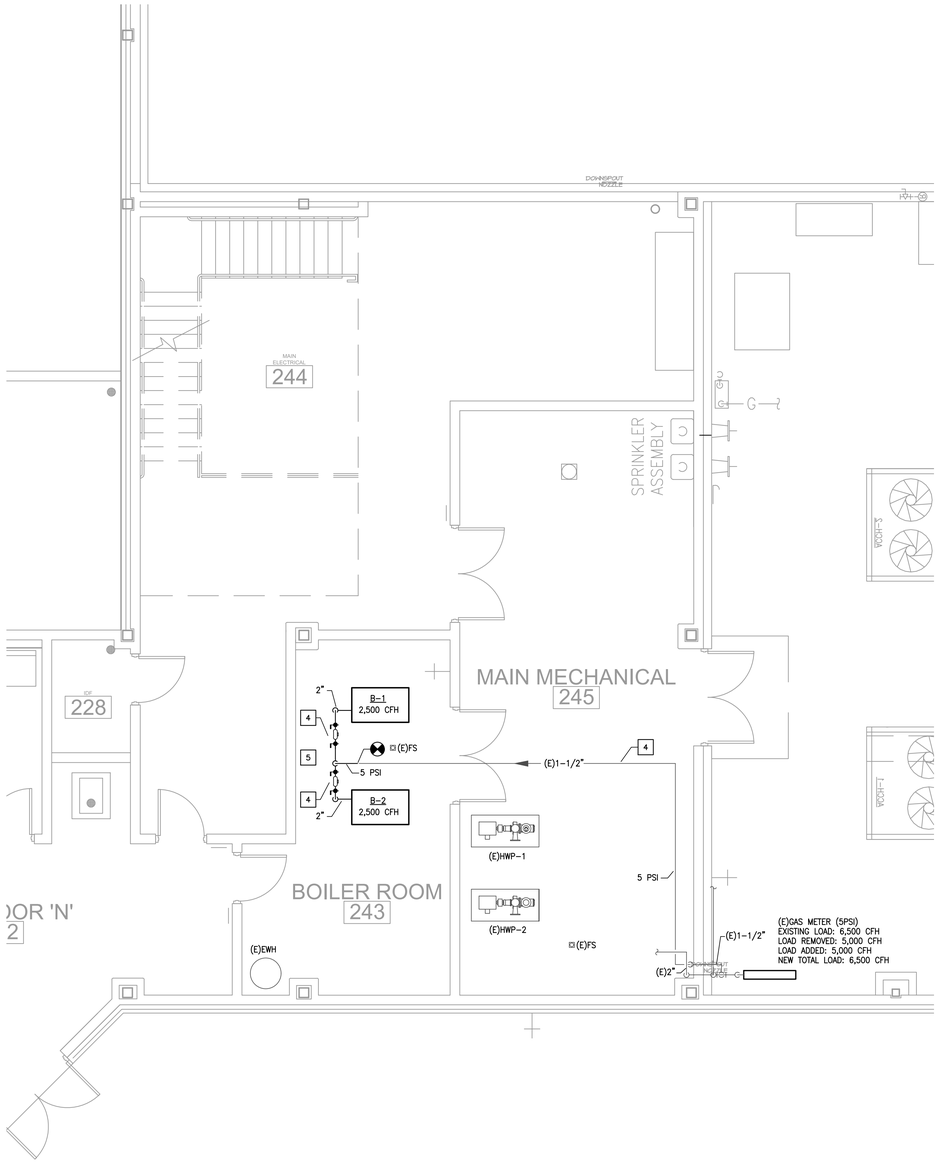
04-06-2023

ELECTRICAL FLOOR PLANS - JONES-CLARK ES

E1.1

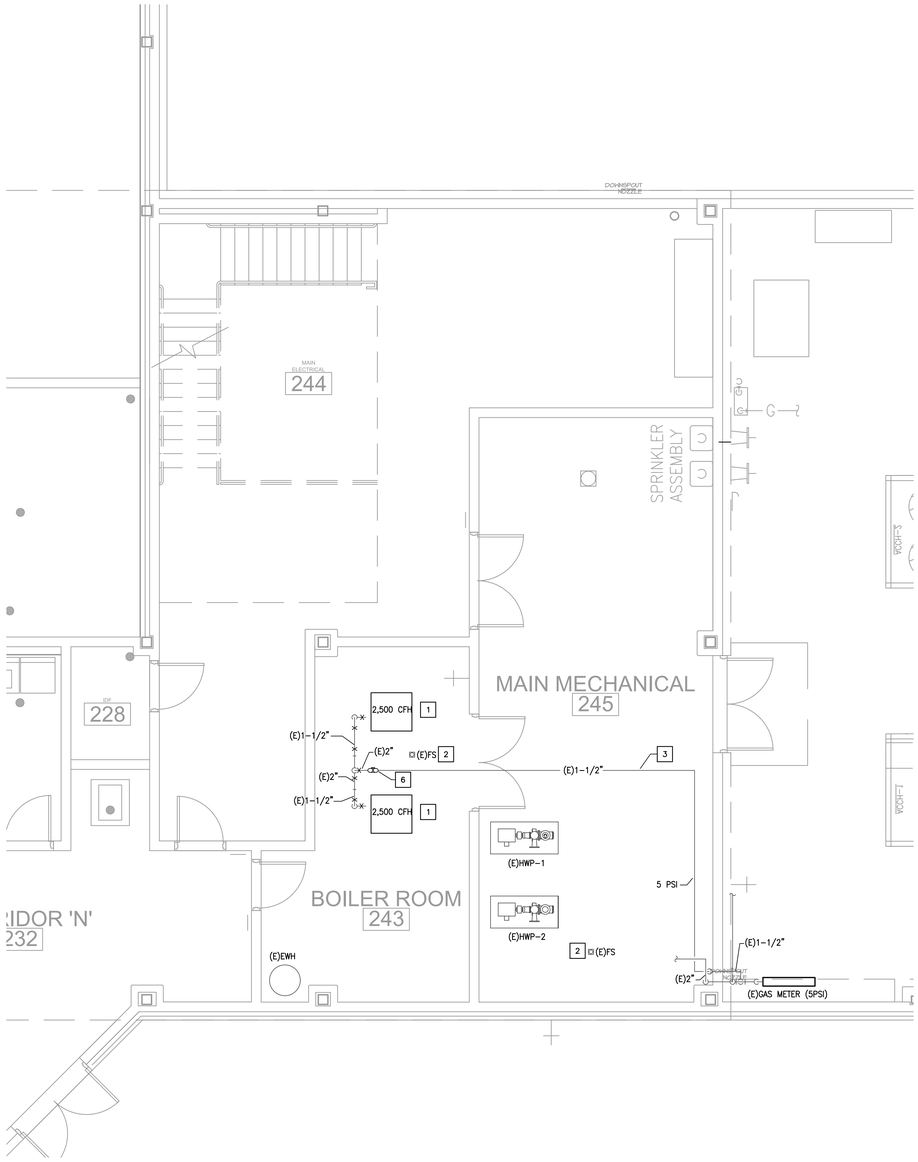
PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED AND REPLACED. REMOVE GAS PIPING SERVING BOILER BACK TO EXISTING PRESSURE REGULATOR. DISCONNECT VENT PIPING SERVING PRESSURE REGULATOR. PREPARE FOR CONNECTION OF NEW GAS PIPING. PRESSURE REGULATOR TO BE REMOVED.
2. EXISTING FLOOR DRAIN TO REMAIN.
3. EXISTING GAS PIPING TO REMAIN.
4. 1-1/2" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (2,500 CFH). 2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER. CONNECT EXISTING VENT PIPING TO NEW PRESSURE REGULATOR/ROUTE TO EXTERIOR WALL.
5. REFER TO P2.1 FOR RISER DIAGRAM.
6. REMOVE GAS PIPING BACK TO THIS POINT.



NORTH

2 PLUMBING FLOOR PLAN - JONES-CLARK ES
SCALE: 1/4" = 1'-0"



NORTH

1 PLUMBING DEMOLITION FLOOR PLAN - JONES-CLARK ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: BR
Checked By: EH
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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

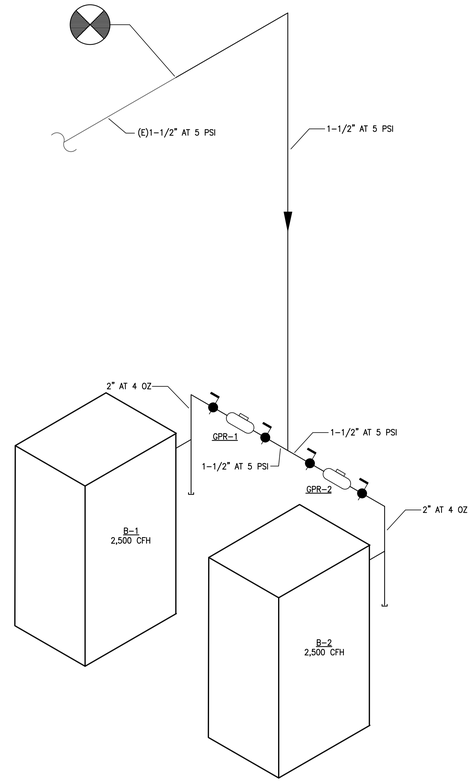
BEAUMONT INDEPENDENT SCHOOL DISTRICT

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80219
LICENSED
PROFESSIONAL
ENGINEER
04-06-2023

PLUMBING FLOOR PLANS - JONES-CLARK ES

P1.1



1 **GAS RISER DIAGRAM**
SCALE: NA

GAS EQUIPMENT

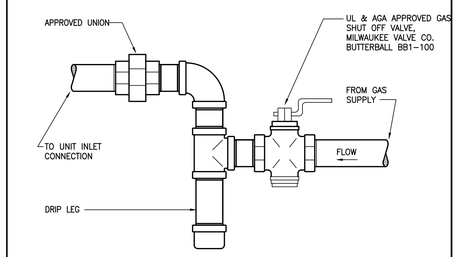
EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	2,500,000 BTUH	2,500,000 BTUH	2,500 CFH
B-2	NEW BOILER	2,500,000 BTUH	2,500,000 BTUH	2,500 CFH
TOTALS:			5,000,000 BTUH	5,000 CFH

INLET PRESSURE MAX 14 W.C. MIN 4 W.C. INLET CONNECTION 2".

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER RM 243	B-1	2,500	5 PSI - INLET 4 OZ. - OUTLET
GPR-2	GAS PRESSURE REGULATOR	BOILER RM 243	B-2	2,500	5 PSI - INLET 4 OZ. - OUTLET

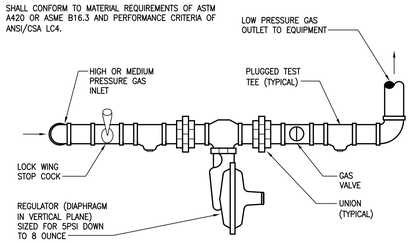
GENERAL NOTES:
1. MAINTAIN MINUMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.



2 **GAS CONNECTION**
SCALE: NONE

PROVIDE AMERICAN METER COMPANY REGULATORS OR APPROVED EQUAL, SUITABLE FOR OUTDOOR INSTALLATION. REGULATORS OUTSIDE EXPOSED TO WEATHER SHALL BE INSTALLED WITH VENT IN VERTICAL DOWN POSITION.

SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA OF ANSI/CSA LC4.



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

1 **GAS PRESSURE REGULATOR INSTALLATION**
SCALE: NONE

Project No: 2022-04652-00
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Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

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PROFESSIONAL ENGINEER
04-06-2023

PLUMBING DETAILS - JONES-CLARK ES

P2.1

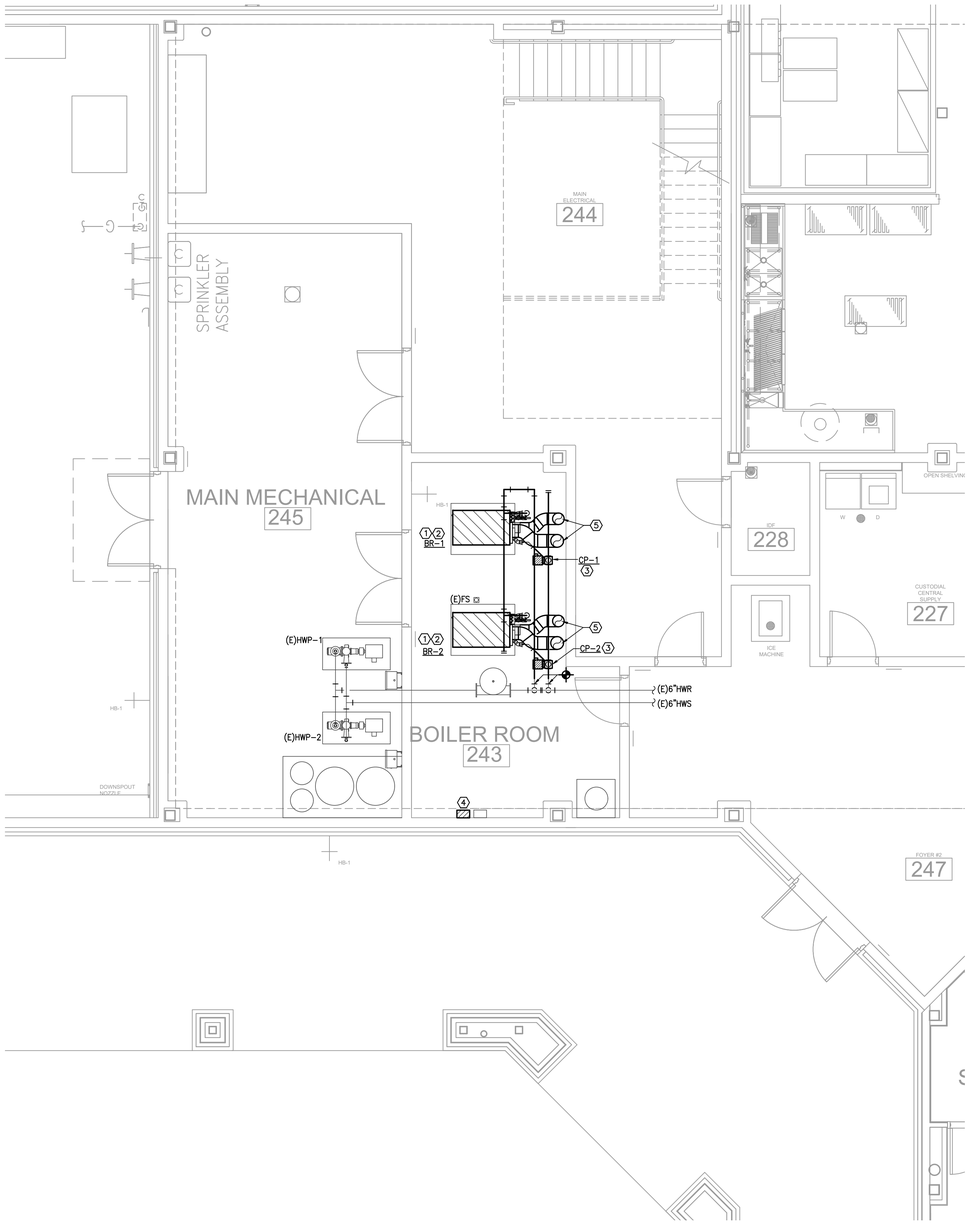
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SCHEDULED. REFER TO SPECIFICATIONS. BOILER SYSTEM TO BE SIZED BY BOILER MANUFACTURER.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. PROVIDE CARBON MONOXIDE MONITORING STATION. MOUNT ENCLOSURE AT 5'-0" AFF. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
5. PROVIDE THROUGH PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH CHAPTER 7 OF THE 2018 IBC.



NORTH

2 **MECHANICAL FLOOR PLAN - FEHL-PRICE CLASSICAL ACADEMY**
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND	
RENOVATIONS	
▭	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED
✦	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING CO (CARBON MONOXIDE) MONITOR PANEL SHALL REMAIN.
3. EXISTING HOT WATER PUMP SHALL REMAIN.
4. EXISTING VFD SHALL REMAIN.
5. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
6. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
7. EXISTING FLUE VENT SHALL BE REMOVED. EXISTING FLOOR PENETRATION TO REMAIN.
8. EXISTING COMBUSTION AIR DUCTWORK SHALL BE REMOVED. EXISTING FLOOR PENETRATION TO REMAIN.
9. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
10. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - FEHL-PRICE CLASSICAL ACADEMY**
SCALE: 1/4" = 1'-0"

Project No:	2022-04652-00
Drawn By:	MR
Checked By:	VP
Date:	04-06-2023
Revision Dates:	

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

BISD Preparing Our Next Generation

BRADLEY KALMANS
80219
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PROFESSIONAL ENGINEER
STATE OF TEXAS
04-06-2023

MECHANICAL FLOOR PLANS - FEHL-PRICE CLASSICAL ACADEMY

M1.1

SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
(#)	NOTE SPECIFIC TO DETAIL TAG
	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
(T)	THERMOSTAT AND TEMPERATURE SENSOR
(H)	HUMIDISTAT
(S)	SMOKE DETECTOR
(HD)	HEAT DETECTOR
AIR DEVICES	
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWS&R-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—CWS—	CONDENSER WATER SUPPLY
—CWR—	CONDENSER WATER RETURN
-CHWS&R-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—CHWS—	CHILLED WATER SUPPLY
—CHWR—	CHILLED WATER RETURN
-HWS&R-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—HWS—	HOT WATER FOR HYDRONIC HEATING SUPPLY
—HWR—	HOT WATER FOR HYDRONIC HEATING RETURN
—D—	CONDENSATE DRAIN LINE
—AD—	AUXILLARY CONDENSATE DRAIN LINE
—RLR—	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—RL—	REFRIGERANT LIQUID LINE
—HG—	REFRIGERANT HOT GAS LINE
—RS—	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
	GAUGE COCK
	SITE GLASS
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PUMP SCHEDULE

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1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

BOILER - FORCED AIR

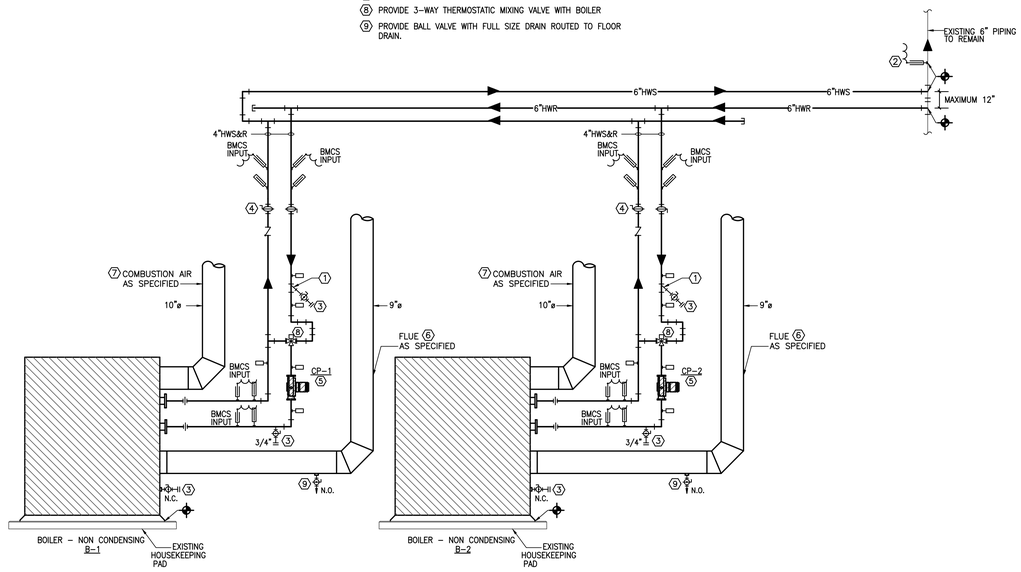
MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL: BLOWER HORSEPOWER	ELECTRICAL: CURRENT CHARAC. (V/PH/Hz)	MANUFACTURER	MODEL	REMARKS
BR-1	HOT WATER SYSTEM	2,500	2,175	10	217	9	1	208/1/60	LOCHINVAR	POWER FIN PB-2500	(1,2)
BR-2	HOT WATER SYSTEM	2,500	2,175	10	217	9	1	208/1/60	LOCHINVAR	POWER FIN PB-2500	(1,2)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

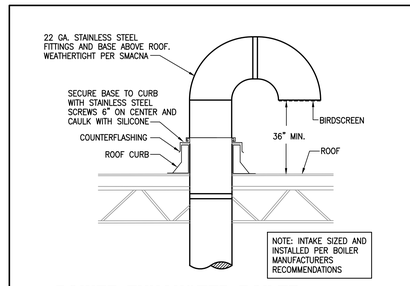
REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.

MECHANICAL HOT WATER KEYED NOTES:

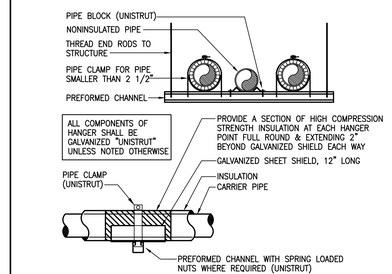
1. PROVIDE INLINE STRAINER.
2. HEADER TEMPERATURE SENSOR. PROVIDED BY BOILER MANUFACTURER.
3. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE UNLESS OTHERWISE NOTED.
4. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE.
5. CIRCULATING PUMP SIZED AND PROVIDED BY BOILER MANUFACTURER.
6. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER.
7. PROVIDE POWER COMBUSTION AIR INTAKE. REFER TO DETAIL.
8. PROVIDE 3-WAY THERMOSTATIC MIXING VALVE WITH BOILER
9. PROVIDE BALL VALVE WITH FULL SIZE DRAIN ROUTED TO FLOOR DRAIN.



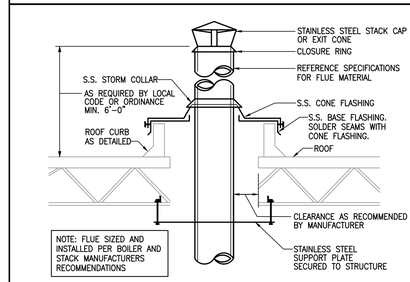
5 **HOT WATER PIPING DIAGRAM**
SCALE: NO SCALE



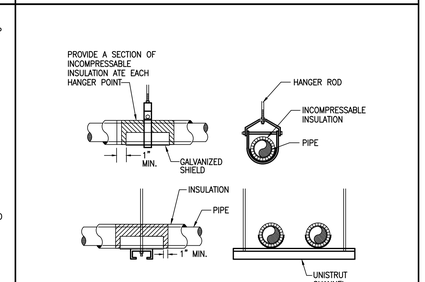
4 **POWER EXHAUSTED BOILER COMBUSTION AIR INTAKE THRU ROOF**
SCALE: NONE



2 **MULTI-PIPE TRAPEZE HANGER**
SCALE: NONE
PS001



3 **POWER EXHAUSTED BOILER FLUE THRU ROOF**
SCALE: NONE



1 **PIPE HANGERS**
SCALE: NONE
PS002

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BISD Preparing Our Next Generation

BRADLEY KALMANS 80219 LICENSED PROFESSIONAL ENGINEER
04-06-2023

MECHANICAL DETAILS - FEHL-PRICE CLASSICAL ACADEMY

M2.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

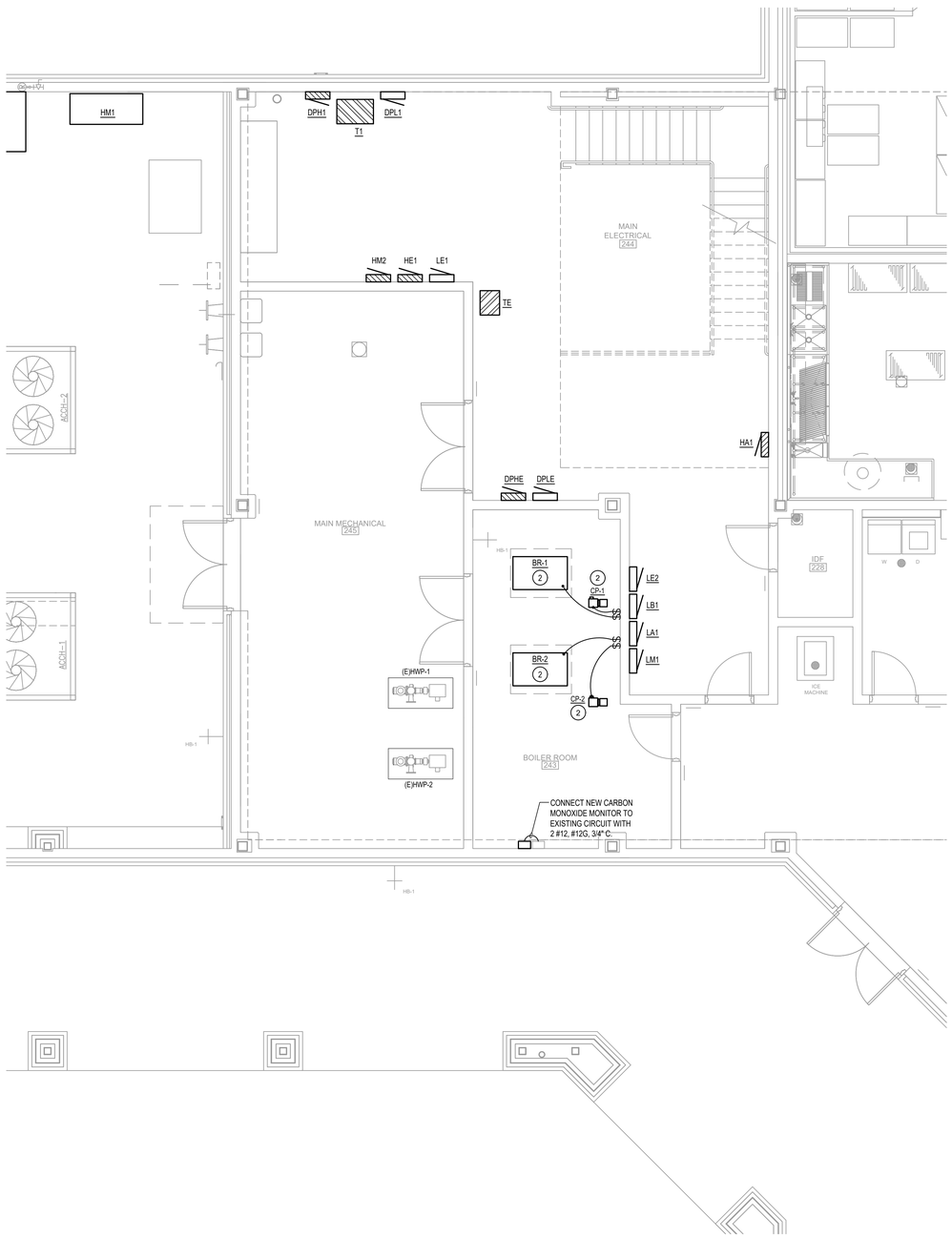
ELECTRICAL KEYED NOTES:

(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

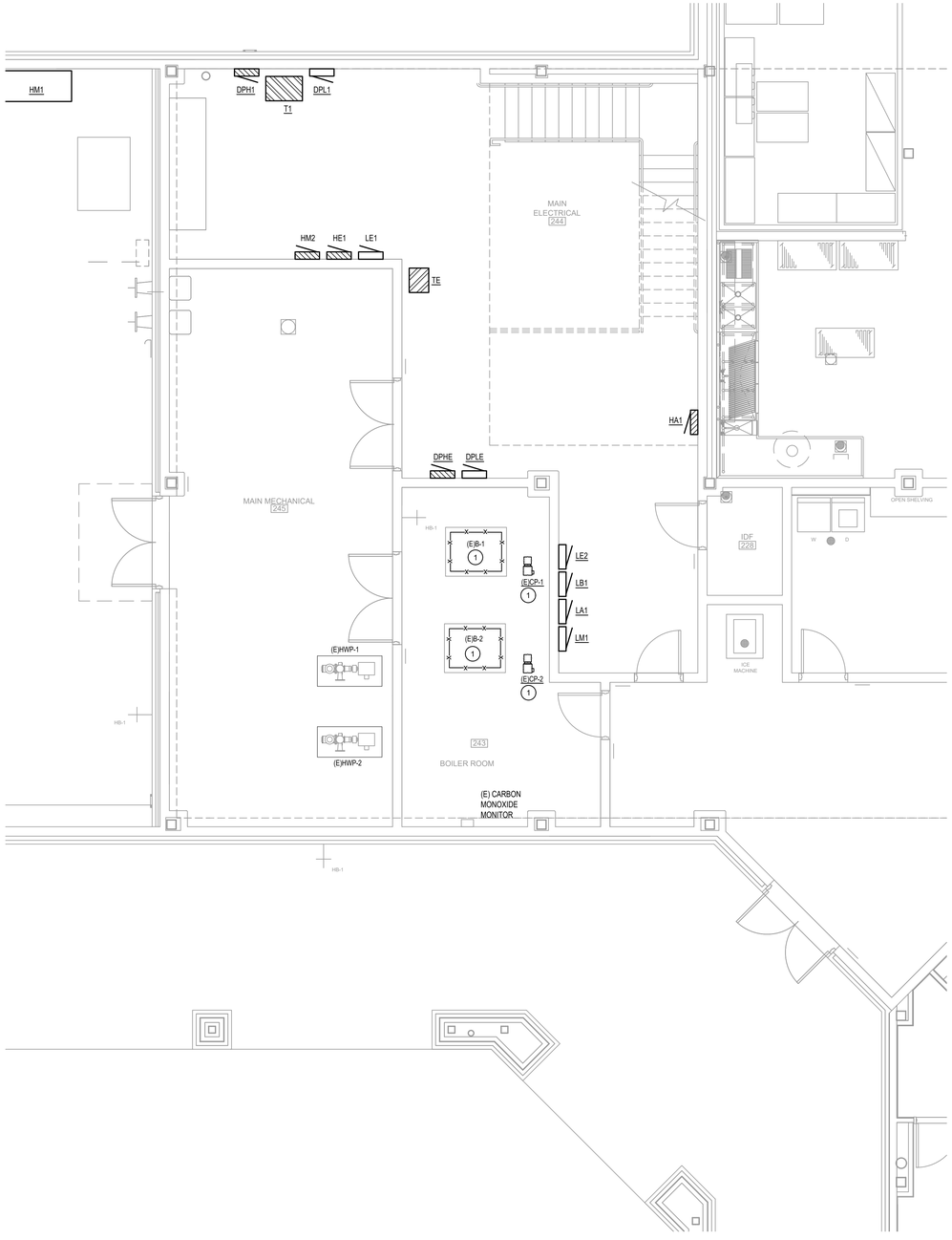
LINETYPE LEGEND

DISCONNECT AND REMOVE	—x—x—x—
EXISTING TO REMAIN	— — — —
NEW WORK	———



NORTH

2 ELECTRICAL FLOOR PLAN - FEHL-PRICE CLASSICAL ACADEMY
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - FEHL-PRICE CLASSICAL ACADEMY
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: AW
Checked By: JZ
Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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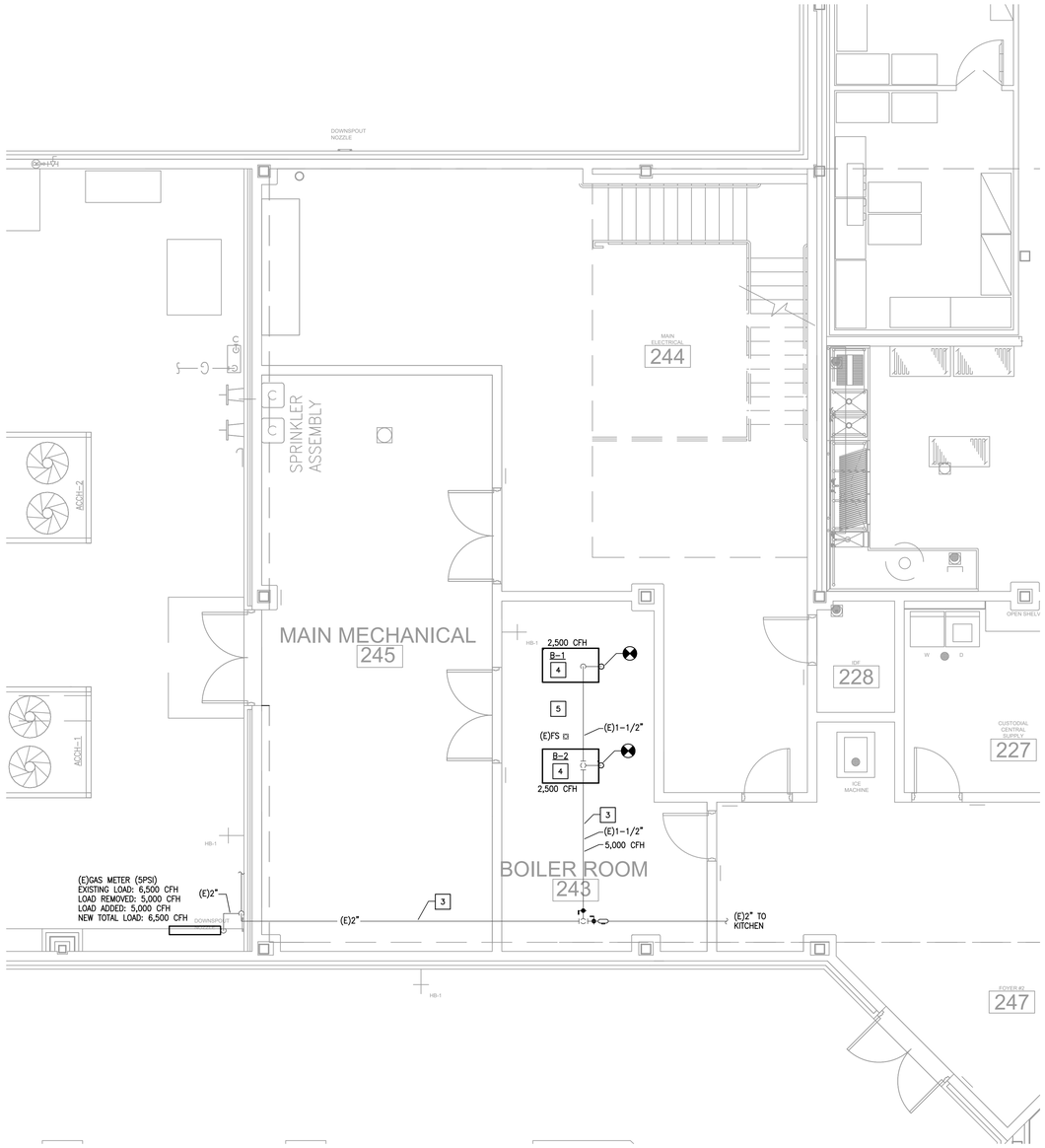
STATE OF TEXAS
BRADLEY KALMANS
80219
LICENSED PROFESSIONAL ENGINEER
04-06-2023

ELECTRICAL FLOOR PLANS - FEHL-PRICE CLASSICAL ACADEMY

E1.1

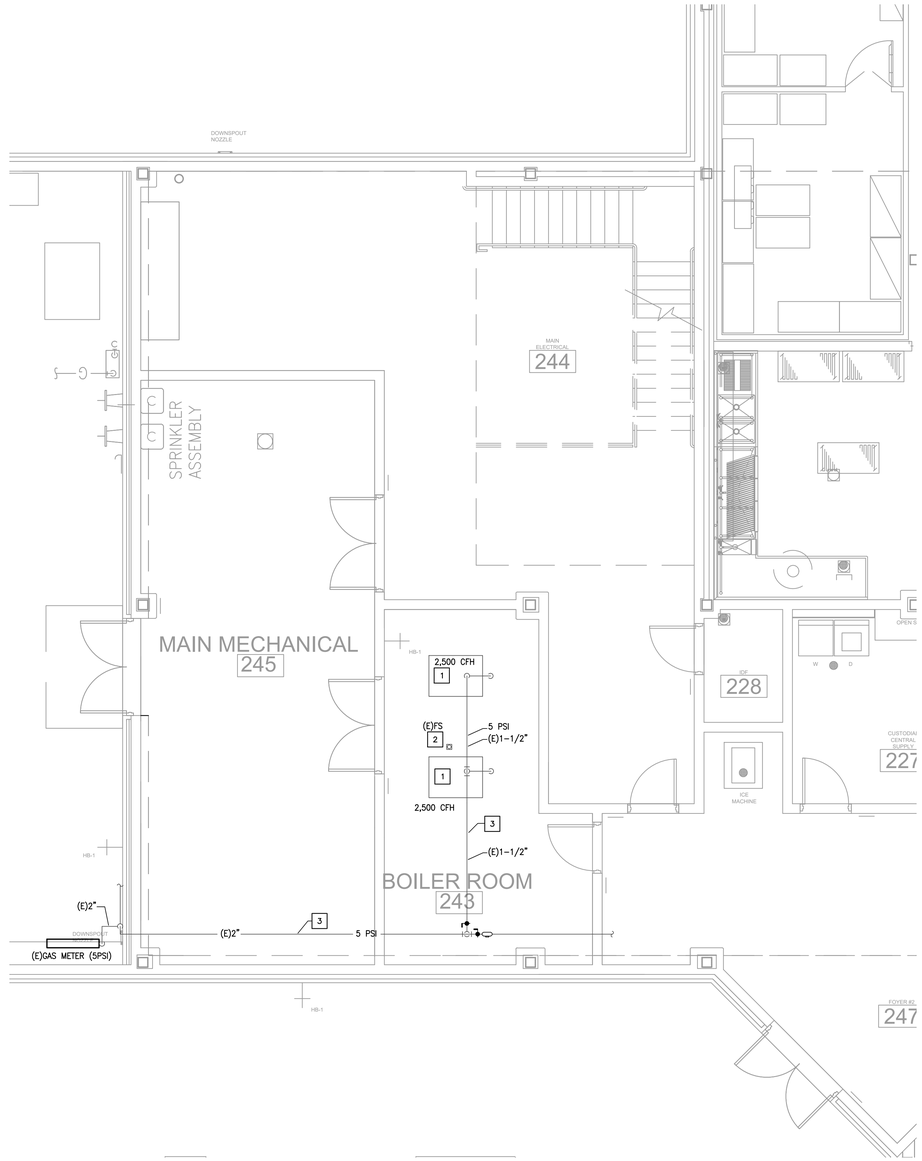
PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED AND REPLACED. REMOVE GAS PIPING SERVING BOILER BACK TO FIRST ELBOW AFTER EXISTING PRESSURE REGULATOR. PREPARE FOR CONNECTION OF NEW GAS PIPING. PRESSURE REGULATOR TO BE REMOVED.
2. EXISTING FLOOR DRAIN TO REMAIN.
3. EXISTING GAS PIPING TO REMAIN.
4. 1-1/2" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (2,500 CFH). 2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER. ROUTE VENT PIPING FROM PRESSURE REGULATORS TO EXTERIOR WALL.
5. REFER TO P2.1 FOR RISER DIAGRAM.



NORTH

2 PLUMBING FLOOR PLAN - FEHL-PRICE CLASSICAL ACADEMY
SCALE: 1/4" = 1'-0"



NORTH

1 PLUMBING DEMOLITION FLOOR PLAN - FEHL-PRICE CLASSICAL ACADEMY
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00

Drawn By: BR

Checked By: EH

Date: 04-06-2023

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

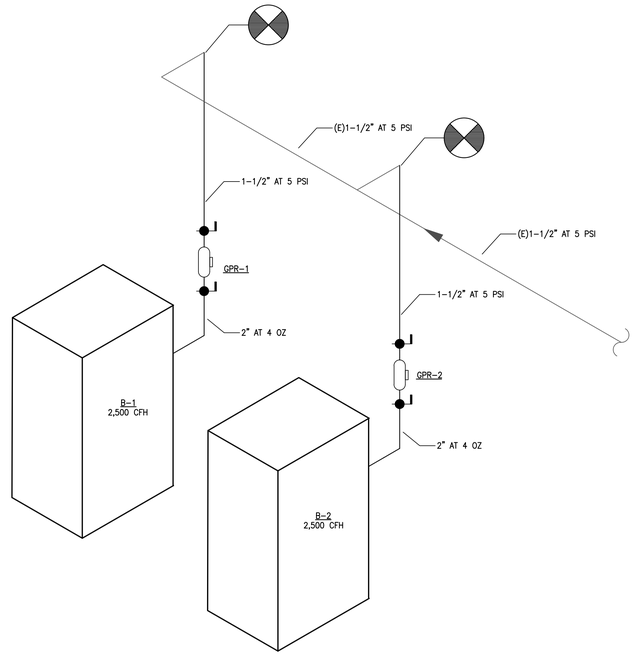
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04-06-2023

PLUMBING FLOOR PLANS - FEHL-PRICE CLASSICAL ACADEMY

P1.1



1 **GAS RISER DIAGRAM**
SCALE: NA

GAS EQUIPMENT

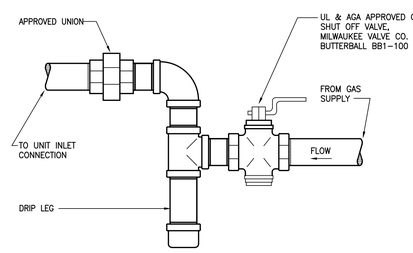
EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	2,500,000 BTUH	2,500,000 BTUH	2,500 CFH
B-2	NEW BOILER	2,500,000 BTUH	2,500,000 BTUH	2,500 CFH
TOTALS:			5,000,000 BTUH	5,000 CFH

INLET PRESSURE MAX 14 W.C. MIN 4 W.C. INLET CONNECTION 2".

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER RM 243	B-1	2,500	5 PSI - INLET 4 OZ. - OUTLET
GPR-2	GAS PRESSURE REGULATOR	BOILER RM 243	B-2	2,500	5 PSI - INLET 4 OZ. - OUTLET

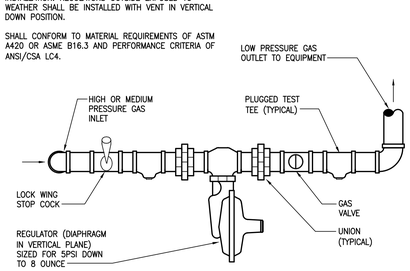
GENERAL NOTES:
1. MAINTAIN MINUMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.



2 **GAS CONNECTION**
SCALE: NONE

PROVIDE AMERICAN METER COMPANY REGULATORS OR APPROVED EQUAL, SUITABLE FOR OUTDOOR INSTALLATION. REGULATORS OUTSIDE EXPOSED TO WEATHER SHALL BE INSTALLED WITH VENT IN VERTICAL DOWN POSITION.

SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA OF ANSI/CSA LC4.



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

1 **GAS PRESSURE REGULATOR INSTALLATION**
SCALE: NONE

Project No: 2022-04652-00
Drawn By: BR
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Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BISD Preparing Our Next Generation

BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL
ENGINEER
04-06-2023

PLUMBING DETAILS - FEHL-PRICE CLASSICAL ACADEMY

P2.1

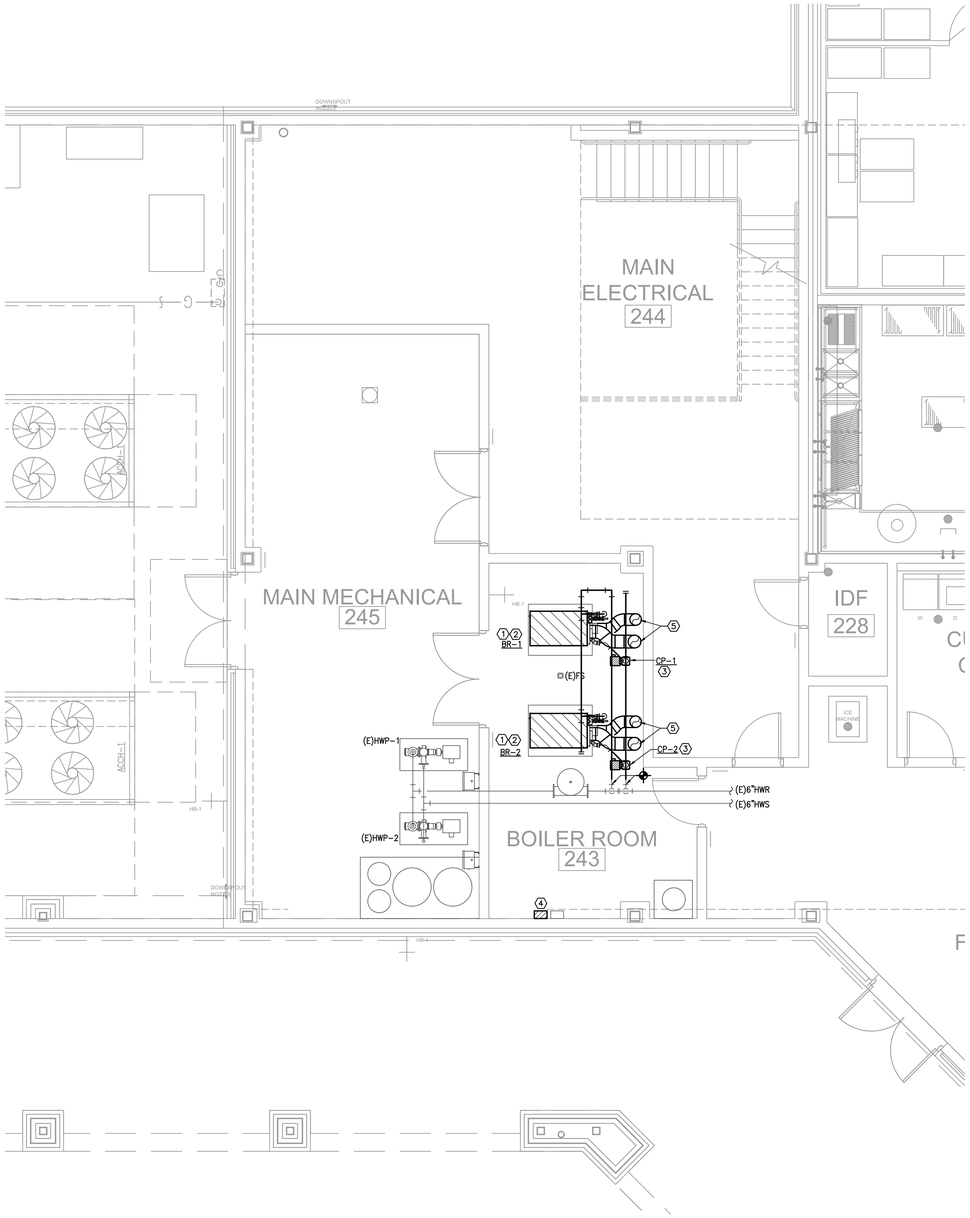
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR. INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SCHEDULED. REFER TO SPECIFICATIONS. BOILER SYSTEM TO BE SIZED BY BOILER MANUFACTURER.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. PROVIDE CARBON MONOXIDE MONITORING STATION. MOUNT ENCLOSURE AT 5'-0" AFF. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
5. PROVIDE THROUGH PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH CHAPTER 7 OF THE 2018 IBC.



NORTH

2 **MECHANICAL FLOOR PLAN - CHARLTON-POLLARD ES**
SCALE: 1/4" = 1'-0"

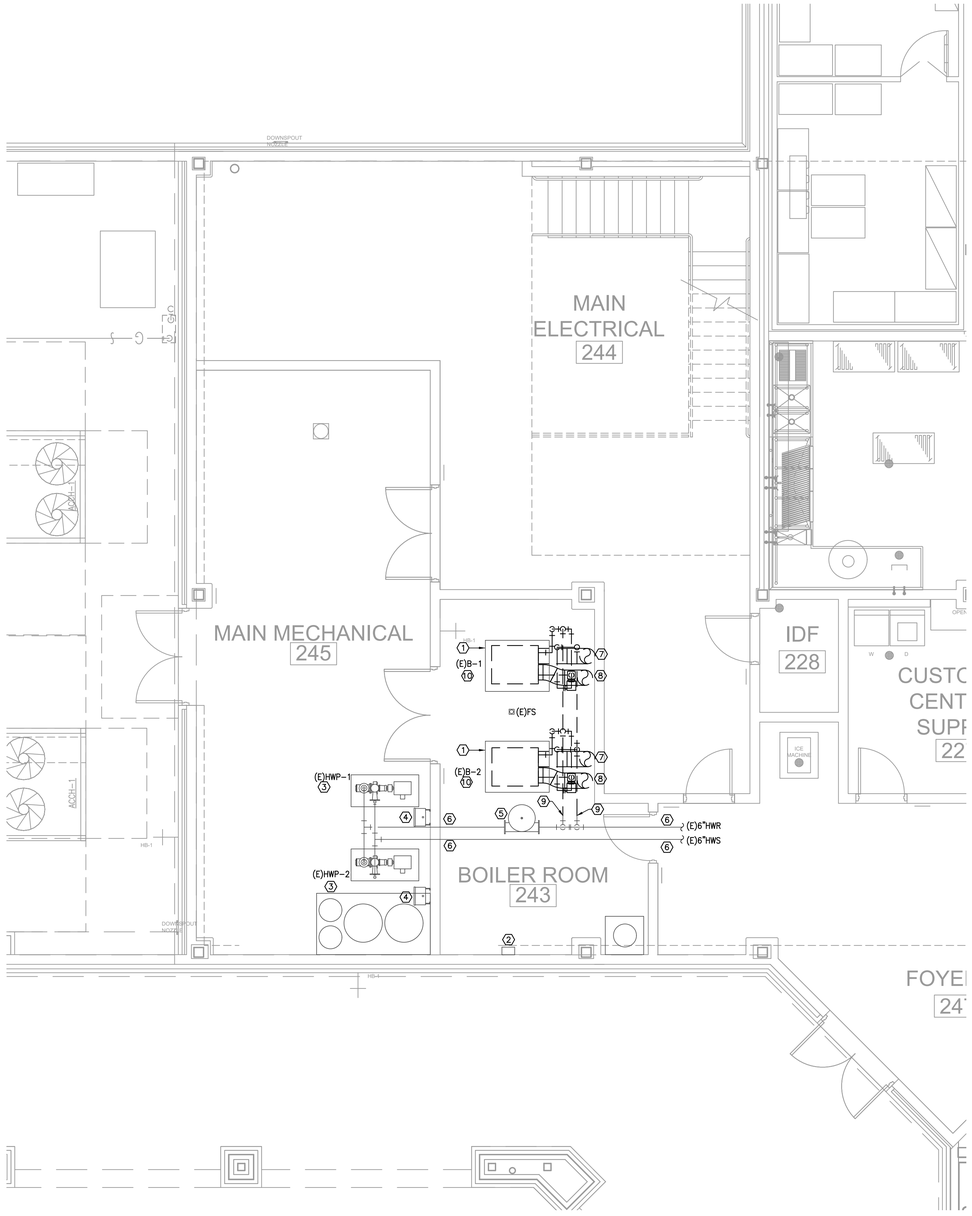
GENERAL DEMOLITION NOTES:

1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND	
RENOVATIONS	
	ITEM TO REMAIN
	ITEM TO BE REMOVED
	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING CO (CARBON MONOXIDE) MONITOR PANEL SHALL REMAIN.
3. EXISTING HOT WATER PUMP SHALL REMAIN.
4. EXISTING VFD SHALL REMAIN.
5. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
6. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
7. EXISTING FLUE VENT SHALL BE REMOVED. EXISTING FLOOR PENETRATION TO REMAIN.
8. EXISTING COMBUSTION AIR DUCTWORK SHALL BE REMOVED. EXISTING FLOOR PENETRATION TO REMAIN.
9. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
10. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - CHARLTON-POLLARD ES**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

CONSULTANTS

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BISD Preparing Our Next Generation

BRADLEY KALMANS
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PROFESSIONAL ENGINEER
STATE OF TEXAS
04-06-2023

MECHANICAL FLOOR PLANS - CHARLTON-POLLARD ES

M1.1

SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
(#)	NOTE SPECIFIC TO DETAIL TAG
1	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	THERMOSTAT AND TEMPERATURE SENSOR
H	HUMIDISTAT
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
AIR DEVICES	
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWS&R-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—CWS—	CONDENSER WATER SUPPLY
—CWR—	CONDENSER WATER RETURN
-CHWS&R-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—CHWS—	CHILLED WATER SUPPLY
—CHWR—	CHILLED WATER RETURN
-HWS&R-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—HWS—	HOT WATER FOR HYDRONIC HEATING SUPPLY
—HWR—	HOT WATER FOR HYDRONIC HEATING RETURN
—D—	CONDENSATE DRAIN LINE
—AD—	AUXILLARY CONDENSATE DRAIN LINE
—RLR—	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—RL—	REFRIGERANT LIQUID LINE
—HG—	REFRIGERANT HOT GAS LINE
—RS—	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
FS	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR

PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MAXIMUM RPM	MOTOR HORSEPOWER	CURRENT	MANUFACTURER	MODEL	REMARKS
CP-1	HOT WATER	INLINE CIRCULATOR	217	20	1,800	2.0	480/3/60	BELL & GOSSETT	E-80	(1,2)
CP-2	HOT WATER	INLINE CIRCULATOR	217	20	1,800	2.0	480/3/60	BELL & GOSSETT	E-80	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

BOILER - FORCED AIR

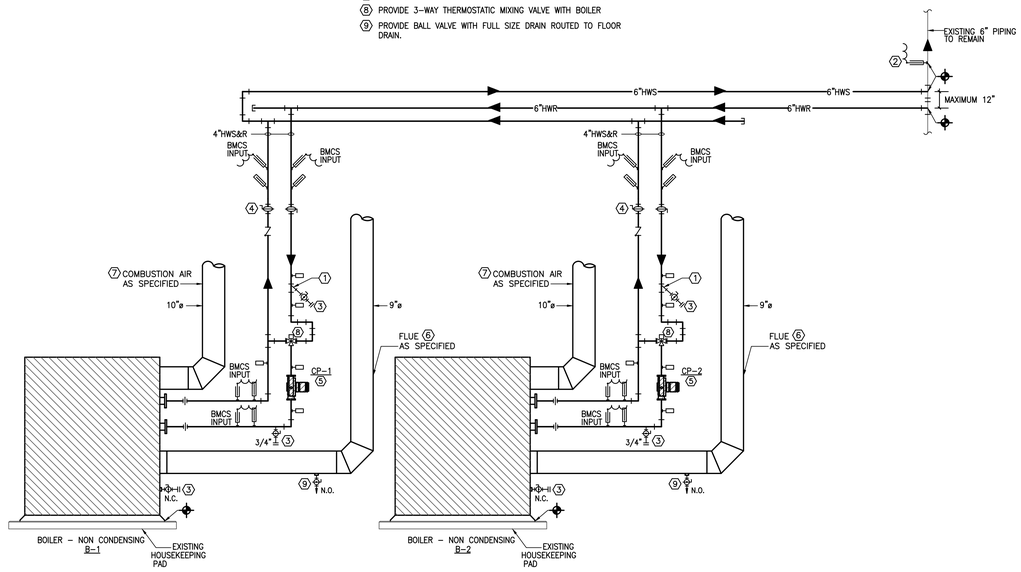
MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL: BLOWER HORSEPOWER	ELECTRICAL: CURRENT CHARAC. (V/PH/Hz)	MANUFACTURER	MODEL	REMARKS
BR-1	HOT WATER SYSTEM	2,500	2,175	10	217	9	1	208/1/60	LOCHINVAR	POWER FIN PB-2500	(1,2)
BR-2	HOT WATER SYSTEM	2,500	2,175	10	217	9	1	208/1/60	LOCHINVAR	POWER FIN PB-2500	(1,2)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

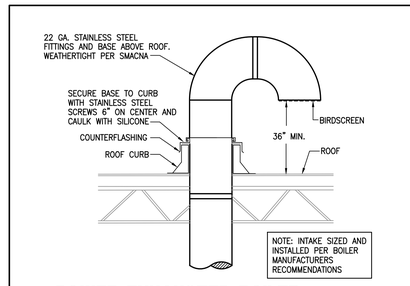
REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.

MECHANICAL HOT WATER KEYED NOTES:

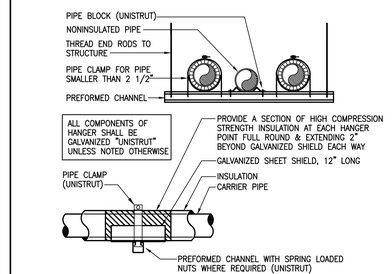
1. PROVIDE INLINE STRAINER.
2. HEADER TEMPERATURE SENSOR. PROVIDED BY BOILER MANUFACTURER.
3. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE UNLESS OTHERWISE NOTED.
4. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE.
5. CIRCULATING PUMP SIZED AND PROVIDED BY BOILER MANUFACTURER.
6. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER.
7. PROVIDE POWER COMBUSTION AIR INTAKE. REFER TO DETAIL.
8. PROVIDE 3-WAY THERMOSTATIC MIXING VALVE WITH BOILER
9. PROVIDE BALL VALVE WITH FULL SIZE DRAIN ROUTED TO FLOOR DRAIN.



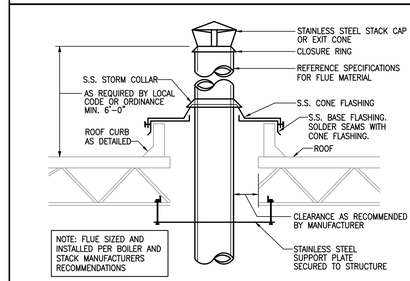
5 **HOT WATER PIPING DIAGRAM**
SCALE: NO SCALE



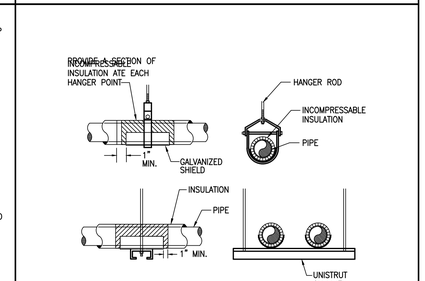
4 **POWER EXHAUSTED BOILER COMBUSTION AIR INTAKE THRU ROOF**
SCALE: NONE



2 **MULTI-PIPE TRAPEZE HANGER**
SCALE: NONE
PS001



3 **POWER EXHAUSTED BOILER FLUE THRU ROOF**
SCALE: NONE



1 **PIPE HANGERS**
SCALE: NONE
PS002

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT
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BRADLEY KALMANS
80219
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PROFESSIONAL
ENGINEER
04-06-2023

MECHANICAL DETAILS - CHARLTON-POLLARD ES

M2.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

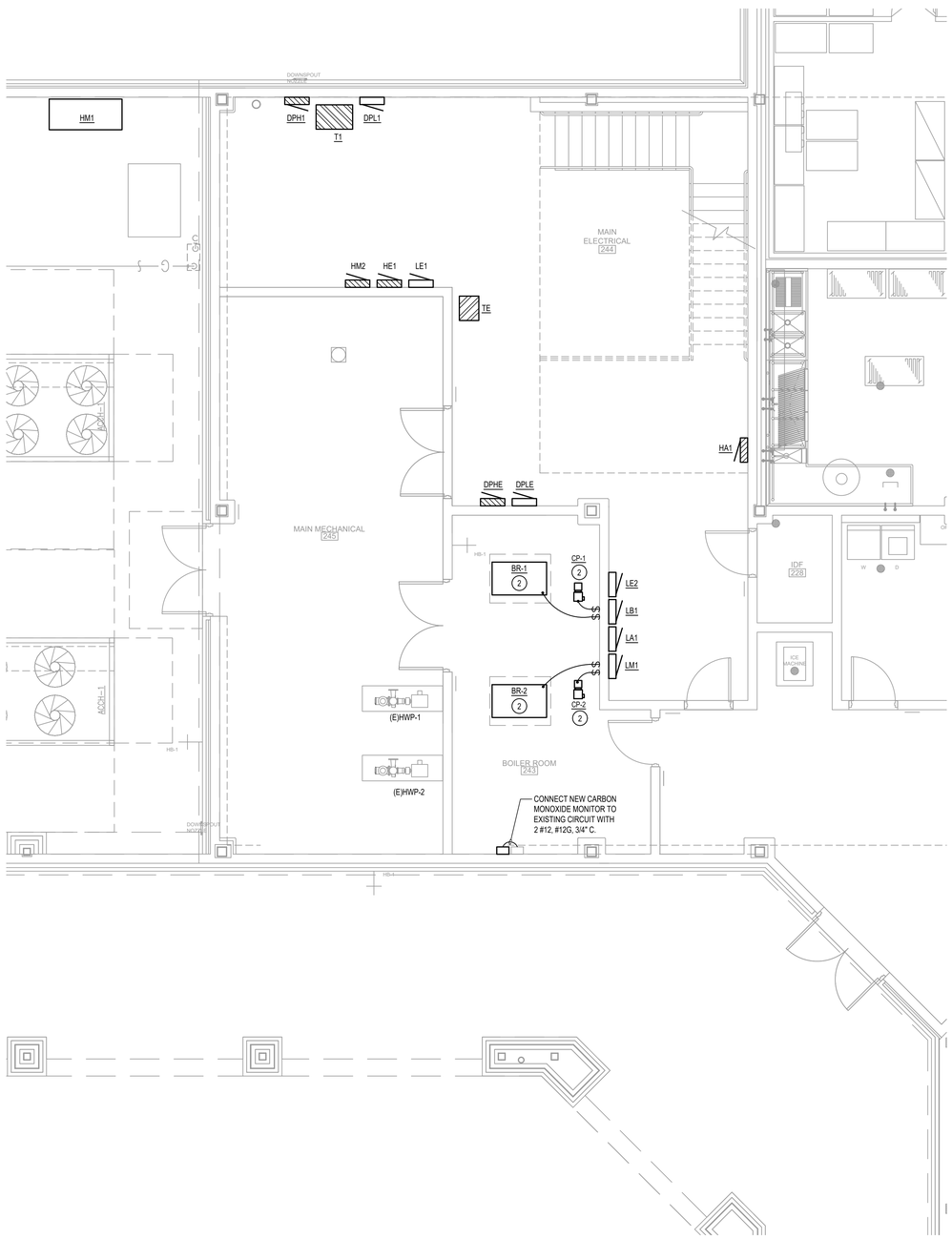
ELECTRICAL KEYED NOTES:

(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

LINETYPE LEGEND

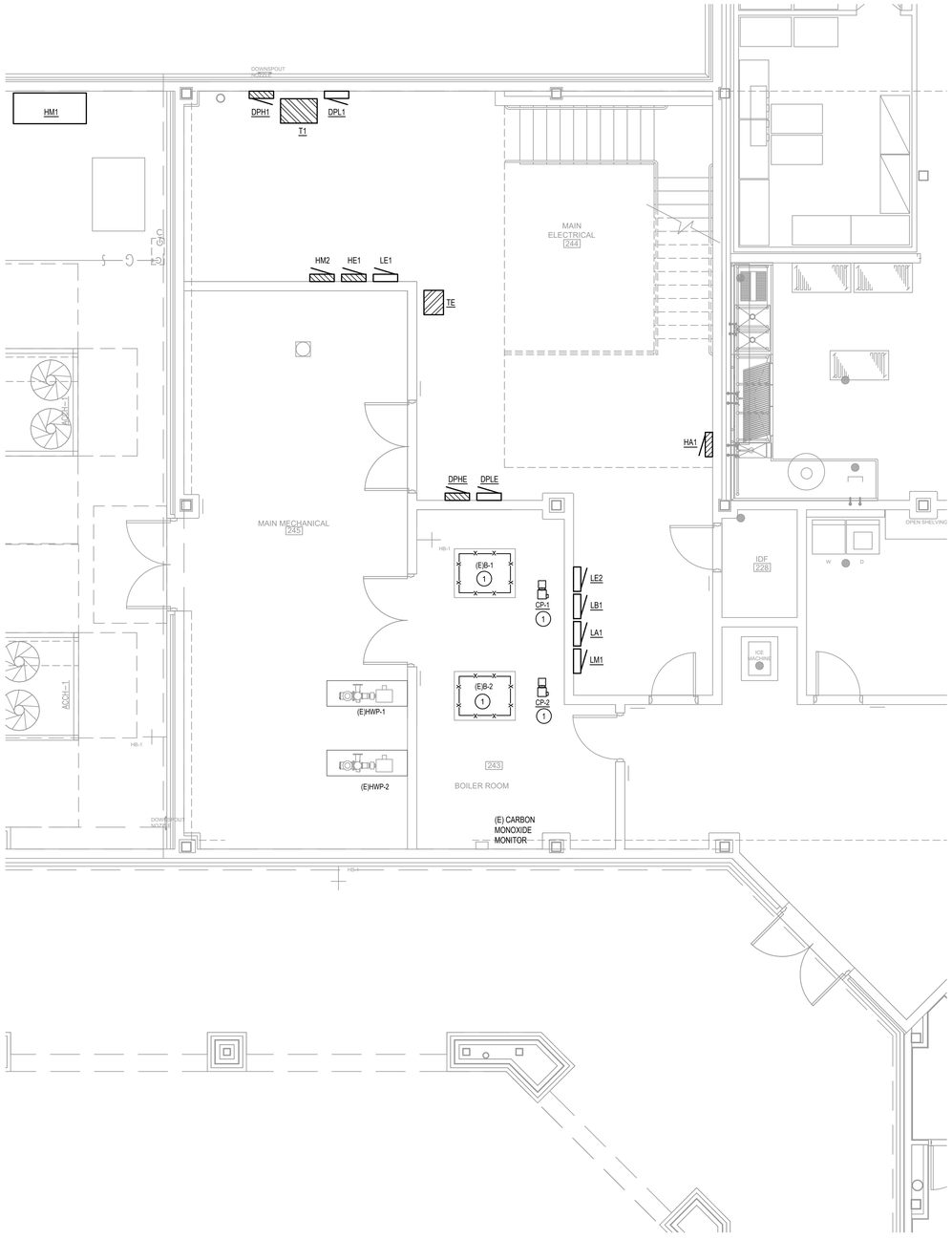
DISCONNECT AND REMOVE	—X—X—X—
EXISTING TO REMAIN	— — — —
NEW WORK	———



NORTH

2 ELECTRICAL FLOOR PLAN - CHARLTON-POLLARD ES

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



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - CHARLTON-POLLARD ES

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

Project No:	2022-04652-00
Drawn By:	AW
Checked By:	JZ
Date:	04-06-2023
Revision Dates:	

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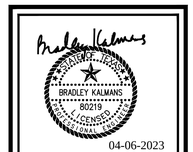
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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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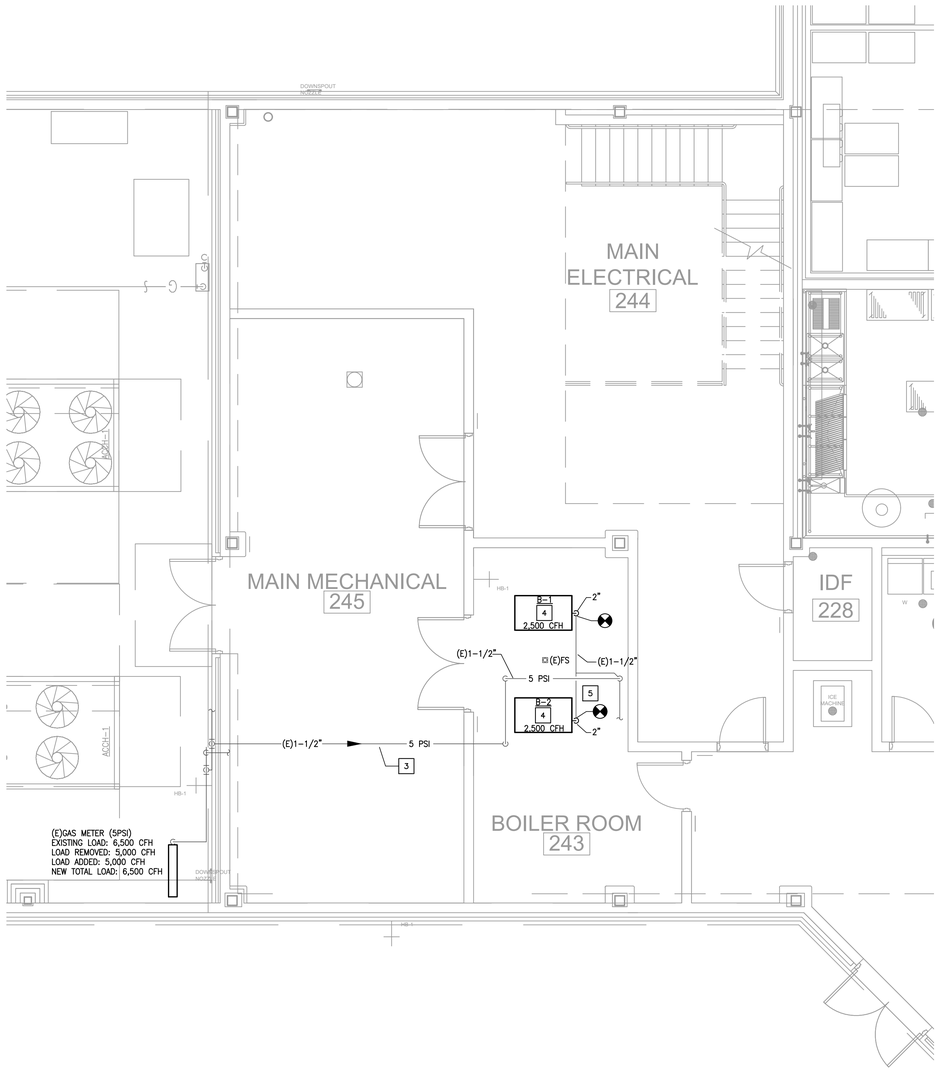


ELECTRICAL FLOOR PLANS - CHARLTON-POLLARD ES

E1.1

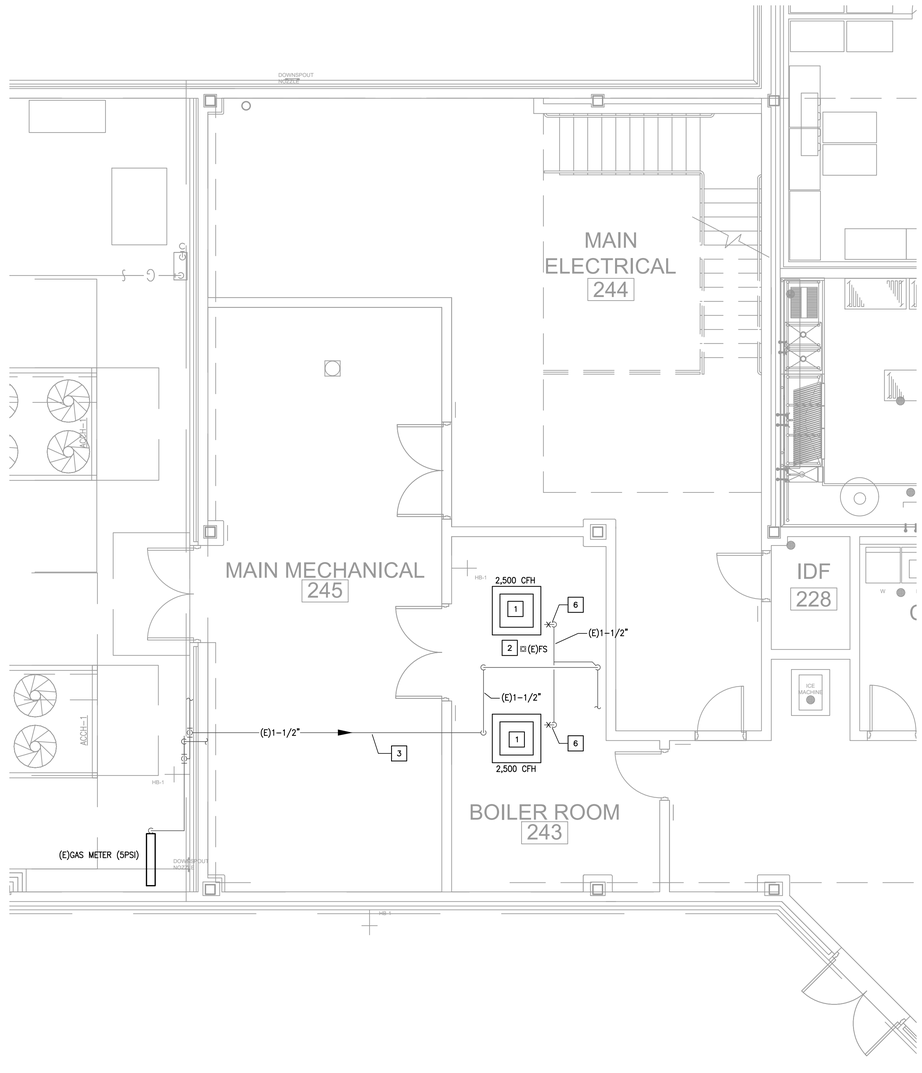
PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED AND REPLACED. REMOVE GAS PIPING SERVING BOILER BACK TO FIRST ELBOW AFTER EXISTING PRESSURE REGULATOR. PREPARE FOR CONNECTION OF NEW GAS PIPING. PRESSURE REGULATOR TO BE REMOVED.
2. EXISTING FLOOR DRAIN TO REMAIN.
3. EXISTING GAS PIPING TO REMAIN.
4. 1-1/2" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (2,500 CFH). 2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER. ROUTE VENT PIPING FROM PRESSURE REGULATORS TO EXTERIOR WALL.
5. REFER TO P2.01 FOR RISER DIAGRAM.
6. REMOVE GAS PIPING BACK TO THIS POINT.



NORTH

2 **PLUMBING FLOOR PLAN - CHARLTON-POLLARD ES**
SCALE: 1/4" = 1'-0"



NORTH

1 **PLUMBING DEMOLITION FLOOR PLAN - CHARLTON-POLLARD ES**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: BR
Checked By: EH
Date: 04-06-2023
Revision Dates:

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

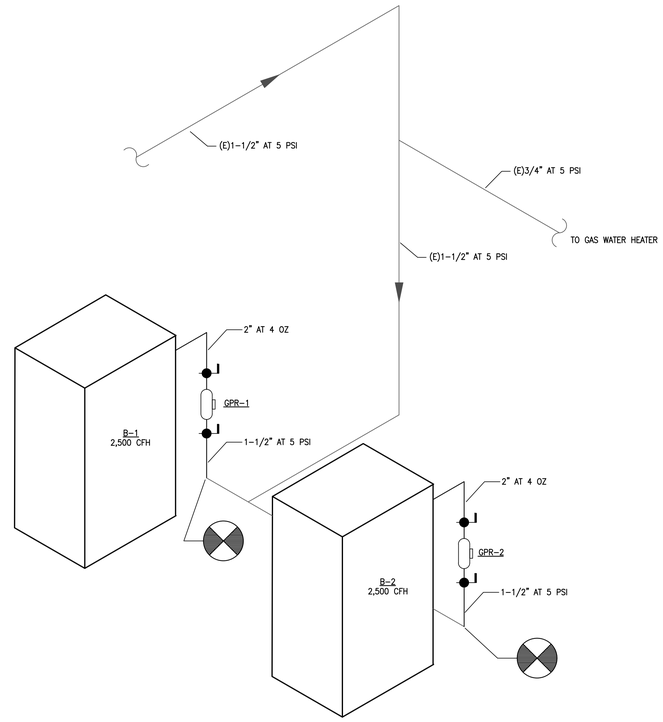
BEAUMONT INDEPENDENT SCHOOL DISTRICT

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04-06-2023

PLUMBING FLOOR PLANS - CHARLTON-POLLARD ES

P1.1



1 **GAS RISER DIAGRAM**
SCALE: NA

GAS EQUIPMENT

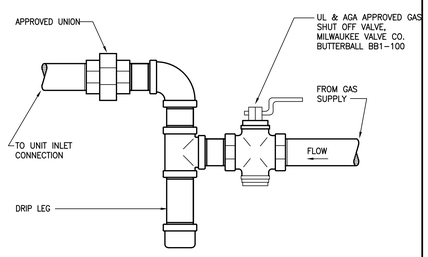
EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	2,500,000 BTUH	2,500,000 BTUH	2,500 CFH
B-2	NEW BOILER	2,500,000 BTUH	2,500,000 BTUH	2,500 CFH
TOTALS:			5,000,000 BTUH	5,000 CFH

INLET PRESSURE MAX 14 W.C. MIN 4 W.C. INLET CONNECTION 2".

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER RM 243	B-1	2,500	5 PSI - INLET 4 OZ. - OUTLET
GPR-2	GAS PRESSURE REGULATOR	BOILER RM 243	B-2	2,500	5 PSI - INLET 4 OZ. - OUTLET

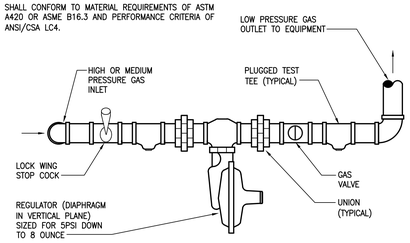
GENERAL NOTES:
1. MAINTAIN MINUMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.



2 **GAS CONNECTION**
SCALE: NONE

PROVIDE AMERICAN METER COMPANY REGULATORS OR APPROVED EQUAL, SUITABLE FOR OUTDOOR INSTALLATION. REGULATORS OUTSIDE EXPOSED TO WEATHER SHALL BE INSTALLED WITH VENT IN VERTICAL DOWN POSITION.

SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA OF ANSI/CSA LC4.



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

1 **GAS PRESSURE REGULATOR INSTALLATION**
SCALE: NONE

Project No: 2022-04652-00
Drawn By: BR
Checked By: EH
Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

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92219
LICENSED
PROFESSIONAL ENGINEER
04-06-2023

PLUMBING DETAILS - CHARLTON-POLLARD ES

P2.1

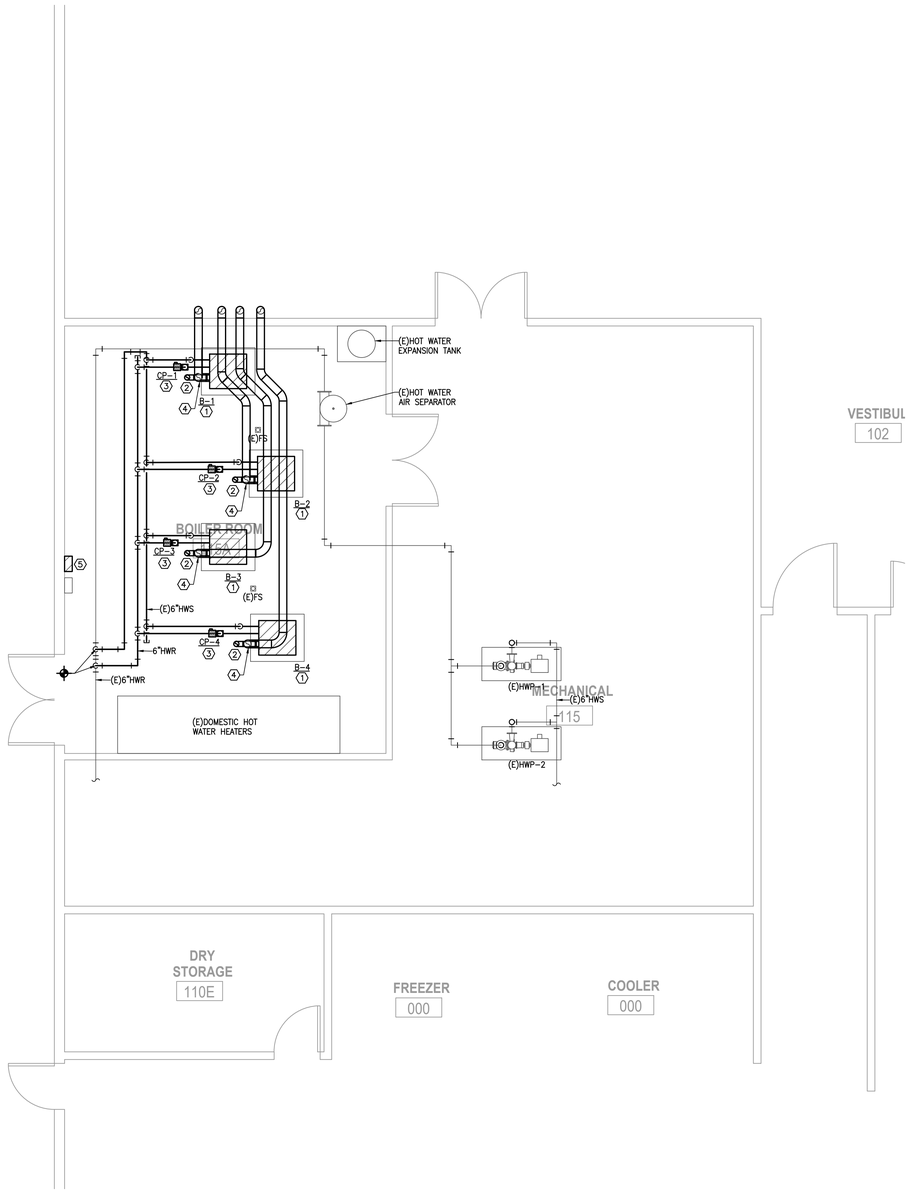
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. NEW BOILER FLUE SHALL UTILIZE EXISTING OPENING. MODIFY EXISTING OPENING TO ACCOMMODATE NEW FLUE.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. PROVIDE COMBUSTION DUCTWORK AS SHOWN. REFER TO MANUFACTURER FOR SIZE. NEW COMBUSTION AIR DUCTWORK SHALL UTILIZE EXISTING OPENING. MODIFY EXISTING OPENING TO ACCOMMODATE NEW DUCTWORK.
5. PROVIDE CARBON MONOXIDE MONITORING STATION. MOUNT ENCLOSURE AT 5'-0" AFF. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.



NORTH

2 MECHANICAL FLOOR PLAN - SOUTH PARK MS
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

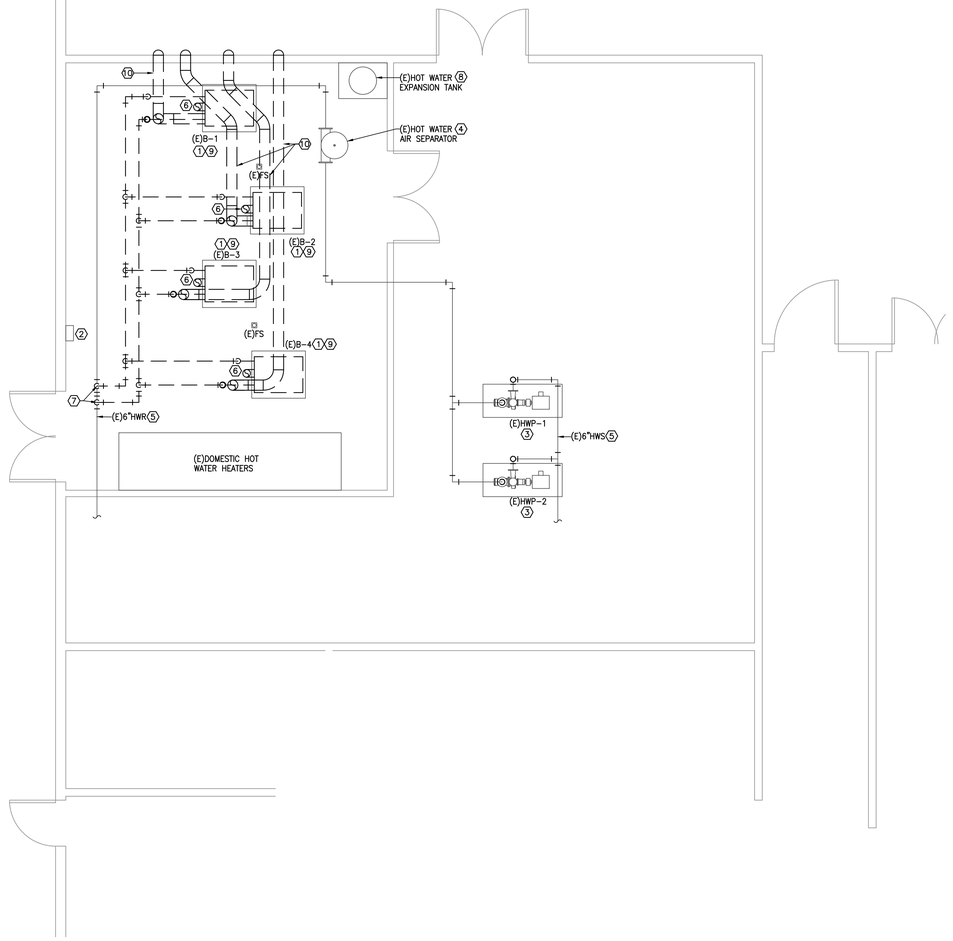
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, CIRCULATION PUMPS, AND VALVES.

DEMO SYMBOL LEGEND

RENOVATIONS	
	ITEM TO REMAIN
	ITEM TO BE REMOVED
	CONNECT TO EXISTING

DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING CARBON MONOXIDE MONITOR PANEL SHALL REMAIN.
3. EXISTING HOT WATER PUMP SHALL REMAIN.
4. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
5. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
6. EXISTING FLUE VENT SHALL BE REMOVED AND DISCARDED.
7. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT. PATCH AND SEAL AS SPECIFIED.
8. EXISTING HW EXPANSION TANK SHALL REMAIN.
9. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.
10. EXISTING COMBUSTION AIR DUCTWORK SHALL BE REMOVED.



NORTH

1 MECHANICAL DEMOLITION FLOOR PLAN - SOUTH PARK MS
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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BRADLEY KALMANS 80219 LICENSED PROFESSIONAL ENGINEER
04-06-2023

MECHANICAL FLOOR PLANS - SOUTH PARK MS

M1.1

SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
(#)	NOTE SPECIFIC TO DETAIL TAG
1	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	THERMOSTAT AND TEMPERATURE SENSOR
H	HUMIDISTAT
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
AIR DEVICES	
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWS&R-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—CWS—	CONDENSER WATER SUPPLY
—CWR—	CONDENSER WATER RETURN
-CHWS&R-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—CHWS—	CHILLED WATER SUPPLY
—CHWR—	CHILLED WATER RETURN
-HWS&R-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—HWS—	HOT WATER FOR HYDRONIC HEATING SUPPLY
—HWR—	HOT WATER FOR HYDRONIC HEATING RETURN
—D—	CONDENSATE DRAIN LINE
—AD—	AUXILLARY CONDENSATE DRAIN LINE
—RLR—	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—RL—	REFRIGERANT LIQUID LINE
—HG—	REFRIGERANT HOT GAS LINE
—RS—	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE

SUBSCRIPTS AND ABREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR

PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MAXIMUM RPM	MOTOR HORSEPOWER	CURRENT	MANUFACTURER	MODEL	REMARKS
CP-1	HOT WATER	INLINE CIRCULATOR	126	20	1,800	1.5	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-2	HOT WATER	INLINE CIRCULATOR	126	20	1,800	1.5	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-3	HOT WATER	INLINE CIRCULATOR	126	20	1,800	1.5	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-4	HOT WATER	INLINE CIRCULATOR	126	20	1,800	1.5	120/1/60	BELL & GOSSETT	E-60	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

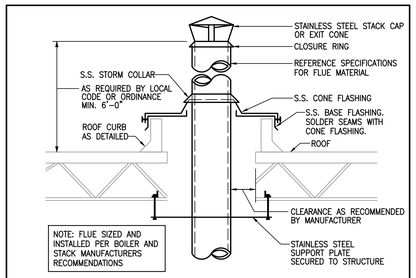
REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

BOILER - FORCED AIR

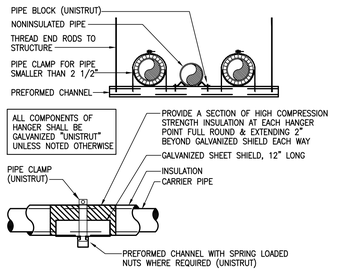
MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL: BLOWER HORSEPOWER	ELECTRICAL: CURRENT CHARAC. (V/PH/Hz)	MANUFACTURER	MODEL	REMARKS
B-1	HOT WATER SYSTEM	1,500	1,260	10	126	6	1	480/3/60	LOCHINVAR	POWER FIN PB-1501	(1,2)
B-2	HOT WATER SYSTEM	1,500	1,260	10	126	6	1	480/3/60	LOCHINVAR	POWER FIN PB-1501	(1,2)
B-3	HOT WATER SYSTEM	1,500	1,260	10	126	6	1	480/3/60	LOCHINVAR	POWER FIN PB-1501	(1,2)
B-4	HOT WATER SYSTEM	1,500	1,260	10	126	6	1	480/3/60	LOCHINVAR	POWER FIN PB-1501	(1,2)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

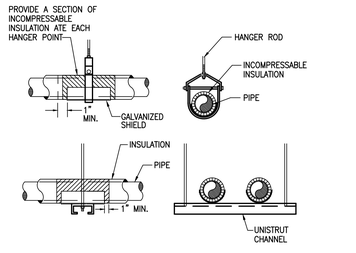
REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.



3 POWER EXHAUSTED BOILER FLUE THRU ROOF
SCALE: NONE



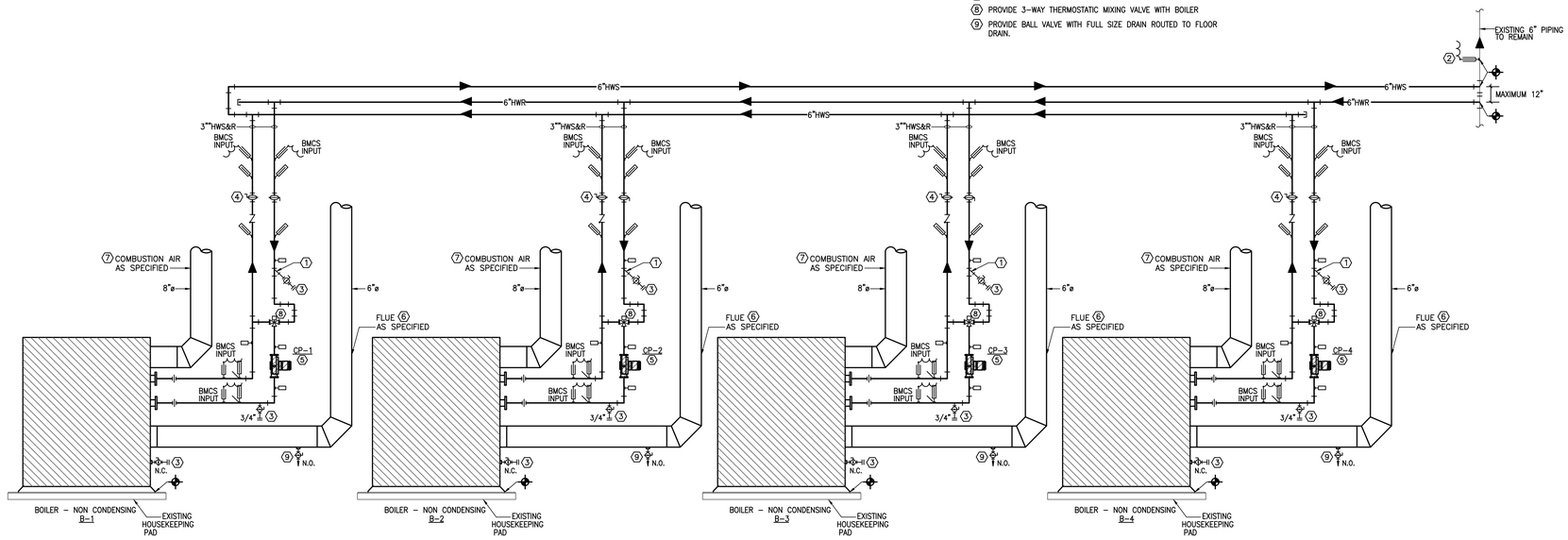
2 MULTI-PIPE TRAPEZE HANGER
SCALE: NONE PS001



1 PIPE HANGERS
SCALE: NONE PS002

MECHANICAL HOT WATER KEYED NOTES:

1. PROVIDE INLINE STRAINER.
2. HEADER TEMPERATURE SENSOR. PROVIDED BY BOILER MANUFACTURER.
3. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE UNLESS OTHERWISE NOTED.
4. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE.
5. CIRCULATING PUMP SIZED AND PROVIDED BY BOILER MANUFACTURER.
6. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER.
7. PROVIDE POWER COMBUSTION AIR INTAKE. REFER TO DETAIL.
8. PROVIDE 3-WAY THERMOSTATIC MIXING VALVE WITH BOILER
9. PROVIDE BALL VALVE WITH FULL SIZE DRAIN ROUTED TO FLOOR DRAIN.



5 HOT WATER PIPING DIAGRAM
SCALE: NO SCALE

Project No:	2022-04652-00
Drawn By:	MR
Checked By:	VP
Date:	04-06-2023
Revision Dates:	

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT
SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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BRADLEY KALMANS 80219 LICENSED PROFESSIONAL ENGINEER
04-06-2023

MECHANICAL DETAILS - SOUTH PARK MS

M2.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

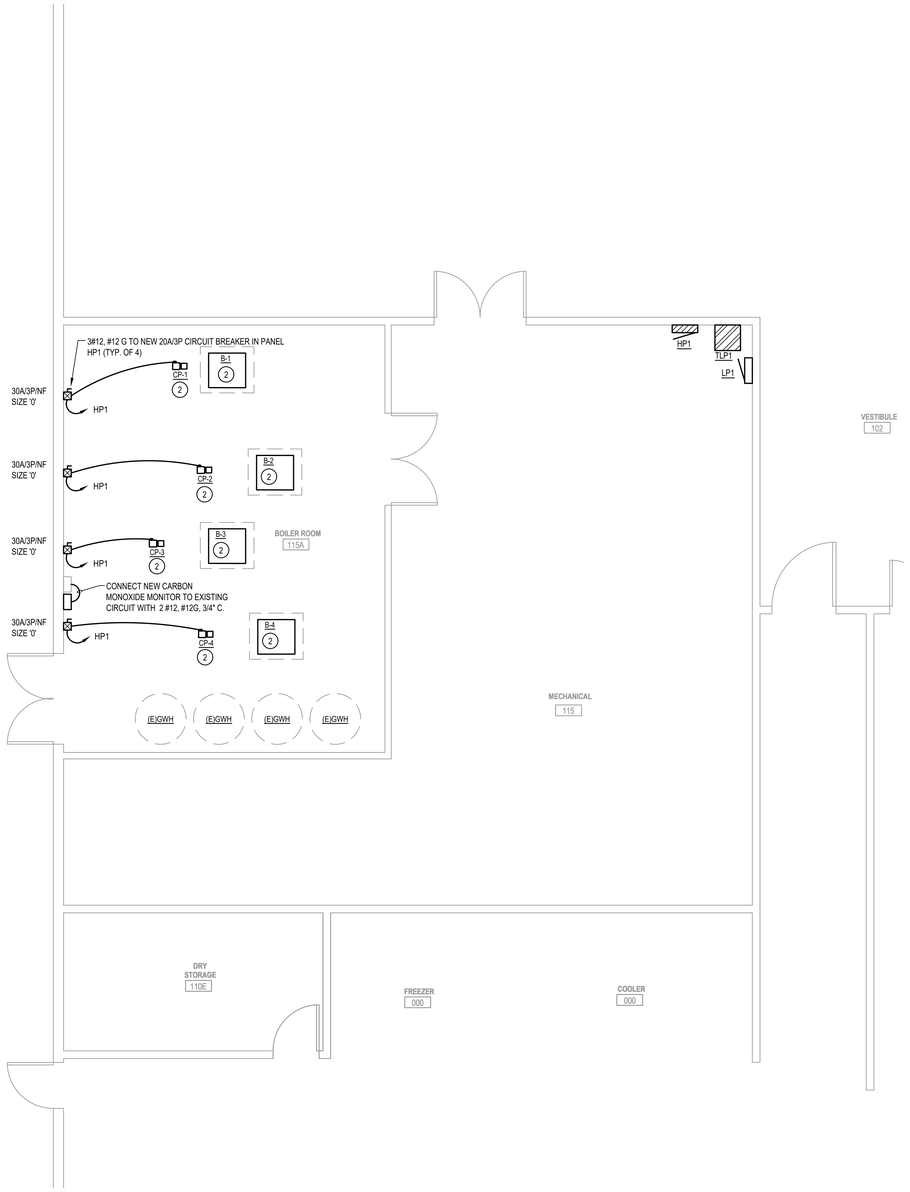
ELECTRICAL KEYED NOTES:

(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

LINETYPE LEGEND

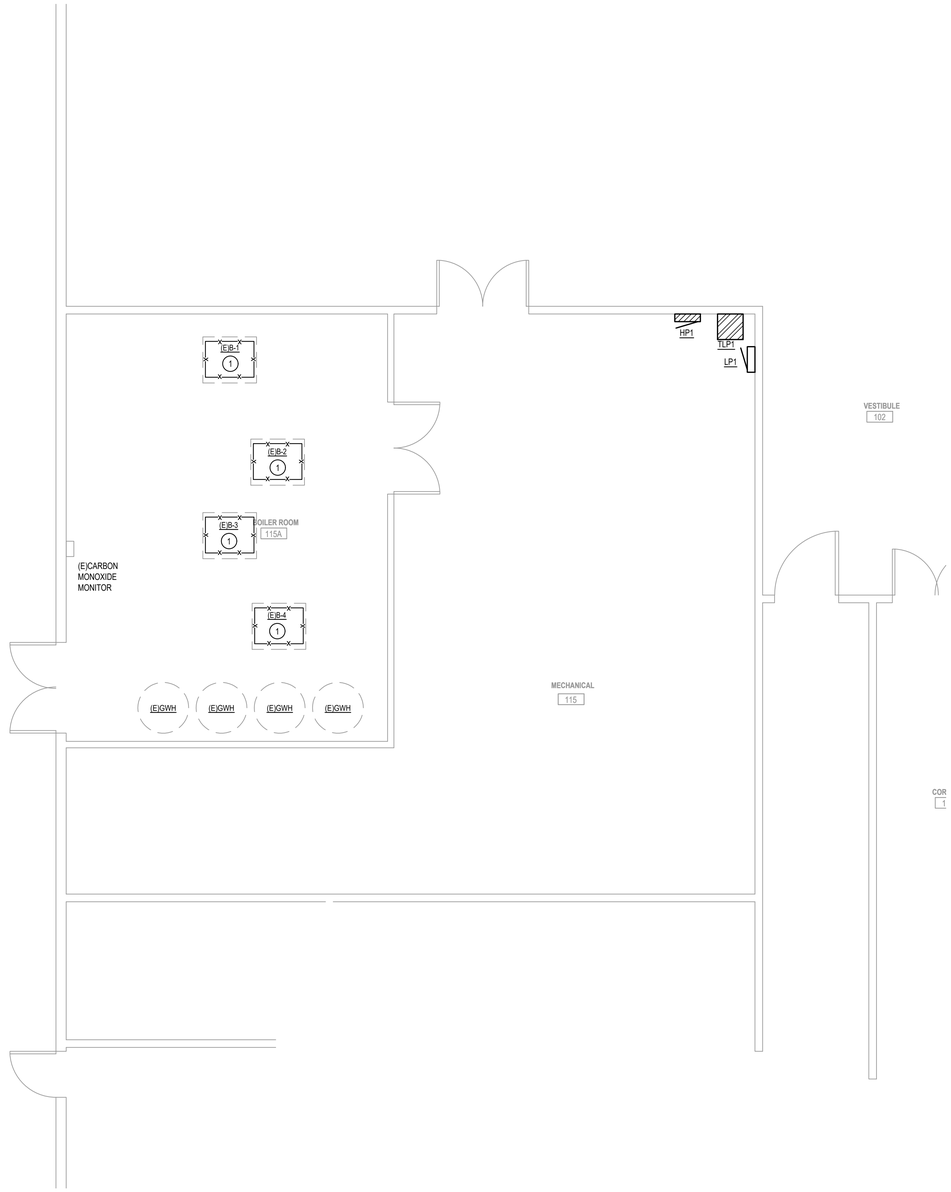
DISCONNECT AND REMOVE	—X—X—X—
EXISTING TO REMAIN	——— ——— ———
NEW WORK	———————



NORTH

2 ELECTRICAL FLOOR PLAN - SOUTH PARK MS

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



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - SOUTH PARK MS

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

Project No: 2022-04652-00

Drawn By: AW

Checked By: JZ

Date: 04-06-2023

Revision Dates:

CONSULTANTS

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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STATE OF TEXAS

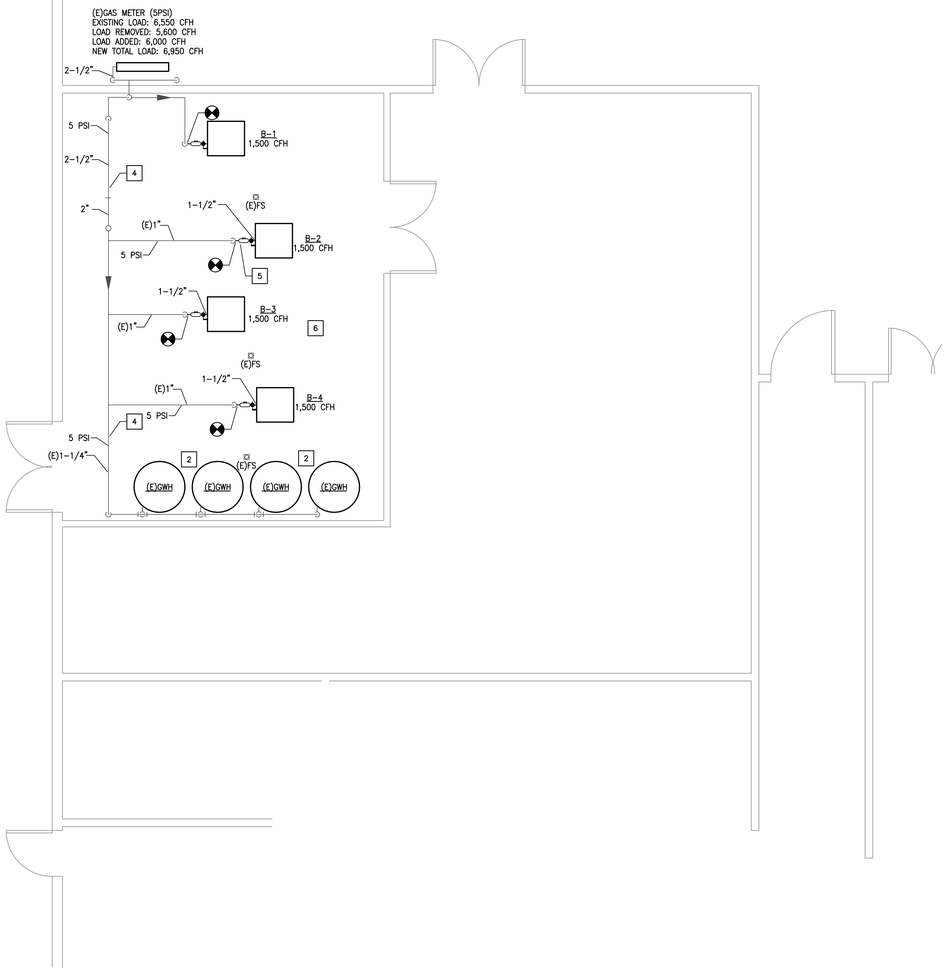
04-06-2023

ELECTRICAL FLOOR PLANS - SOUTH PARK MS

E1.1

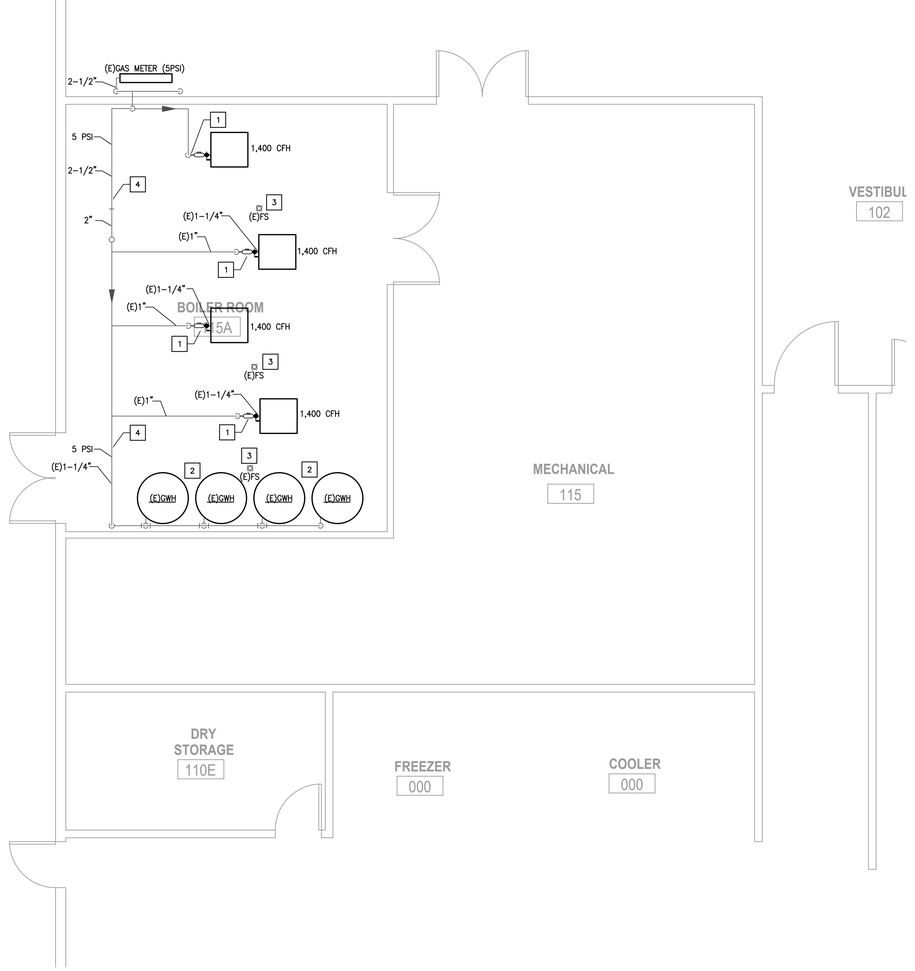
PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED AND REPLACED. REMOVE GAS PIPING SERVING BOILER BACK TO TEE JUST PAST PRESSURE REGULATOR. DISCONNECT VENT PIPING SERVING PRESSURE REGULATOR. PREPARE FOR CONNECTION OF NEW GAS PIPING.
2. EXISTING GWH AND TANK TO REMAIN.
3. EXISTING FLOOR DRAIN TO REMAIN.
4. EXISTING GAS PIPING TO REMAIN.
5. 1" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (1,500 CFH). 1-1/2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER. CONNECT EXISTING VENT PIPING TO NEW PRESSURE REGULATOR. TYPICALLY ALL 4 NEW BOILERS.
6. REFER TO P2.1 FOR RISER DIAGRAM.



NORTH

2 PLUMBING FLOOR PLAN - SOUTH PARK MS
SCALE: 1/4" = 1'-0"



NORTH

1 PLUMBING DEMOLITION FLOOR PLAN - SOUTH PARK MS
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: BR
Checked By: EH
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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

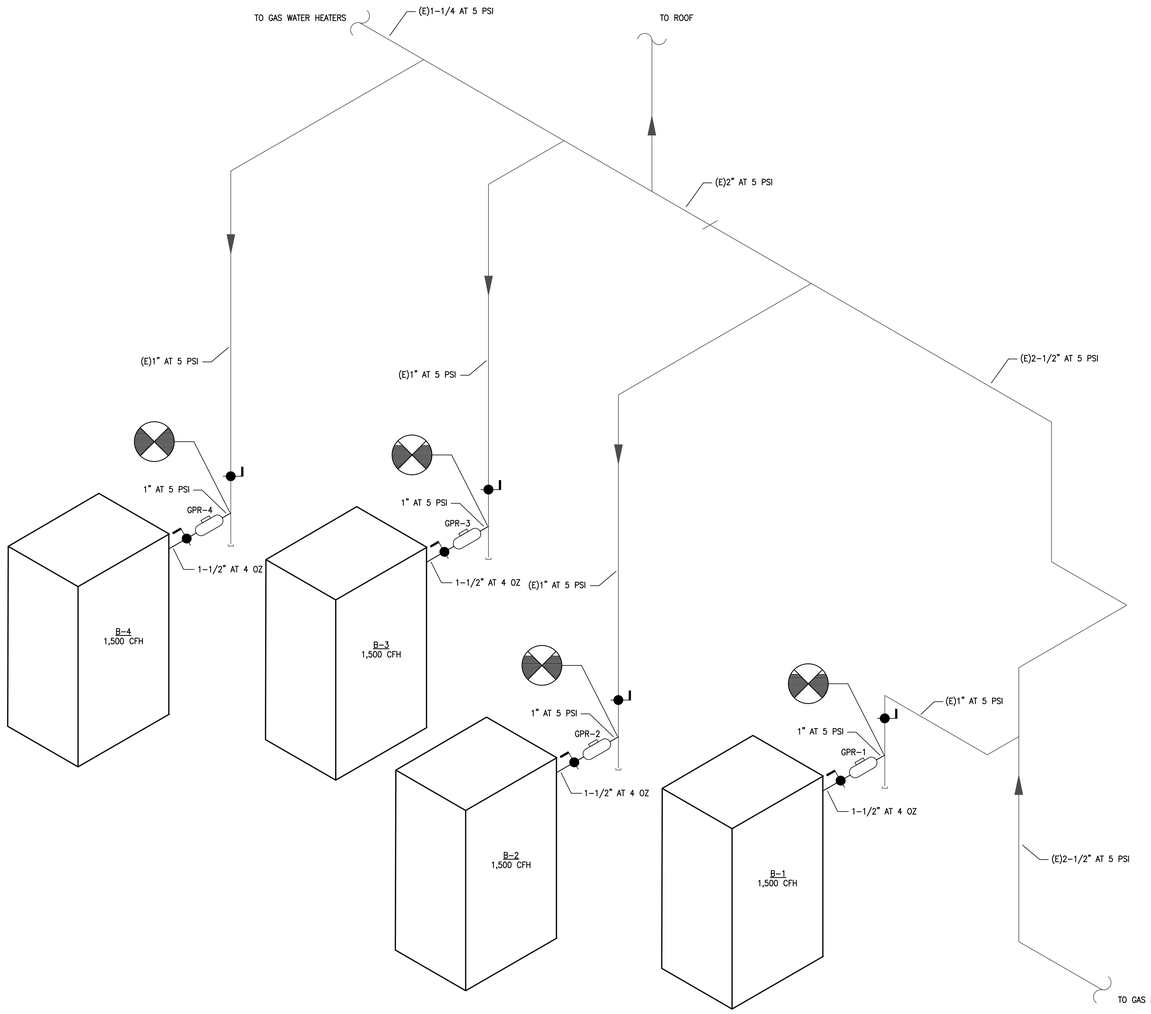
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04-06-2023

PLUMBING FLOOR PLANS - SOUTH PARK MS

P1.1



1 **GAS RISER DIAGRAM**
SCALE: NA

GAS EQUIPMENT

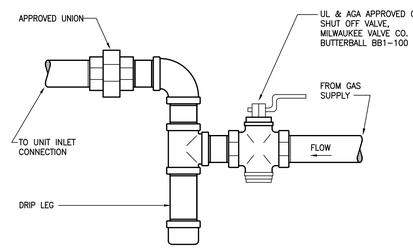
EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	1,500,000 BTUH	1,500,000 BTUH	1,500 CFH
B-2	NEW BOILER	1,500,000 BTUH	1,500,000 BTUH	1,500 CFH
B-3	NEW BOILER	1,500,000 BTUH	1,500,000 BTUH	1,500 CFH
B-4	NEW BOILER	1,500,000 BTUH	1,500,000 BTUH	1,500 CFH
TOTALS:			6,000,000 BTUH	6,000 CFH

INLET PRESSURE MAX 14 W.C. MIN 4.0 W.C. INLET CONNECTION 1-1/2"

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER RM 243	B-1	1,500	5 PSI - INLET 4 OZ. - OUTLET
GPR-2	GAS PRESSURE REGULATOR	BOILER RM 243	B-2	1,500	5 PSI - INLET 4 OZ. - OUTLET
GPR-3	GAS PRESSURE REGULATOR	BOILER RM 243	B-3	1,500	5 PSI - INLET 4 OZ. - OUTLET
GPR-4	GAS PRESSURE REGULATOR	BOILER RM 243	B-4	1,500	5 PSI - INLET 4 OZ. - OUTLET

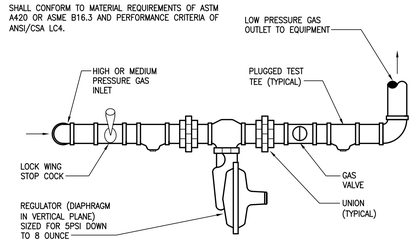
GENERAL NOTES:
1. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.



2 **GAS CONNECTION**
SCALE: NONE

PROVIDE AMERICAN METER COMPANY REGULATORS OR APPROVED EQUAL, SUITABLE FOR OUTDOOR INSTALLATION. REGULATORS OUTSIDE EXPOSED TO WEATHER SHALL BE INSTALLED WITH VENT IN VERTICAL DOWN POSITION.

SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA OF ANSI/CSA LC4.



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

1 **GAS PRESSURE REGULATOR INSTALLATION**
SCALE: NONE

Project No: 2022-04652-00
Drawn By: BR
Checked By: EH
Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

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04-06-2023

PLUMBING DETAILS - SOUTH PARK MS

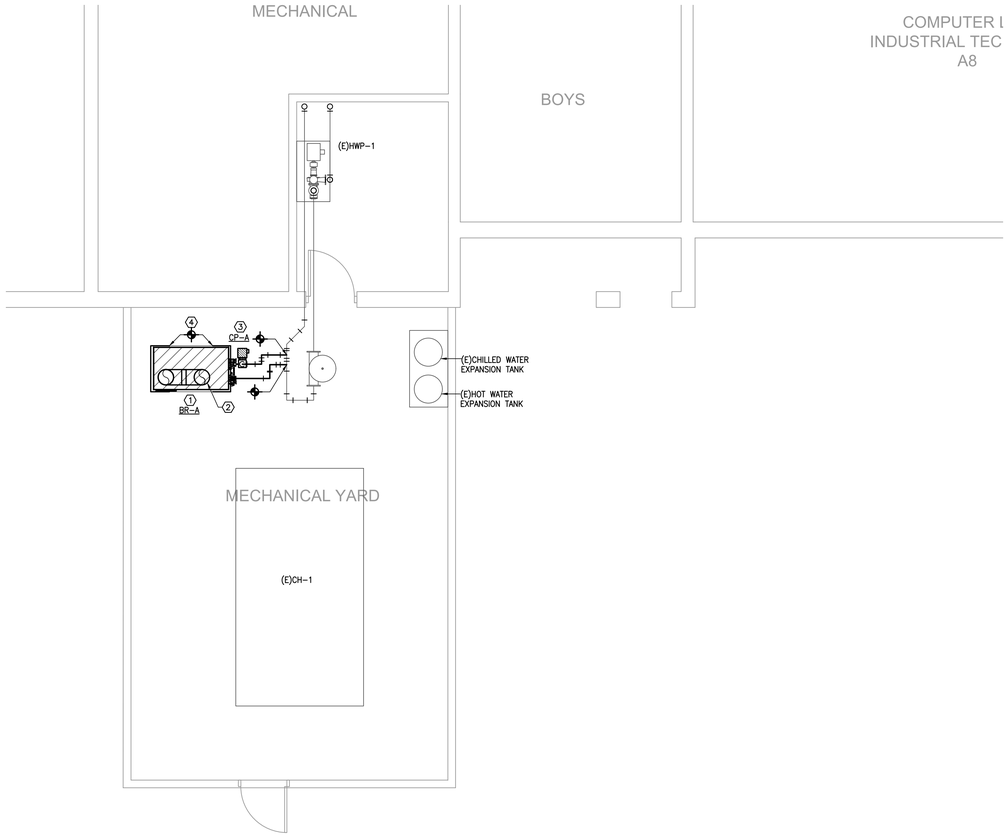
P2.1

MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AT SIZE SCHEDULED. REFER TO SPECIFICATIONS. FLUE SHALL TERMINATE 7'-0" ABOVE FINISHED FLOOR (AFF). SUPPORT BOILER FLUE AS RECOMMENDED BY MANUFACTURER. PROVIDE FLUE TERMINATION AS RECOMMENDED BY MANUFACTURER.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. CONCRETE EXTENSION TO EXISTING CONCRETE PAD. NOTCH OUT CONCRETE EXTENSION TO AVOID EXISTING FLOOR SINK.



NORTH

2 **MECHANICAL FLOOR PLAN - CENTRAL PLANT - HALL A - BEAUMONT UNITED HS**
SCALE: 1/4" = 1'-0"

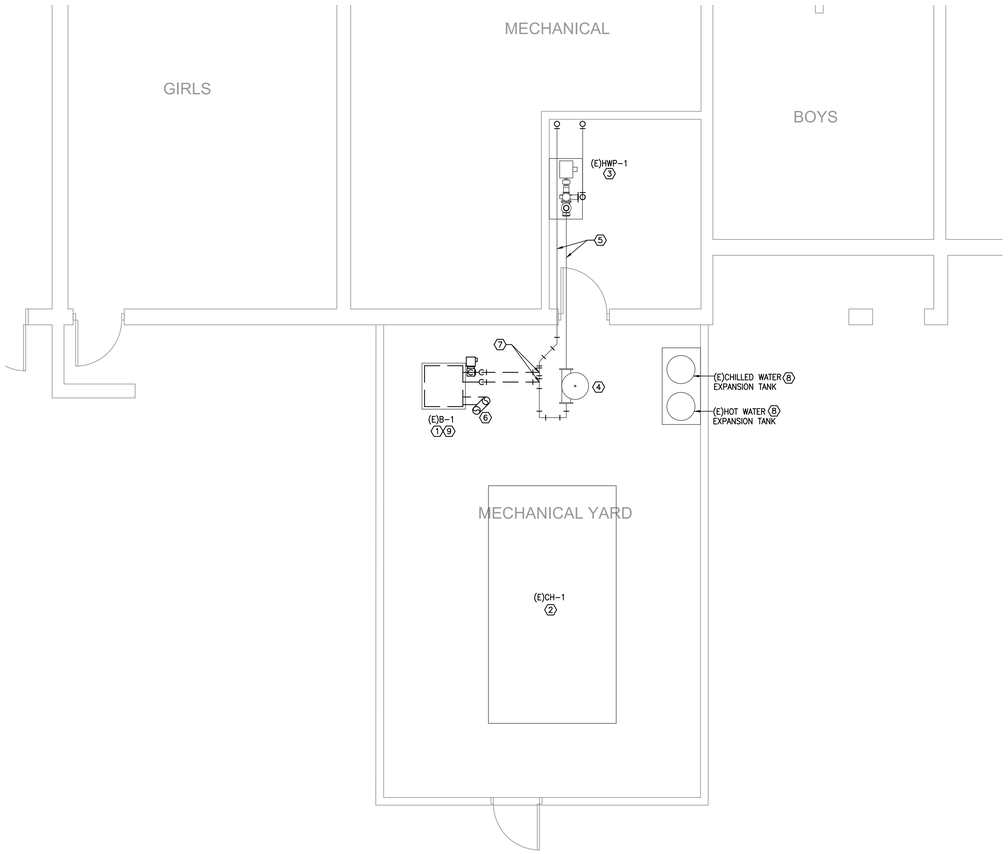
GENERAL DEMOLITION NOTES:

1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, BMCS CONTROL PANELS, AND TEMPERATURE SENSORS

DEMO SYMBOL LEGEND	
RENOVATIONS	
	ITEM TO REMAIN
	ITEM TO BE REMOVED
	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING CHILLER TO REMAIN.
3. EXISTING HOT WATER PUMP SHALL REMAIN.
4. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
5. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
6. EXISTING FLUE VENT SHALL BE REMOVED AND DISCARDED.
7. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
8. EXISTING EXPANSION TANK SHALL REMAIN.
9. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - CENTRAL PLANT - HALL A -BEAUMONT UNITED HS**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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80219
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04-06-2023

MECHANICAL FLOOR PLANS - CENTRAL PLANT - HALL A - BEAUMONT UNITED HS

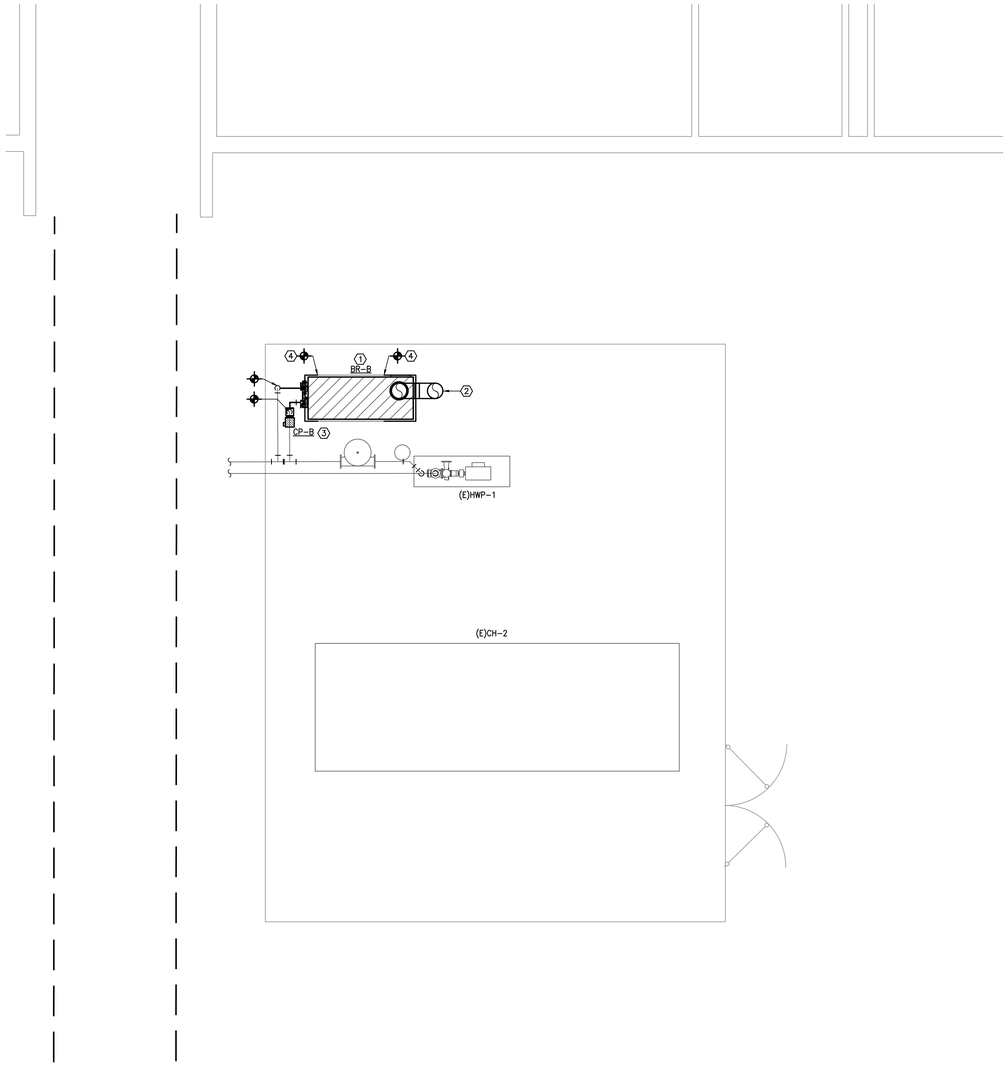
M1.1

MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AT SIZE SCHEDULED. REFER TO SPECIFICATIONS. FLUE SHALL TERMINATE 7'-0" ABOVE FINISHED FLOOR (AFF). SUPPORT BOILER FLUE AS RECOMMENDED BY MANUFACTURER. PROVIDE FLUE TERMINATION AS RECOMMENDED BY MANUFACTURER.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. CONCRETE EXTENSION TO EXISTING CONCRETE PAD. NOTCH OUT CONCRETE EXTENSION TO AVOID EXISTING FLOOR SINK.



NORTH

2 **MECHANICAL FLOOR PLAN - CENTRAL PLANT - HALL B & C - BEAUMONT UNITED HS**
SCALE: 1/4" = 1'-0"

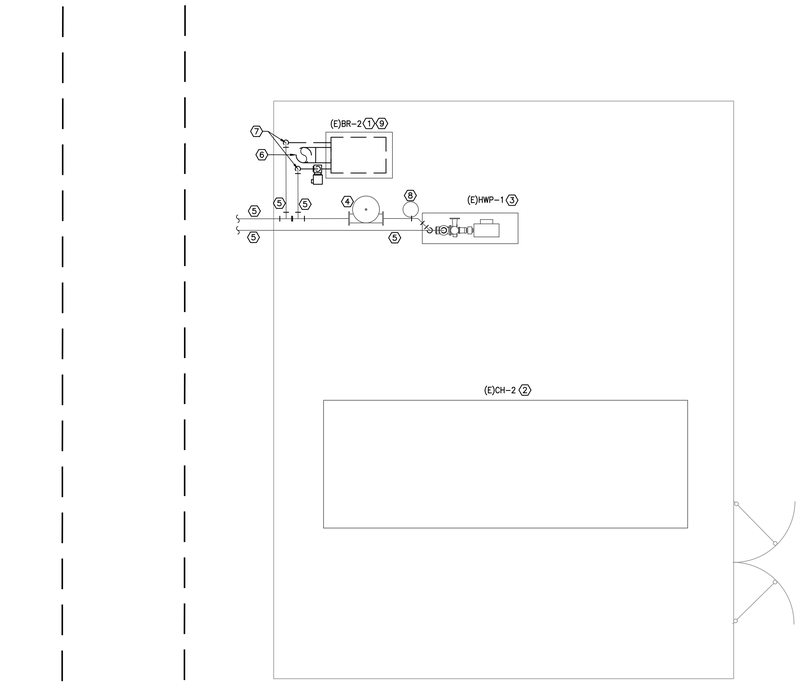
GENERAL DEMOLITION NOTES:

1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, BMCS CONTROL PANELS, AND TEMPERATURE SENSORS

DEMO SYMBOL LEGEND	
RENOVATIONS	
☐	ITEM TO REMAIN
☐	ITEM TO BE REMOVED
✦	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING CHILLER TO REMAIN.
3. EXISTING HOT WATER PUMP SHALL REMAIN.
4. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
5. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
6. EXISTING FLUE VENT SHALL BE REMOVED AND DISCARDED.
7. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
8. EXISTING CHEMICAL FEEDER SHALL REMAIN.
9. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - CENTRAL PLANT - HALL B & C -BEAUMONT UNITED HS**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

CONSULTANTS

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
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04-06-2023

MECHANICAL FLOOR PLANS - CENTRAL PLANT - HALL B & C - BEAUMONT UNITED HS

M1.2

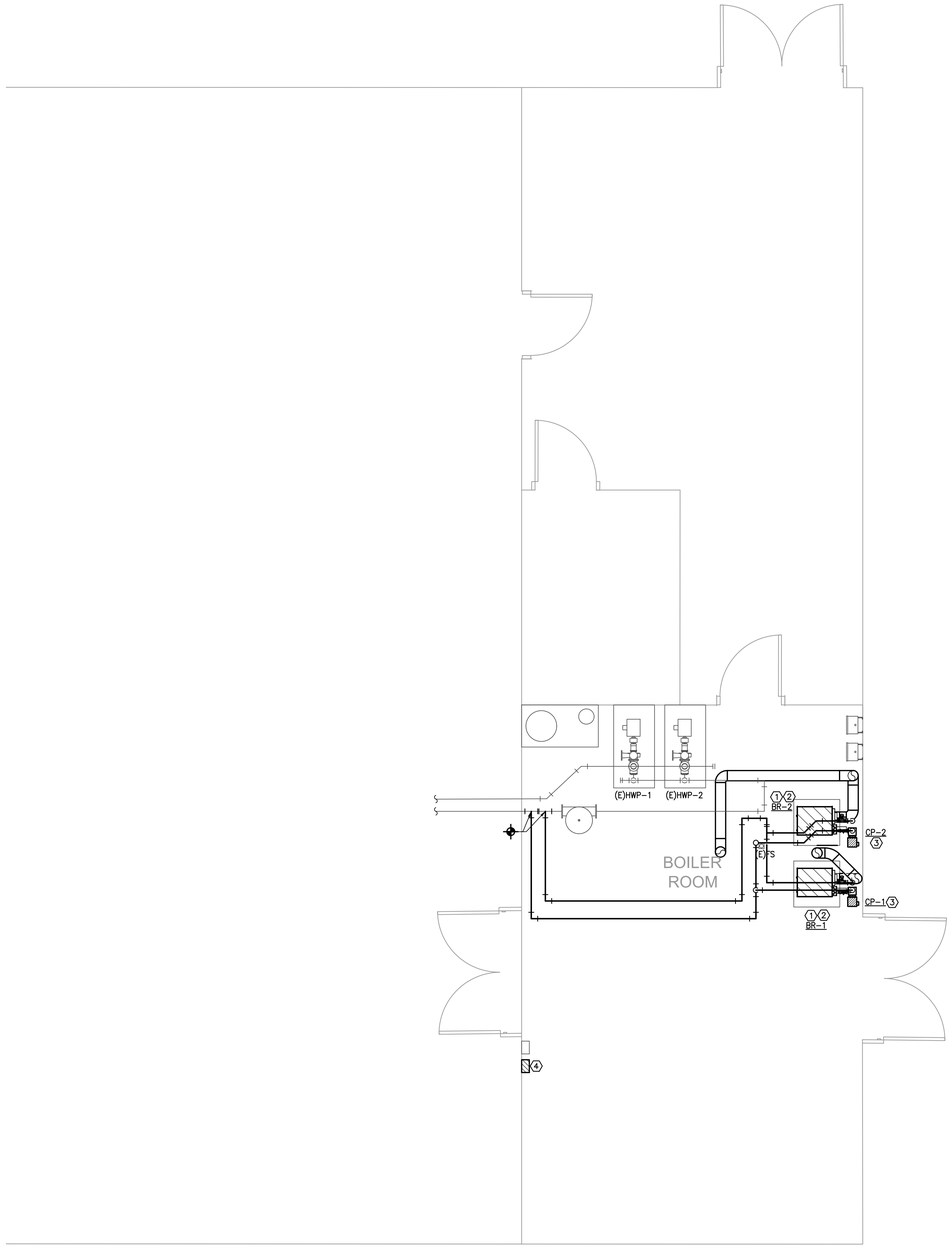
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AT SIZE SCHEDULED. REFER TO SPECIFICATIONS. FLUE SHALL TERMINATE 7'-0" ABOVE FINISHED FLOOR (AFF). SUPPORT BOILER FLUE AS RECOMMENDED BY MANUFACTURER. PROVIDE FLUE TERMINATION AS RECOMMENDED BY MANUFACTURER.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. PROVIDE CARBON MONOXIDE MONITORING STATION. MOUNT ENCLOSURE AT 5'-0" AFF. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.



NORTH

2 **MECHANICAL FLOOR PLAN - CENTRAL PLANT - PAC - BEAUMONT UNITED HS**
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, BMCS CONTROL PANELS, AND TEMPERATURE SENSORS

DEMO SYMBOL LEGEND

RENOVATIONS	
▭	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED
✦	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING HOT WATER PUMP SHALL REMAIN.
3. EXISTING VFD SHALL REMAIN.
4. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
5. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
6. EXISTING FLUE VENT SHALL BE REMOVED. EXISTING ROOF PENETRATION TO REMAIN.
7. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
8. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.
9. EXISTING (CO) CARBON MONOXIDE MONITOR PANEL SHALL REMAIN.



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - CENTRAL PLANT - PAC -BEAUMONT UNITED HS**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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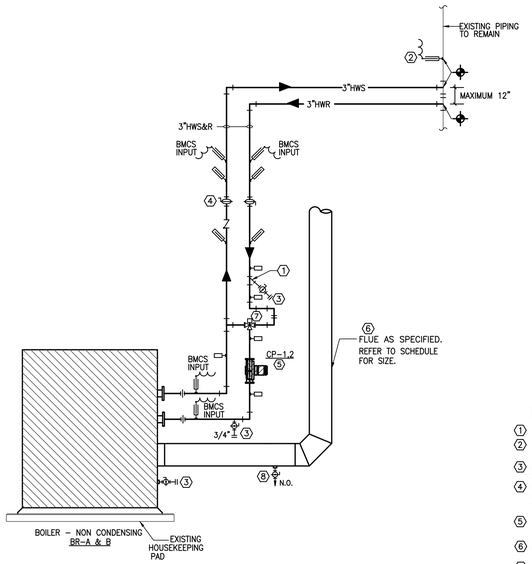
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PROFESSIONAL ENGINEER
STATE OF TEXAS
04-06-2023

MECHANICAL FLOOR PLANS - CENTRAL PLANT - PAC - BEAUMONT UNITED HS

M1.3

SYMBOL LEGEND

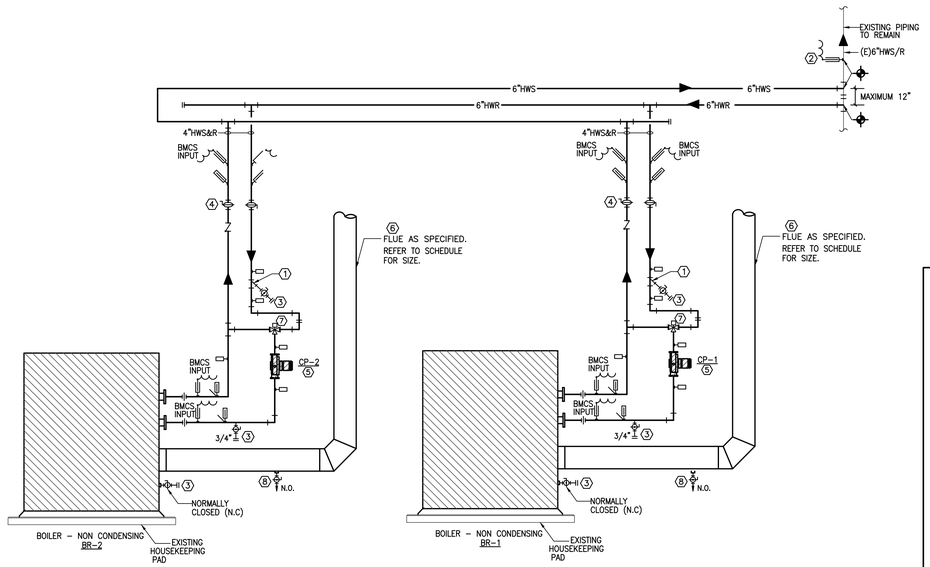
SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(F)	KEY NOTE TAG
(F)	NOTE SPECIFIC TO DETAIL TAG
1	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	THERMOSTAT AND TEMPERATURE SENSOR
H	HUMIDISTAT
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
AIR DEVICES	
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWS&R-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—CWS—	CONDENSER WATER SUPPLY
—CWR—	CONDENSER WATER RETURN
-CHWS&R-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—CHWS—	CHILLED WATER SUPPLY
—CHWR—	CHILLED WATER RETURN
-HWS&R-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—HWS—	HOT WATER FOR HYDRONIC HEATING SUPPLY
—HWR—	HOT WATER FOR HYDRONIC HEATING RETURN
—D—	CONDENSATE DRAIN LINE
—AD—	AUXILLARY CONDENSATE DRAIN LINE
—RLR—	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
—RL—	REFRIGERANT LIQUID LINE
—HG—	REFRIGERANT HOT GAS LINE
—RS—	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR



5 **EXTERIOR PARTIAL HOT WATER PIPING DIAGRAM HALL A, B & C**
SCALE: NO SCALE

MECHANICAL HOT WATER KEYED NOTES:

1. PROVIDE INLINE STRAINER.
2. HEADER TEMPERATURE SENSOR. PROVIDED BY BOILER MANUFACTURER.
3. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE UNLESS OTHERWISE NOTED.
4. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE.
5. CIRCULATING PUMP SIZED AND PROVIDED BY BOILER MANUFACTURER.
6. PROVIDE BOILER FLUE. REFER TO SPECIFICATIONS.
7. PROVIDE 3-WAY THERMOSTATIC MIXING VALVE WITH BOILER.
8. PROVIDE BALL VALVE WITH FULL SIZE DRAIN ROUTED TO FLOOR DRAIN.



4 **INTERIOR PARTIAL HOT WATER PIPING DIAGRAM PAC**
SCALE: NO SCALE

BOILER - FORCED AIR (EXTERIOR)

MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL BLOWER HORSEPOWER	ELECTRICAL CURRENT CHARAC. (V/PH/Hz)	MANUFACTURER	MODEL	REMARKS
BR-A	HOT WATER SYSTEM	1,255	1,016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2)
BR-B	HOT WATER SYSTEM	1,795	1,453	10	145	14	1	120/1/60	LOCHINVAR	COPPER FIN CB-1797	(1,2)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.

PUMP SCHEDULE (EXTERIOR)

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MAXIMUM RPM	MOTOR HORSEPOWER	CURRENT	MANUFACTURER	MODEL	REMARKS
CP-A	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-B	HOT WATER	INLINE CIRCULATOR	145	20	1,800	1.5	120/1/60	BELL & GOSSETT	E-60	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MAXIMUM RPM	MOTOR HORSEPOWER	CURRENT	MANUFACTURER	MODEL	REMARKS
CP-1	HOT WATER	INLINE CIRCULATOR	111	20	1,800	1.5	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-2	HOT WATER	INLINE CIRCULATOR	111	20	1,800	1.5	120/1/60	BELL & GOSSETT	E-60	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

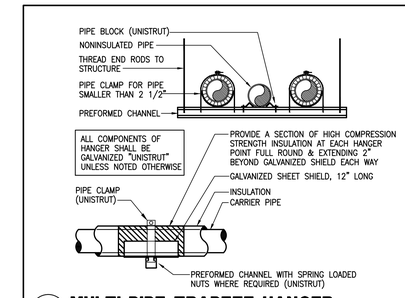
REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

BOILER - FORCED AIR (PAC-CP)

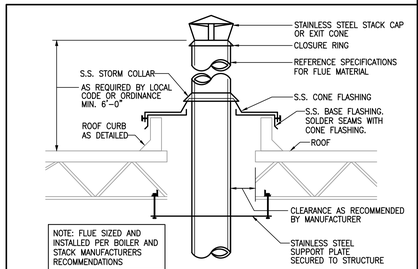
MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL BLOWER HORSEPOWER	ELECTRICAL CURRENT CHARAC. (V/PH/Hz)	MANUFACTURER	MODEL	REMARKS
BR-1	HOT WATER SYSTEM	1,300	1,105	10	111	8	1	120/1/60	LOCHINVAR	POWER FIN PB-1302	(1,2)
BR-2	HOT WATER SYSTEM	1,300	1,105	10	111	8	1	120/1/60	LOCHINVAR	POWER FIN PB-1302	(1,2)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

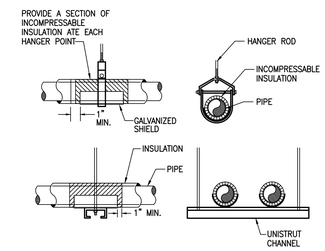
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1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.



2 **MULTI-PIPE TRAPEZE HANGER**
SCALE: NONE PS001



3 **POWER EXHAUSTED BOILER FLUE THRU ROOF**
SCALE: NONE



1 **PIPE HANGERS**
SCALE: NONE PS002

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BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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04-06-2023

MECHANICAL DETAILS - BEAUMONT UNITED HS

M2.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

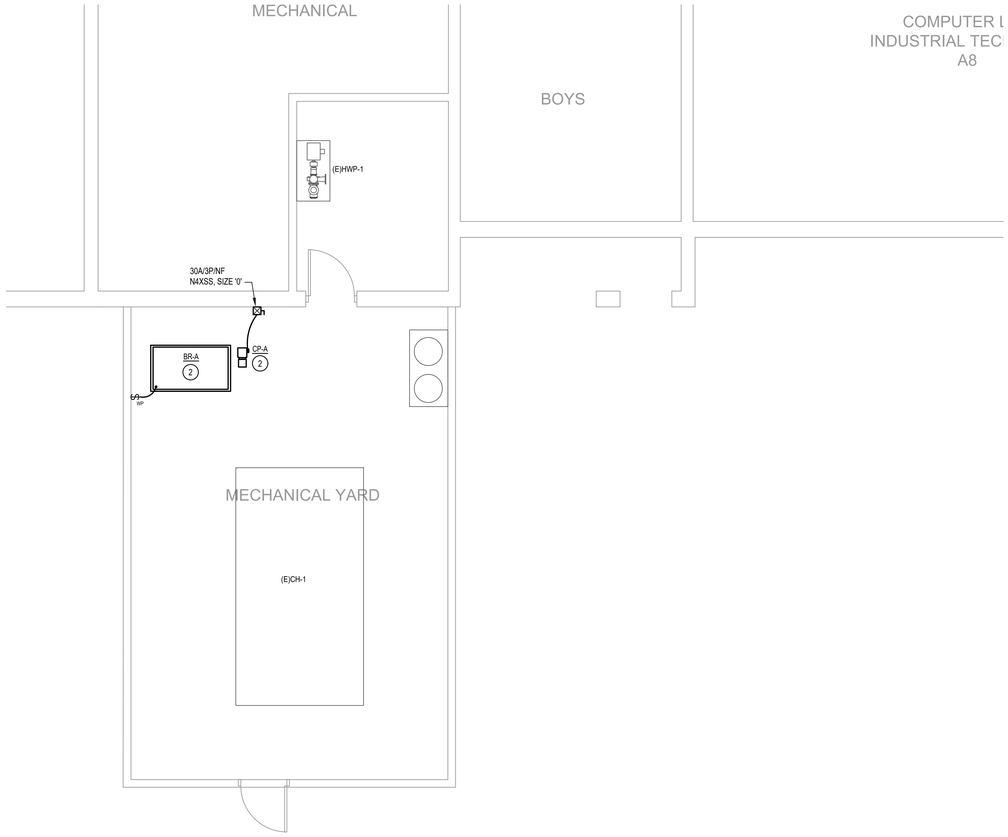
ELECTRICAL KEYED NOTES:

(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

LINETYPE LEGEND

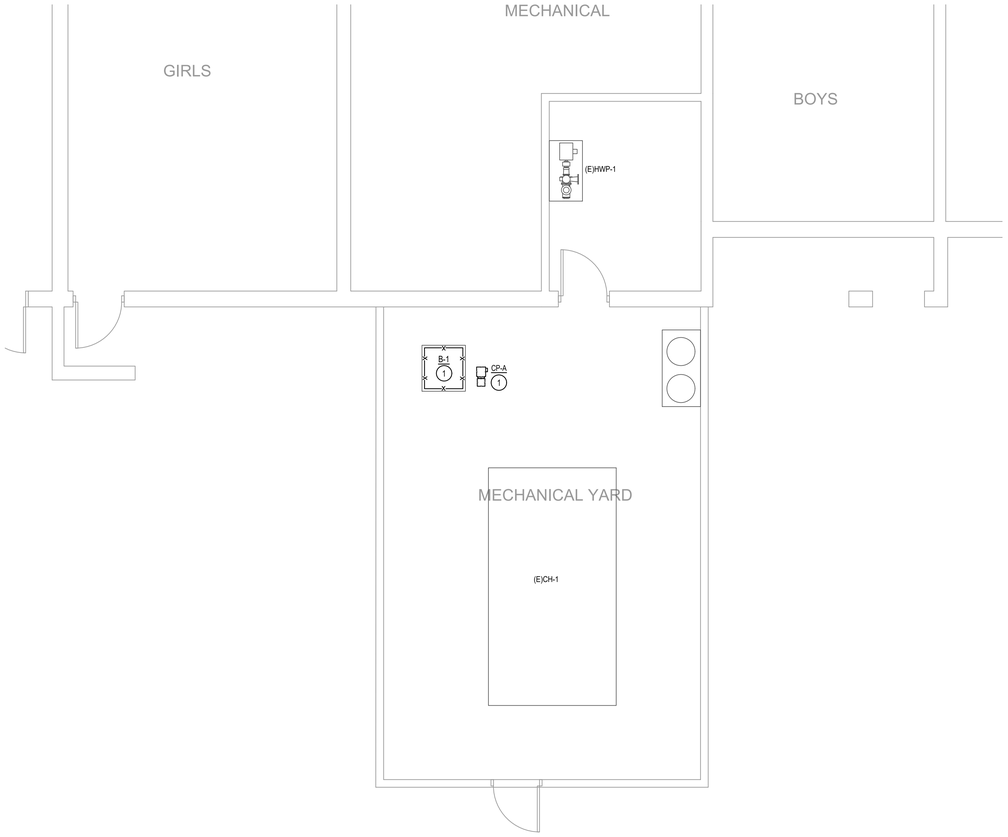
DISCONNECT AND REMOVE	——x——x——x——
EXISTING TO REMAIN	———— ———— ————
NEW WORK	————————



NORTH

2 ELECTRICAL FLOOR PLAN - CENTRAL PLANT - HALL A - BEAUMONT UNITED HS

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



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - CENTRAL PLANT - HALL A -BEAUMONT UNITED HS

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

Project No: 2022-04652-00

Drawn By: AW

Checked By: JZ

Date: 04-06-2023

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BEAUMONT INDEPENDENT SCHOOL DISTRICT

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ELECTRICAL FLOOR PLANS - CENTRAL PLANT - HALL A - BEAUMONT UNITED HS

E1.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
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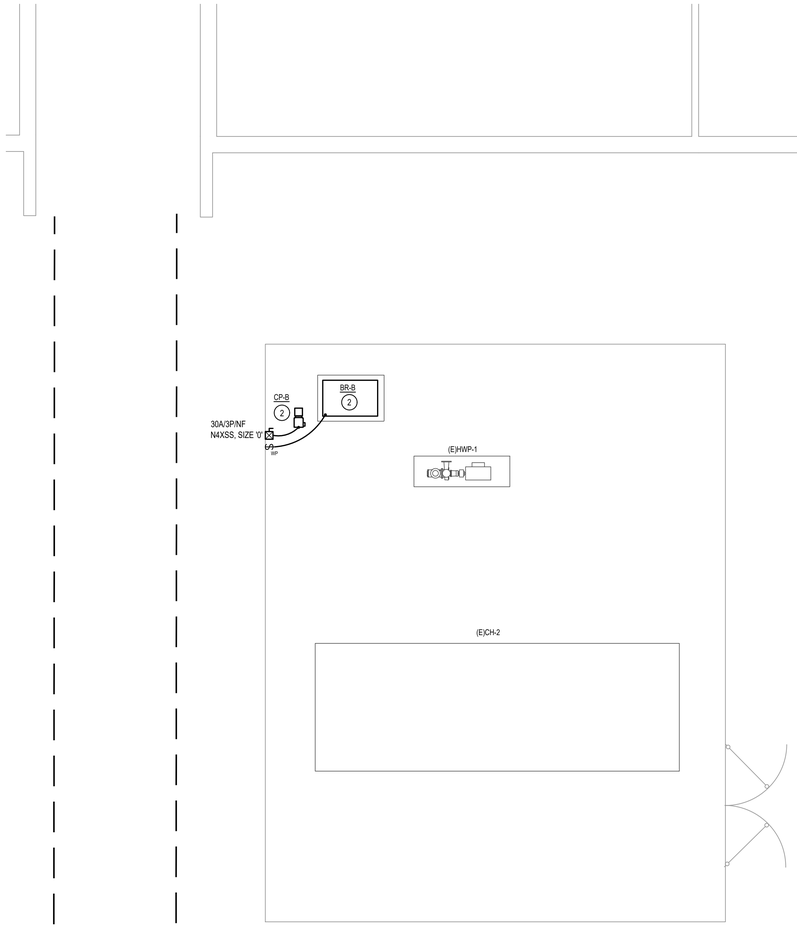
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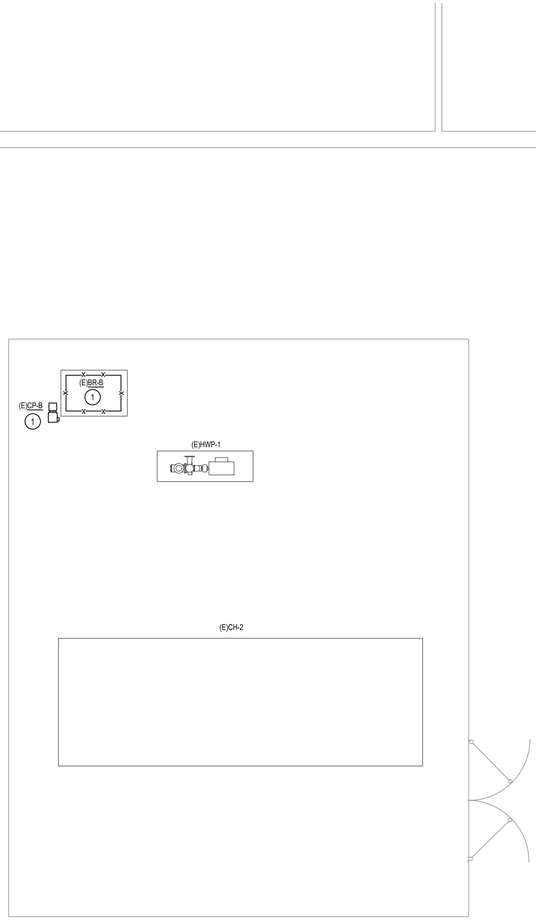
DISCONNECT AND REMOVE	——X——X——X——
EXISTING TO REMAIN	— — — — —
NEW WORK	————————



NORTH

2 ELECTRICAL FLOOR PLAN - CENTRAL PLANT - HALL B & C - BEAUMONT UNITED HS

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



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - CENTRAL PLANT - HALL B & C -BEAUMONT UNITED HS

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

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ELECTRICAL FLOOR PLANS - CENTRAL PLANT - HALL B & C - BEAUMONT UNITED HS

E1.2

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE, PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

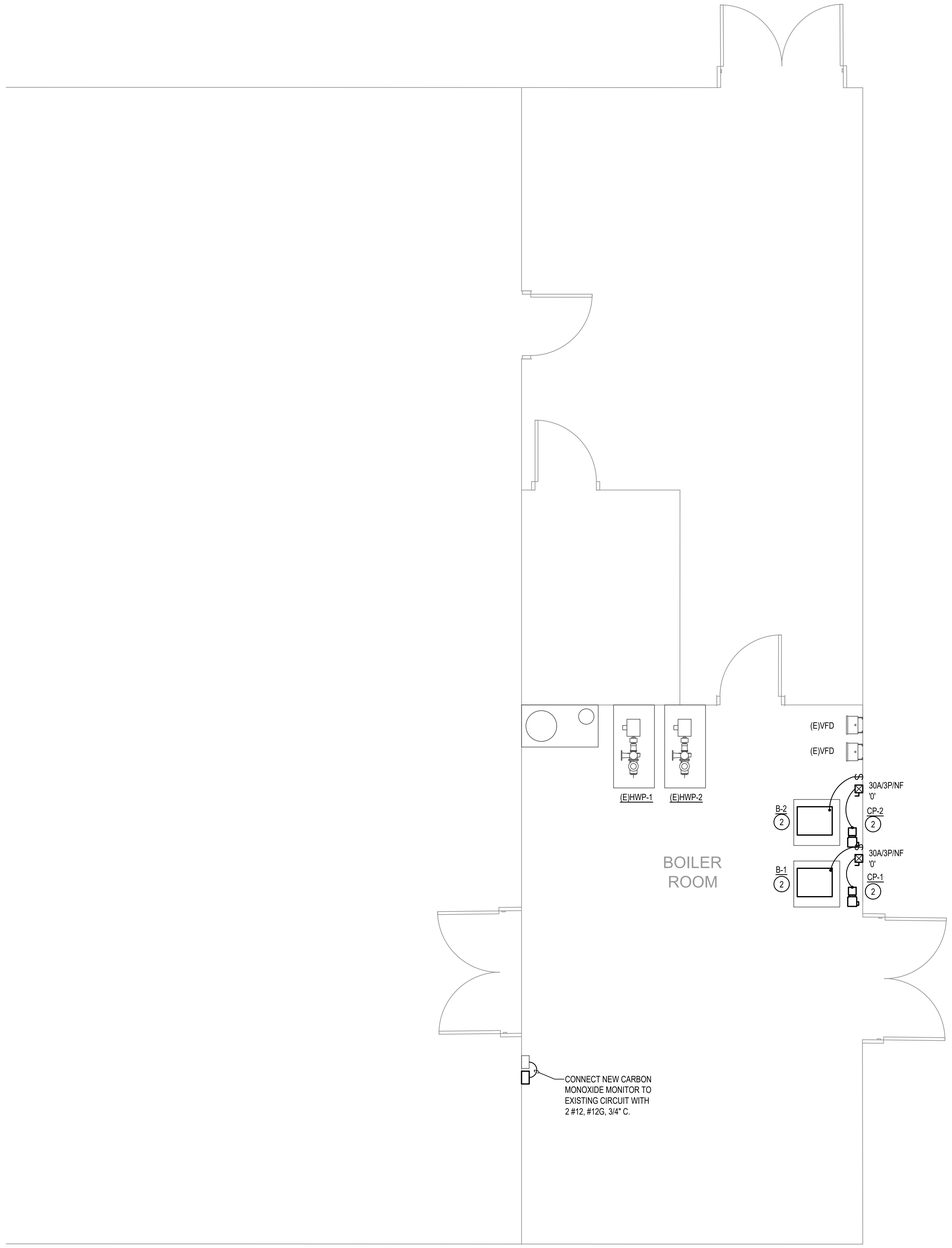
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LINETYPE LEGEND

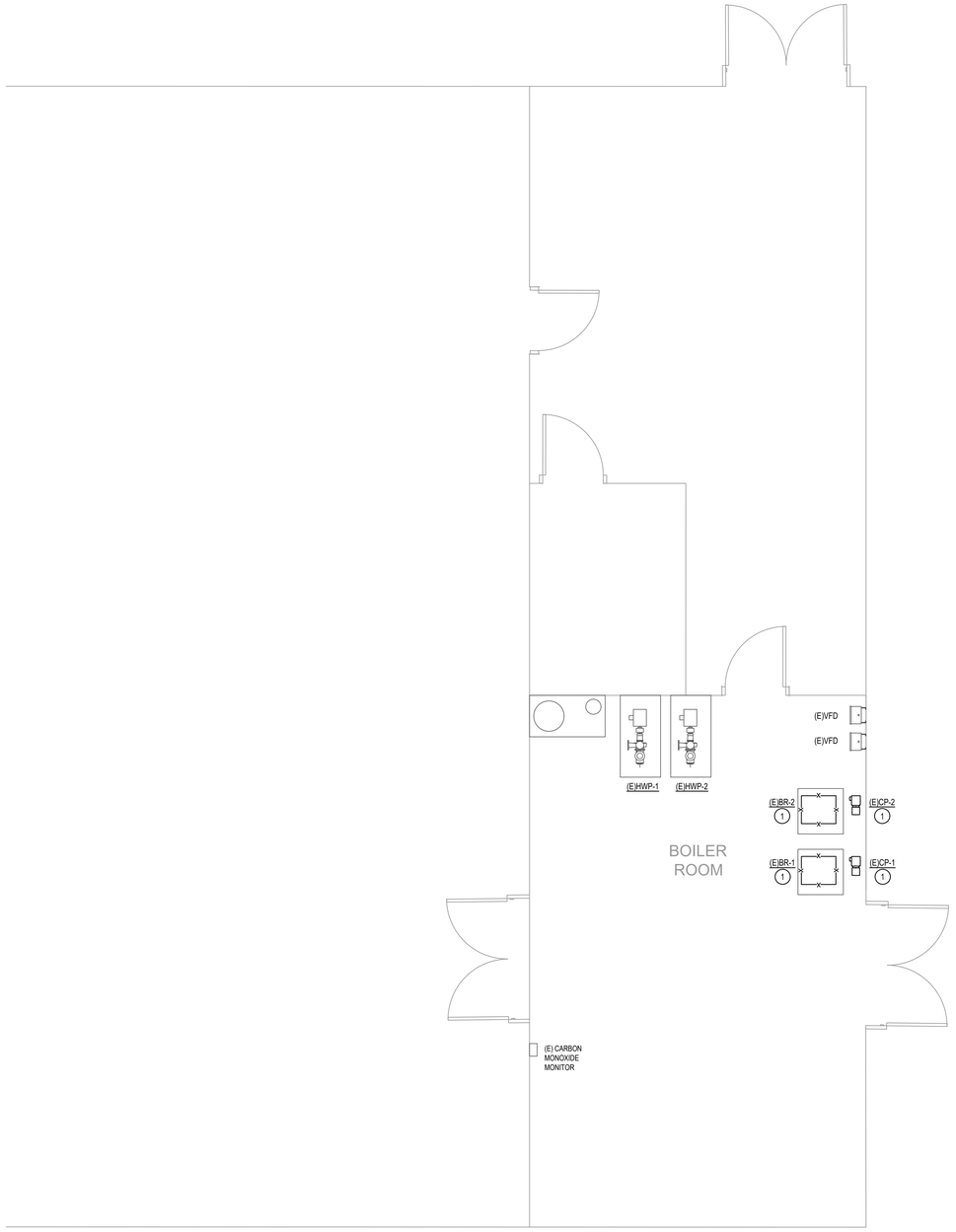
DISCONNECT AND REMOVE	——X——X——X——
EXISTING TO REMAIN	—— —— —— ——
NEW WORK	————————



NORTH

2 ELECTRICAL FLOOR PLAN - CENTRAL PLANT - PAC - BEAUMONT UNITED HS

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



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - CENTRAL PLANT - PAC -BEAUMONT UNITED HS

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

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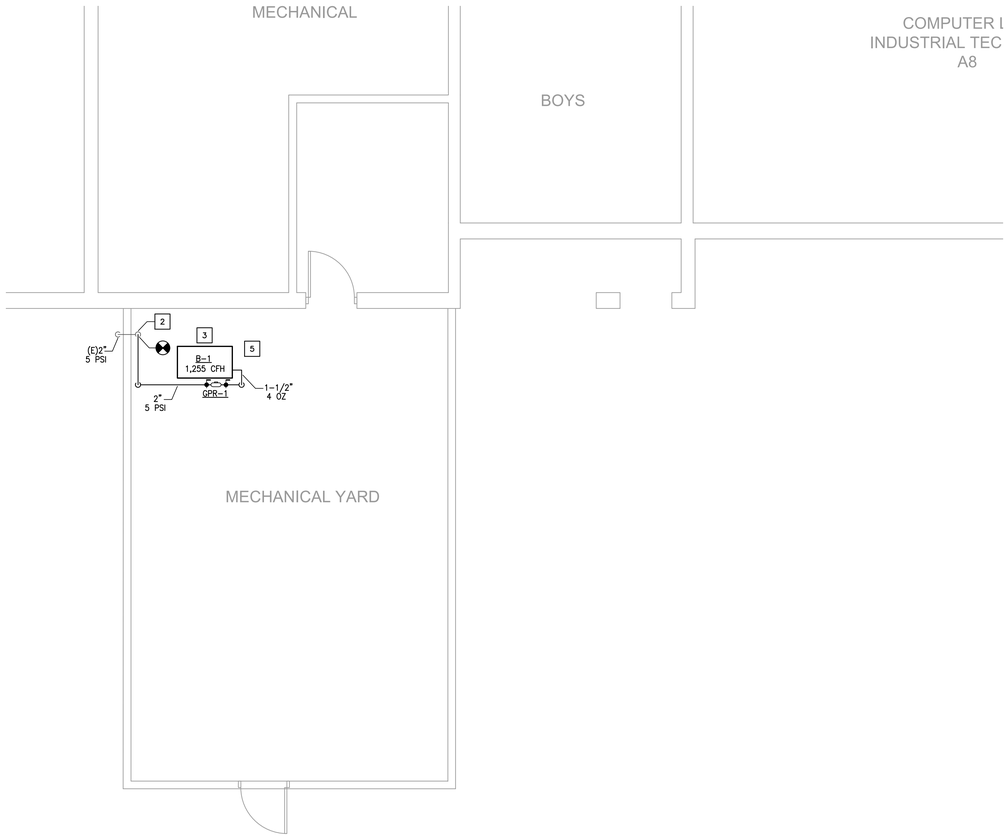
04-06-2023

ELECTRICAL FLOOR PLANS - CENTRAL PLANT - PAC - BEAUMONT UNITED HS

E1.3

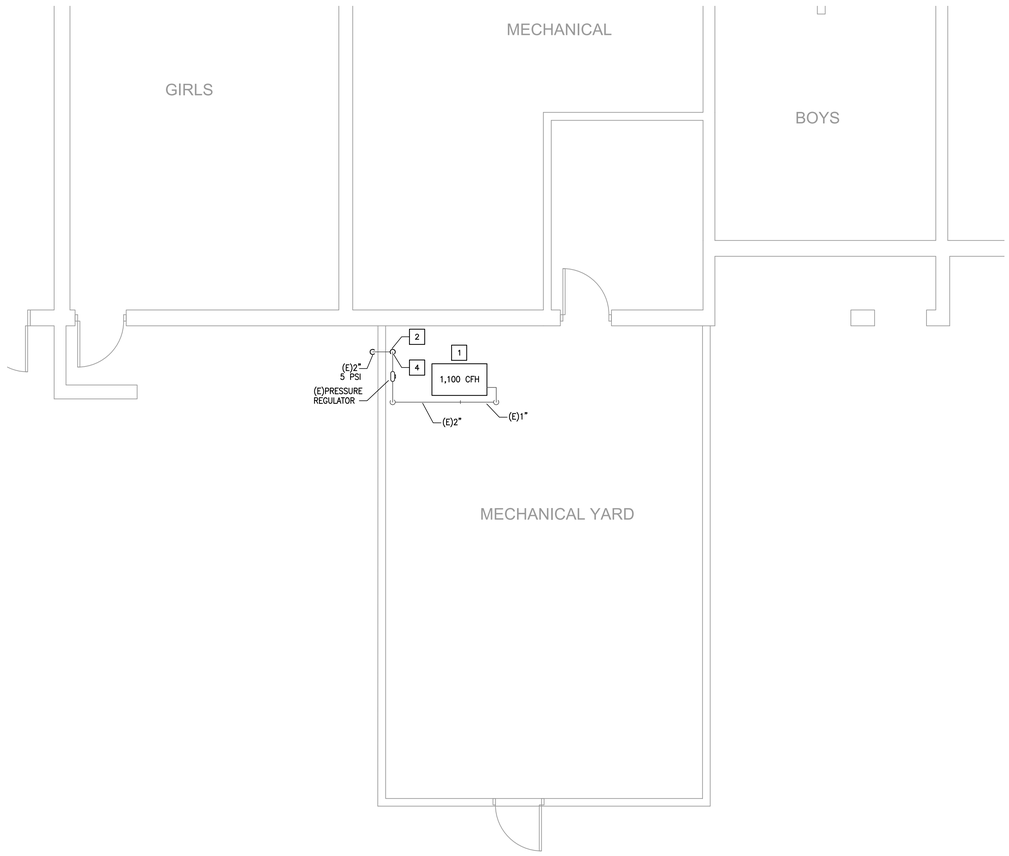
PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED AND REPLACED. REMOVE GAS PIPING SERVING BOILER BACK TO ELBOW UPSTREAM OF PRESSURE REGULATOR AS INDICATED. PREPARE FOR CONNECTION OF NEW GAS PIPING. PRESSURE REGULATOR TO BE REMOVED.
2. EXISTING GAS PIPING TO REMAIN.
3. 2" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (1,255 CFH). 1-1/2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER.
4. REMOVE PIPING BACK TO THIS POINT.
5. REFER TO P2.1 FOR RISER DIAGRAM.



NORTH

2 **PLUMBING FLOOR PLAN - CENTRAL PLANT - HALL A - BEAUMONT UNITED HS**
SCALE: 1/4" = 1'-0"



NORTH

1 **PLUMBING DEMOLITION FLOOR PLAN - CENTRAL PLANT - HALL A -BEAUMONT UNITED HS**
SCALE: 1/4" = 1'-0"

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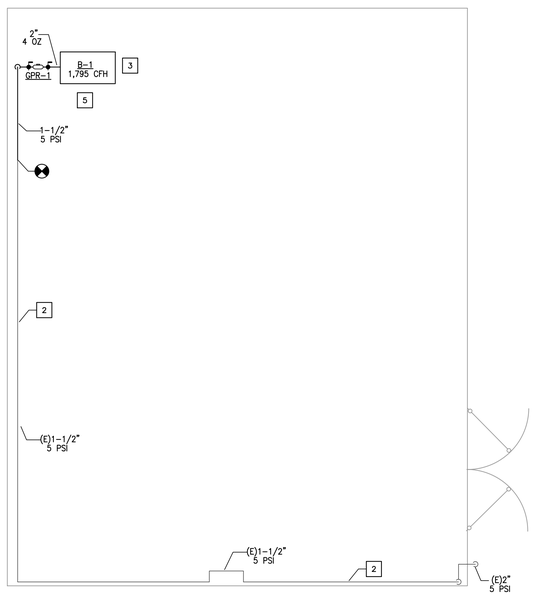
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PLUMBING FLOOR PLANS - CENTRAL PLANT - HALL A - BEAUMONT UNITED HS

P1.1

PLUMBING KEYNOTES

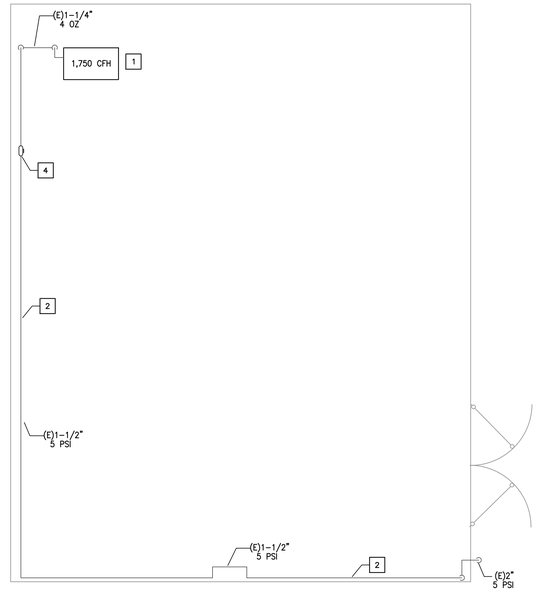
1. EXISTING BOILER TO BE REMOVED AND REPLACED. REMOVE GAS PIPING SERVING BOILER BACK TO ELBOW UPSTREAM OF PRESSURE REGULATOR AS INDICATED. PREPARE FOR CONNECTION OF NEW GAS PIPING. PRESSURE REGULATOR TO BE REMOVED.
2. EXISTING GAS PIPING TO REMAIN.
3. 1-1/2" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (1,795 CFH). 2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER.
4. REMOVE PIPING BACK TO THIS POINT.
5. REFER TO P2.1 FOR RISER DIAGRAM.



NORTH

2 **PLUMBING FLOOR PLAN - CENTRAL PLANT - HALL B & C - BEAUMONT UNITED HS**

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



NORTH

1 **PLUMBING DEMOLITION FLOOR PLAN - CENTRAL PLANT - HALL B & C -BEAUMONT UNITED HS**

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

Project No: 2022-04652-00

Drawn By: BR

Checked By: KBG

Date: 04-06-2023

Revision Dates:

CONSULTANTS

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FAX: 281-664-1912

SALAS O'BRIEN | expect a difference

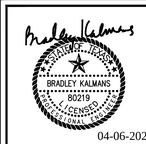
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Houston, Texas 77064
281.664.1900 | Registration No. F-4111

Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

BISD Preparing Our Next Generation



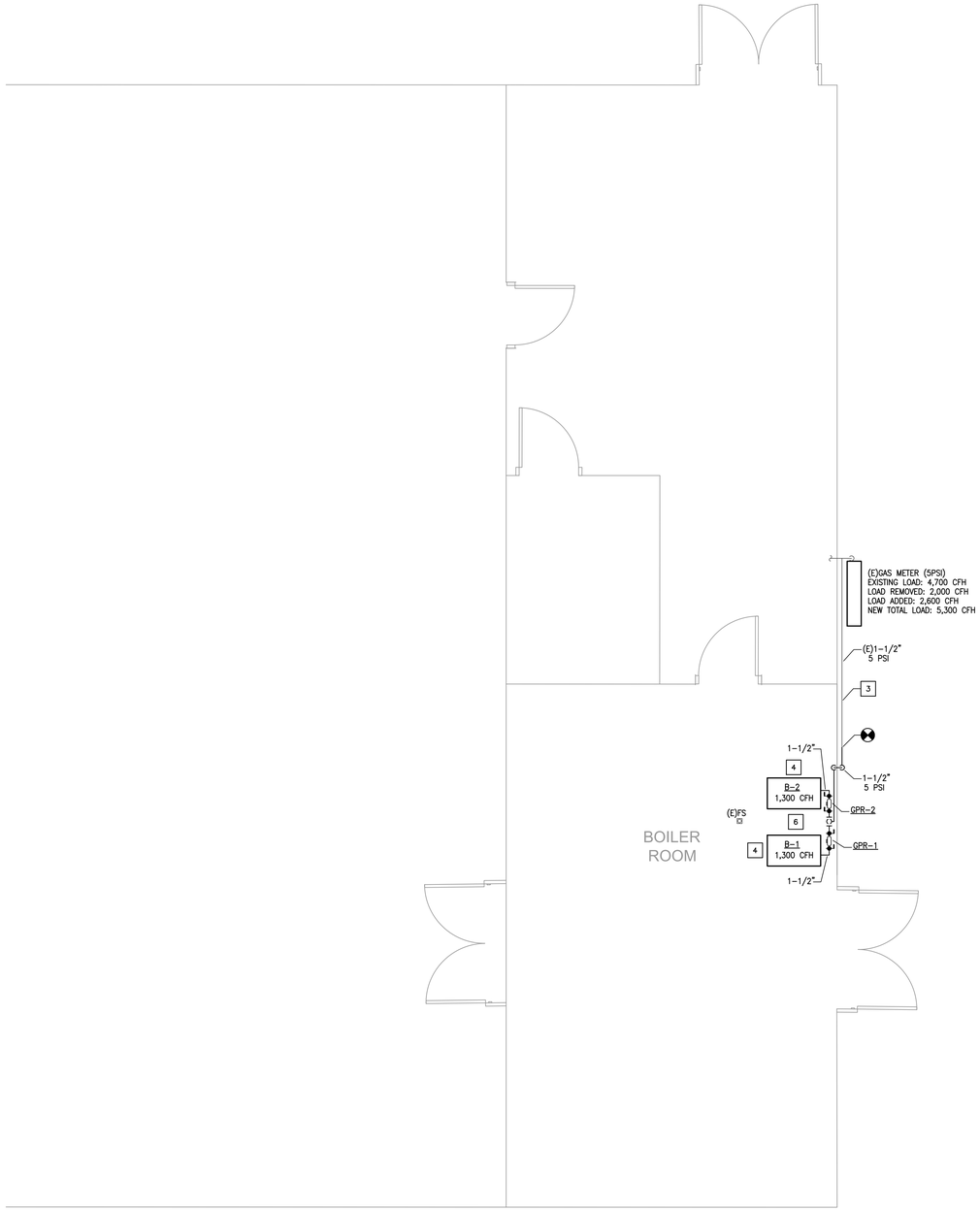
04-06-2023

PLUMBING FLOOR PLANS - CENTRAL PLANT - HALL B & C - BEAUMONT UNITED HS

P1.2

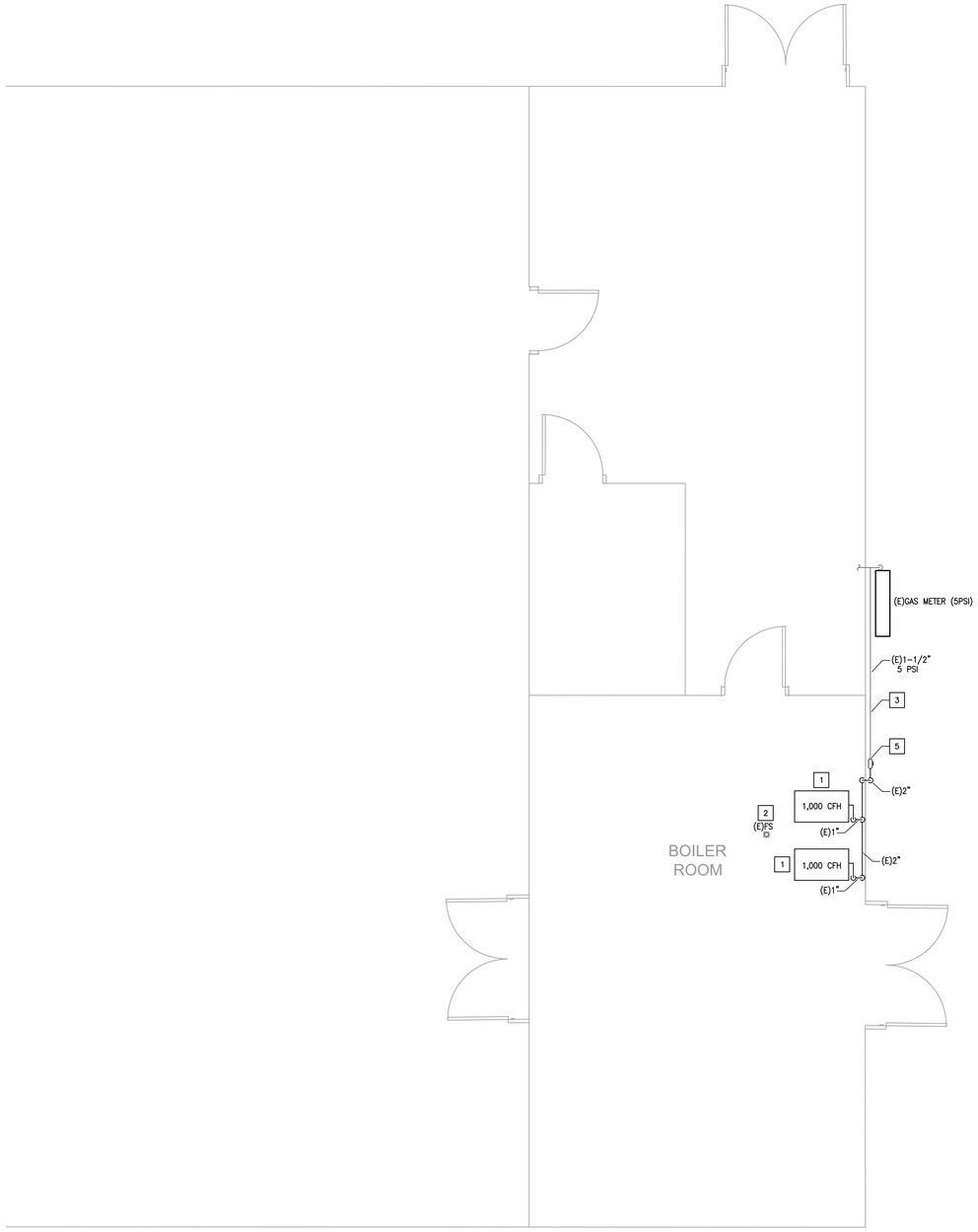
PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED AND REPLACED. REMOVE GAS PIPING SERVING BOILER BACK TO PRESSURE REGULATOR OUTSIDE AS INDICATED. PREPARE FOR CONNECTION OF NEW GAS PIPING. PRESSURE REGULATOR TO BE REMOVED.
2. EXISTING FLOOR DRAIN TO REMAIN.
3. EXISTING GAS PIPING TO REMAIN.
4. 1-1/2" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (1,300 CFH). 1-1/2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER. ROUTE VENT PIPING FROM PRESSURE REGULATORS TO EXTERIOR WALL.
5. REMOVE PIPING BACK TO THIS POINT.
6. REFER TO P2.1 FOR RISER DIAGRAM.



NORTH

2 **PLUMBING FLOOR PLAN - CENTRAL PLANT - PAC - BEAUMONT UNITED HS**
SCALE: 1/4" = 1'-0"



NORTH

1 **PLUMBING DEMOLITION FLOOR PLAN - CENTRAL PLANT - PAC -BEAUMONT UNITED HS**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: BR
Checked By: KBG
Date: 04-06-2023
Revision Dates:

CONSULTANTS

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

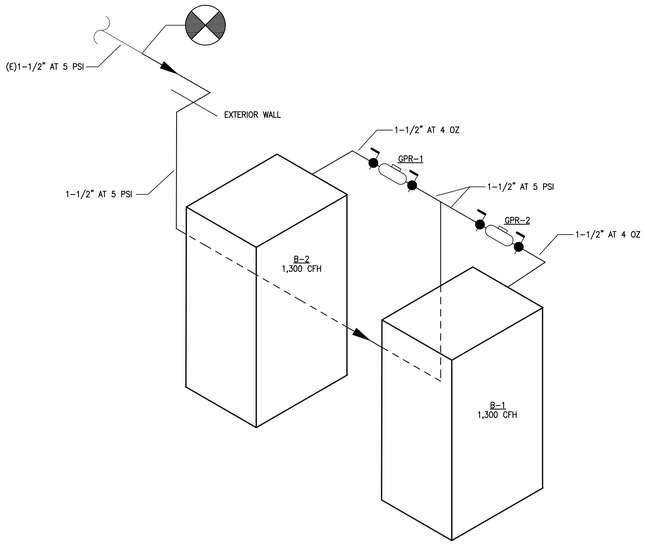
BEAUMONT INDEPENDENT SCHOOL DISTRICT

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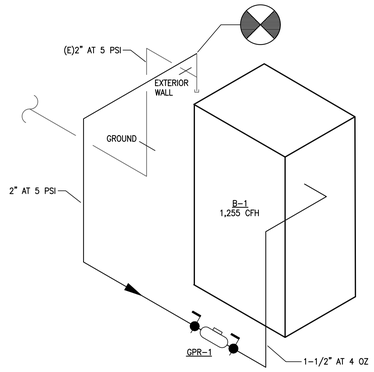
BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
04-06-2023

PLUMBING FLOOR PLANS - CENTRAL PLANT - PAC - BEAUMONT UNITED HS

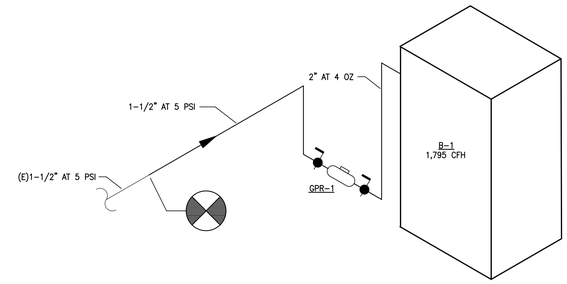
P1.3



1 **GAS RISER DIAGRAM - PAC**
SCALE: NA



2 **GAS RISER DIAGRAM - A HALL**
SCALE: NA



3 **GAS RISER DIAGRAM - B&C HALL**
SCALE: NA

PAC

GAS EQUIPMENT

EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	1,300,000 BTUH	1,300,000 BTUH	1,300 CFH
B-2	NEW BOILER	1,300,000 BTUH	1,300,000 BTUH	1,300 CFH
TOTALS:			2,600,000 BTUH	2,600 CFH

INLET PRESSURE MAX 10.5 W.C. MIN 4.2 W.C. INLET CONNECTION 1-1/4".

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER RM	B-1	1,300	5 PSI – INLET 4 OZ. – OUTLET
GPR-2	GAS PRESSURE REGULATOR	BOILER RM	B-2	1,300	5 PSI – INLET 4 OZ. – OUTLET

GENERAL NOTES:
1. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.

A HALL

GAS EQUIPMENT

EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
TOTALS:			1,255,000 BTUH	1,255 CFH

INLET PRESSURE MAX 14 W.C. MIN 4 W.C. INLET CONNECTION 2".

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER AREA	B-1	1,255	5 PSI – INLET 4 OZ. – OUTLET

GENERAL NOTES:
1. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.

B&C HALL

GAS EQUIPMENT

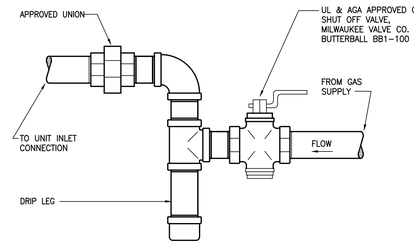
EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	1,795,000 BTUH	1,795,000 BTUH	1,795 CFH
TOTALS:			1,795,000 BTUH	1,795 CFH

INLET PRESSURE MAX 14 W.C. MIN 4 W.C. INLET CONNECTION 2".

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER AREA	B-1	1,795	5 PSI – INLET 4 OZ. – OUTLET

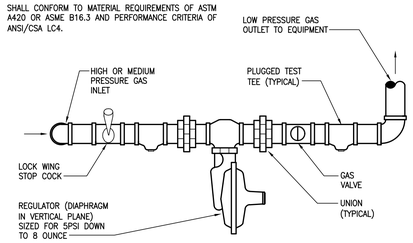
GENERAL NOTES:
1. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.



2 **GAS CONNECTION**
SCALE: NONE

PROVIDE AMERICAN METER COMPANY REGULATORS OR APPROVED EQUAL, SUITABLE FOR OUTDOOR INSTALLATION. REGULATORS OUTSIDE EXPOSED TO WEATHER SHALL BE INSTALLED WITH VENT IN VERTICAL DOWN POSITION.

SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA OF ANSI/CSA LC4.



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

1 **GAS PRESSURE REGULATOR INSTALLATION**
SCALE: NONE

Project No: 2022-04652-00
Drawn By: BR
Checked By: KBG
Date: 04-06-2023
Revision Dates:

CONSULTANTS
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10930 W. Sam Houston Parkway N., Suite 900
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281.664.1900 | Registration No. F-4111
Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BISD Preparing Our Next Generation

BRADLEY KALMANS 80219 LICENSED PROFESSIONAL ENGINEER
04-06-2023

PLUMBING DETAILS - BEAUMONT UNITED HS

P2.1

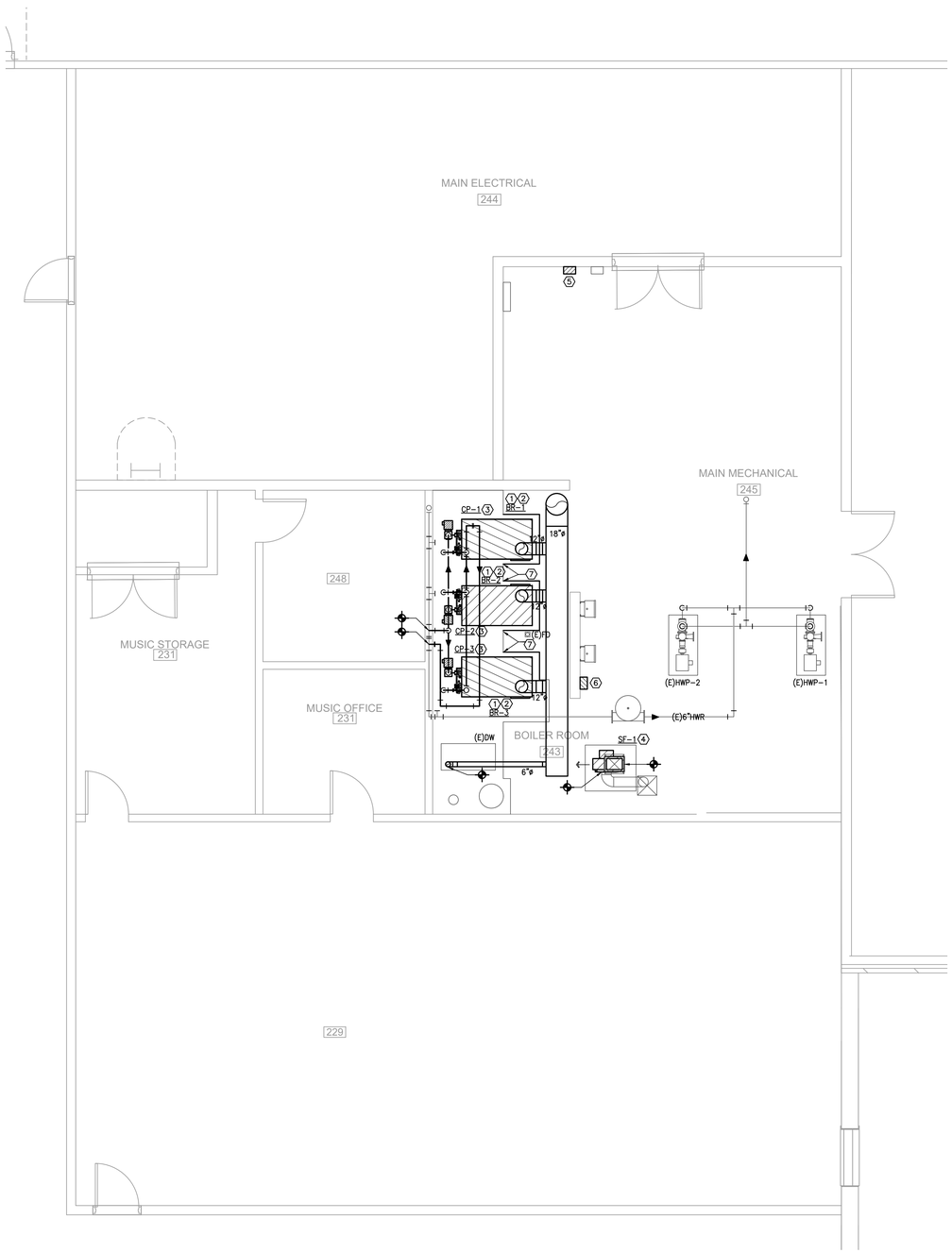
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. PROVIDE NEW SUPPLY FAN TIE IN TO EXISTING SUPPLY DUCTWORK AND EXISTING OA DUCTWORK. MODIFY AS NECESSARY.
5. PROVIDE CARBON MONOXIDE MONITORING STATION. MOUNT ENCLOSURE AT 5'-0" AFF. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
6. PROVIDE NEW BOILER SYSTEM VENT CONTROLLER. INTERLOCK SF & EF. REFER TO BOILER SPECIFICATION FOR ADDITIONAL INFORMATION.
7. CONCRETE EXTENSION TO EXISTING CONCRETE PAD. NOTCH OUT CONTRETE EXTENSION TO AVOID EXISTING FLOOR SINK.



NORTH

2 **MECHANICAL FLOOR PLAN - BLANCHETTE ES**
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

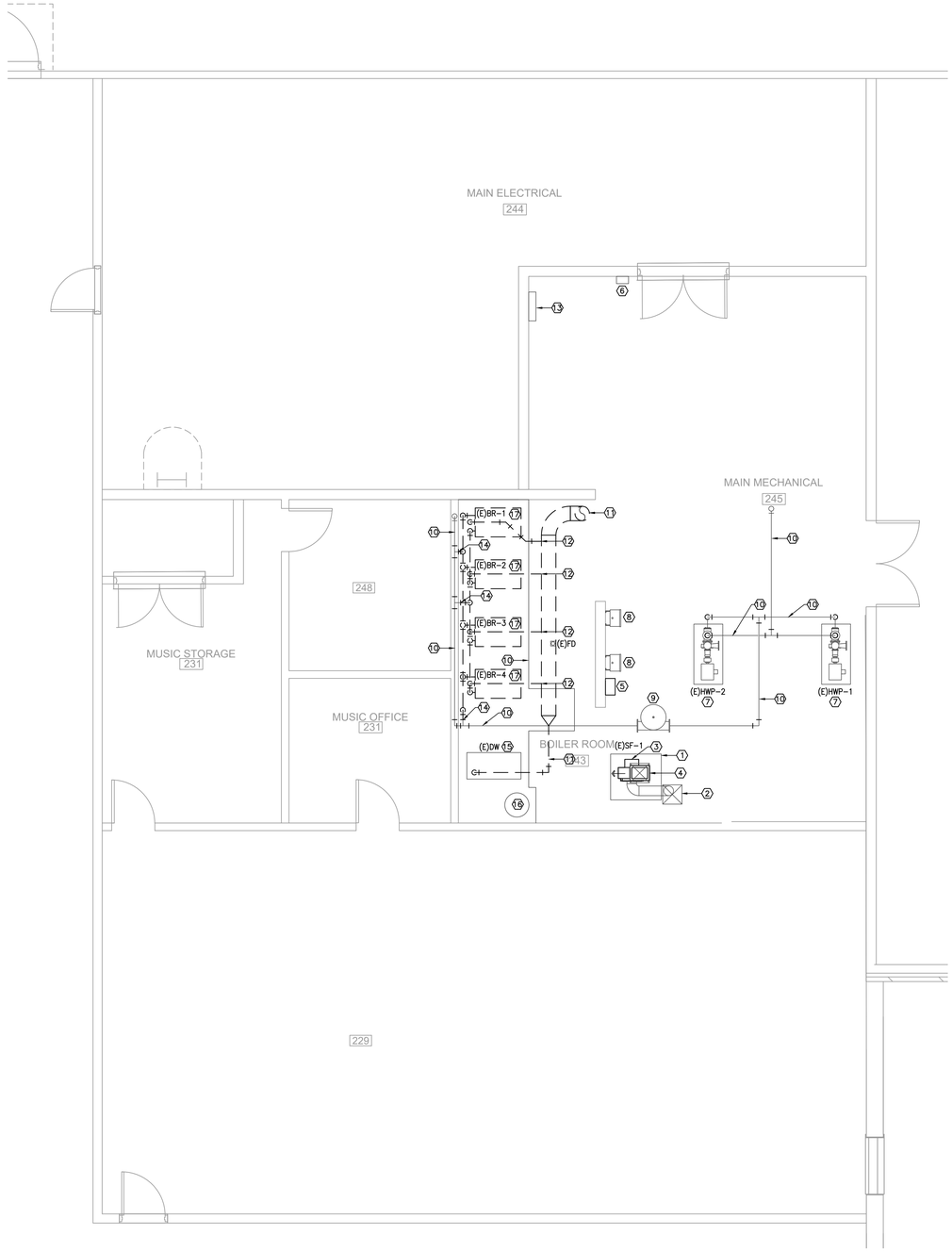
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND

RENOVATIONS	
▭	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED
✦	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING OA DUCTWORK SHALL REMAIN.
3. EXISTING FLOOR MOUNTED SUPPLY FAN SHALL BE REMOVED.
4. EXISTING SUPPLY DUCTWORK, SIDEWALL GRILLES, AND ASSOCIATED APPURTENANCES, SHALL REMAIN.
5. EXISTING EXHAUST FAN PANEL SHALL BE REMOVED.
6. EXISTING CO (CARBON MONOXIDE) MONITOR PANEL SHALL REMAIN.
7. EXISTING HOT WATER PUMP SHALL REMAIN.
8. EXISTING VFD SHALL REMAIN.
9. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
10. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
11. EXISTING FLUE VENT SHALL BE REMOVED. MODIFY FLOOR PENETRATION TO ACCOMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
12. EXISTING BRANCH FLUE VENT SHALL BE REMOVED BACK TO THIS POINT.
13. EXISTING BMCS CONTROL PANEL SHALL REMAIN.
14. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
15. EXISTING DOMESTIC WATER HEATER SHALL REMAIN. EXISTING BRANCH FLUE VENT SHALL BE REMOVED.
16. EXISTING HW EXPANSION TANK SHALL REMAIN.
17. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - BLANCHETTE ES**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

CONSULTANTS

MEP ENGINEERS

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SALAS O'BRIEN | expect a difference
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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

BISD Preparing Our Next Generation



MECHANICAL FLOOR PLANS - BLANCHETTE ES

M1.1

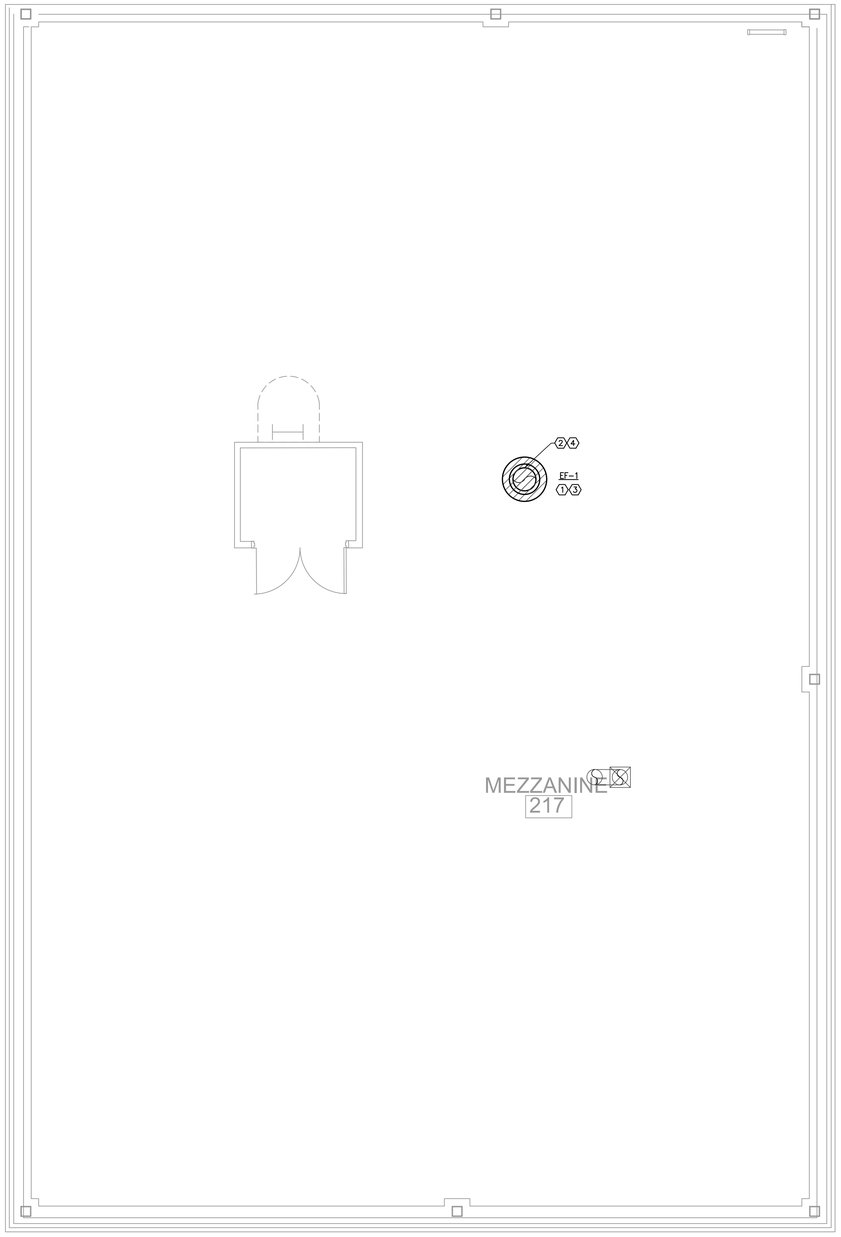
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. ROUTE FLUE UP THRU MEZZANINE PENETRATION TO ROOF PENETRATION AND EXHAUST FAN ON ROOF.
3. PROVIDE NEW FLUE ASSIST EXHAUST FAN AT EXISTING ROOF PENETRATION. PROVIDE NEW ROOF CURB.
4. PROVIDE THROUGH PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH CHAPTER 7 OF THE 2018 IBC.



NORTH

2 **MECHANICAL MEZZANINE PLAN - BLANCHETTE ES**
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

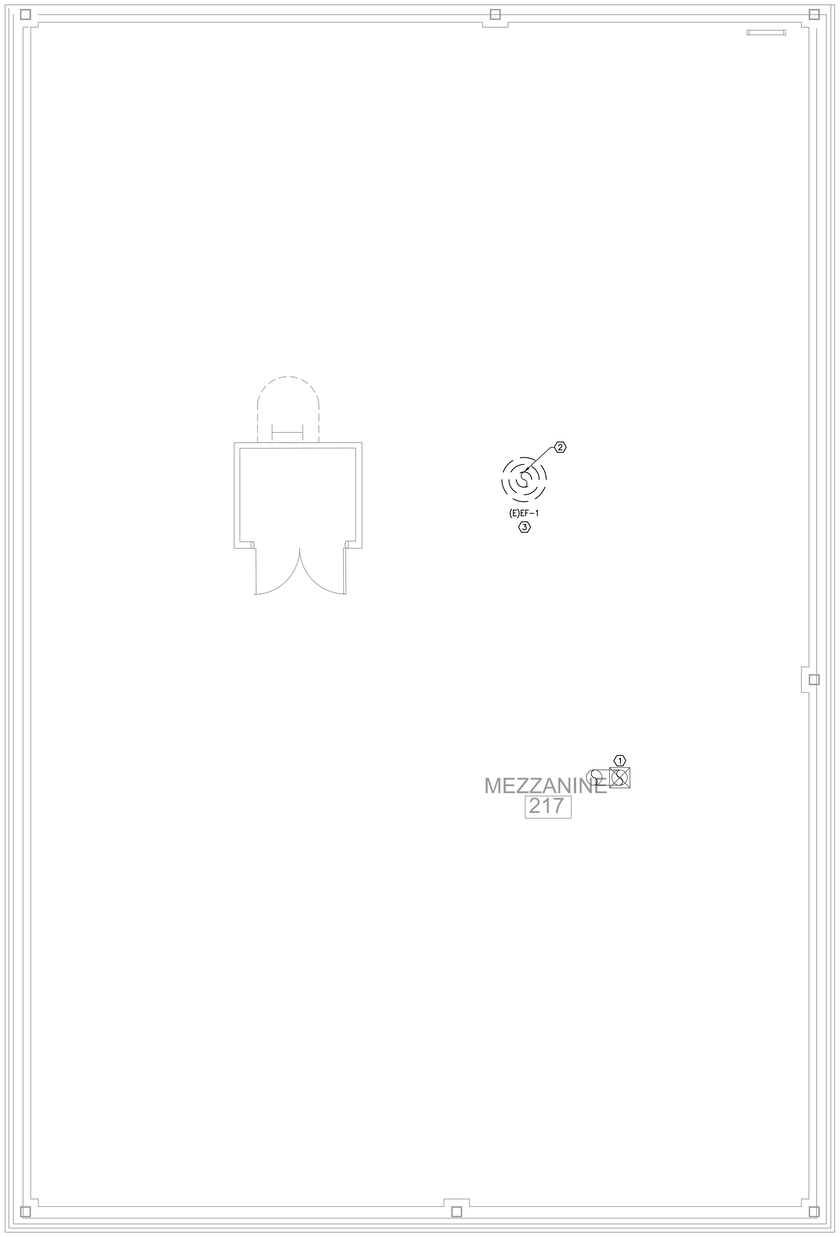
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND

RENOVATIONS	
▭	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED
◆	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING COMBUSTION AIR DUCTWORK SHALL REMAIN.
2. EXISTING FLUE VENT TO BE REMOVED UP TO EXHAUST FAN ON ROOF. EXISTING MEZZANINE FLOOR PENETRATION TO REMAIN. MODIFY FLOOR PENETRATION TO ACCOMMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
3. EXISTING EXHAUST FAN ON ROOF TO BE REMOVED. EXISTING ROOF PENETRATION TO REMAIN.



NORTH

1 **MECHANICAL DEMOLITION MEZZANINE PLAN - BLANCHETTE ES**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

CONSULTANTS

MEP ENGINEERS

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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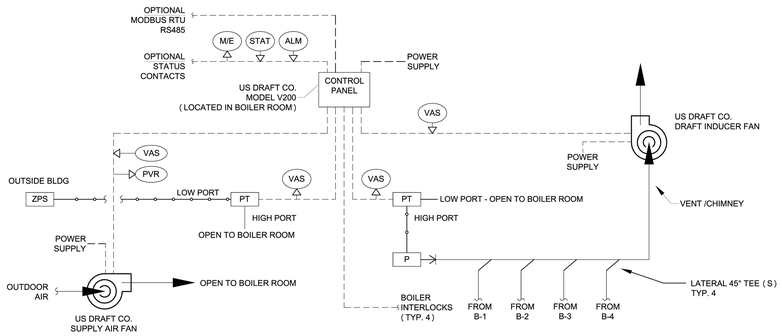
BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
04-06-2023

MECHANICAL MEZZANINE PLANS - BLANCHETTE ES

M1.2

SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
(#)	NOTE SPECIFIC TO DETAIL TAG
1	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	THERMOSTAT AND TEMPERATURE SENSOR
H	HUMIDISTAT
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
AIR DEVICES	
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWSAR-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CWS-	CONDENSER WATER SUPPLY
-CWR-	CONDENSER WATER RETURN
-CHWSAR-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CHWS-	CHILLED WATER SUPPLY
-CHWR-	CHILLED WATER RETURN
-HWSAR-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-HWS-	HOT WATER FOR HYDRONIC HEATING SUPPLY
-HWR-	HOT WATER FOR HYDRONIC HEATING RETURN
-D-	CONDENSATE DRAIN LINE
-AD-	AUXILLARY CONDENSATE DRAIN LINE
-RLR-	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-RL-	REFRIGERANT LIQUID LINE
-HG-	REFRIGERANT HOT GAS LINE
-RS-	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
FM	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
GA	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR



Application:	VCS & PAS Diagram
Control System:	V200-VP
Date: 10/05/17	Version: 1.0 / DWG Rev: 0 / Page #: 1 of 1
Draft Inducer Voltage:	120/ 208-230 1PH
	US Draft Co. Phone: (817) 393-4029 www.usdraftco.com
	Controller Output / Controller Input
	Field Wiring Refer to specifications for voltage, amperage, and wiring type
	Pneumatic Tubing for pressure reference
	Vent or Duct
ALM	Alarm output
M/E	Master Enable: input of controller
P	Stack Pressure Probe
PT	Pressure Transducer -1 to 1 in. WC
PVR	Supply Fan Proving Device Output CS75 Current Switch or GFS Differential Pressure Switch
STAT	System run status
VAS	Variable Analog Signal 0-10VDC
ZPS	Outdoor Air Static Pressure Pickup Port

FAN CONTROL SEQUENCE (VCS: VENT CONTROL SYSTEM / PAS: PRESSURE AIR SYSTEM)

1. EACH HEATING APPLIANCE SHALL BE INTERLOCKED WITH THE CONTROL PANEL. UPON A CALL FOR HEAT, THE CONTROL PANEL SHALL ACTIVATE THE DRAFT INDUCER FAN TO ESTABLISH DRAFT IN THE CHIMNEY SYSTEM. THE SUPPLY AIR FAN SHALL START TO ESTABLISH THE REQUIRED PRESSURE IN THE COMBUSTION AIR DUCT OR BOILER ROOM. ALL EXTERNAL MECHANICAL LIMITS ARE MONITORED FOR STATUS. ONCE ALL THESE CONDITIONS ARE MET THE CONTROL SYSTEM WILL RELEASE THE FLAME PROGRAMMER OR GAS VALVE OF THE APPLIANCE CALLING FOR HEAT. THE SEQUENCE IS REPEATED EVERY TIME AN INITIAL APPLIANCE CALLS FOR HEAT. EACH ADDITIONAL CALL FOR HEAT THE CONTROL WILL NOT DELAY THE SEQUENCING OF THE ADDITIONAL HEATING APPLIANCES.

2. WHEN APPLIANCES SHUT DOWN BOTH THE DRAFT INDUCER FAN AND THE SUPPLY AIR FAN WILL WILL CONTINUE TO RUN IN POST-PURGE MODE FOR A SET PERIOD OF TIME TO REMOVE RESIDUAL FLUE GASES.

3. ONCE THE POST-PURGE CYCLE IS COMPLETED THE SYSTEM SECURES AND THE CONTROL PANEL ENTERS STAND-BY MODE.

4. IF PROPER DRAFT CANNOT BE MAINTAINED OR AN EXTERNAL MECHANICAL LIMIT OPENS BECAUSE OF MECHANICAL OR ELECTRICAL FAILURE, THE CONTROL WILL GO IN ALARM MODE AND THE INTEGRATED PROVEN DRAFT FUNCTION WILL SHUT DOWN ALL THE APPLIANCES WITHIN 15 SECONDS . WHILE IN ALARM MODE, THE CONTROL CONSTANTLY MONITORS THE DRAFT AND LIMIT INPUTS. IF THE FAILURE CORRECTS ITSELF OR IS CORRECTED VIA INTERVENTION, THE SYSTEM WILL RESTART AUTOMATICALLY. IF THE FAILURE IS NOT CORRECTED BEFORE THE ADJUSTABLE SYSTEM RELEASE FAULT TIMER EXPIRES, THE CONTROL WILL DISABLE AND LOCKOUT THE SYSTEM FOR FREEZE PROTECTION.

5. WHEN THE FAN TEST IS ENABLED, THE CONTROL PANEL WILL RUN A SELF DIAGNOSTIC ON THE STATUS OF THE VENT SYSTEM EACH HEATING CYCLE TO VERIFY THAT THE SYSTEM IS FUNCTIONING PROPERLY. IF THE FAN TEST FAILS, THE CONTROL PANEL WILL ALARM, LOCKOUT SYSTEM AND ANNUNCIATE THE TEST FAILURE.

6. ATC CONTRACTOR, MECHANICAL CONTRACTOR, EQUIPMENT MANUFACTURER, GENERAL CONTRACTOR, DESIGN ENGINEER, AND COMMISSIONING ENGINEER SHALL MEET PRIOR TO SUBMITTING SHOP DRAWINGS TO REVIEW COORDINATION AND IMPLEMENTATION OF THE SPECIFIED CONTROL SEQUENCE OF BOILER/BOILER/CONTROLLER/HOT WATER SYSTEM, EXHAUST BOILER FLUE/MAKE UP AIR SYSTEM, AND ROOF TOP UNITS.

3 **VCS & PAS DIAGRAM**
SCALE: NO SCALE

FAN SCHEDULE

MARK	LOCATION	CFM	MAXIMUM RPM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER	CURRENT CHARAC.	LOCALLY SWITCHED BY	INTERLOCKED WITH	FAN TYPE	BELT/DIRECT DRIVE	MANUFACTURER	MODEL NUMBER	REMARKS
EF-21	BOILER ROOM	1830	1950	.25	1	120/1/60	–	BR-1,2,3,(E)DWH	CHIMNEY	DIRECT	US DRAFT CO.	CBX22	(1,2,3,4,5,6,7)
SF-1	BOILER ROOM	1110	1950	1.25	1/2	120/1/60	–	EF-21	CENTRIFUGAL BLOWER	DIRECT	US DRAFT CO.	MEF015	(1,2,3,4,5,6,7)

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.
3. FAN SHALL BE CENTRIFUGAL, BELT DRIVEN TYPE UNLESS OTHERWISE SCHEDULED.

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH OSHA APPROVED MOTOR GUARD.
3. PROVIDE WITH BOILER SYSTEM VENT CONTROLLER (120V, 0.4 AMPS)
4. PROVIDE FAN WITH EC MOTOR.
5. PROVIDE WITH SPRING ISOLATION RAIL.
6. PROVIDE WITH TOP DISCHARGE.
7. PROVIDE WITH DRAIN AT BOTTOM OF FAN HOUSING.

PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MAXIMUM RPM	MOTOR HORSEPOWER	CURRENT	MANUFACTURER	MODEL	REMARKS
CP-1	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-2	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-3	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

BOILER - FORCED AIR

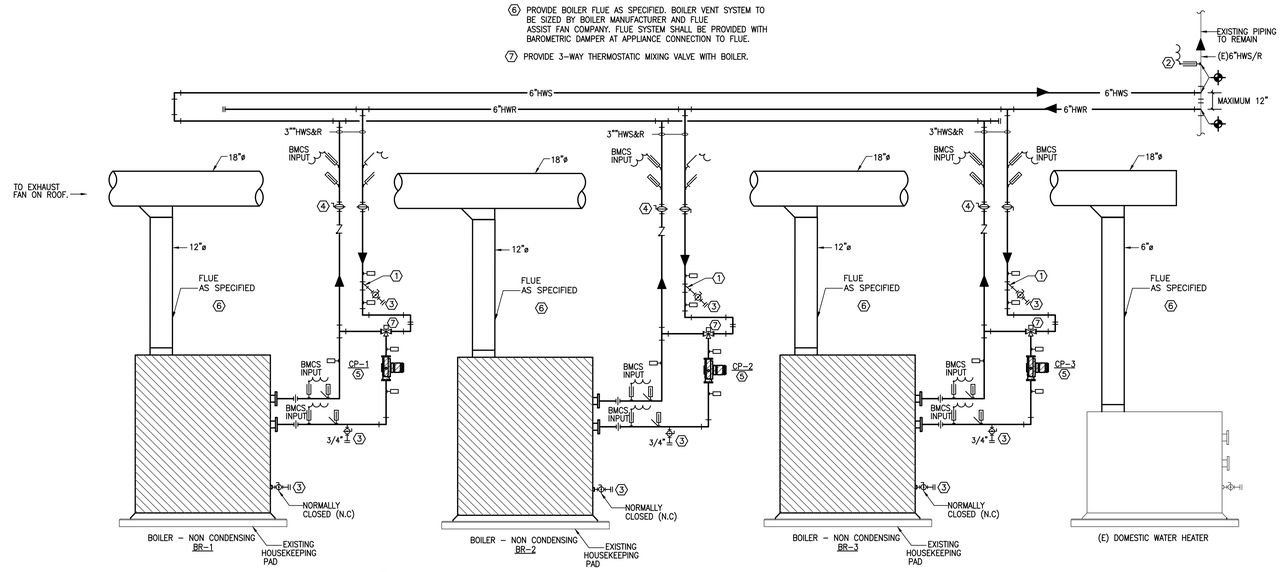
MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL: BLOWER HORSEPOWER	ELECTRICAL: CURRENT CHARAC. (V/PH/Hz)	MANUFACTURER	MODEL	REMARKS
BR-1	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-2	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-3	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

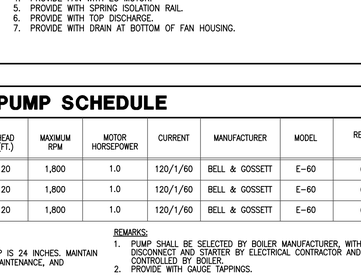
REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.
3 PROVIDE US DRAFT CO FLUE EXHAUST SYSTEM. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

MECHANICAL HOT WATER KEYED NOTES:

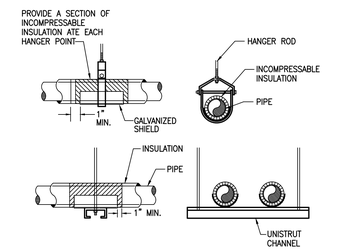
1. PROVIDE INLINE STRAINER.
2. HEADER TEMPERATURE SENSOR. PROVIDED BY BOILER MANUFACTURER.
3. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE UNLESS OTHERWISE NOTED.
4. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE.
5. CIRCULATING PUMP SIZED AND PROVIDED BY BOILER MANUFACTURER.
6. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
7. PROVIDE 3-WAY THERMOSTATIC MIXING VALVE WITH BOILER.



3 **PARTIAL HOT WATER PIPING DIAGRAM**
SCALE: NO SCALE



2 **MULTI-PIPE TRAPEZE HANGER**
SCALE: NONE PS001



1 **PIPE HANGERS**
SCALE: NONE PS002

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT
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Bradley Kalmans
REGISTERED
BRADLEY KALMANS
80219
LICENSED
04-06-2023

MECHANICAL DETAILS - BLANCHETTE ES

M2.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

ELECTRICAL KEYED NOTES:

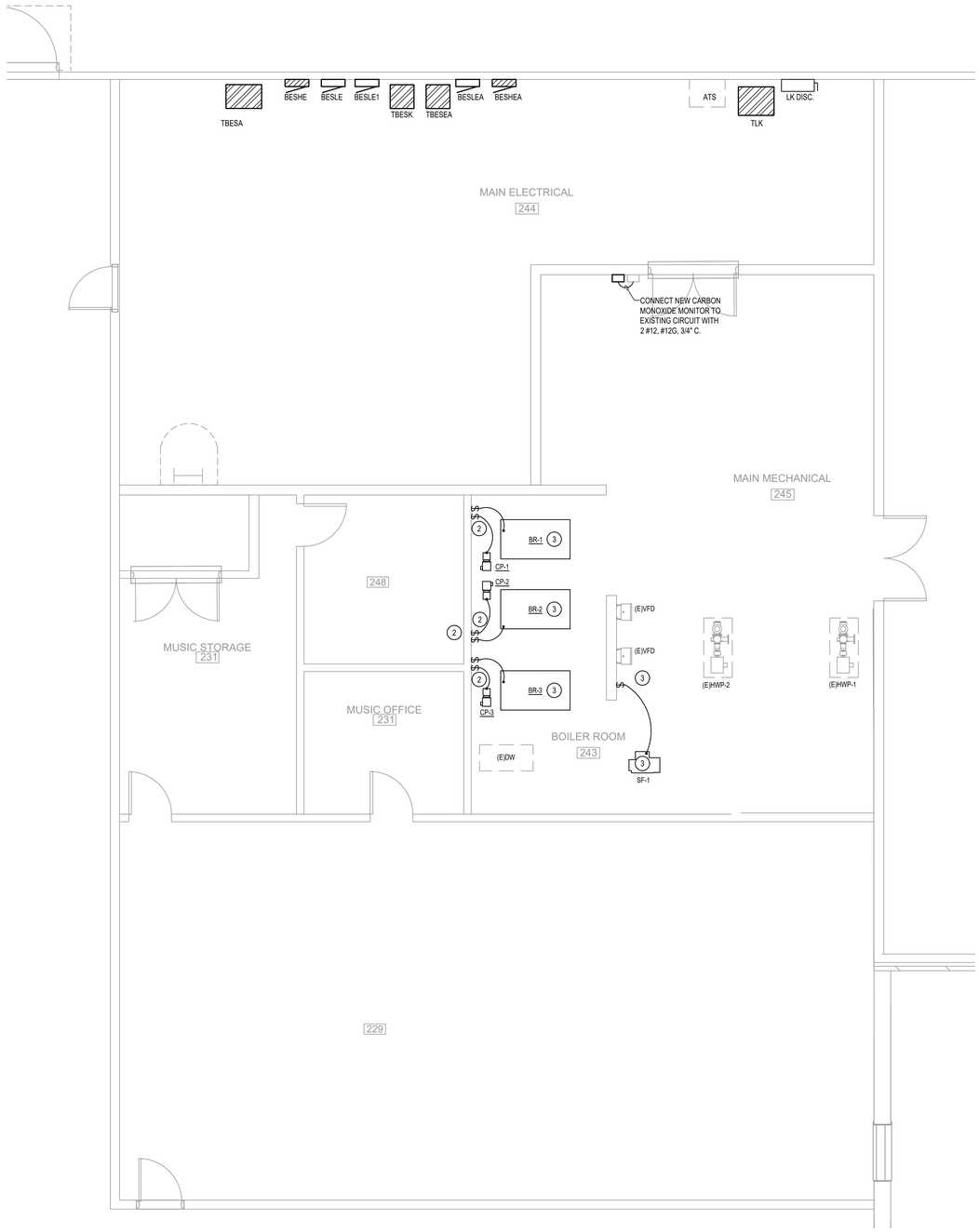
(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) 2#12, #12G IN 3/4"C TO 20A/1P SPARE BREAKER IN PANEL BESLE

(3) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

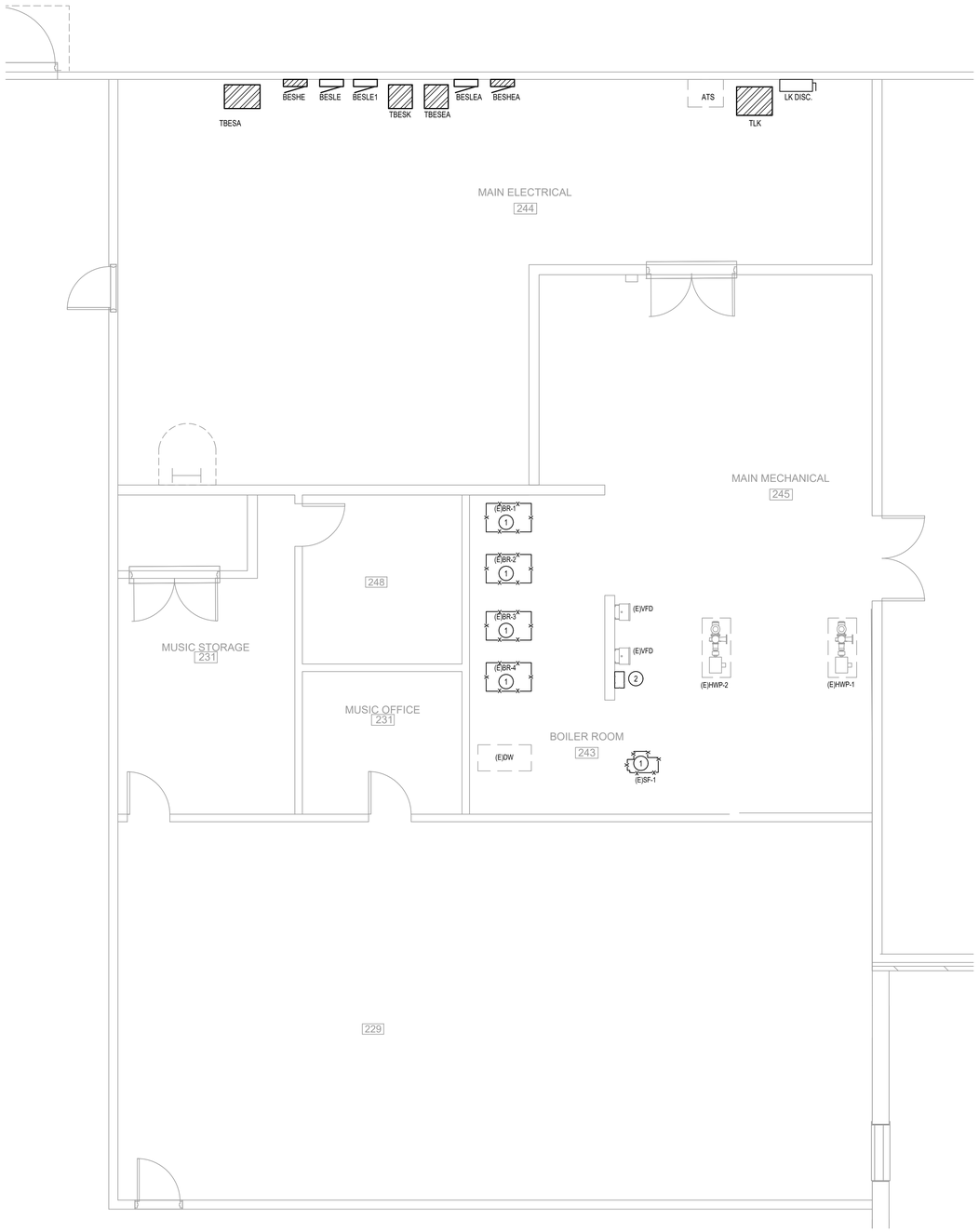
LINETYPE LEGEND

DISCONNECT AND REMOVE	—x—x—x—
EXISTING TO REMAIN	— — — —
NEW WORK	———



NORTH

2 ELECTRICAL FLOOR PLAN - BLANCHETTE ES
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - BLANCHETTE ES
SCALE: 1/4" = 1'-0"

Project No:	2022-04652-00
Drawn By:	AW
Checked By:	JZ
Date:	04-06-2023
Revision Dates:	

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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STATE OF TEXAS
BRADLEY KALMANS
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LICENSED
PROFESSIONAL
ENGINEER

04-06-2023

ELECTRICAL FLOOR PLANS - BLANCHETTE ES

E1.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

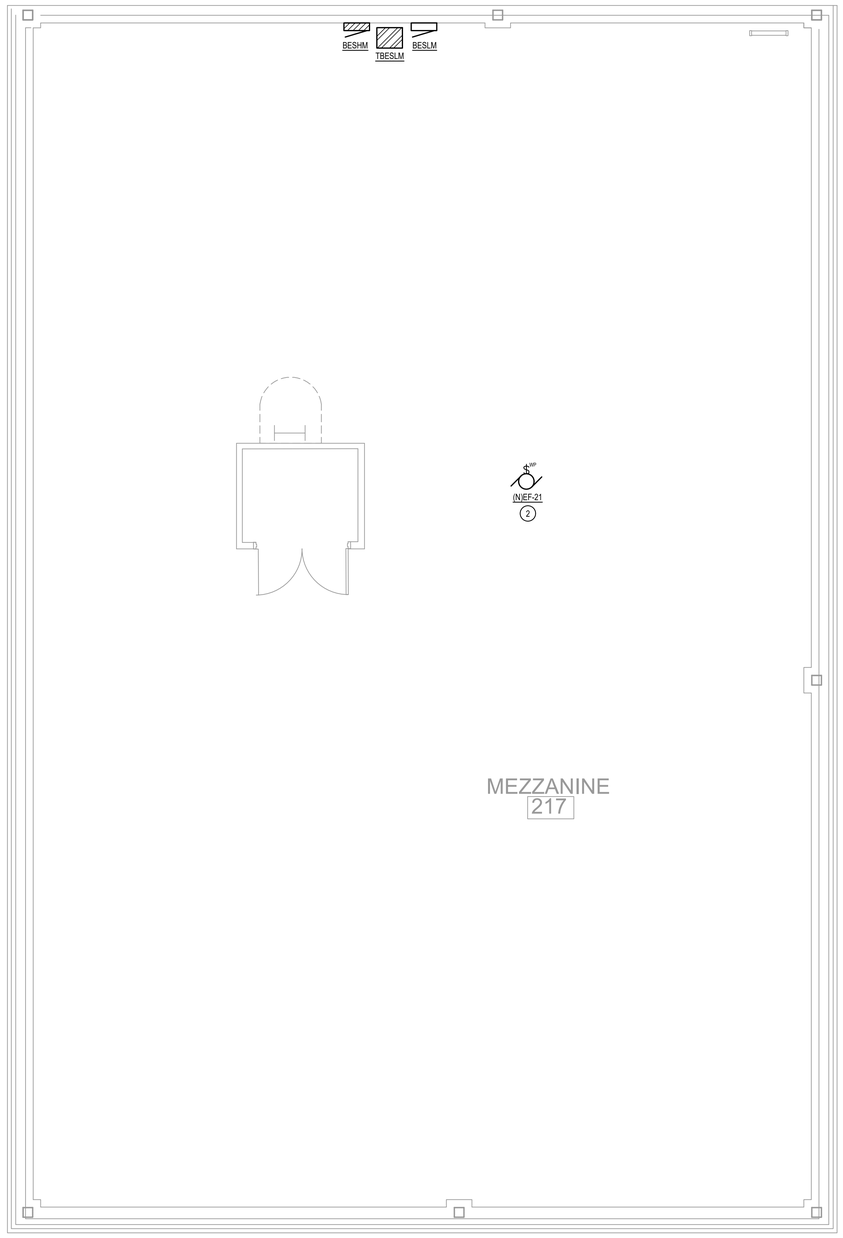
ELECTRICAL KEYED NOTES:

(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

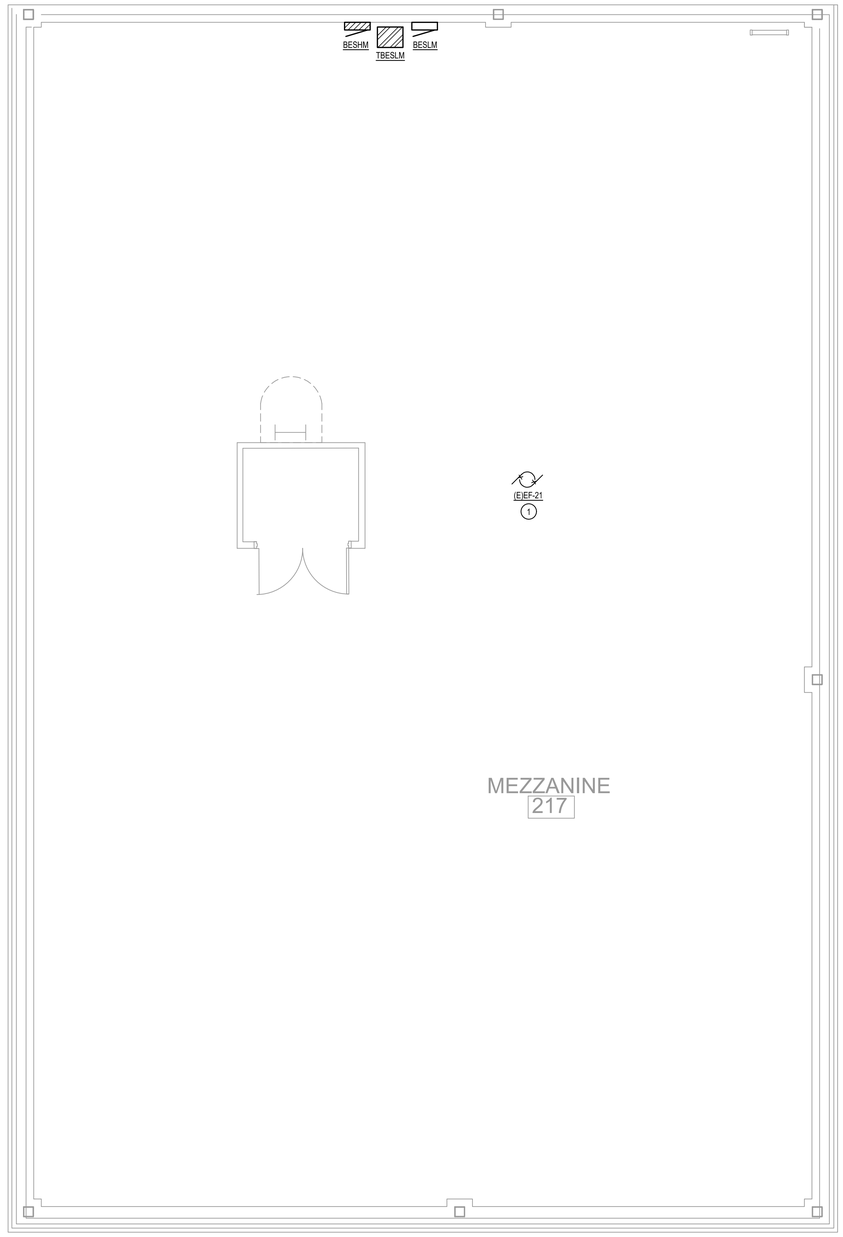
LINETYPE LEGEND

DISCONNECT AND REMOVE	—x—x—x—
EXISTING TO REMAIN	— — — —
NEW WORK	————



NORTH

2 ELECTRICAL MEZZANINE PLAN - BLANCHETTE ES
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION MEZZANINE PLAN - BLANCHETTE ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: ML
Checked By: JZ
Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

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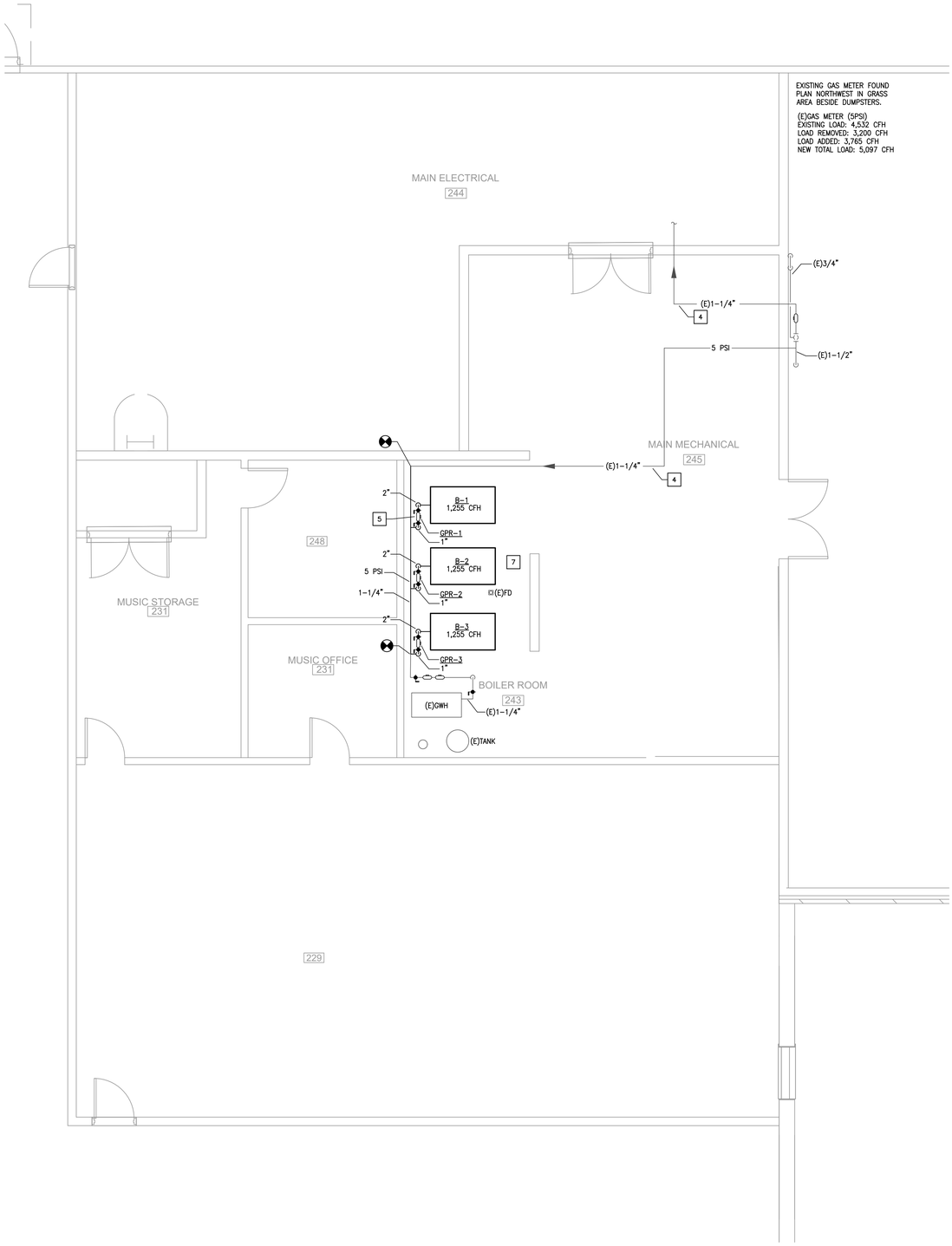
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PROFESSIONAL ENGINEER
04-06-2023

ELECTRICAL
MEZZANINE PLANS -
BLANCHETTE ES

E1.2

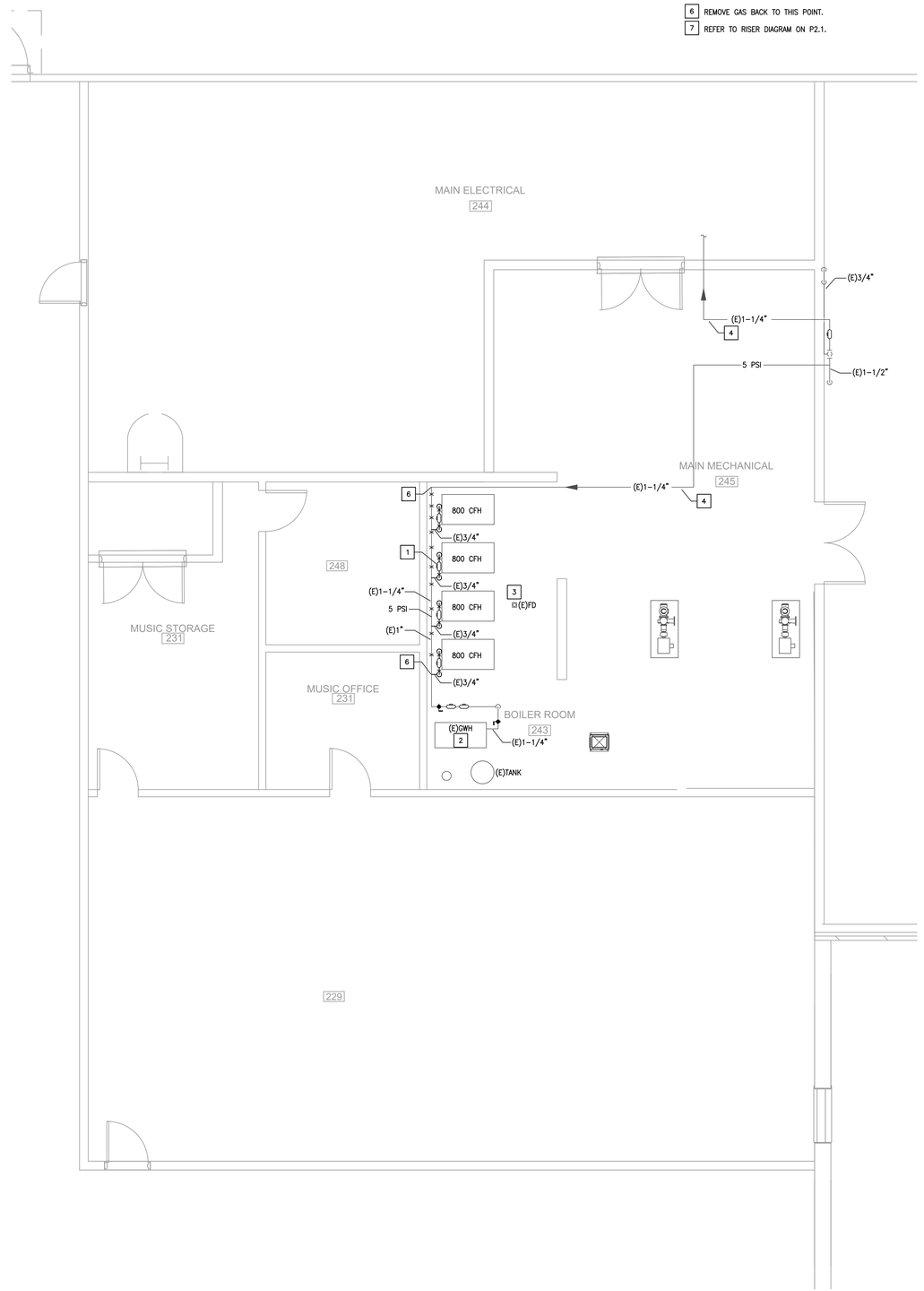
PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED. REMOVE GAS PIPING SERVING BOILER BACK TO MAIN 5 PSI LINE. REFER TO RISER DIAGRAM ON P2.1.
2. EXISTING GWH AND TANK TO REMAIN.
3. EXISTING FLOOR DRAIN TO REMAIN.
4. EXISTING GAS PIPING TO REMAIN.
5. 1" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (1,255 CFH). 2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER. EXTENT VENT PIPING FROM PRESSURE REGULATOR TO EXTERIOR WALL. TYPICALLY ALL 3 NEW BOILERS.
6. REMOVE GAS BACK TO THIS POINT.
7. REFER TO RISER DIAGRAM ON P2.1.



NORTH

2 **PLUMBING FLOOR PLAN - BLANCHETTE ES**
SCALE: 1/4" = 1'-0"



NORTH

1 **PLUMBING DEMOLITION FLOOR PLAN - BLANCHETTE ES**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: BR
Checked By: EH
Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

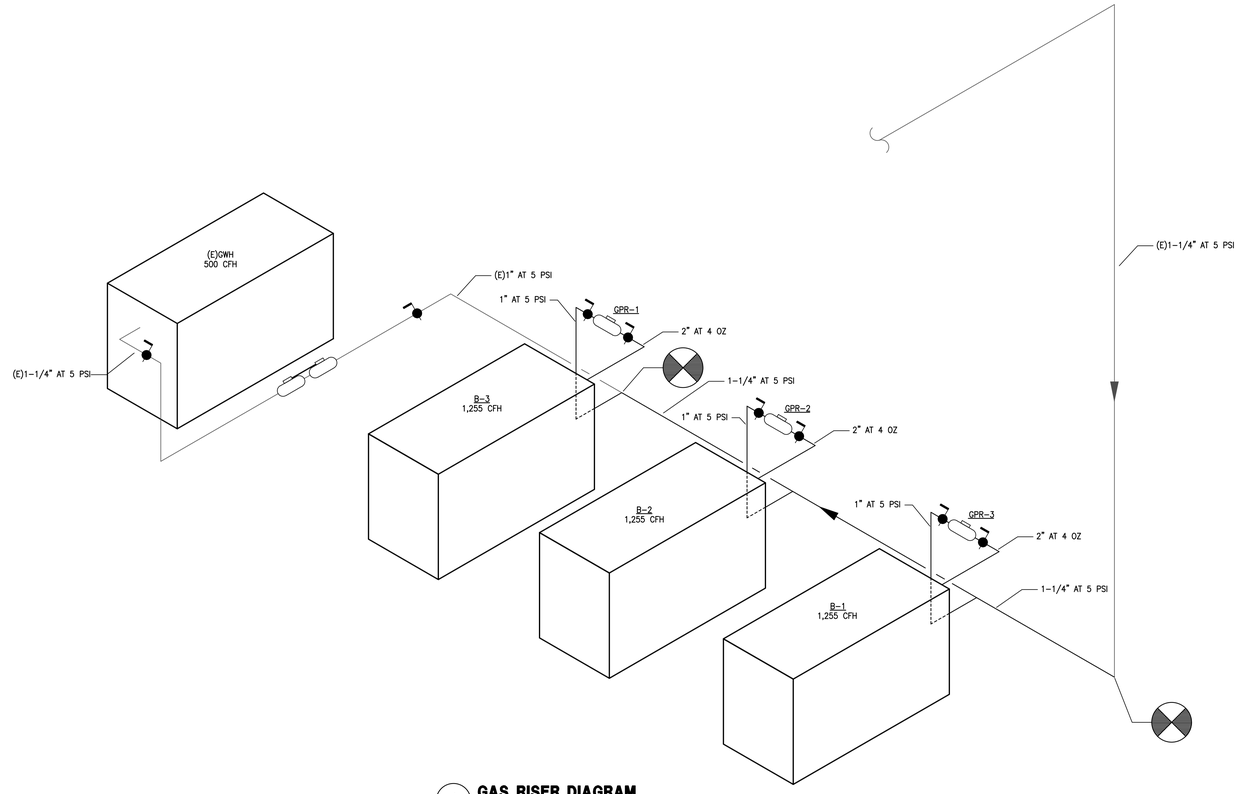
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04-06-2023

PLUMBING FLOOR PLANS - BLANCHETTE ES

P1.1



1 **GAS RISER DIAGRAM**
SCALE: NA

GAS EQUIPMENT

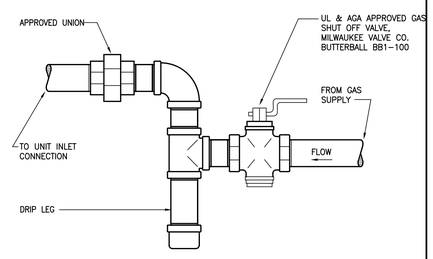
EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-2	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-3	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
TOTALS:			3,765,000 BTUH	3,765 CFH

INLET PRESSURE MAX 14 W.C. MIN 4.5 W.C. INLET CONNECTION 2"

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER RM 243	B-1	1,255	5 PSI - INLET 4 OZ. - OUTLET
GPR-2	GAS PRESSURE REGULATOR	BOILER RM 243	B-2	1,255	5 PSI - INLET 4 OZ. - OUTLET
GPR-3	GAS PRESSURE REGULATOR	BOILER RM 243	B-3	1,255	5 PSI - INLET 4 OZ. - OUTLET

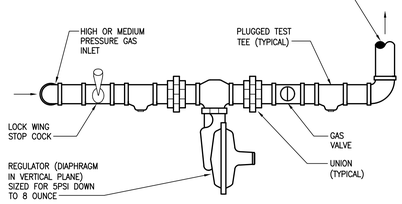
GENERAL NOTES:
1. MAINTAIN MINUMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.



2 **GAS CONNECTION**
SCALE: NONE

PROVIDE AMERICAN METER COMPANY REGULATORS OR APPROVED EQUAL, SUITABLE FOR OUTDOOR INSTALLATION. REGULATORS OUTSIDE EXPOSED TO WEATHER SHALL BE INSTALLED WITH VENT IN VERTICAL DOWN POSITION.

SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA OF ANSI/CSA LC4.



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

1 **GAS PRESSURE REGULATOR INSTALLATION**
SCALE: NONE

Project No: 2022-04652-00
Drawn By: BR
Checked By: EH
Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

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PLUMBING DETAILS - BLANCHETTE ES

P2.1

MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. PROVIDE NEW BOILER SYSTEM VENT CONTROLLER. INTERLOCK SF & EF. REFER TO BOILER SPECIFICATION FOR ADDITIONAL INFORMATION.
5. PROVIDE NEW SUPPLY FAN TIE IN TO EXISTING SUPPLY DUCTWORK AND EXISTING OA DUCTWORK. MODIFY AS NECESSARY.
6. PROVIDE CARBON MONOXIDE MONITORING STATION. MOUNT ENCLOSURE AT 5'-0" AFF. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
7. CONCRETE EXTENSION TO EXISTING CONCRETE PAD. NOTCH OUT CONCRETE EXTENSION TO AVOID EXISTING FLOOR SINK.

GENERAL DEMOLITION NOTES:

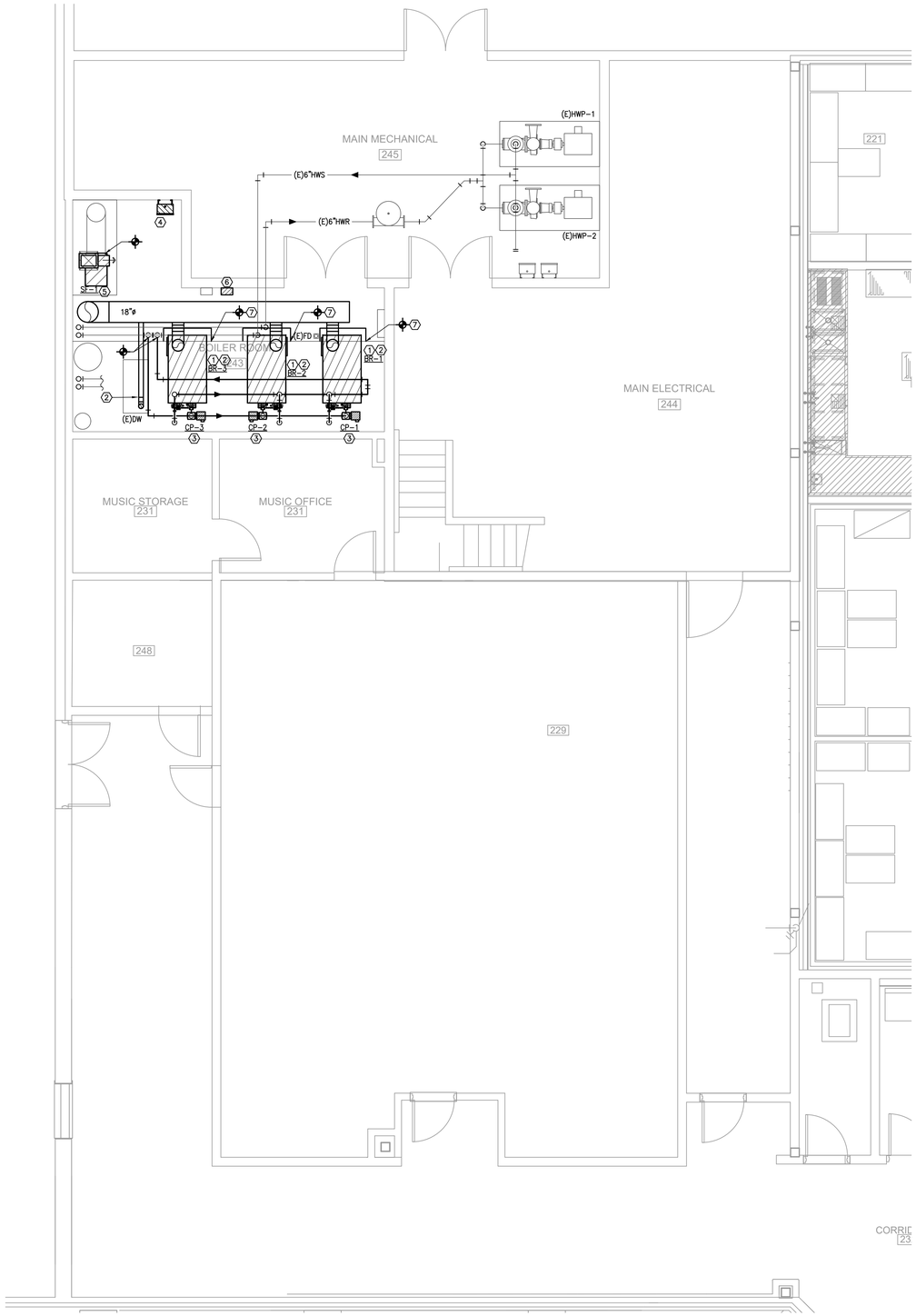
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND

RENOVATIONS	
	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED
✦	CONNECT TO EXISITNG

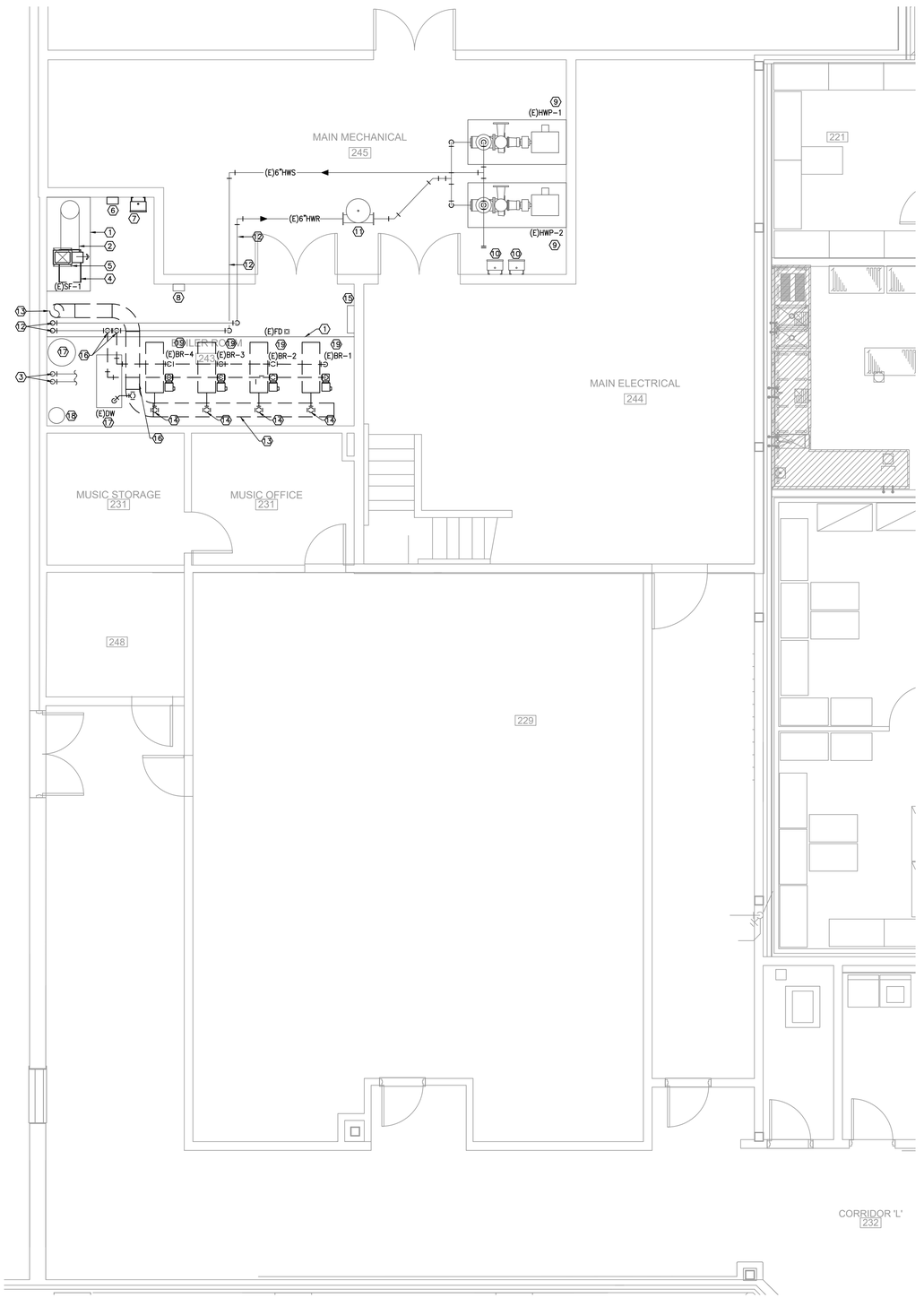
DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING OA DUCTWORK SHALL REMAIN.
3. EXISTING CHWS&R PIPING SHALL REMAIN.
4. EXISTING FLOOR MOUNTED SUPPLY FAN SHALL BE REMOVED.
5. EXISTING SUPPLY DUCTWORK, SIDEWALL GRILLES, AND ASSOCIATED APPURTENANCES, SHALL REMAIN.
6. EXISTING EXHAUST FAN PANEL SHALL BE REMOVED.
7. EXISTING VFD SHALL BE REMOVED.
8. EXISTING CO (CARBON MONOXIDE) MONITOR PANEL SHALL REMAIN.
9. EXISTING HOT WATER PUMP SHALL REMAIN.
10. EXISTING VFD SHALL REMAIN.
11. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
12. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
13. EXISTING FLUE VENT SHALL BE REMOVED. MODIFY FLOOR PENETRATION TO ACCOMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
14. EXISTING BRANCH FLUE VENT SHALL BE REMOVED BACK TO THIS POINT.
15. EXISTING BMCS CONTROL PANEL SHALL REMAIN.
16. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
17. EXISTING DOMESTIC WATER HEATER SHALL REMAIN.
18. EXISTING HW EXPANSION TANK SHALL REMAIN.
19. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.



NORTH

2 **MECHANICAL FLOOR PLAN - REGINA ES**
SCALE: 1/4" = 1'-0"



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - REGINA ES**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

CONSULTANTS

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT
REGINA ES BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BISD Preparing Our Next Generation

BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
04-06-2023

MECHANICAL FLOOR PLANS - REGINA ES

M1.1

MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. ROUTE FLUE UP THRU MEZZANINE PENETRATION TO ROOF PENETRATION AND EXHAUST FAN ON ROOF.
3. PROVIDE NEW FLUE ASSIST EXHAUST FAN AT EXISTING ROOF PENETRATION. PROVIDE NEW ROOF CURB.
4. PROVIDE THROUGH PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH CHAPTER 7 OF THE 2018 IBC.

GENERAL DEMOLITION NOTES:

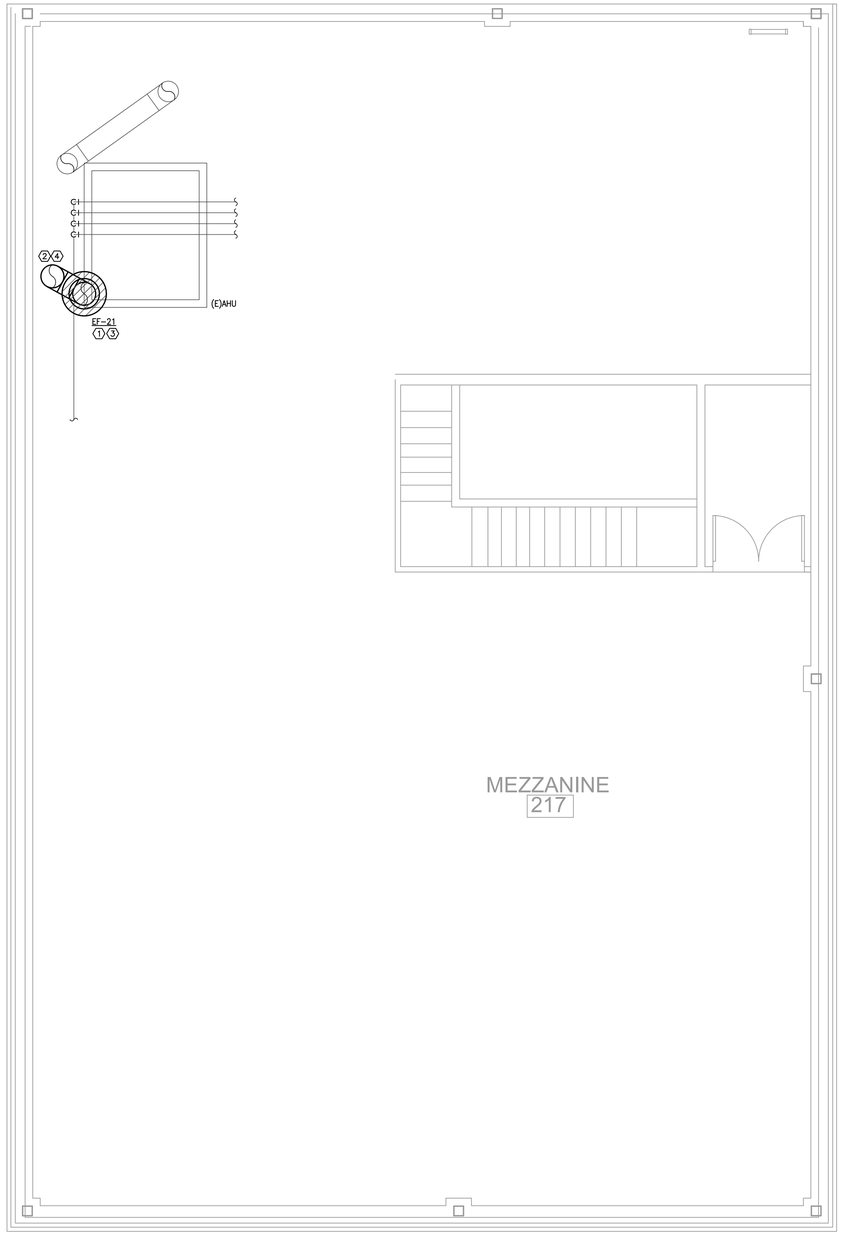
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DEMO SYMBOL LEGEND

RENOVATIONS	
▭	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED
◆	CONNECT TO EXISITNG

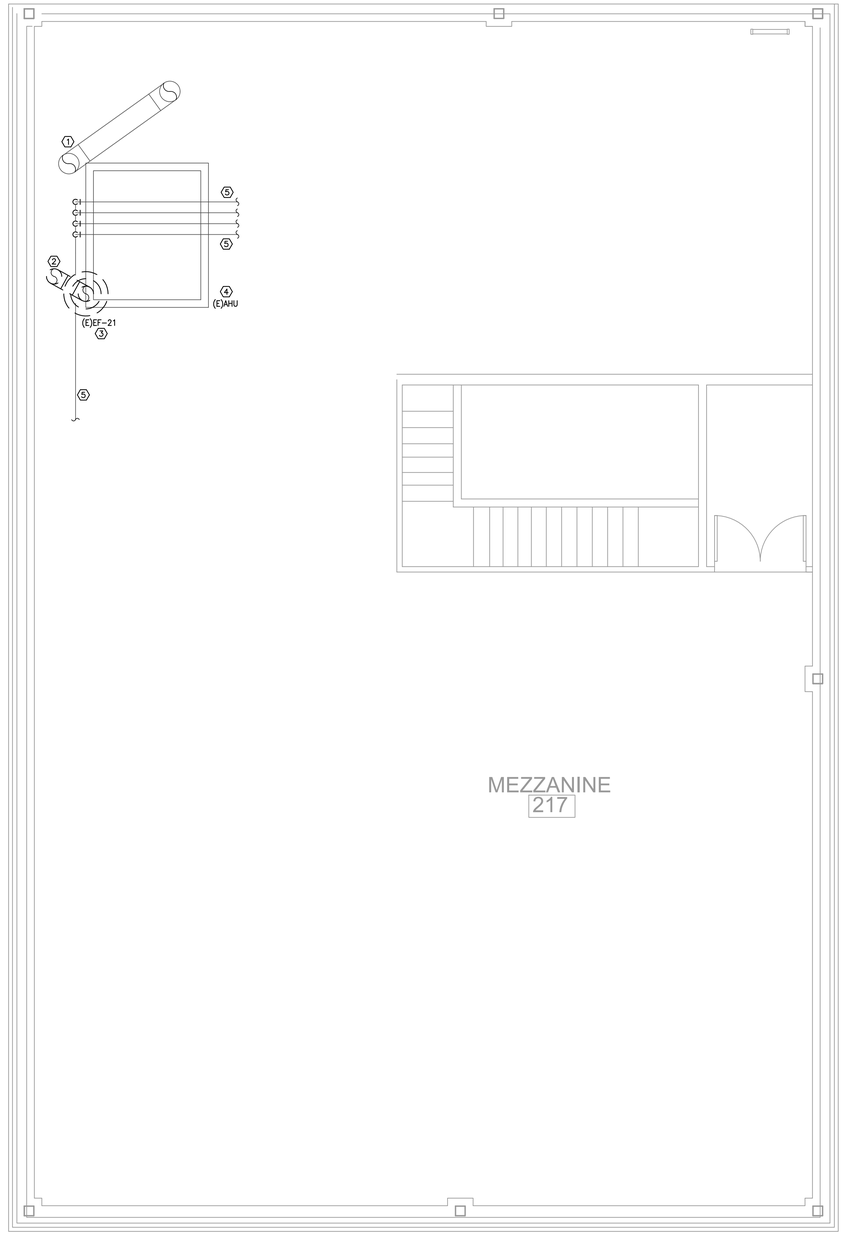
DEMOLITION KEYED NOTES:

1. EXISTING COMBUSTION AIR DUCTWORK SHALL REMAIN.
2. EXISTING FLUE VENT TO BE REMOVED UP TO EXHAUST FAN ON ROOF. EXISTING MEZZANINE FLOOR PENETRATION TO REMAIN. MODIFY FLOOR PENETRATION TO ACCOMMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
3. EXISTING EXHAUST FAN ON ROOF TO BE REMOVED. EXISTING ROOF PENETRATION TO REMAIN.
4. EXISTING AHU TO REMAIN.
5. EXISTING CHW/HW S/R PIPING TO REMAIN.



NORTH

2 **MECHANICAL MEZZANINE PLAN - REGINA ES**
SCALE: 1/4" = 1'-0"



NORTH

1 **MECHANICAL DEMOLITION MEZZANINE PLAN - REGINA ES**
SCALE: 1/4" = 1'-0"

Project No:	2022-04652-00
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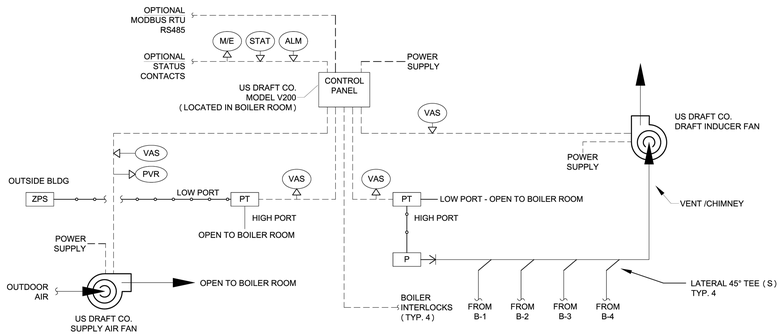
04-06-2023

MECHANICAL
MEZZANINE PLANS -
REGINA ES

M1.2

SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
(#)	NOTE SPECIFIC TO DETAIL TAG
1	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	THERMOSTAT AND TEMPERATURE SENSOR
H	HUMIDISTAT
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
AIR DEVICES	
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWSAR-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CWS-	CONDENSER WATER SUPPLY
-CWR-	CONDENSER WATER RETURN
-CHWSAR-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CHWS-	CHILLED WATER SUPPLY
-CHWR-	CHILLED WATER RETURN
-HWSAR-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-HWS-	HOT WATER FOR HYDRONIC HEATING SUPPLY
-HWR-	HOT WATER FOR HYDRONIC HEATING RETURN
-D-	CONDENSATE DRAIN LINE
-AD-	AUXILLARY CONDENSATE DRAIN LINE
-RLR-	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-RL-	REFRIGERANT LIQUID LINE
-HG-	REFRIGERANT HOT GAS LINE
-RS-	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
FM	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
GA	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR



Application:	VCS & PAS Diagram
Control System:	V200-VP
Date: 10/05/17	Version: 1.0 / DWG Rev: 0 / Page #: 1 of 1
Draft Inducer Voltage:	120/ 208-230 1PH
	US Draft Co. Phone: (817) 393-4029 www.usdraftco.com
	Controller Output / Controller Input
	Field Wiring Refer to specifications for voltage, amperage, and wiring type
	Pneumatic Tubing for pressure reference
	Vent or Duct
ALM	Alarm output
M/E	Master Enable: input of controller
P	Stack Pressure Probe
PT	Pressure Transducer -1 to 1 in. WC
PVR	Supply Fan Proving Device Output CS75 Current Switch or GFS Differential Pressure Switch
STAT	System run status
VAS	Variable Analog Signal 0-10VDC
ZPS	Outdoor Air Static Pressure Pickup Port

FAN CONTROL SEQUENCE (VCS: VENT CONTROL SYSTEM / PAS: PRESSURE AIR SYSTEM)

1. EACH HEATING APPLIANCE SHALL BE INTERLOCKED WITH THE CONTROL PANEL. UPON A CALL FOR HEAT, THE CONTROL PANEL SHALL ACTIVATE THE DRAFT INDUCER FAN TO ESTABLISH DRAFT IN THE CHIMNEY SYSTEM. THE SUPPLY AIR FAN SHALL START TO ESTABLISH THE REQUIRED PRESSURE IN THE COMBUSTION AIR DUCT OR BOILER ROOM. ALL EXTERNAL MECHANICAL LIMITS ARE MONITORED FOR STATUS. ONCE ALL THESE CONDITIONS ARE MET THE CONTROL SYSTEM WILL RELEASE THE FLAME PROGRAMMER OR GAS VALVE OF THE APPLIANCE CALLING FOR HEAT. THE SEQUENCE IS REPEATED EVERY TIME AN INITIAL APPLIANCE CALLS FOR HEAT. EACH ADDITIONAL CALL FOR HEAT THE CONTROL WILL NOT DELAY THE SEQUENCING OF THE ADDITIONAL HEATING APPLIANCES.

2. WHEN APPLIANCES SHUT DOWN BOTH THE DRAFT INDUCER FAN AND THE SUPPLY AIR FAN WILL WILL CONTINUE TO RUN IN POST-PURGE MODE FOR A SET PERIOD OF TIME TO REMOVE RESIDUAL FLUE GASES.

3. ONCE THE POST-PURGE CYCLE IS COMPLETED THE SYSTEM SECURES AND THE CONTROL PANEL ENTERS STAND-BY MODE.

4. IF PROPER DRAFT CANNOT BE MAINTAINED OR AN EXTERNAL MECHANICAL LIMIT OPENS BECAUSE OF MECHANICAL OR ELECTRICAL FAILURE, THE CONTROL WILL GO IN ALARM MODE AND THE INTEGRATED PROVEN DRAFT FUNCTION WILL SHUT DOWN ALL THE APPLIANCES WITHIN 15 SECONDS . WHILE IN ALARM MODE, THE CONTROL CONSTANTLY MONITORS THE DRAFT AND LIMIT INPUTS. IF THE FAILURE CORRECTS ITSELF OR IS CORRECTED VIA INTERVENTION, THE SYSTEM WILL RESTART AUTOMATICALLY. IF THE FAILURE IS NOT CORRECTED BEFORE THE ADJUSTABLE SYSTEM RELEASE FAULT TIMER EXPIRES, THE CONTROL WILL DISABLE AND LOCKOUT THE SYSTEM FOR FREEZE PROTECTION.

5. WHEN THE FAN TEST IS ENABLED, THE CONTROL PANEL WILL RUN A SELF DIAGNOSTIC ON THE STATUS OF THE VENT SYSTEM EACH HEATING CYCLE TO VERIFY THAT THE SYSTEM IS FUNCTIONING PROPERLY. IF THE FAN TEST FAILS, THE CONTROL PANEL WILL ALARM, LOCKOUT SYSTEM AND ANNUNCIATE THE TEST FAILURE.

6. ATC CONTRACTOR, MECHANICAL CONTRACTOR, EQUIPMENT MANUFACTURER, GENERAL CONTRACTOR, DESIGN ENGINEER, AND COMMISSIONING ENGINEER SHALL MEET PRIOR TO SUBMITTING SHOP DRAWINGS TO REVIEW COORDINATION AND IMPLEMENTATION OF THE SPECIFIED CONTROL SEQUENCE OF BOILER/BOILER/CONTROLLER/HOT WATER SYSTEM, EXHAUST BOILER FLUE/MAKE UP AIR SYSTEM, AND ROOF TOP UNITS.

3 **VCS & PAS DIAGRAM**
SCALE: NO SCALE

FAN SCHEDULE

MARK	LOCATION	CFM	MAXIMUM RPM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER	CURRENT CHARAC.	LOCALLY SWITCHED BY	INTERLOCKED WITH	FAN TYPE	BELT/DIRECT DRIVE	MANUFACTURER	MODEL NUMBER	REMARKS
EF-21	BOILER ROOM	1830	1950	.25	1	120/1/60	–	BR-1,2,3,(E)DWH	CHIMNEY	DIRECT	US DRAFT CO.	CBX22	(1,2,3,4,5,6,7,8)
SF-1	BOILER ROOM	1110	1950	1.25	1/2	120/1/60	–	EF-21	CENTRIFUGAL BLOWER	DIRECT	US DRAFT CO.	MEF015	(1,2,3,4,5,6,7,8)

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.
3. FAN SHALL BE CENTRIFUGAL, BELT DRIVEN TYPE UNLESS OTHERWISE SCHEDULED.

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH OSHA APPROVED MOTOR GUARD.
3. PROVIDE WITH BOILER SYSTEM VENT CONTROLLER (120V, 0.4 AMPS)
4. PROVIDE FAN WITH EC MOTOR.
5. PROVIDE WITH SPRING ISOLATION RAIL.
6. PROVIDE WITH TOP DISCHARGE.
7. PROVIDE WITH DRAIN AT BOTTOM OF FAN HOUSING.
8. PROVIDE US DRAFT CO FLUE EXHAUST SYSTEM. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MAXIMUM RPM	MOTOR HORSEPOWER	CURRENT	MANUFACTURER	MODEL	REMARKS
CP-1	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-2	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-3	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

BOILER - FORCED AIR

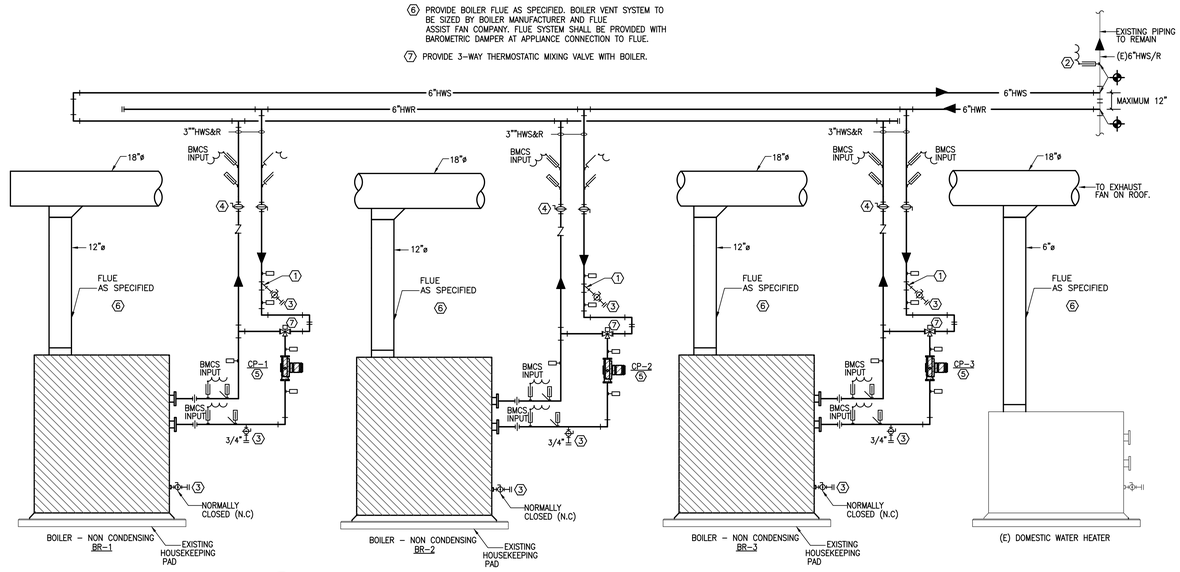
MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL: BLOWER HORSEPOWER	ELECTRICAL: CURRENT CHARAC. (V/PH/Hz)	MANUFACTURER	MODEL	REMARKS
BR-1	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-2	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-3	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

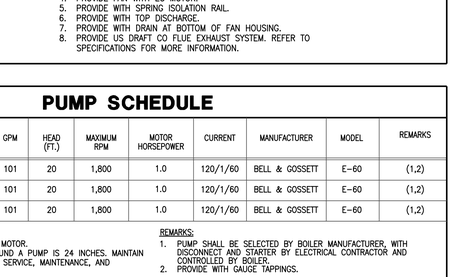
REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.
3. PROVIDE US DRAFT CO FLUE EXHAUST SYSTEM. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

MECHANICAL HOT WATER KEYED NOTES:

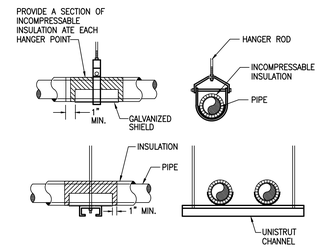
1. PROVIDE INLINE STRAINER.
2. HEADER TEMPERATURE SENSOR. PROVIDED BY BOILER MANUFACTURER.
3. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE UNLESS OTHERWISE NOTED.
4. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE.
5. CIRCULATING PUMP SIZED AND PROVIDED BY BOILER MANUFACTURER.
6. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
7. PROVIDE 3-WAY THERMOSTATIC MIXING VALVE WITH BOILER.



3 **PARTIAL HOT WATER PIPING DIAGRAM**
SCALE: NO SCALE



2 **MULTI-PIPE TRAPEZE HANGER**
SCALE: NONE PS001



1 **PIPE HANGERS**
SCALE: NONE PS002

Project No:	2022-04652-00
Drawn By:	MR
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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

BISD Preparing Our Next Generation

BRADLEY KALMANS 80219 LICENSED PROFESSIONAL ENGINEER
04-06-2023

MECHANICAL DETAILS - REGINA ES

M2.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

ELECTRICAL KEYED NOTES:

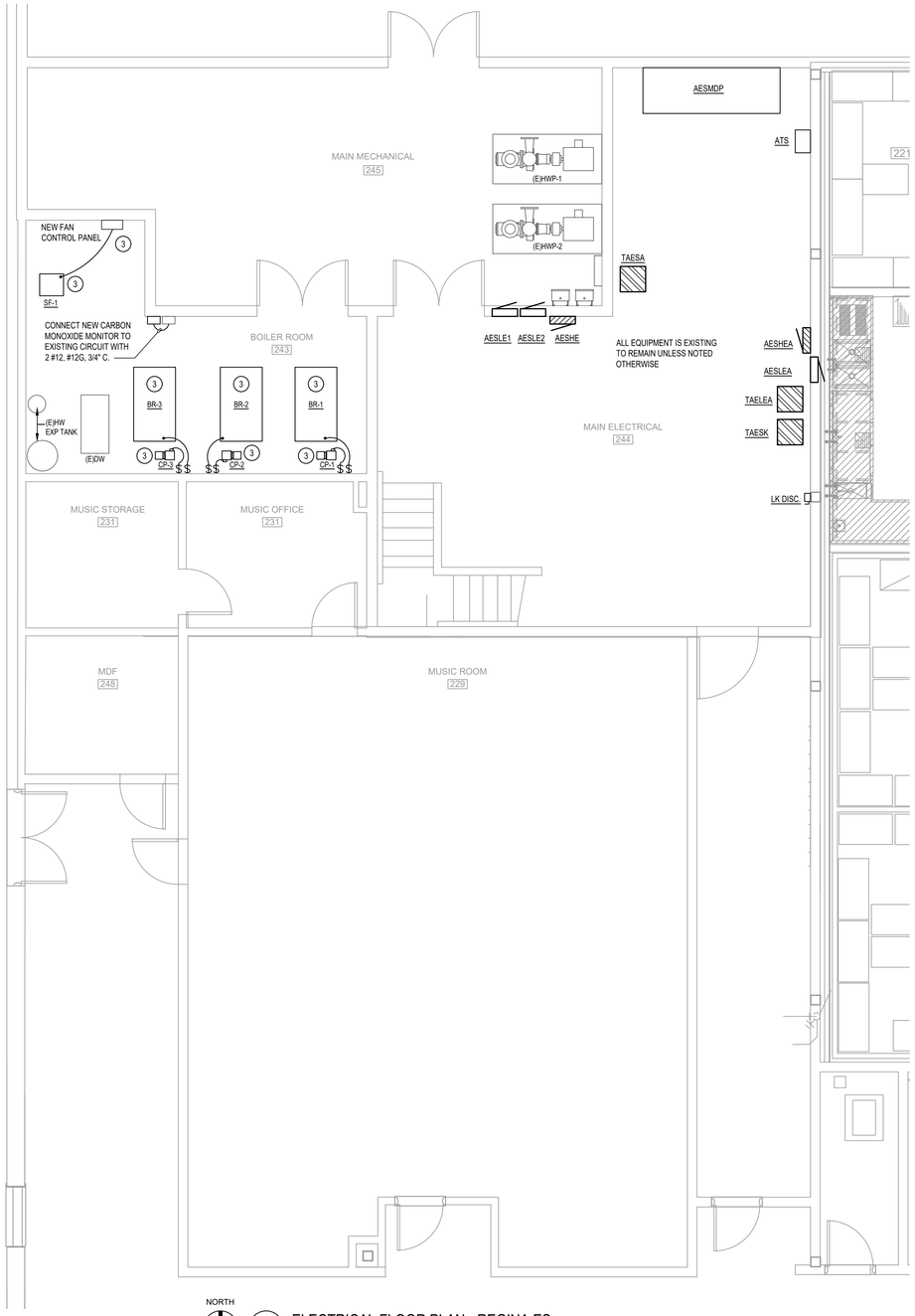
(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) NOT USED

(3) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

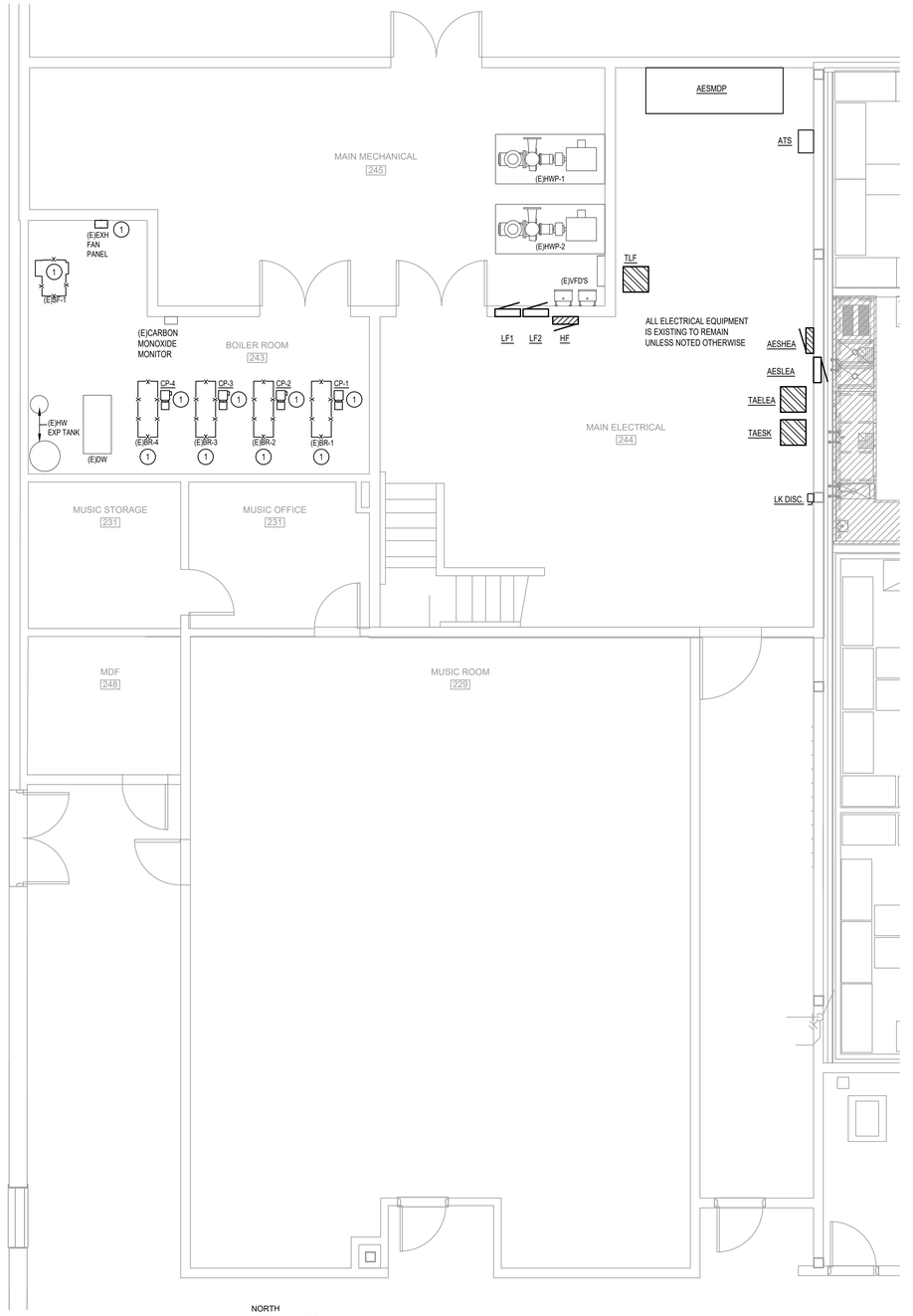
LINETYPE LEGEND

DISCONNECT AND REMOVE
EXISTING TO REMAIN
NEW WORK



NORTH

2 ELECTRICAL FLOOR PLAN - REGINA ES
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - REGINA ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: AW
Checked By: JZ
Date: 04-06-2023
Revision Dates:

CONSULTANTS

MEP ENGINEERS

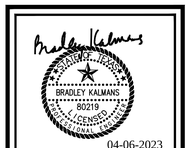
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281.664.1900 | Registration No. F-4111
Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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ELECTRICAL FLOOR PLANS - REGINA ES

E1.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

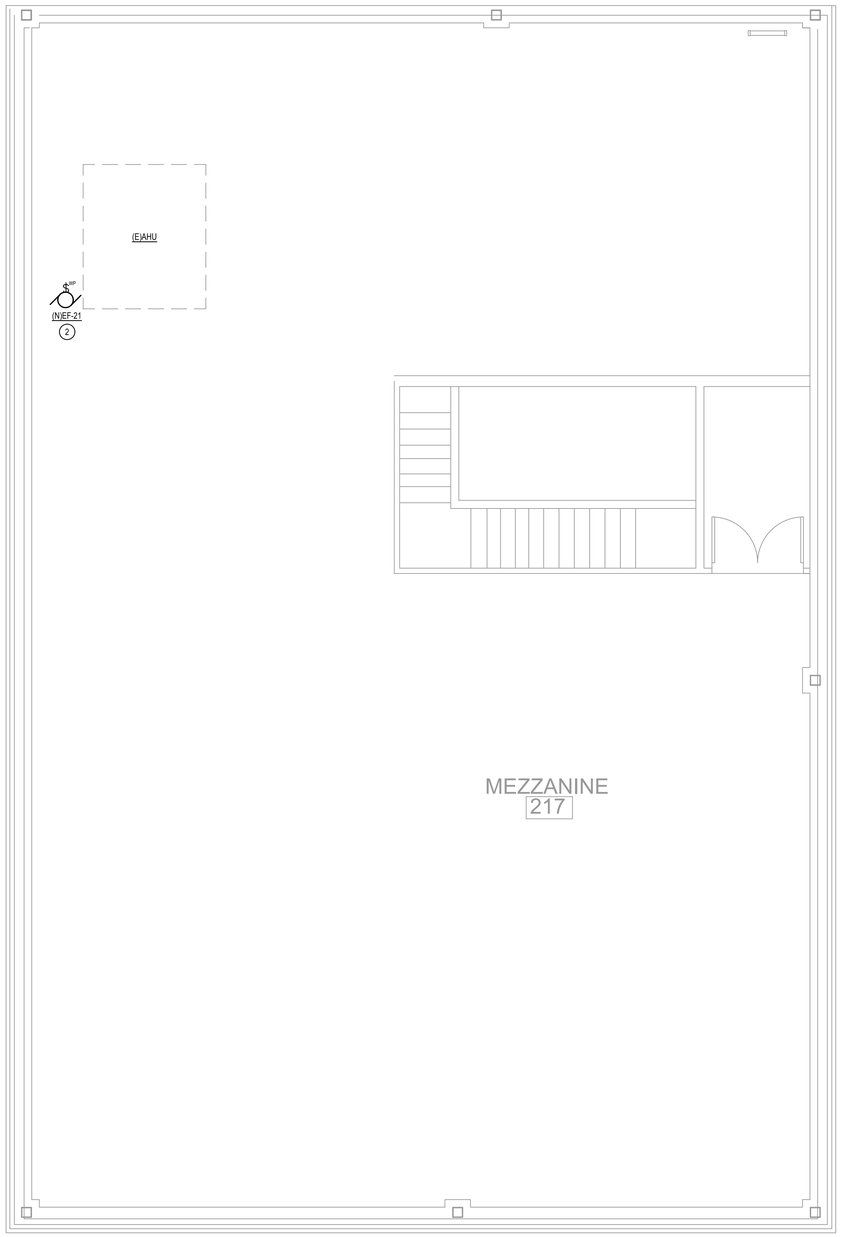
ELECTRICAL KEYED NOTES:

(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

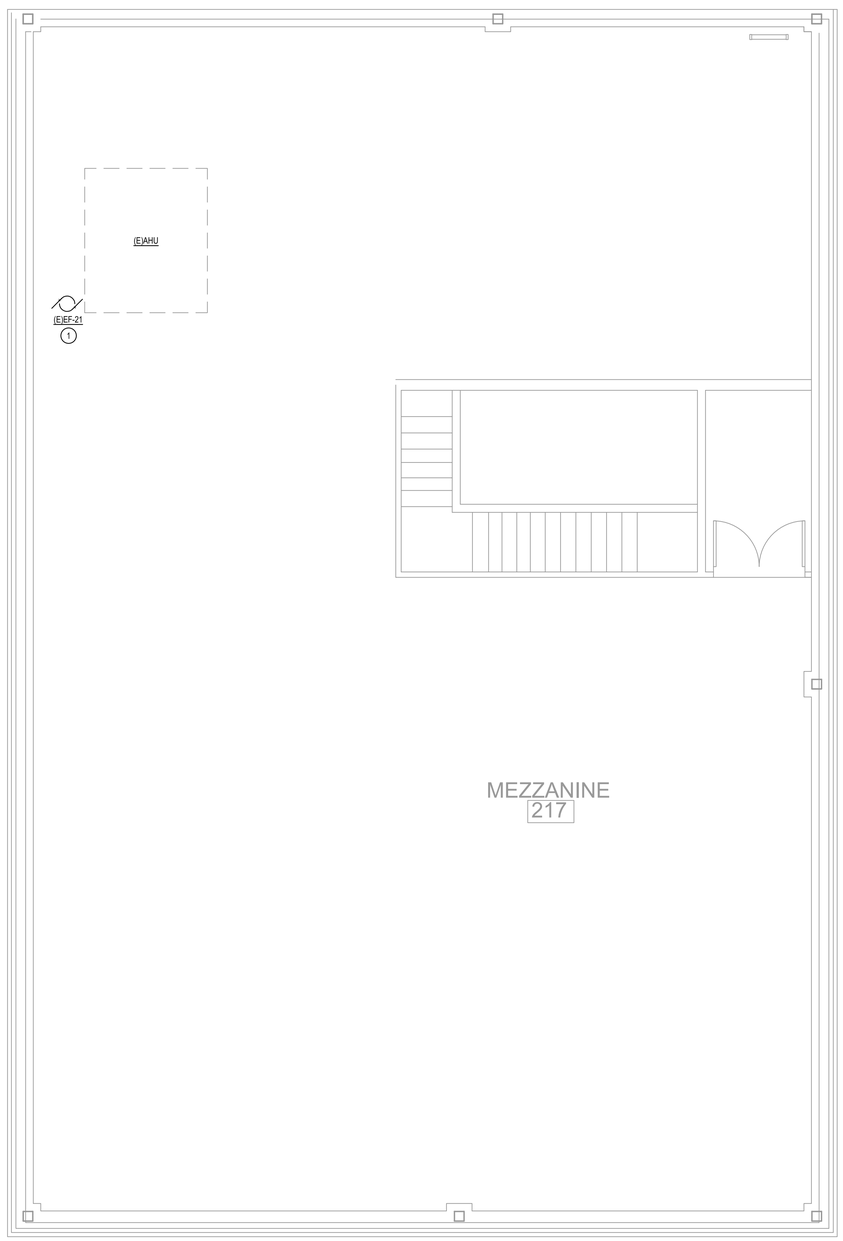
LINETYPE LEGEND

DISCONNECT AND REMOVE	— — — —
EXISTING TO REMAIN	— — — —
NEW WORK	————



NORTH

2 ELECTRICAL MEZZANINE PLAN - REGINA ES
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION MEZZANINE PLAN - REGINA ES
SCALE: 1/4" = 1'-0"

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

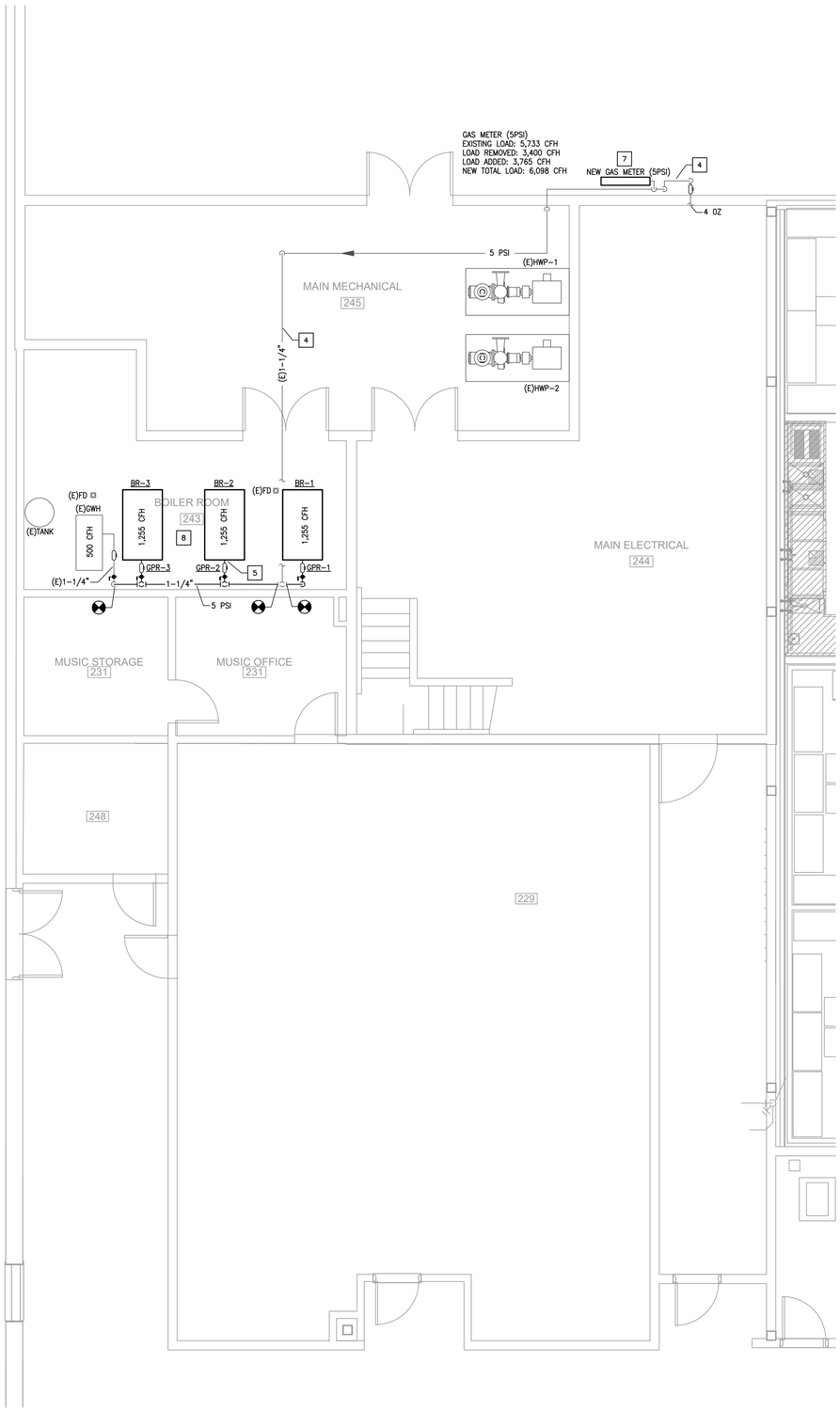
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PROFESSIONAL ENGINEER
STATE OF TEXAS
04-06-2023

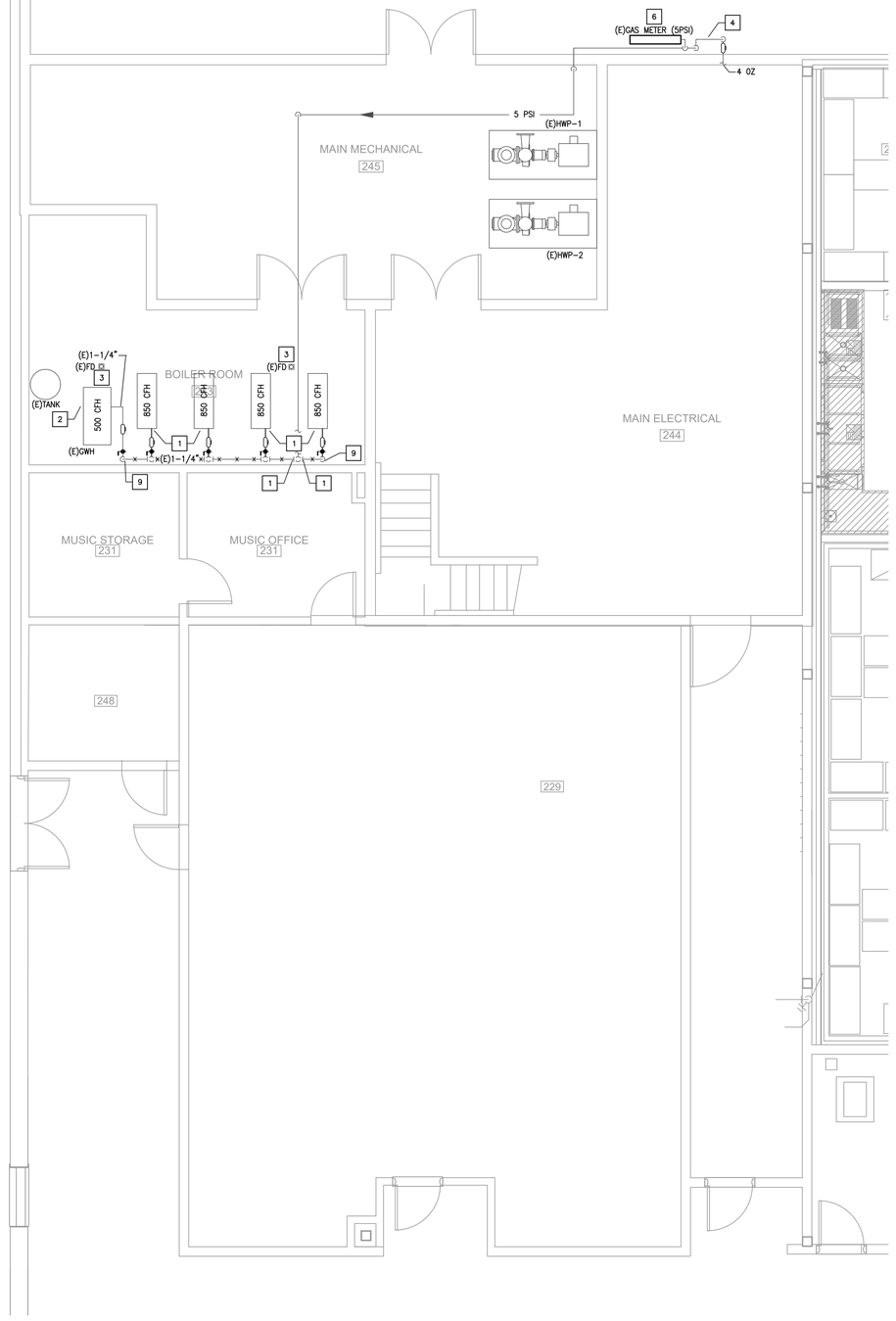
ELECTRICAL MEZZANINE PLANS - REGINA ES

E1.2



NORTH

2 **PLUMBING FLOOR PLAN - REGINA ES**
SCALE: 1/4" = 1'-0"



NORTH

1 **PLUMBING DEMOLITION FLOOR PLAN - REGINA ES**
SCALE: 1/4" = 1'-0"

PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED. REMOVE GAS PIPING SERVING BOILER BACK TO MAIN 5 PSI LINE. REFER TO RISER DIAGRAM ON P2.1.
2. EXISTING GWH AND TANK TO REMAIN.
3. EXISTING FLOOR DRAIN TO REMAIN.
4. EXISTING GAS PIPING TO REMAIN.
5. 1" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (1,255 CFH). 2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER. CONNECT EXISTING VENT PIPING TO NEW PRESSURE REGULATOR. TYPICALLY ALL 3 NEW BOILERS.
6. EXISTING GAS METER TO BE REMOVED AND REPLACED. COORDINATE REPLACEMENT WITH CENTERPOINT ENERGY.
7. PROVIDE NEW GAS METER AT 5 PSI. COORDINATE REPLACEMENT WITH CENTERPOINT ENERGY.
8. REFER TO P2.1 FOR RISER DIAGRAM.
9. REMOVE GAS PIPING BACK TO THIS POINT.

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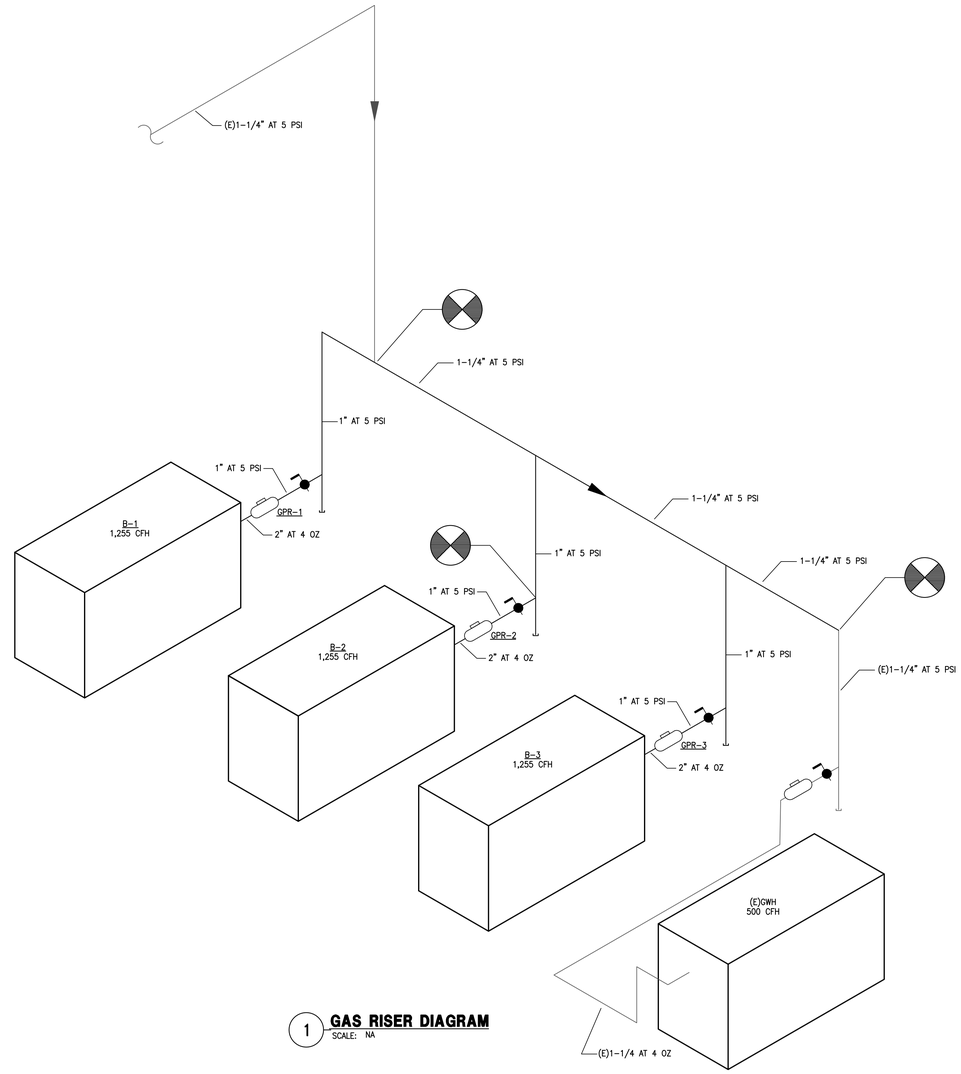
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PLUMBING FLOOR PLANS - REGINA ES

P1.1



1 **GAS RISER DIAGRAM**
SCALE: NA

GAS EQUIPMENT

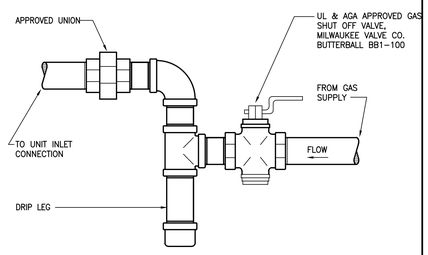
EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-2	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-3	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
TOTALS:			3,765,000 BTUH	3,765 CFH

INLET PRESSURE MAX 14 W.C. MIN 4.5 W.C. INLET CONNECTION 2"

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER RM 243	B-1	1,255	5 PSI – INLET 4 OZ. – OUTLET
GPR-2	GAS PRESSURE REGULATOR	BOILER RM 243	B-2	1,255	5 PSI – INLET 4 OZ. – OUTLET
GPR-3	GAS PRESSURE REGULATOR	BOILER RM 243	B-3	1,255	5 PSI – INLET 4 OZ. – OUTLET

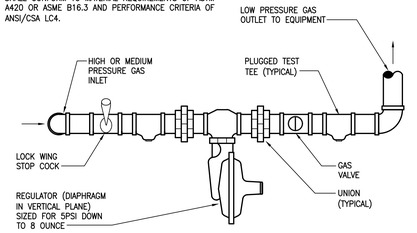
GENERAL NOTES:
1. MAINTAIN MINUMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.



2 **GAS CONNECTION**
SCALE: NONE

PROVIDE AMERICAN METER COMPANY REGULATORS OR APPROVED EQUAL, SUITABLE FOR OUTDOOR INSTALLATION. REGULATORS OUTSIDE EXPOSED TO WEATHER SHALL BE INSTALLED WITH VENT IN VERTICAL DOWN POSITION.

SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA OF ANSI/CSA LC4.



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

1 **GAS PRESSURE REGULATOR INSTALLATION**
SCALE: NONE

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

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04-06-2023

PLUMBING DETAILS - REGINA ES

P2.1

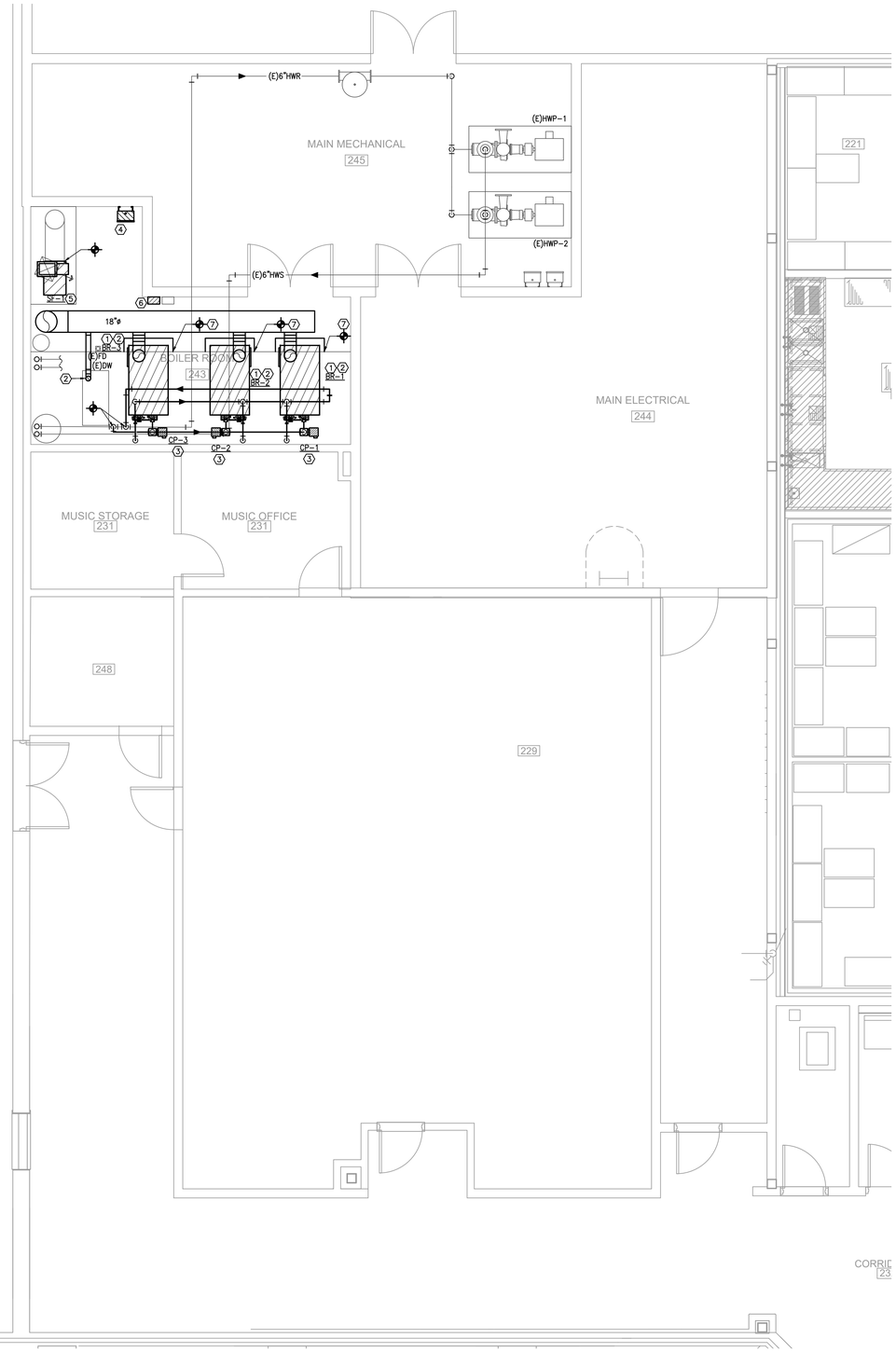
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. PROVIDE NEW BOILER SYSTEM VENT CONTROLLER. INTERLOCK SF & EF. REFER TO BOILER SPECIFICATION FOR ADDITIONAL INFORMATION.
5. PROVIDE NEW SUPPLY FAN TIE IN TO EXISTING SUPPLY DUCTWORK AND EXISTING OA DUCTWORK. MODIFY AS NECESSARY. PROVIDE NEW HOUSEKEEPING PAD
6. PROVIDE CARBON MONOXIDE MONITORING STATION. MOUNT ENCLOSURE AT 5'-0" AFF. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
7. CONCRETE EXTENSION TO EXISTING CONCRETE PAD. NOTCH OUT CONCRETE EXTENSION TO AVOID EXISTING FLOOR SINK.



NORTH

2 **MECHANICAL FLOOR PLAN - MARTIN ES**
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

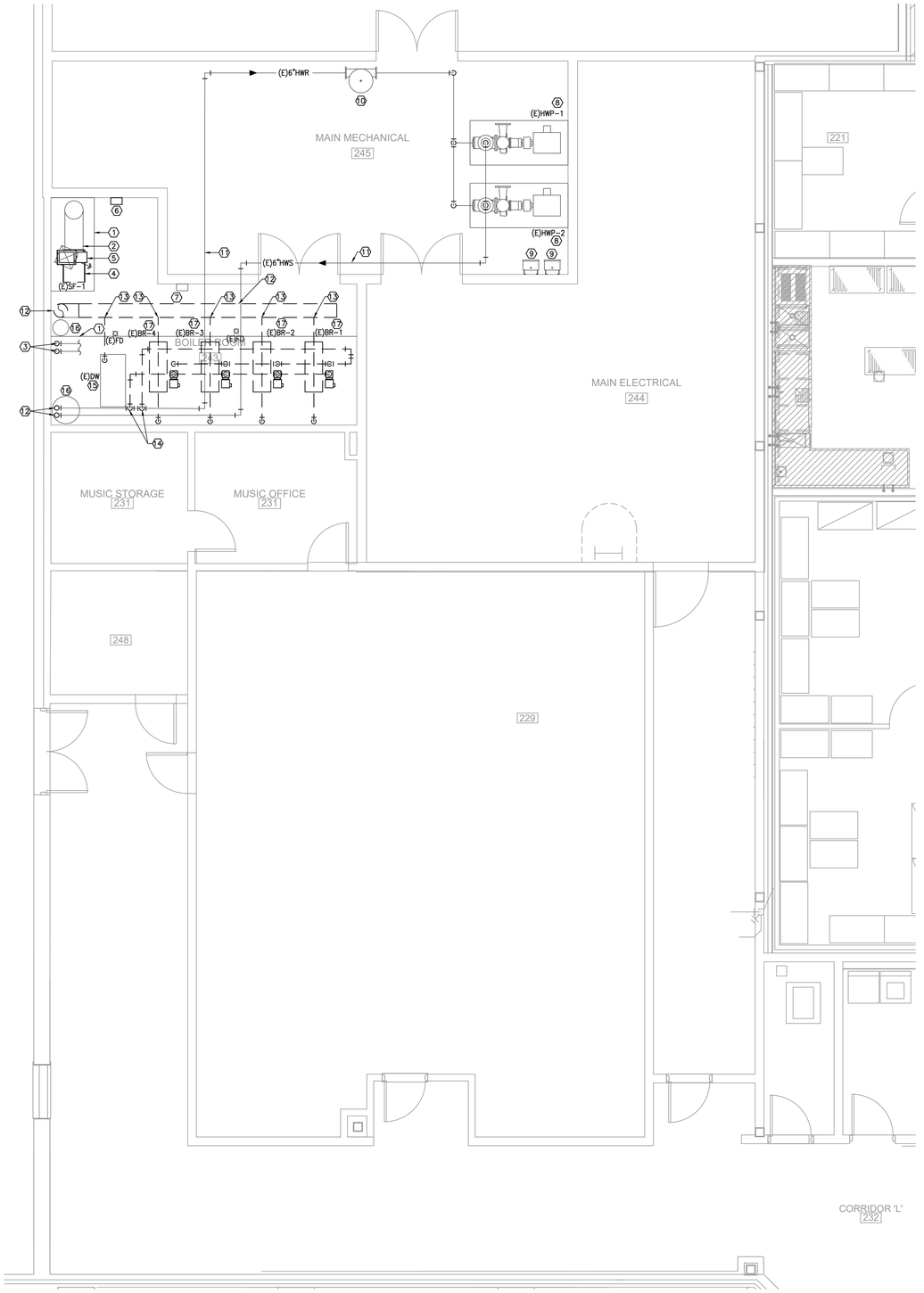
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND

RENOVATIONS	
□	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED
◆	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING OA DUCTWORK SHALL REMAIN.
3. EXISTING CHWS&R PIPING SHALL REMAIN.
4. EXISTING FLOOR MOUNTED SUPPLY FAN SHALL BE REMOVED.
5. EXISTING SUPPLY DUCTWORK, SIDEWALL GRILLES, AND ASSOCIATED APPURTENANCES, SHALL REMAIN.
6. EXISTING EXHAUST FAN PANEL SHALL BE REMOVED.
7. EXISTING CO (CARBON MONOXIDE) MONITOR PANEL TO REMAIN.
8. EXISTING HOT WATER PUMP SHALL REMAIN.
9. EXISTING VFD SHALL REMAIN.
10. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
11. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
12. EXISTING FLUE VENT SHALL BE REMOVED. MODIFY FLOOR PENETRATION TO ACCOMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
13. EXISTING BRANCH FLUE VENT SHALL BE REMOVED BACK TO THIS POINT.
14. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
15. EXISTING DOMESTIC WATER HEATER SHALL REMAIN. EXISTING BRANCH FLUE VENT SHALL BE REMOVED.
16. EXISTING HW EXPANSION TANK SHALL REMAIN.
17. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - MARTIN ES**
SCALE: 1/4" = 1'-0"

Project No:	2022-04652-00
Drawn By:	MR
Checked By:	VP
Date:	04-06-2023
Revision Dates:	

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

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STATE OF TEXAS
04-06-2023

MECHANICAL FLOOR PLANS - MARTIN ES

M1.1

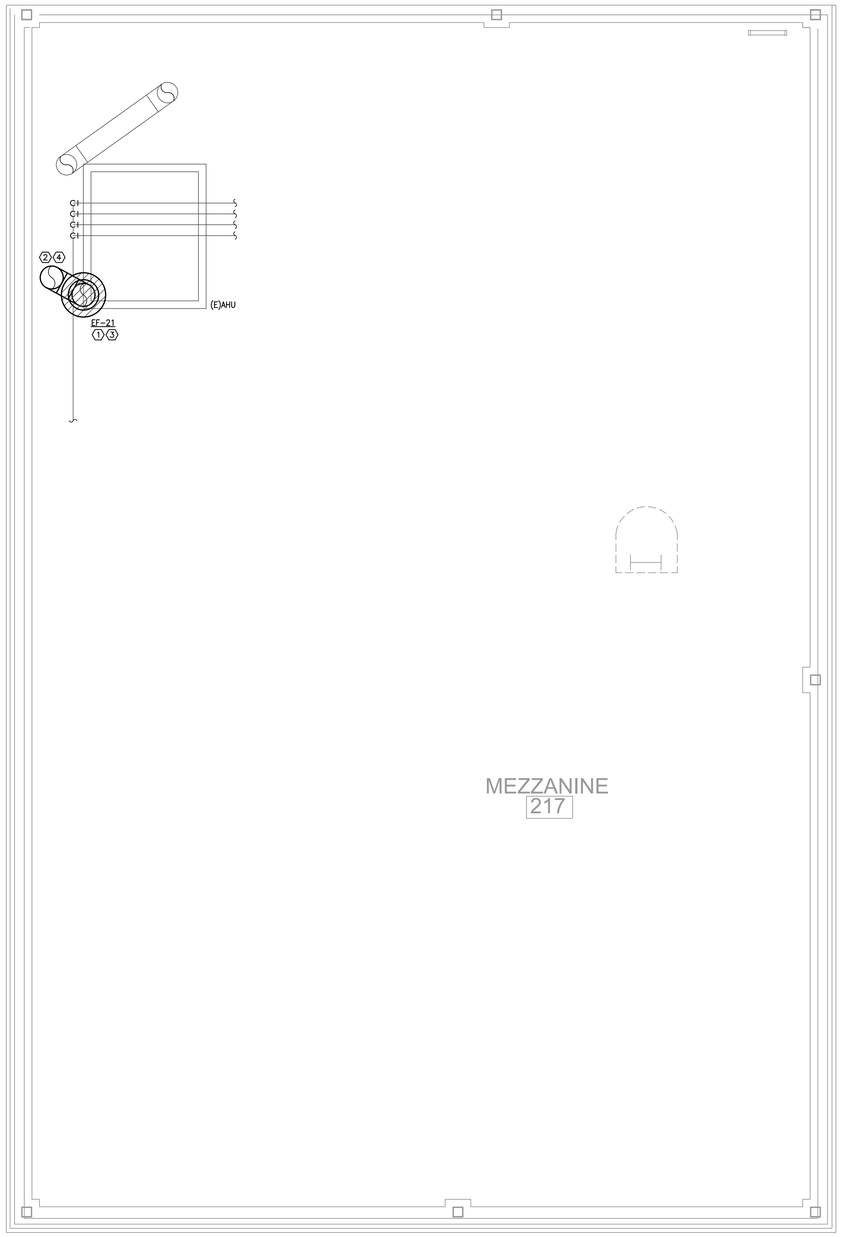
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1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
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3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
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MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. ROUTE FLUE UP THRU MEZZANINE PENETRATION TO ROOF PENETRATION AND EXHAUST FAN ON ROOF.
3. PROVIDE NEW FLUE ASSIST EXHAUST FAN AT EXISTING ROOF PENETRATION. PROVIDE NEW ROOF CURB.
4. PROVIDE THROUGH PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH CHAPTER 7 OF THE 2018 IBC.



NORTH

2 **MECHANICAL MEZZANINE PLAN - MARTIN ES**
SCALE: 1/4" = 1'-0"

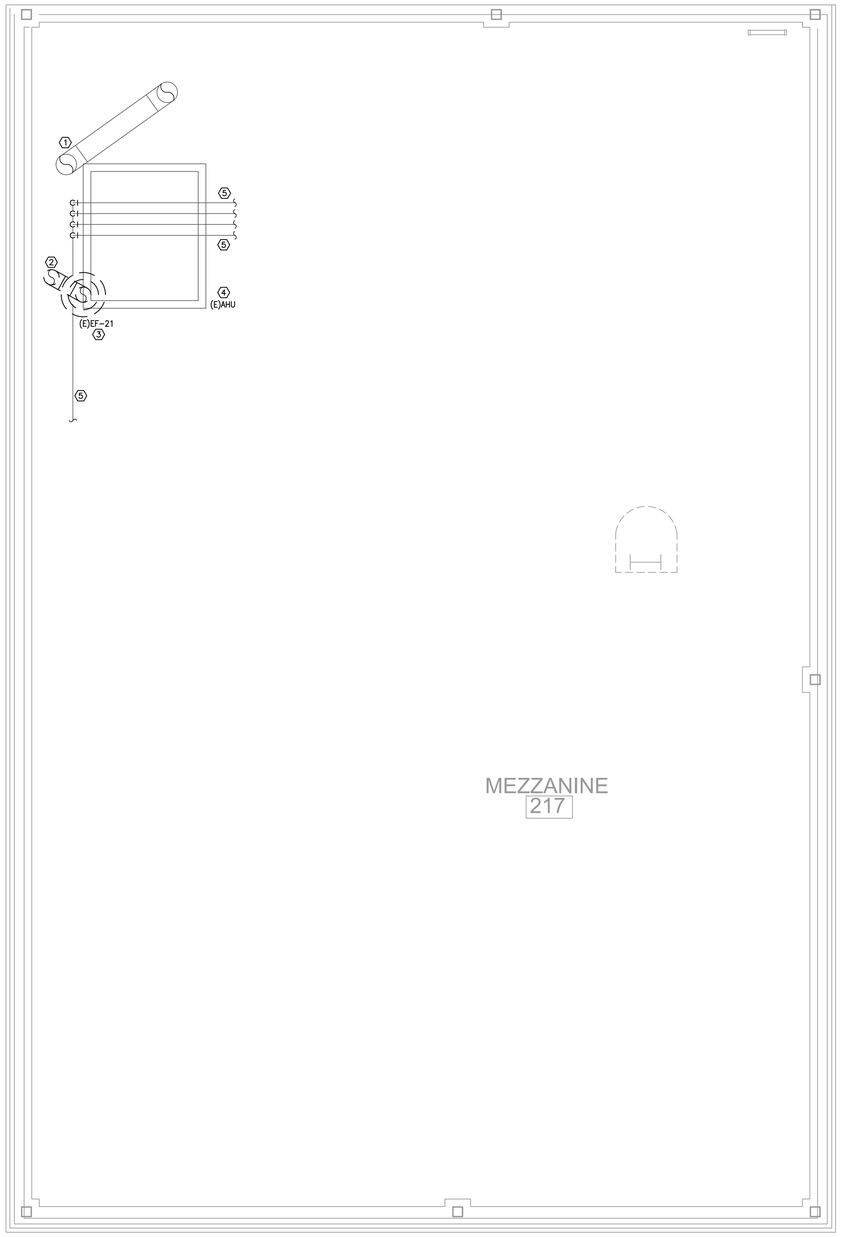
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DEMO SYMBOL LEGEND	
RENOVATIONS	
	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED
✦	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING COMBUSTION AIR DUCTWORK SHALL REMAIN.
2. EXISTING FLUE VENT TO BE REMOVED UP TO EXHAUST FAN ON ROOF. EXISTING MEZZANINE FLOOR PENETRATION TO REMAIN. MODIFY FLOOR PENETRATION TO ACCOMMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
3. EXISTING EXHAUST FAN ON ROOF TO BE REMOVED. EXISTING ROOF PENETRATION TO REMAIN.
4. EXISTING AHU TO REMAIN.
5. EXISTING CHW/HW S/R PIPING TO REMAIN.



NORTH

1 **MECHANICAL DEMOLITION MEZZANINE PLAN - MARTIN ES**
SCALE: 1/4" = 1'-0"

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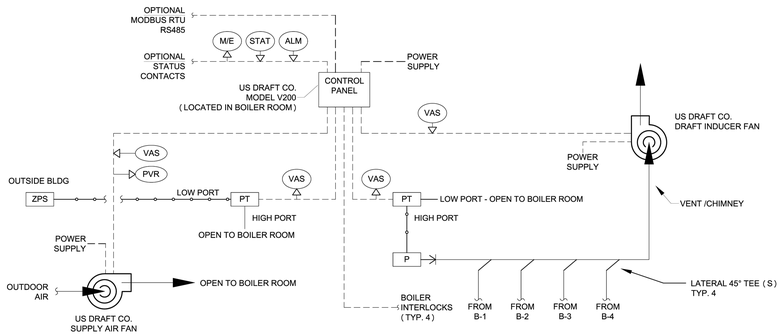
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PROFESSIONAL
ENGINEER
04-06-2023

MECHANICAL
MEZZANINE PLANS -
MARTIN ES

M1.2

SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
(#)	NOTE SPECIFIC TO DETAIL TAG
1	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	THERMOSTAT AND TEMPERATURE SENSOR
H	HUMIDISTAT
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
AIR DEVICES	
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWSAR-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CWS-	CONDENSER WATER SUPPLY
-CWR-	CONDENSER WATER RETURN
-CHWSAR-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CHWS-	CHILLED WATER SUPPLY
-CHWR-	CHILLED WATER RETURN
-HWSAR-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-HWS-	HOT WATER FOR HYDRONIC HEATING SUPPLY
-HWR-	HOT WATER FOR HYDRONIC HEATING RETURN
-D-	CONDENSATE DRAIN LINE
-AD-	AUXILLARY CONDENSATE DRAIN LINE
-RLR-	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-RL-	REFRIGERANT LIQUID LINE
-HG-	REFRIGERANT HOT GAS LINE
-RS-	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
FM	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
SA	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR



Application:	VCS & PAS Diagram
Control System:	V200-VP
Date: 10/05/17 | Version: 1.0 | DWG Rev: 0 | Page #: 1 of 1	
Draft Inducer Voltage:	120/ 208-230 1PH
	US Draft Co. Phone: (817) 393-4029 www.usdraftco.com
	Controller Output / Controller Input
	Field Wiring Refer to specifications for voltage, amperage, and wiring type
	Pneumatic Tubing for pressure reference
	Vent or Duct
ALM	Alarm output
M/E	Master Enable: input of controller
P	Stack Pressure Probe
PT	Pressure Transducer -1 to 1 in. WC
PVR	Supply Fan Proving Device Output CS75 Current Switch or GFS Differential Pressure Switch
STAT	System run status
VAS	Variable Analog Signal 0-10VDC
ZPS	Outdoor Air Static Pressure Pickup Port

FAN CONTROL SEQUENCE (VCS: VENT CONTROL SYSTEM / PAS: PRESSURE AIR SYSTEM)

1. EACH HEATING APPLIANCE SHALL BE INTERLOCKED WITH THE CONTROL PANEL. UPON A CALL FOR HEAT, THE CONTROL PANEL SHALL ACTIVATE THE DRAFT INDUCER FAN TO ESTABLISH DRAFT IN THE CHIMNEY SYSTEM. THE SUPPLY AIR FAN SHALL START TO ESTABLISH THE REQUIRED PRESSURE IN THE COMBUSTION AIR DUCT OR BOILER ROOM. ALL EXTERNAL MECHANICAL LIMITS ARE MONITORED FOR STATUS. ONCE ALL THESE CONDITIONS ARE MET THE CONTROL SYSTEM WILL RELEASE THE FLAME PROGRAMMER OR GAS VALVE OF THE APPLIANCE CALLING FOR HEAT. THE SEQUENCE IS REPEATED EVERY TIME AN INITIAL APPLIANCE CALLS FOR HEAT. EACH ADDITIONAL CALL FOR HEAT THE CONTROL WILL NOT DELAY THE SEQUENCING OF THE ADDITIONAL HEATING APPLIANCES.

2. WHEN APPLIANCES SHUT DOWN BOTH THE DRAFT INDUCER FAN AND THE SUPPLY AIR FAN WILL WILL CONTINUE TO RUN IN POST-PURGE MODE FOR A SET PERIOD OF TIME TO REMOVE RESIDUAL FLUE GASES.

3. ONCE THE POST-PURGE CYCLE IS COMPLETED THE SYSTEM SECURES AND THE CONTROL PANEL ENTERS STAND-BY MODE.

4. IF PROPER DRAFT CANNOT BE MAINTAINED OR AN EXTERNAL MECHANICAL LIMIT OPENS BECAUSE OF MECHANICAL OR ELECTRICAL FAILURE, THE CONTROL WILL GO IN ALARM MODE AND THE INTEGRATED PROVEN DRAFT FUNCTION WILL SHUT DOWN ALL THE APPLIANCES WITHIN 15 SECONDS . WHILE IN ALARM MODE, THE CONTROL CONSTANTLY MONITORS THE DRAFT AND LIMIT INPUTS. IF THE FAILURE CORRECTS ITSELF OR IS CORRECTED VIA INTERVENTION, THE SYSTEM WILL RESTART AUTOMATICALLY. IF THE FAILURE IS NOT CORRECTED BEFORE THE ADJUSTABLE SYSTEM RELEASE FAULT TIMER EXPIRES, THE CONTROL WILL DISABLE AND LOCKOUT THE SYSTEM FOR FREEZE PROTECTION.

5. WHEN THE FAN TEST IS ENABLED, THE CONTROL PANEL WILL RUN A SELF DIAGNOSTIC ON THE STATUS OF THE VENT SYSTEM EACH HEATING CYCLE TO VERIFY THAT THE SYSTEM IS FUNCTIONING PROPERLY. IF THE FAN TEST FAILS, THE CONTROL PANEL WILL ALARM, LOCKOUT SYSTEM AND ANNUNCIATE THE TEST FAILURE.

6. ATC CONTRACTOR, MECHANICAL CONTRACTOR, EQUIPMENT MANUFACTURER, GENERAL CONTRACTOR, DESIGN ENGINEER, AND COMMISSIONING ENGINEER SHALL MEET PRIOR TO SUBMITTING SHOP DRAWINGS TO REVIEW COORDINATION AND IMPLEMENTATION OF THE SPECIFIED CONTROL SEQUENCE OF BOILER/BOILER/CONTROLLER/HOT WATER SYSTEM, EXHAUST BOILER FLUE/MAKE UP AIR SYSTEM, AND ROOF TOP UNITS.

3 **VCS & PAS DIAGRAM**
SCALE: NO SCALE

FAN SCHEDULE

MARK	LOCATION	CFM	MAXIMUM RPM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER	CURRENT CHARAC.	LOCALLY SWITCHED BY	INTERLOCKED WITH	FAN TYPE	BELT/DIRECT DRIVE	MANUFACTURER	MODEL NUMBER	REMARKS
EF-21	BOILER ROOM	1830	1950	.25	1	120/1/60	–	BR-1,2,3,(E)DWH	CHIMNEY	DIRECT	US DRAFT CO.	CBX22	(1,2,3,4,5,6,7)
SF-1	BOILER ROOM	1110	1950	1.25	1/2	120/1/60	–	EF-21	CENTRIFUGAL BLOWER	DIRECT	US DRAFT CO.	MEF015	(1,2,3,4,5,6,7)

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.
3. FAN SHALL BE CENTRIFUGAL, BELT DRIVEN TYPE UNLESS OTHERWISE SCHEDULED.

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH OSHA APPROVED MOTOR GUARD.
3. PROVIDE WITH BOILER SYSTEM VENT CONTROLLER (120V, 0.4 AMPS)
4. PROVIDE FAN WITH EC MOTOR.
5. PROVIDE WITH SPRING ISOLATION RAIL.
6. PROVIDE WITH TOP DISCHARGE.
7. PROVIDE WITH DRAIN AT BOTTOM OF FAN HOUSING.

PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MAXIMUM RPM	MOTOR HORSEPOWER	CURRENT	MANUFACTURER	MODEL	REMARKS
CP-1	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-2	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-3	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

BOILER - FORCED AIR

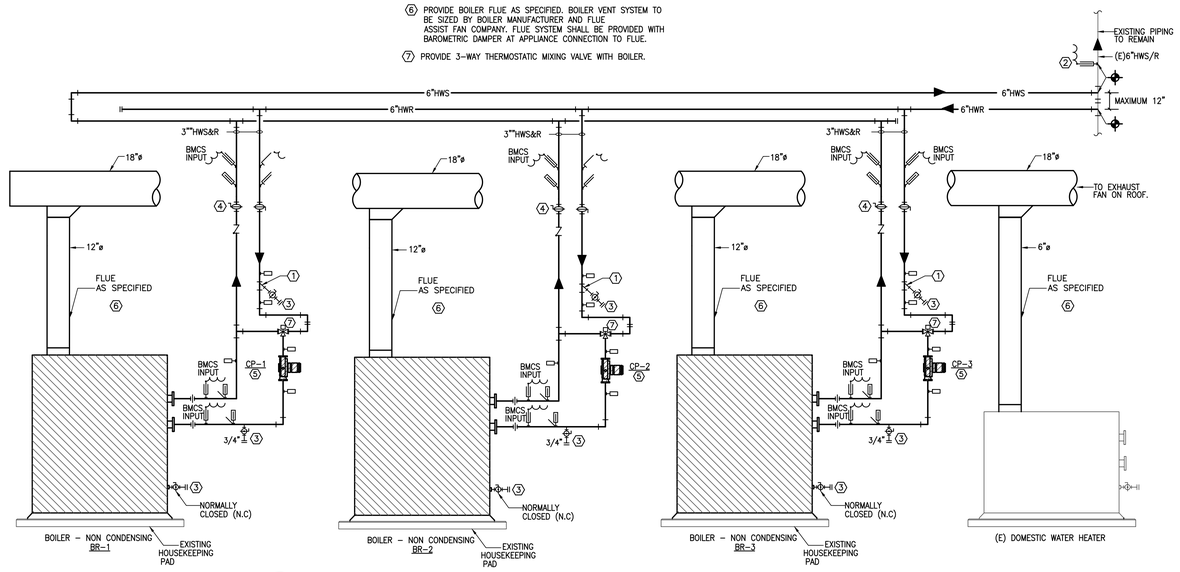
MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL: BLOWER HORSEPOWER	ELECTRICAL: CURRENT CHARAC. (V/PH/Hz)	MANUFACTURER	MODEL	REMARKS
BR-1	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-2	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-3	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

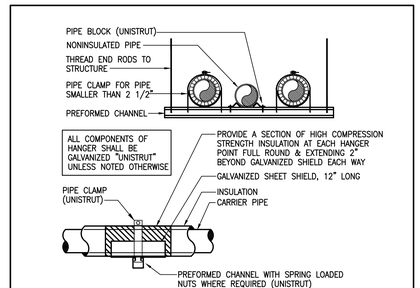
REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.
3 PROVIDE US DRAFT CO FLUE EXHAUST SYSTEM. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

MECHANICAL HOT WATER KEYED NOTES:

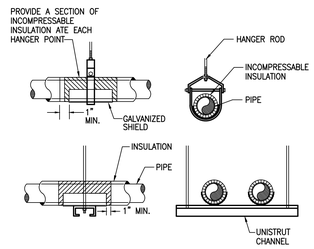
1. PROVIDE INLINE STRAINER.
2. HEADER TEMPERATURE SENSOR. PROVIDED BY BOILER MANUFACTURER.
3. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE UNLESS OTHERWISE NOTED.
4. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE.
5. CIRCULATING PUMP SIZED AND PROVIDED BY BOILER MANUFACTURER.
6. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
7. PROVIDE 3-WAY THERMOSTATIC MIXING VALVE WITH BOILER.



3 **PARTIAL HOT WATER PIPING DIAGRAM**
SCALE: NO SCALE



2 **MULTI-PIPE TRAPEZE HANGER**
SCALE: NONE PS001



1 **PIPE HANGERS**
SCALE: NONE PS002

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Project No: 2022-04652-00

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT
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04-06-2023

MECHANICAL DETAILS - MARTIN ES

M2.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

ELECTRICAL KEYED NOTES:

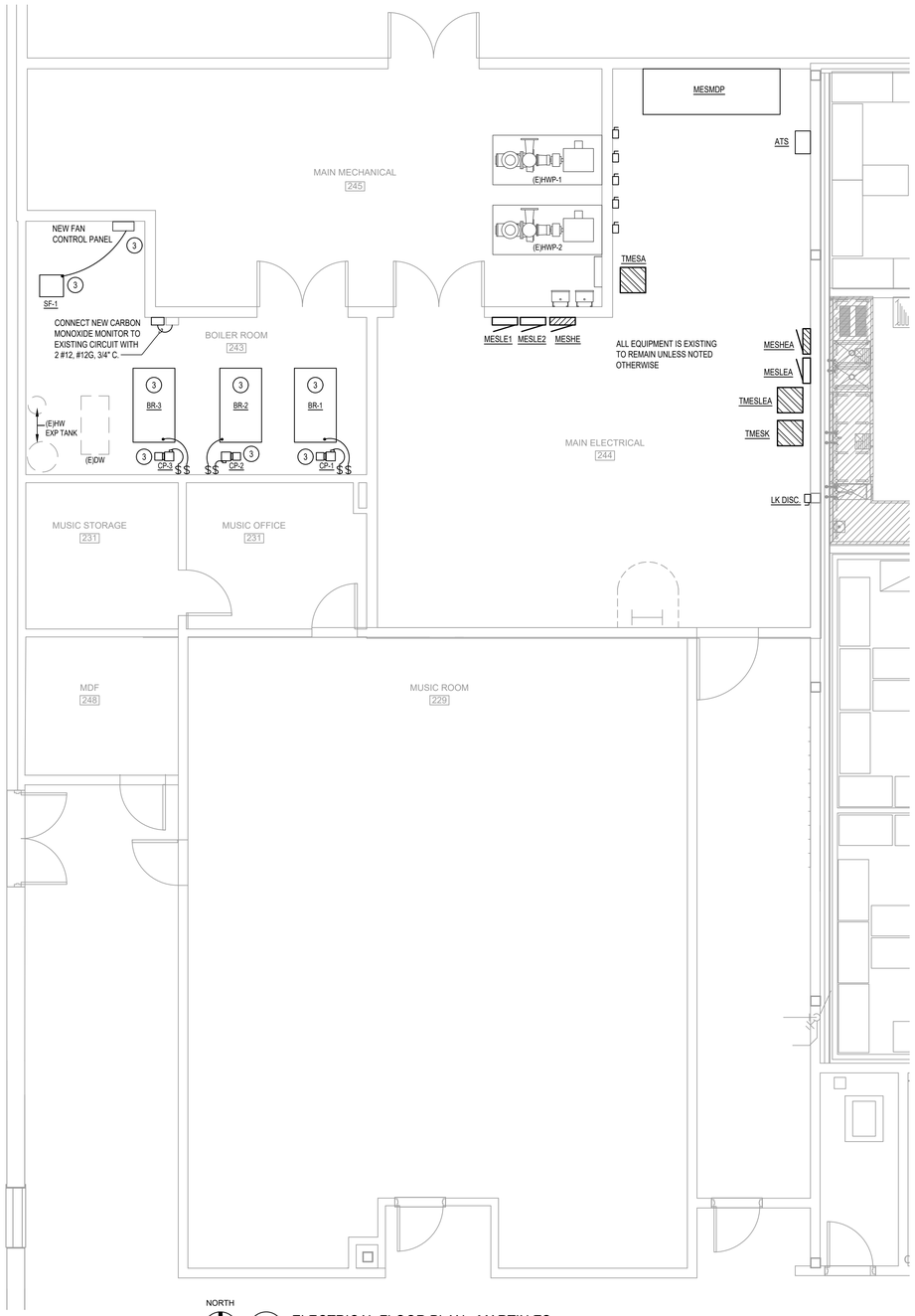
(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) NOT USED

(3) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

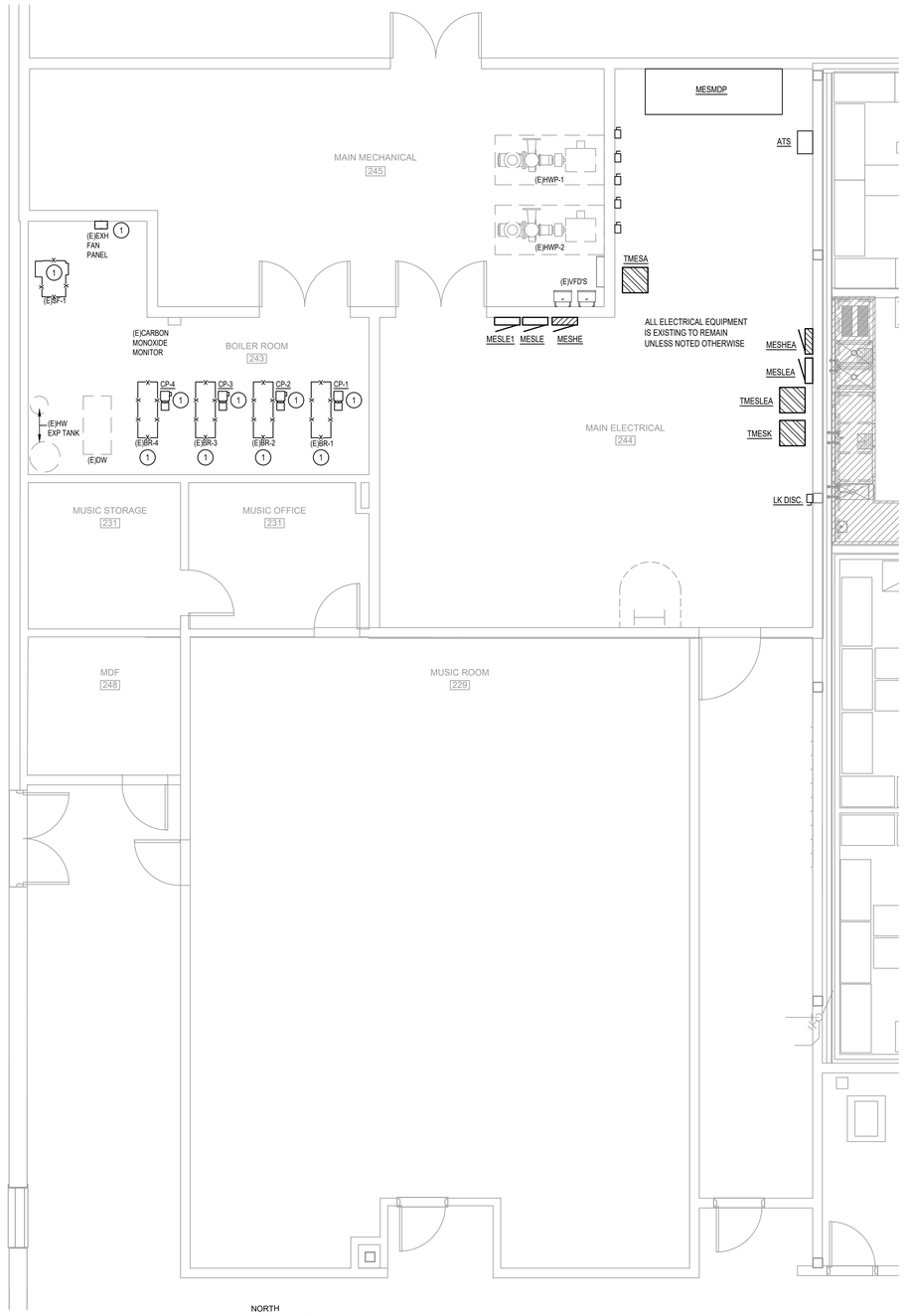
LINETYPE LEGEND

DISCONNECT AND REMOVE
EXISTING TO REMAIN
NEW WORK



NORTH

2 ELECTRICAL FLOOR PLAN - MARTIN ES
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - MARTIN ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: AW
Checked By: JZ
Date: 04-06-2023
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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

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ELECTRICAL FLOOR PLANS - MARTIN ES

E1.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

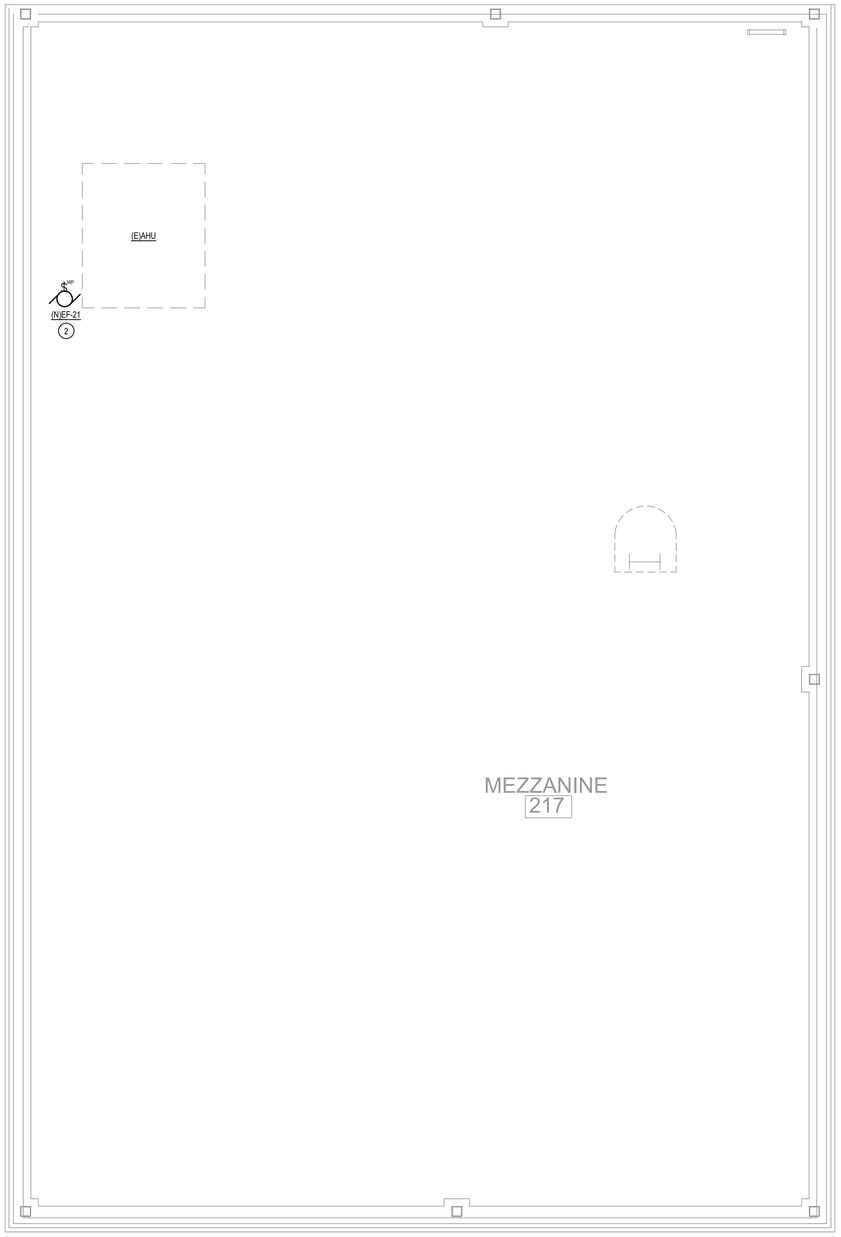
ELECTRICAL KEYED NOTES:

(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

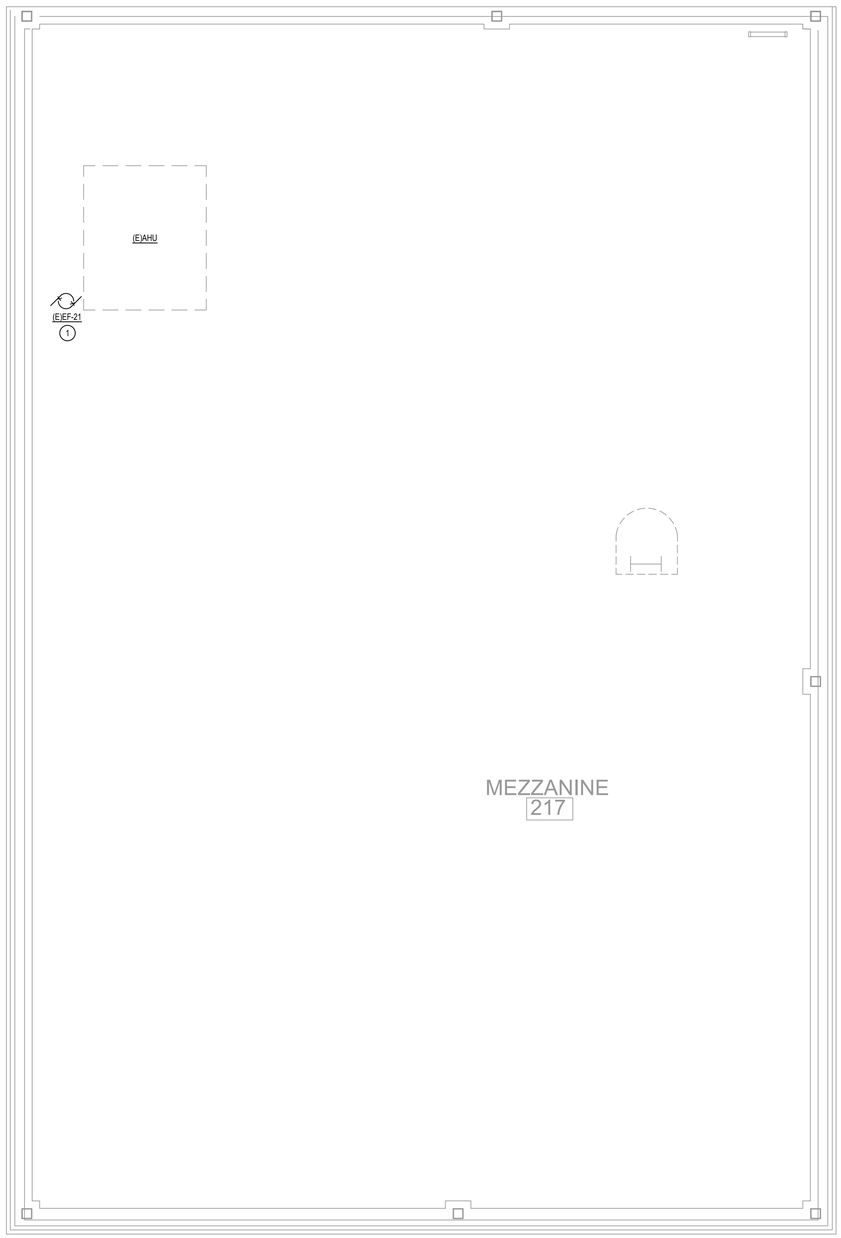
LINETYPE LEGEND

DISCONNECT AND REMOVE	—x—x—x—
EXISTING TO REMAIN	— — — —
NEW WORK	———



NORTH

2 ELECTRICAL MEZZANINE PLAN - MARTIN ES
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION MEZZANINE PLAN - MARTIN ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00

Drawn By: AW

Checked By: JZ

Date: 04-06-2023

Revision Dates:

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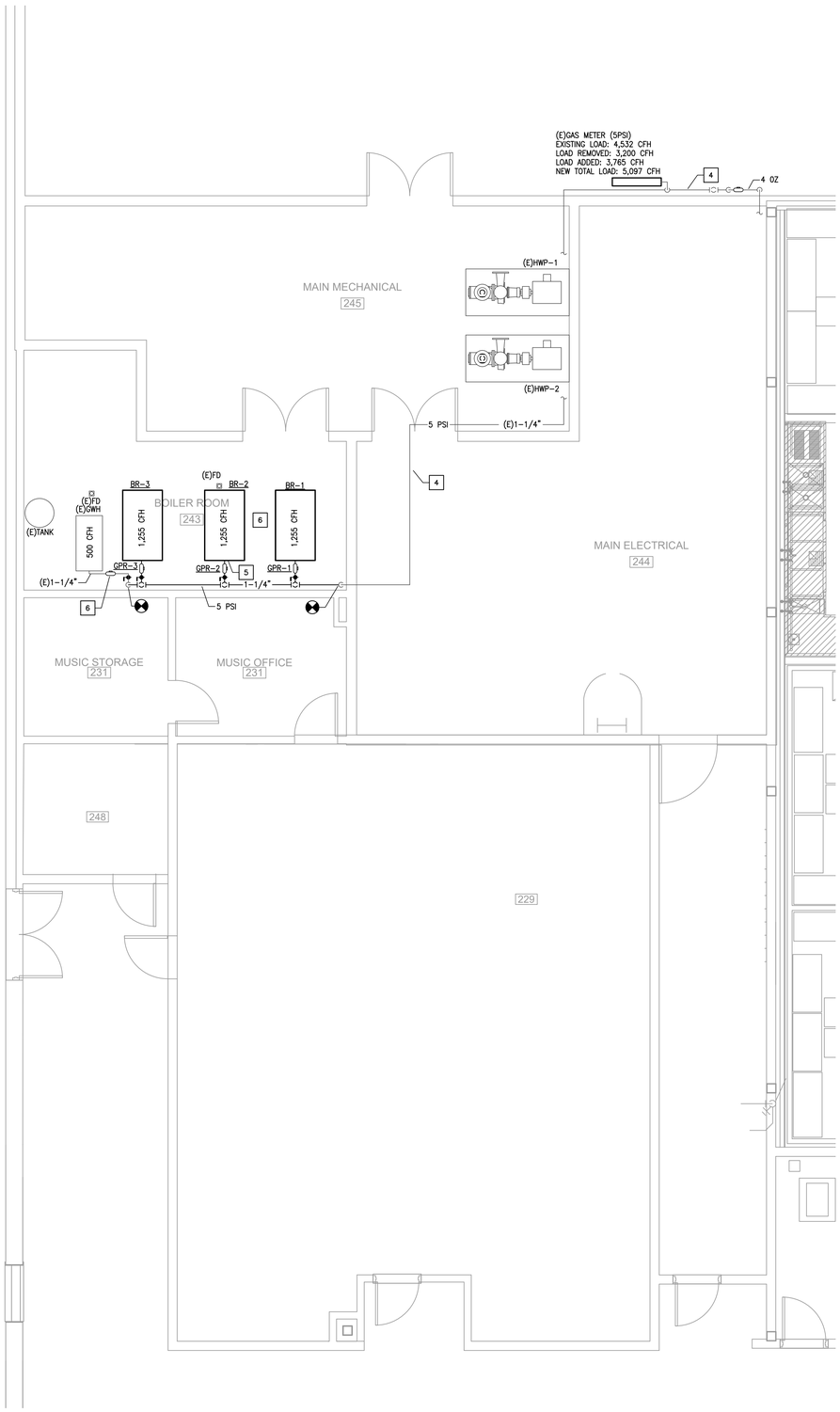
04-06-2023

ELECTRICAL MEZZANINE PLANS - MARTIN ES

E1.2

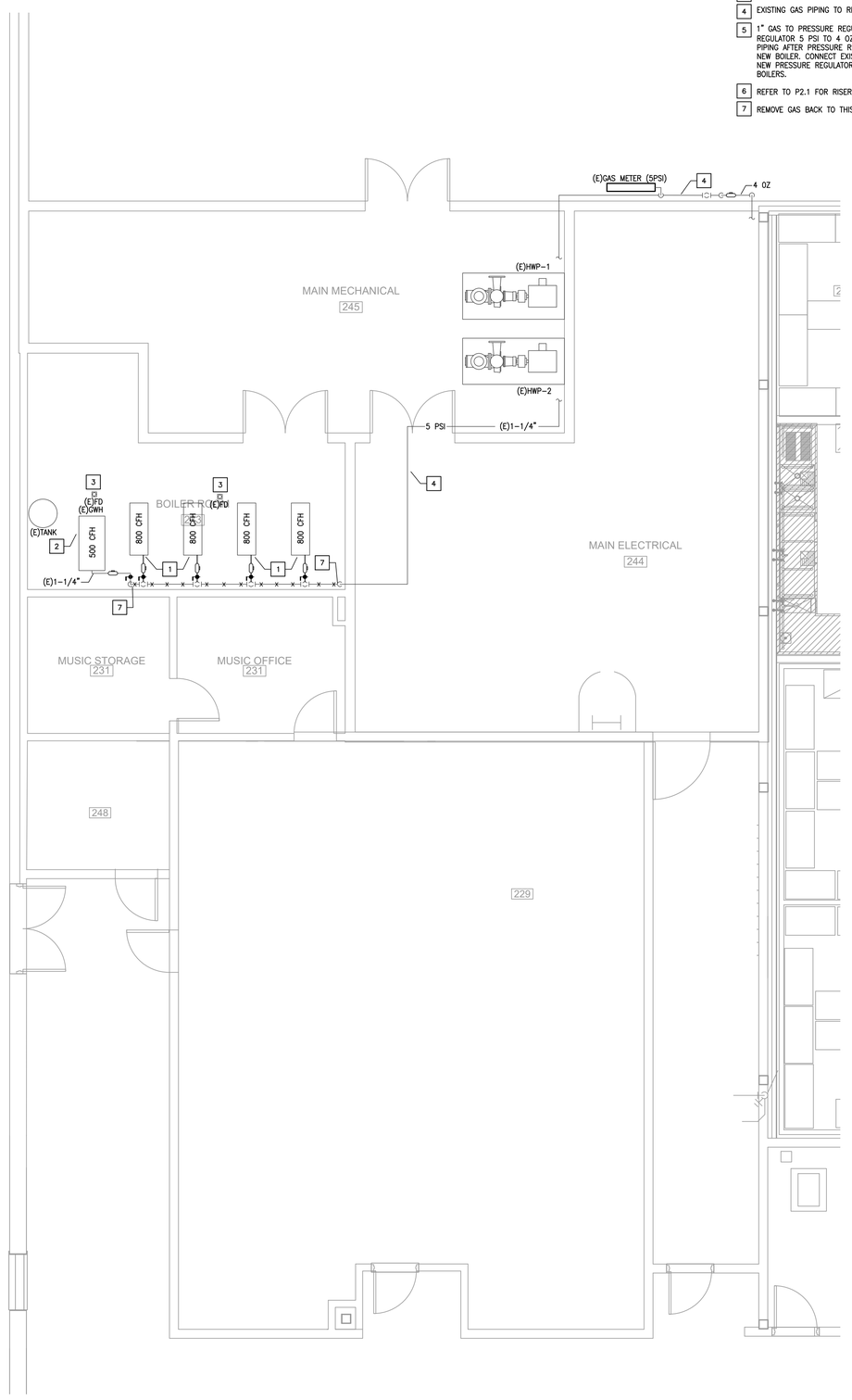
PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED. REMOVE GAS PIPING SERVING BOILER BACK TO MAIN 5 PSI LINE. REFER TO RISER DIAGRAM ON P 2.1.
2. EXISTING GWH AND TANK TO REMAIN.
3. EXISTING FLOOR DRAIN TO REMAIN.
4. EXISTING GAS PIPING TO REMAIN.
5. 1" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (1,255 CFH). 2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER. CONNECT EXISTING VENT PIPING TO NEW PRESSURE REGULATOR. TYPICALLY ALL 3 NEW BOILERS.
6. REFER TO P2.1 FOR RISER DIAGRAM.
7. REMOVE GAS BACK TO THIS POINT.



NORTH

2 PLUMBING FLOOR PLAN - MARTIN ES
SCALE: 1/4" = 1'-0"



NORTH

1 PLUMBING DEMOLITION FLOOR PLAN - MARTIN ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
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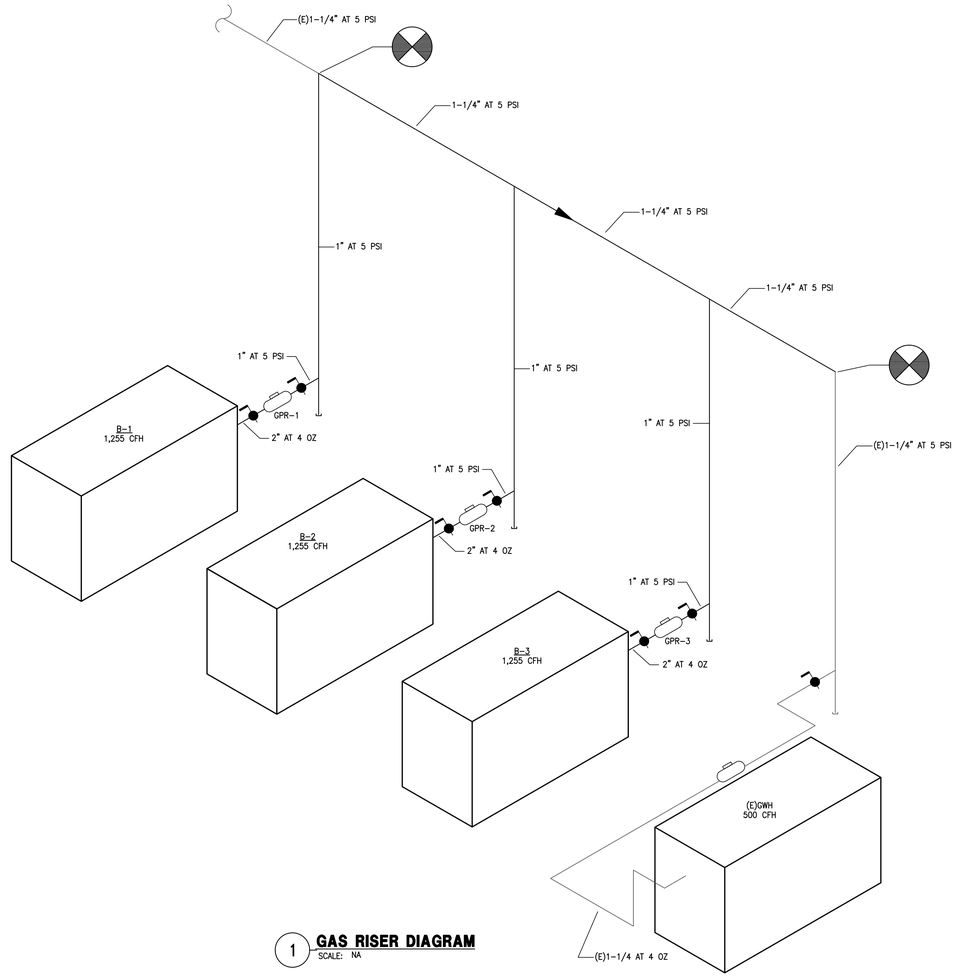
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PLUMBING FLOOR PLANS - MARTIN ES

P1.1



1 **GAS RISER DIAGRAM**
SCALE: NA

GAS EQUIPMENT

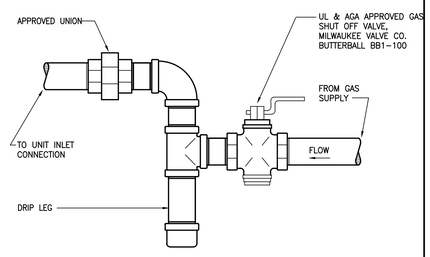
EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-2	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-3	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
TOTALS:			3,765,000 BTUH	3,765 CFH

INLET PRESSURE MAX 14 W.C. MIN 4.5 W.C. INLET CONNECTION 2"

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER RM 243	B-1	1,255	5 PSI - INLET 4 OZ. - OUTLET
GPR-2	GAS PRESSURE REGULATOR	BOILER RM 243	B-2	1,255	5 PSI - INLET 4 OZ. - OUTLET
GPR-3	GAS PRESSURE REGULATOR	BOILER RM 243	B-3	1,255	5 PSI - INLET 4 OZ. - OUTLET

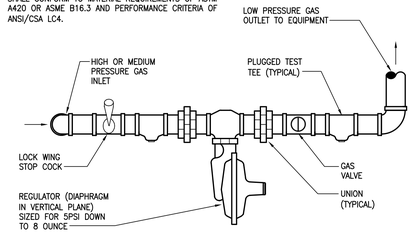
GENERAL NOTES:
1. MAINTAIN MINUMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.



2 **GAS CONNECTION**
SCALE: NONE

PROVIDE AMERICAN METER COMPANY REGULATORS OR APPROVED EQUAL, SUITABLE FOR OUTDOOR INSTALLATION. REGULATORS OUTSIDE EXPOSED TO WEATHER SHALL BE INSTALLED WITH VENT IN VERTICAL DOWN POSITION.

SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA OF ANSI/CSA LC4.



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

1 **GAS PRESSURE REGULATOR INSTALLATION**
SCALE: NONE

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PLUMBING DETAILS - MARTIN ES

P2.1

MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. PROVIDE NEW BOILER SYSTEM VENT CONTROLLER. INTERLOCK SF & EF. REFER TO BOILER SPECIFICATION FOR ADDITIONAL INFORMATION.
5. PROVIDE NEW SUPPLY FAN TIE IN TO EXISTING SUPPLY DUCTWORK AND EXISTING OA DUCTWORK. MODIFY AS NECESSARY.
6. PROVIDE CARBON MONOXIDE MONITORING STATION. MOUNT ENCLOSURE AT 5'-0" AFF. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
7. CONCRETE EXTENSION TO EXISTING CONCRETE PAD. NOTCH OUT CONCRETE EXTENSION TO AVOID EXISTING FLOOR SINK.

GENERAL DEMOLITION NOTES:

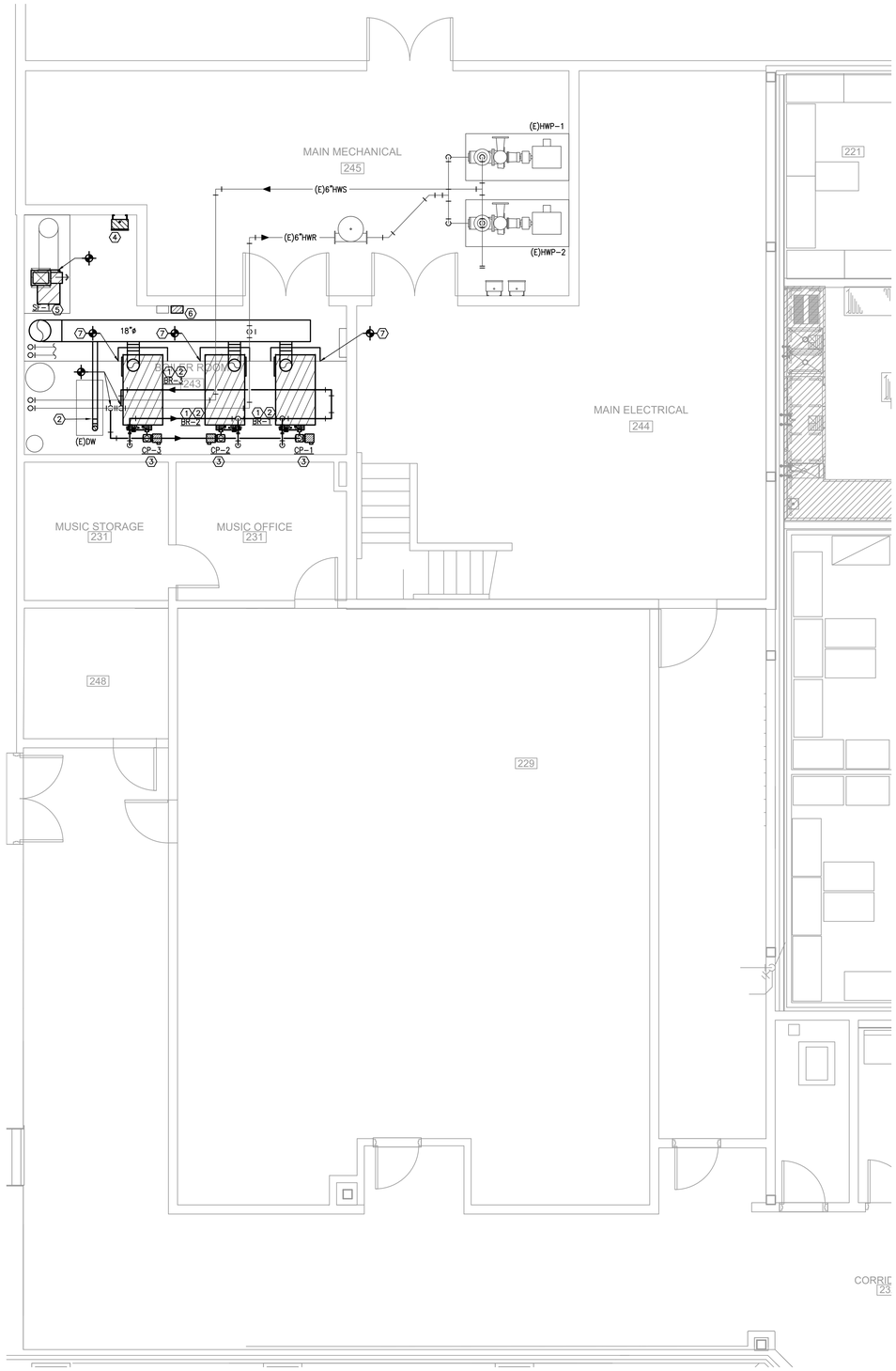
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND

RENOVATIONS	
	ITEM TO REMAIN
	ITEM TO BE REMOVED
	CONNECT TO EXISITNG

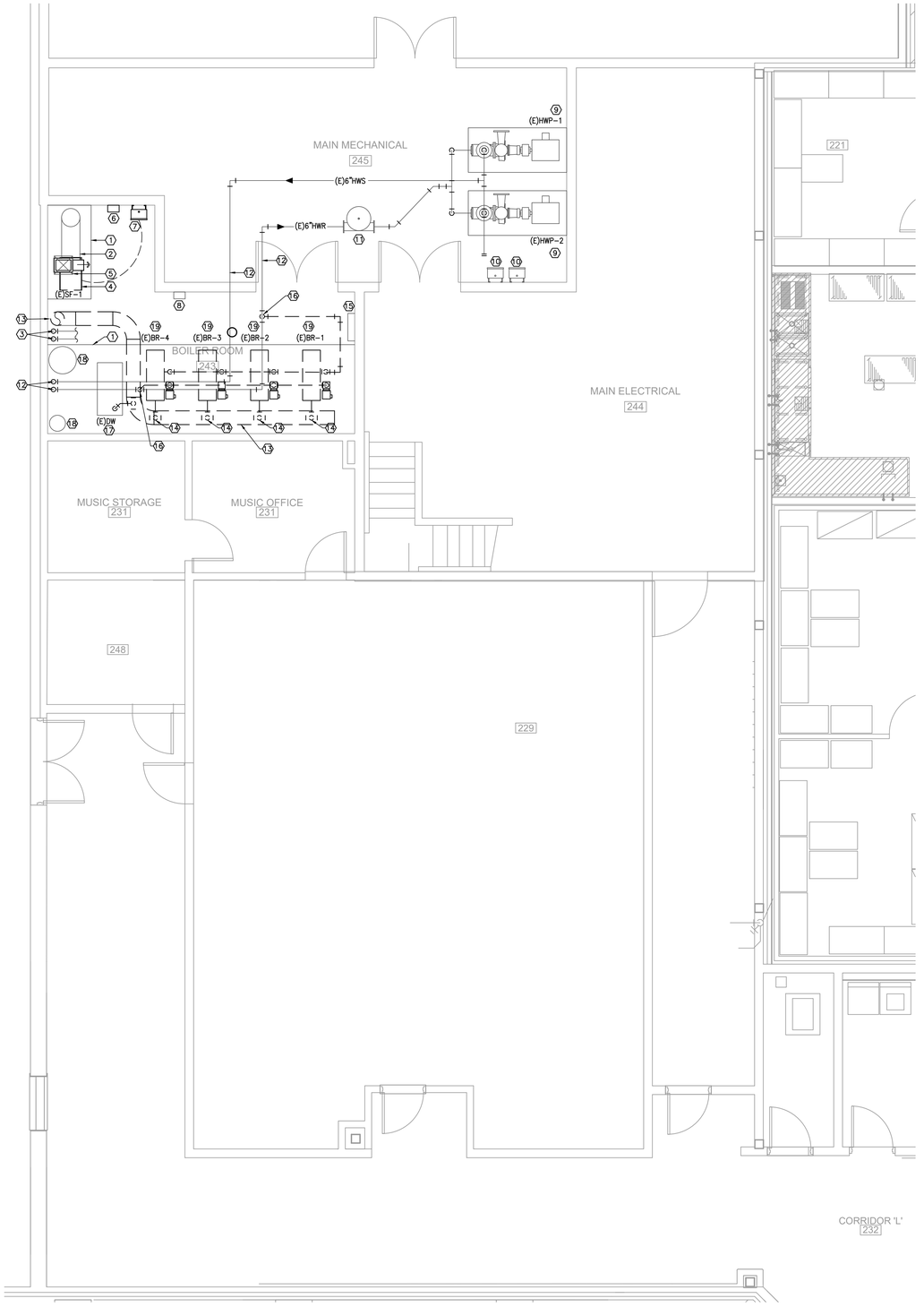
DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING OA DUCTWORK SHALL REMAIN.
3. EXISTING CHWS&R PIPING SHALL REMAIN.
4. EXISTING FLOOR MOUNTED SUPPLY FAN SHALL BE REMOVED.
5. EXISTING SUPPLY DUCTWORK, SIDEWALL GRILLES, AND ASSOCIATED APPURTENANCES, SHALL REMAIN.
6. EXISTING EXHAUST FAN PANEL SHALL BE REMOVED.
7. EXISTING VFD SHALL BE REMOVED.
8. EXISTING CO (CARBON MONOXIDE) MONITOR PANEL TO REMAIN.
9. EXISTING HOT WATER PUMP SHALL REMAIN.
10. EXISTING VFD SHALL REMAIN.
11. EXISTING AIR/DIRT SEPARATOR SHALL REMAIN.
12. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
13. EXISTING FLUE VENT SHALL BE REMOVED. MODIFY FLOOR PENETRATION TO ACCOMMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
14. EXISTING BRANCH FLUE VENT SHALL BE REMOVED BACK TO THIS POINT.
15. EXISTING BMCS CONTROL PANEL SHALL REMAIN.
16. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
17. EXISTING DOMESTIC WATER HEATER SHALL REMAIN. EXISTING BRANCH FLUE VENT SHALL BE REMOVED.
18. EXISTING HW EXPANSION TANK SHALL REMAIN.
19. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.



NORTH

2 **MECHANICAL FLOOR PLAN - CURTIS ES**
SCALE: 1/4" = 1'-0"



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - CURTIS ES**
SCALE: 1/4" = 1'-0"

Project No:	2022-04652-00
Drawn By:	MR
Checked By:	VP
Date:	04-06-2023
Revision Dates:	

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SALAS O'BRIEN | expect a difference
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281.664.1900 | Registration No. F-4111
Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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BRADLEY KALMANS
80219
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PROFESSIONAL ENGINEER
04-06-2023

MECHANICAL FLOOR PLANS - CURTIS ES

M1.1

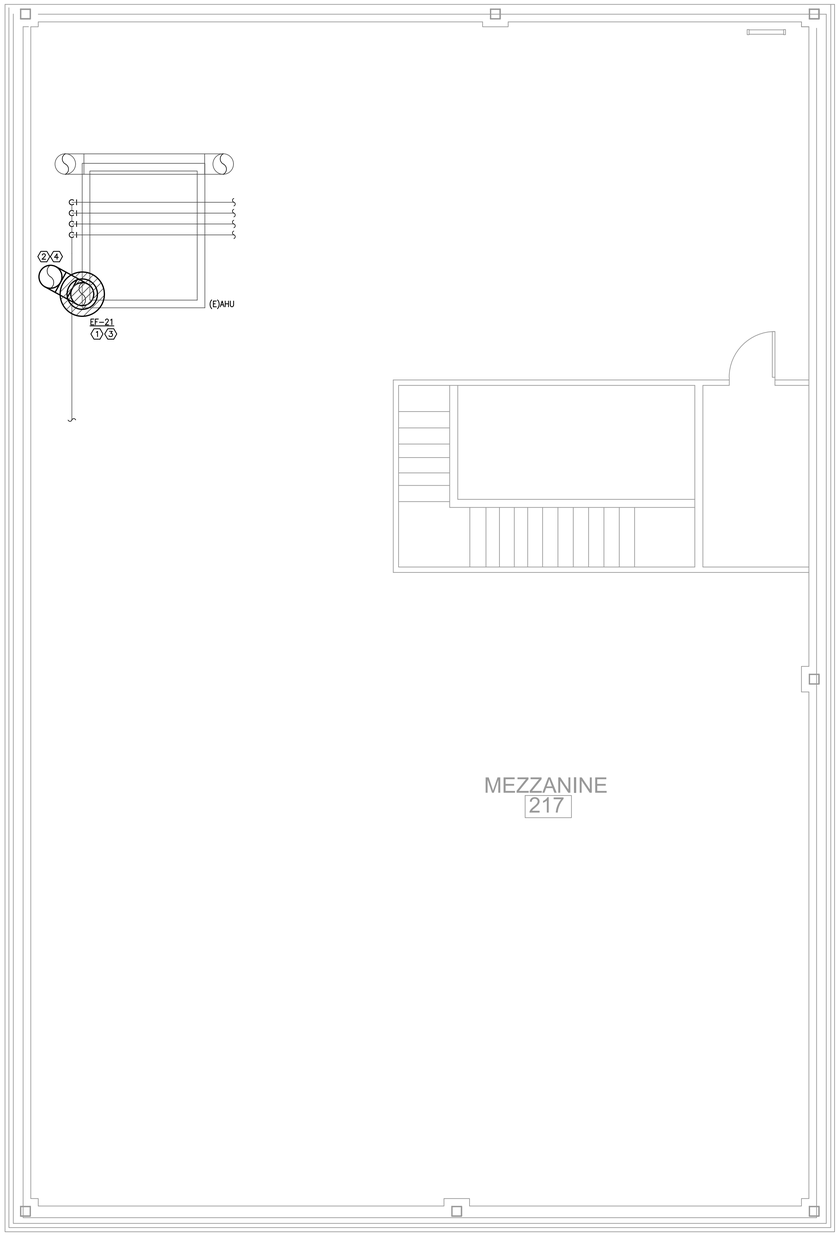
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. ROUTE FLUE UP THRU MEZZANINE PENETRATION TO ROOF PENETRATION AND EXHAUST FAN ON ROOF.
3. PROVIDE NEW FLUE ASSIST EXHAUST FAN AT EXISTING ROOF PENETRATION. PROVIDE NEW ROOF CURB.
4. PROVIDE THROUGH PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH CHAPTER 7 OF THE 2018 IBC.



NORTH
2 **MECHANICAL MEZZANINE PLAN - CURTIS ES**
SCALE: 1/4" = 1'-0"

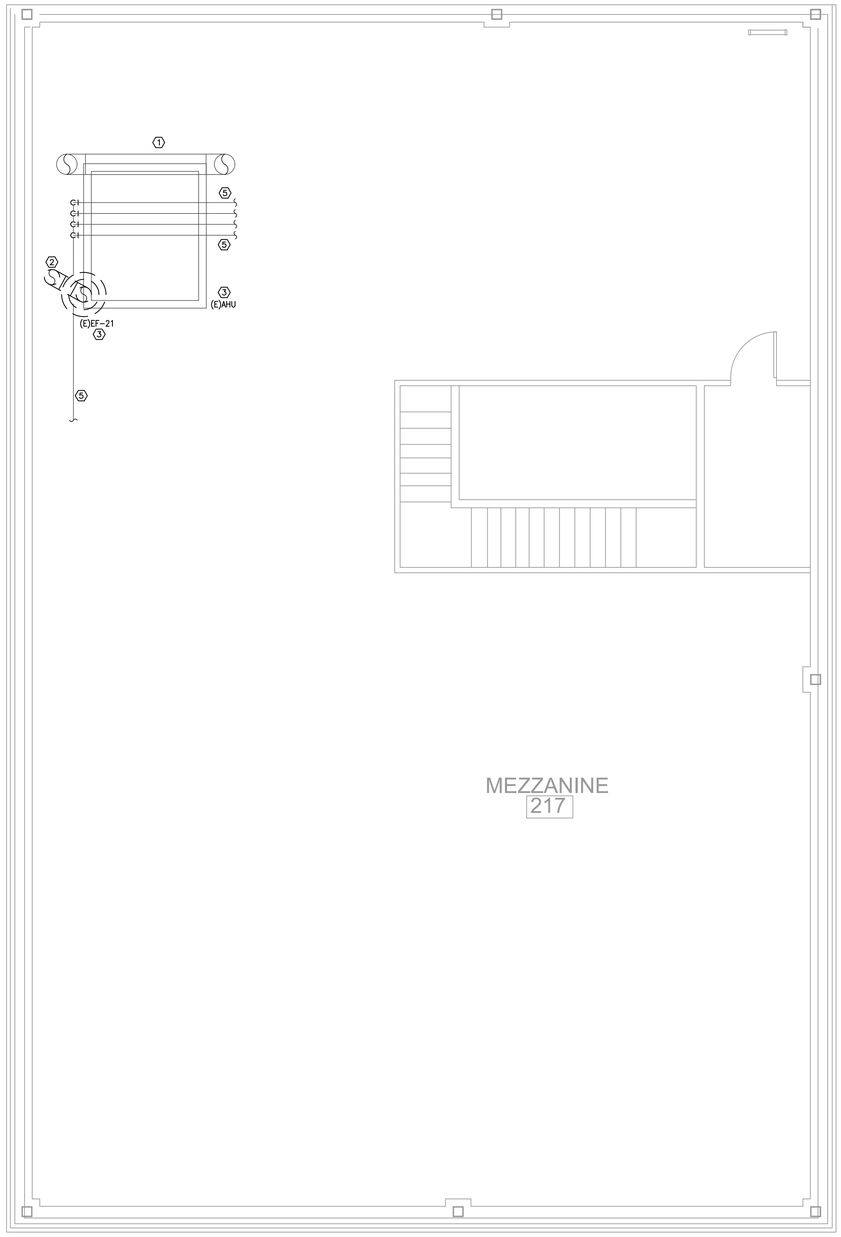
GENERAL DEMOLITION NOTES:

1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND	
RENOVATIONS	
☐	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED
✦	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING COMBUSTION AIR DUCTWORK SHALL REMAIN.
2. EXISTING FLUE VENT TO BE REMOVED UP TO EXHAUST FAN ON ROOF. EXISTING MEZZANINE FLOOR PENETRATION TO REMAIN. MODIFY FLOOR PENETRATION TO ACCOMMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
3. EXISTING EXHAUST FAN ON ROOF TO BE REMOVED. EXISTING ROOF PENETRATION TO REMAIN.
4. EXISTING AHU TO REMAIN.
5. EXISTING CHW/HW S/R PIPING TO REMAIN.



NORTH
1 **MECHANICAL DEMOLITION MEZZANINE PLAN - CURTIS ES**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

CONSULTANTS

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BOILER UPGRADES

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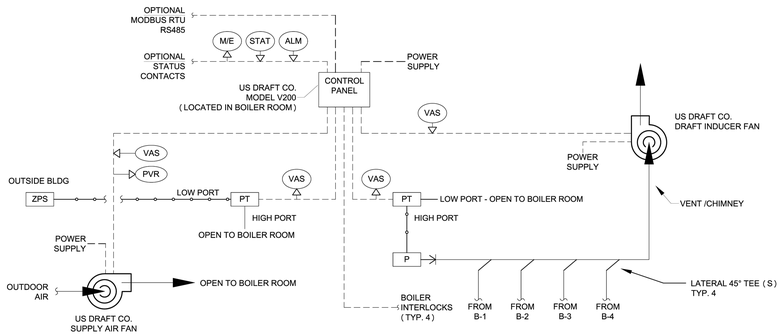
BRADLEY KALMANS
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PROFESSIONAL ENGINEER
STATE OF TEXAS
04-06-2023

MECHANICAL
MEZZANINE PLANS -
CURTIS ES

M1.2

SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
(#)	NOTE SPECIFIC TO DETAIL TAG
1	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	THERMOSTAT AND TEMPERATURE SENSOR
H	HUMIDISTAT
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
AIR DEVICES	
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWSAR-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CWS-	CONDENSER WATER SUPPLY
-CWR-	CONDENSER WATER RETURN
-CHWSAR-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CHWS-	CHILLED WATER SUPPLY
-CHWR-	CHILLED WATER RETURN
-HWSAR-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-HWS-	HOT WATER FOR HYDRONIC HEATING SUPPLY
-HWR-	HOT WATER FOR HYDRONIC HEATING RETURN
-D-	CONDENSATE DRAIN LINE
-AD-	AUXILLARY CONDENSATE DRAIN LINE
-RLR-	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-RL-	REFRIGERANT LIQUID LINE
-HG-	REFRIGERANT HOT GAS LINE
-RS-	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
FM	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
GA	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR



Application:	VCS & PAS Diagram
Control System:	V200-VP
Date: 10/05/17	Version: 1.0 / DWG Rev: 0 / Page #: 1 of 1
Draft Inducer Voltage:	120/ 208-230 1PH
	US Draft Co. Phone: (817) 393-4029 www.usdraftco.com
	Controller Output / Controller Input
	Field Wiring Refer to specifications for voltage, amperage, and wiring type
	Pneumatic Tubing for pressure reference
	Vent or Duct
ALM	Alarm output
M/E	Master Enable: input of controller
P	Stack Pressure Probe
PT	Pressure Transducer -1 to 1 in. WC
PVR	Supply Fan Proving Device Output CS75 Current Switch or GFS Differential Pressure Switch
STAT	System run status
VAS	Variable Analog Signal 0-10VDC
ZPS	Outdoor Air Static Pressure Pickup Port

FAN CONTROL SEQUENCE (VCS: VENT CONTROL SYSTEM / PAS: PRESSURE AIR SYSTEM)

1. EACH HEATING APPLIANCE SHALL BE INTERLOCKED WITH THE CONTROL PANEL. UPON A CALL FOR HEAT, THE CONTROL PANEL SHALL ACTIVATE THE DRAFT INDUCER FAN TO ESTABLISH DRAFT IN THE CHIMNEY SYSTEM. THE SUPPLY AIR FAN SHALL START TO ESTABLISH THE REQUIRED PRESSURE IN THE COMBUSTION AIR DUCT OR BOILER ROOM. ALL EXTERNAL MECHANICAL LIMITS ARE MONITORED FOR STATUS. ONCE ALL THESE CONDITIONS ARE MET THE CONTROL SYSTEM WILL RELEASE THE FLAME PROGRAMMER OR GAS VALVE OF THE APPLIANCE CALLING FOR HEAT. THE SEQUENCE IS REPEATED EVERY TIME AN INITIAL APPLIANCE CALLS FOR HEAT. EACH ADDITIONAL CALL FOR HEAT THE CONTROL WILL NOT DELAY THE SEQUENCING OF THE ADDITIONAL HEATING APPLIANCES.

2. WHEN APPLIANCES SHUT DOWN BOTH THE DRAFT INDUCER FAN AND THE SUPPLY AIR FAN WILL WILL CONTINUE TO RUN IN POST-PURGE MODE FOR A SET PERIOD OF TIME TO REMOVE RESIDUAL FLUE GASES.

3. ONCE THE POST-PURGE CYCLE IS COMPLETED THE SYSTEM SECURES AND THE CONTROL PANEL ENTERS STAND-BY MODE.

4. IF PROPER DRAFT CANNOT BE MAINTAINED OR AN EXTERNAL MECHANICAL LIMIT OPENS BECAUSE OF MECHANICAL OR ELECTRICAL FAILURE, THE CONTROL WILL GO IN ALARM MODE AND THE INTEGRATED PROVEN DRAFT FUNCTION WILL SHUT DOWN ALL THE APPLIANCES WITHIN 15 SECONDS . WHILE IN ALARM MODE, THE CONTROL CONSTANTLY MONITORS THE DRAFT AND LIMIT INPUTS. IF THE FAILURE CORRECTS ITSELF OR IS CORRECTED VIA INTERVENTION, THE SYSTEM WILL RESTART AUTOMATICALLY. IF THE FAILURE IS NOT CORRECTED BEFORE THE ADJUSTABLE SYSTEM RELEASE FAULT TIMER EXPIRES, THE CONTROL WILL DISABLE AND LOCKOUT THE SYSTEM FOR FREEZE PROTECTION.

5. WHEN THE FAN TEST IS ENABLED, THE CONTROL PANEL WILL RUN A SELF DIAGNOSTIC ON THE STATUS OF THE VENT SYSTEM EACH HEATING CYCLE TO VERIFY THAT THE SYSTEM IS FUNCTIONING PROPERLY. IF THE FAN TEST FAILS, THE CONTROL PANEL WILL ALARM, LOCKOUT SYSTEM AND ANNUNCIATE THE TEST FAILURE.

6. ATC CONTRACTOR, MECHANICAL CONTRACTOR, EQUIPMENT MANUFACTURER, GENERAL CONTRACTOR, DESIGN ENGINEER, AND COMMISSIONING ENGINEER SHALL MEET PRIOR TO SUBMITTING SHOP DRAWINGS TO REVIEW COORDINATION AND IMPLEMENTATION OF THE SPECIFIED CONTROL SEQUENCE OF BOILER/BOILER/CONTROLLER/HOT WATER SYSTEM, EXHAUST BOILER FLUE/MAKE UP AIR SYSTEM, AND ROOF TOP UNITS.

3 **VCS & PAS DIAGRAM**
SCALE: NO SCALE

FAN SCHEDULE

MARK	LOCATION	CFM	MAXIMUM RPM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER	CURRENT CHARAC.	LOCALLY SWITCHED BY	INTERLOCKED WITH	FAN TYPE	BELT/DIRECT DRIVE	MANUFACTURER	MODEL NUMBER	REMARKS
EF-21	BOILER ROOM	1830	1950	.25	1	120/1/60	–	BR-1,2,3,(E)DWH	CHIMNEY	DIRECT	US DRAFT CO.	CBX22	(1,2,3,4,5,6,7)
SF-1	BOILER ROOM	1110	1950	1.25	1/2	120/1/60	–	EF-21	CENTRIFUGAL BLOWER	DIRECT	US DRAFT CO.	MEF015	(1,2,3,4,5,6,7)

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.
3. FAN SHALL BE CENTRIFUGAL, BELT DRIVEN TYPE UNLESS OTHERWISE SCHEDULED.

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH OSHA APPROVED MOTOR GUARD.
3. PROVIDE WITH BOILER SYSTEM VENT CONTROLLER (120V, 0.4 AMPS)
4. PROVIDE FAN WITH EC MOTOR.
5. PROVIDE WITH SPRING ISOLATION RAIL.
6. PROVIDE WITH TOP DISCHARGE.
7. PROVIDE WITH DRAIN AT BOTTOM OF FAN HOUSING.

PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MAXIMUM RPM	MOTOR HORSEPOWER	CURRENT	MANUFACTURER	MODEL	REMARKS
CP-1	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-2	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-3	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

BOILER - FORCED AIR

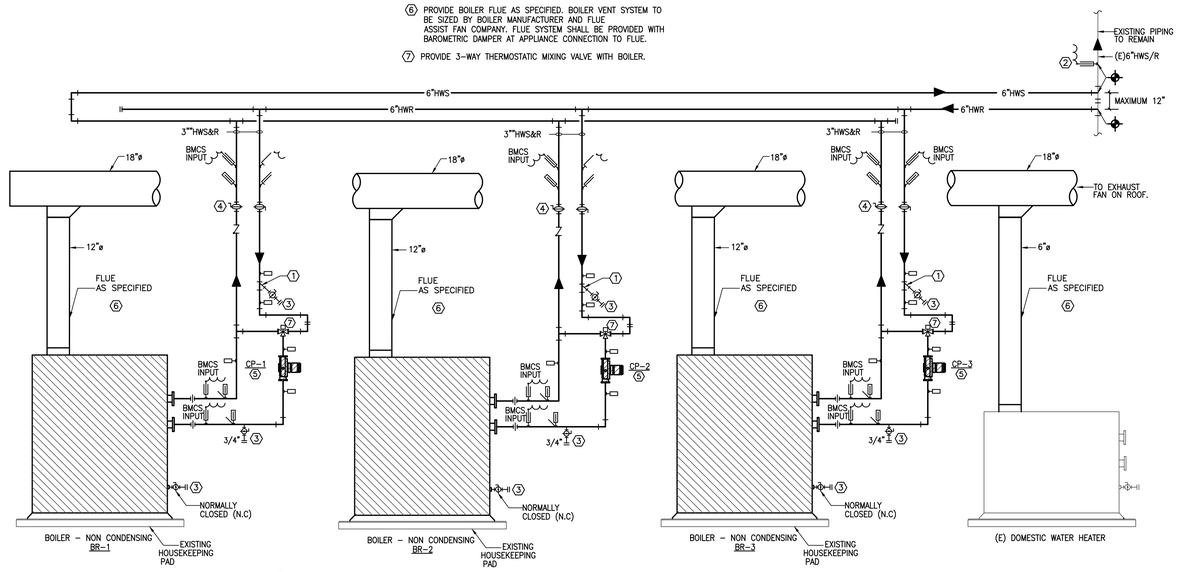
MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL: BLOWER HORSEPOWER	ELECTRICAL: CURRENT CHARAC. (V/PH/Hz)	MANUFACTURER	MODEL	REMARKS
BR-1	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-2	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-3	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

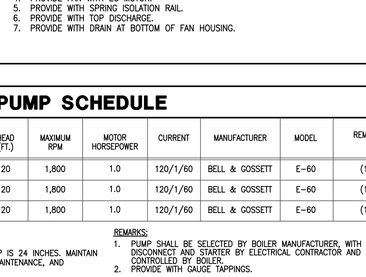
REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.
3 PROVIDE US DRAFT CO FLUE EXHAUST SYSTEM. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

MECHANICAL HOT WATER KEYED NOTES:

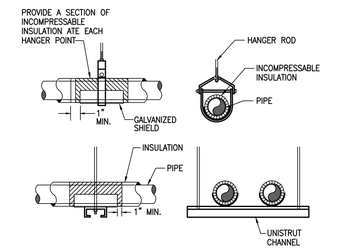
1. PROVIDE INLINE STRAINER.
2. HEADER TEMPERATURE SENSOR. PROVIDED BY BOILER MANUFACTURER.
3. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE UNLESS OTHERWISE NOTED.
4. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE.
5. CIRCULATING PUMP SIZED AND PROVIDED BY BOILER MANUFACTURER.
6. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
7. PROVIDE 3-WAY THERMOSTATIC MIXING VALVE WITH BOILER.



3 **PARTIAL HOT WATER PIPING DIAGRAM**
SCALE: NO SCALE



2 **MULTI-PIPE TRAPEZE HANGER**
SCALE: NONE PS001



1 **PIPE HANGERS**
SCALE: NONE PS002

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT
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BRADLEY KALMANS 80219 LICENSED PROFESSIONAL ENGINEER
04-06-2023

MECHANICAL DETAILS - CURTIS ES

M2.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

ELECTRICAL KEYED NOTES:

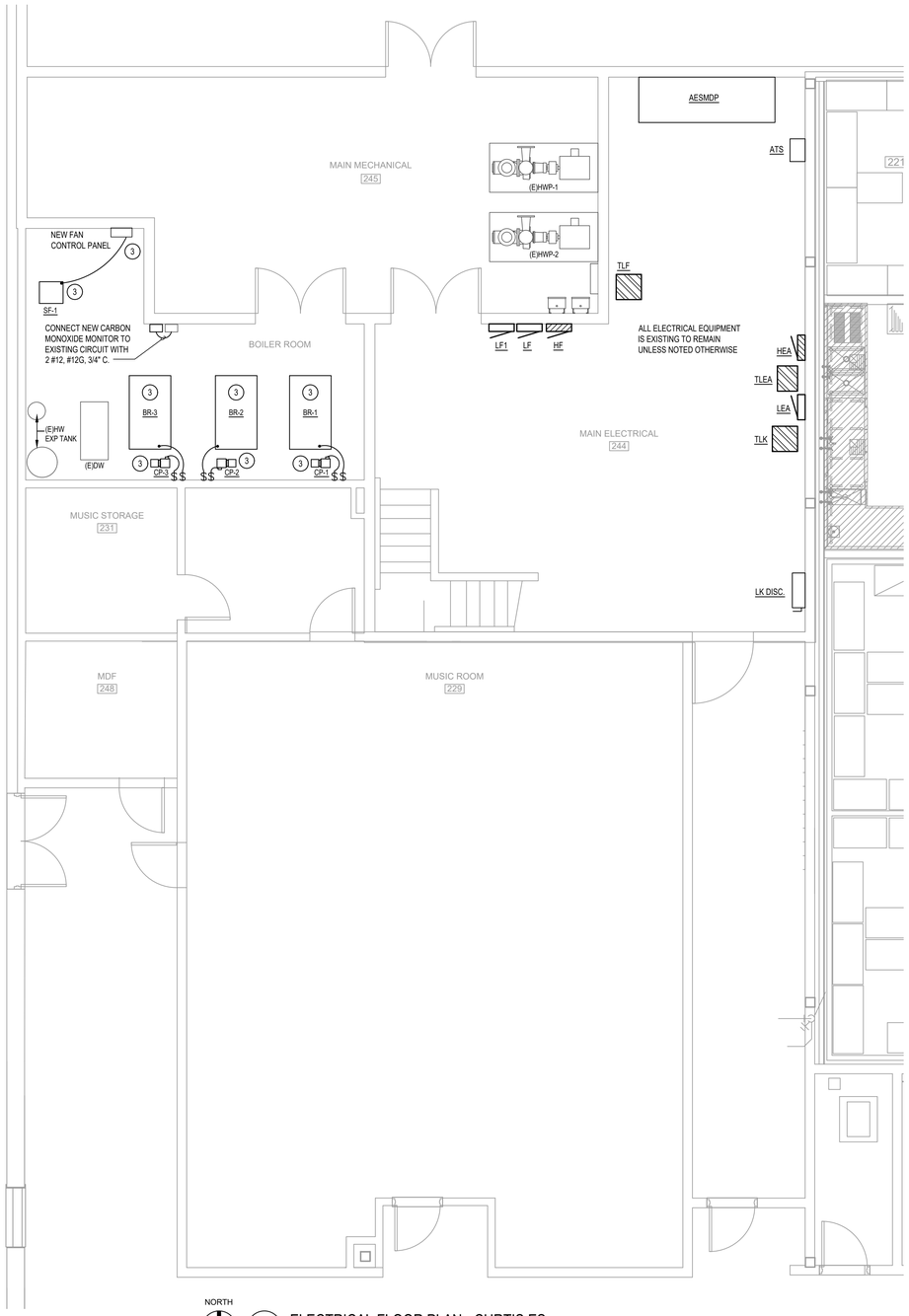
(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) NOT USED

(3) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

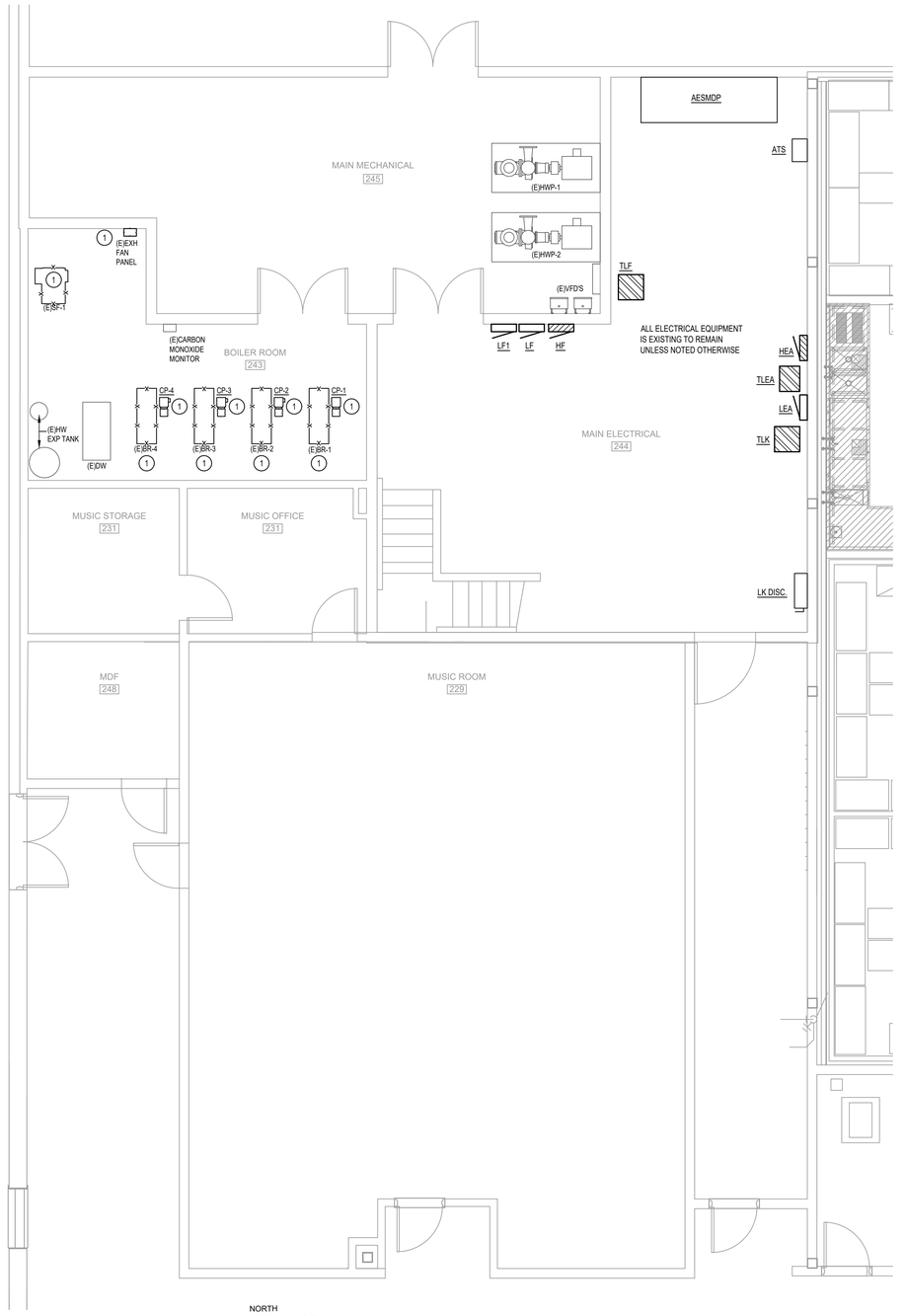
LINETYPE LEGEND

DISCONNECT AND REMOVE —x—x—x—
EXISTING TO REMAIN
NEW WORK



NORTH

2 ELECTRICAL FLOOR PLAN - CURTIS ES
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - CURTIS ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
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BOILER UPGRADES

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ELECTRICAL FLOOR PLANS - CURTIS ES

E1.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

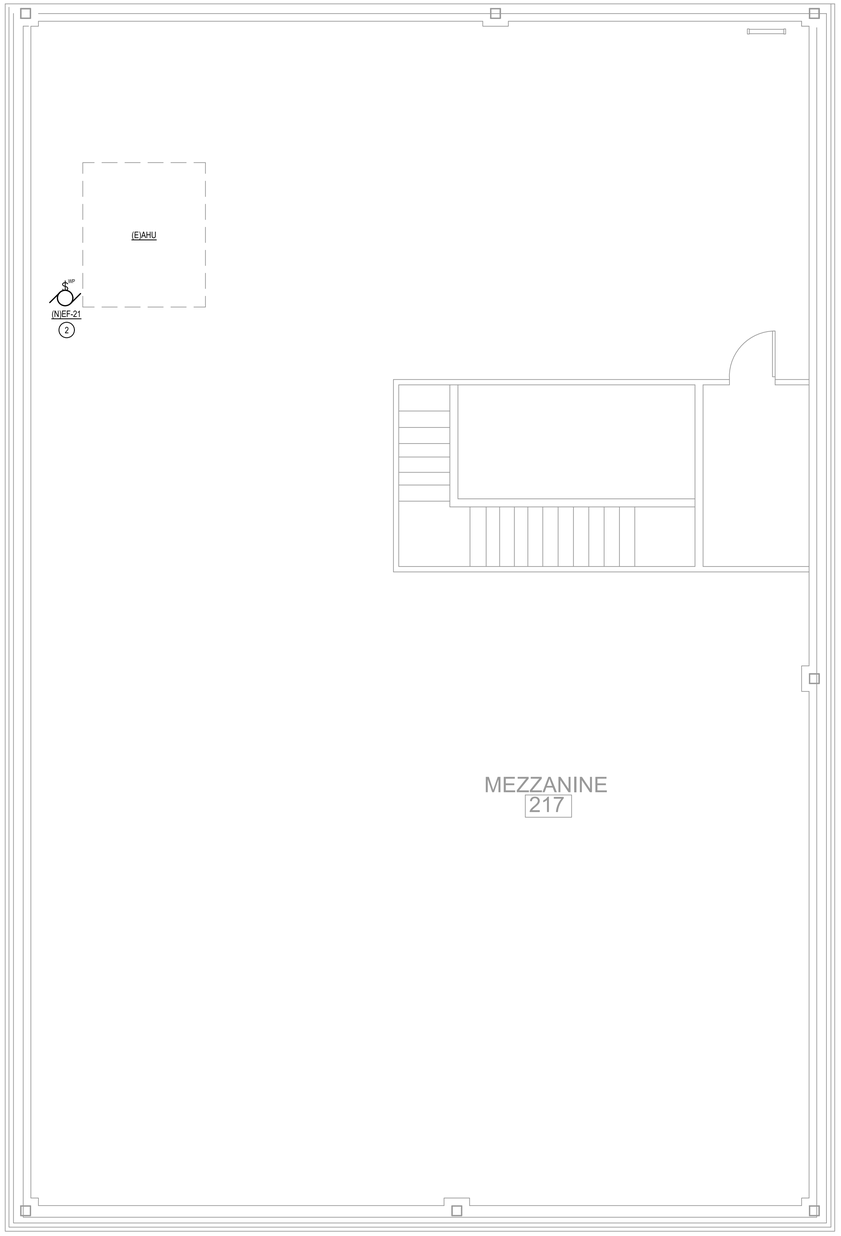
ELECTRICAL KEYED NOTES:

(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

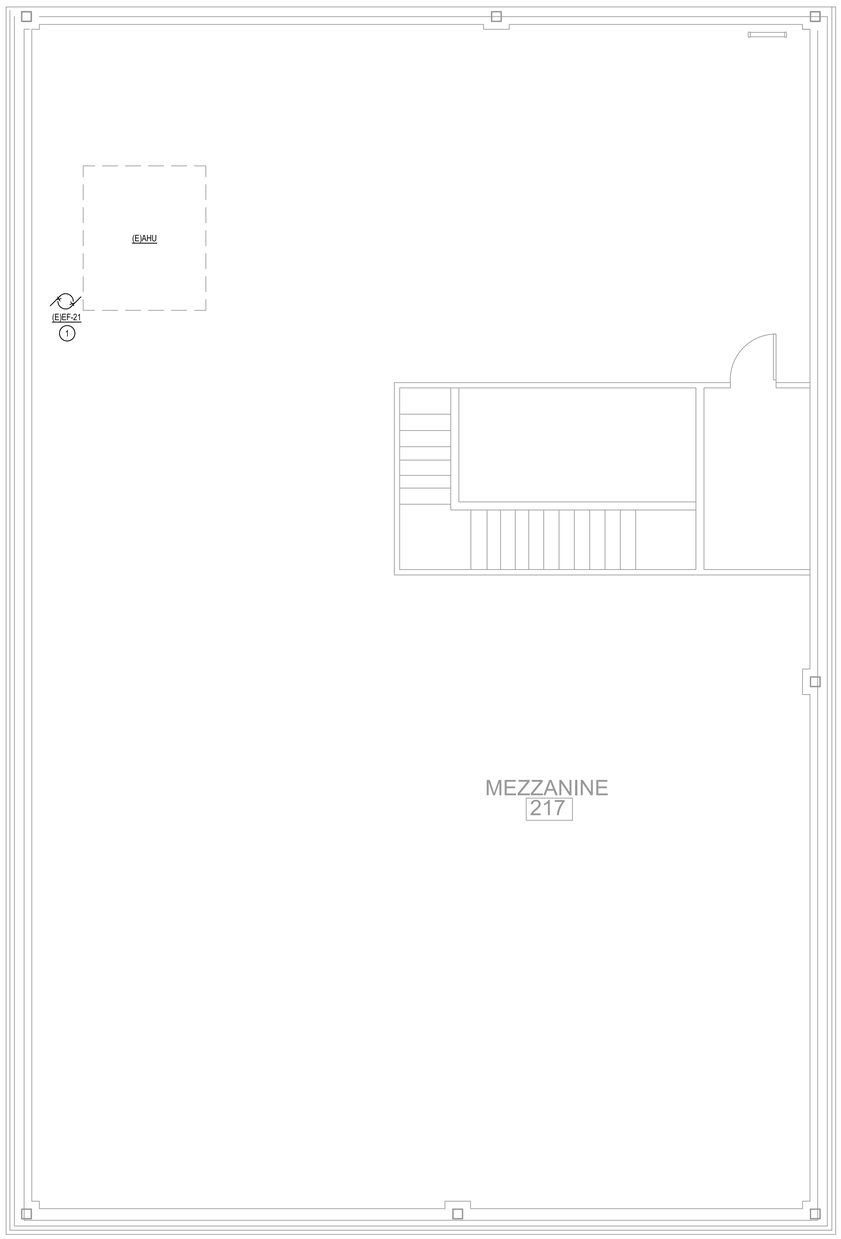
LINETYPE LEGEND

DISCONNECT AND REMOVE	—x—x—x—
EXISTING TO REMAIN	— — — —
NEW WORK	———



NORTH

2 ELECTRICAL MEZZANINE PLAN - CURTIS ES
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION MEZZANINE PLAN - CURTIS ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: AW
Checked By: JZ
Date: 04-06-2023
Revision Dates:

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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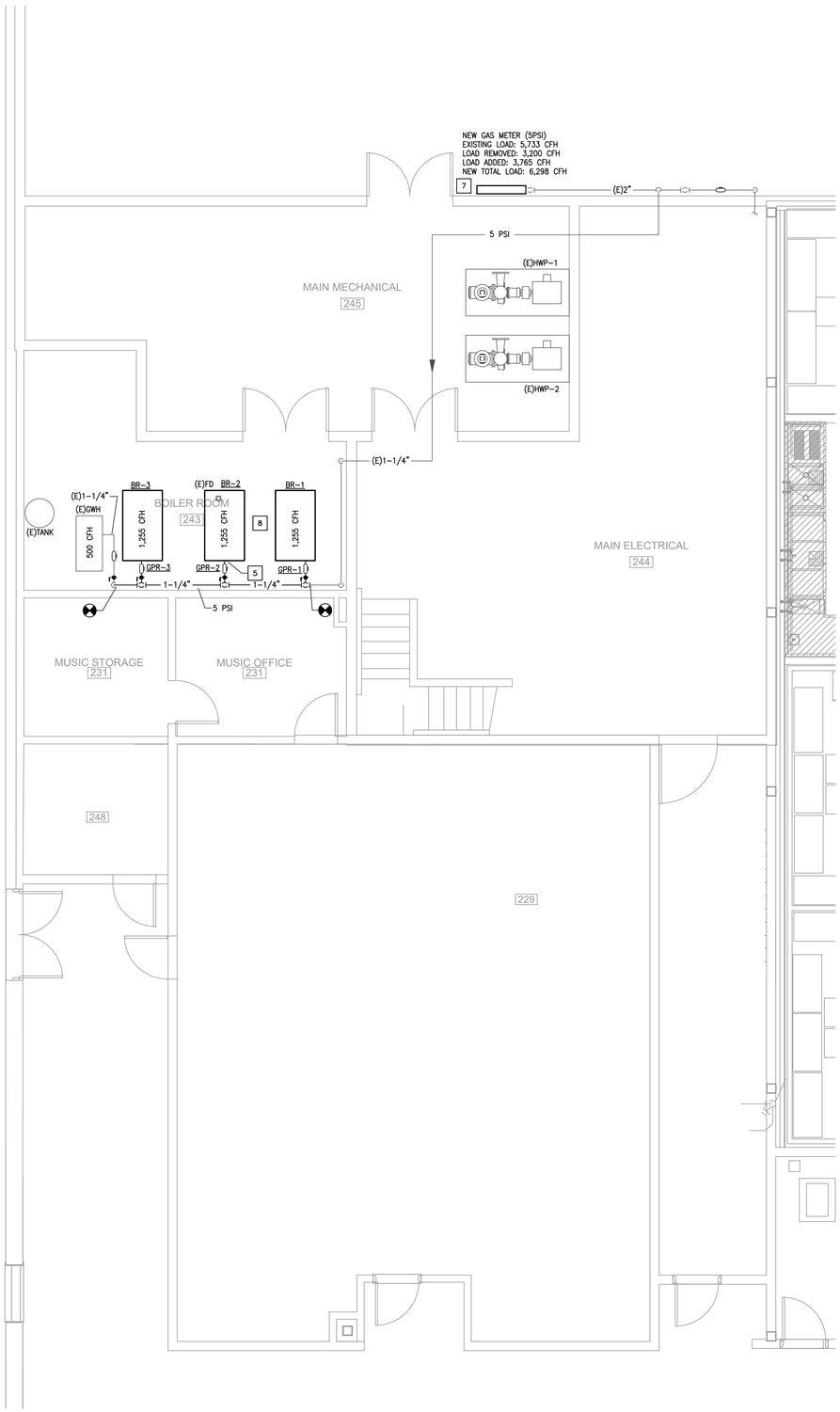
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80219
LICENSED
PROFESSIONAL ENGINEER
04-06-2023

ELECTRICAL MEZZANINE PLANS - CURTIS ES

E1.2

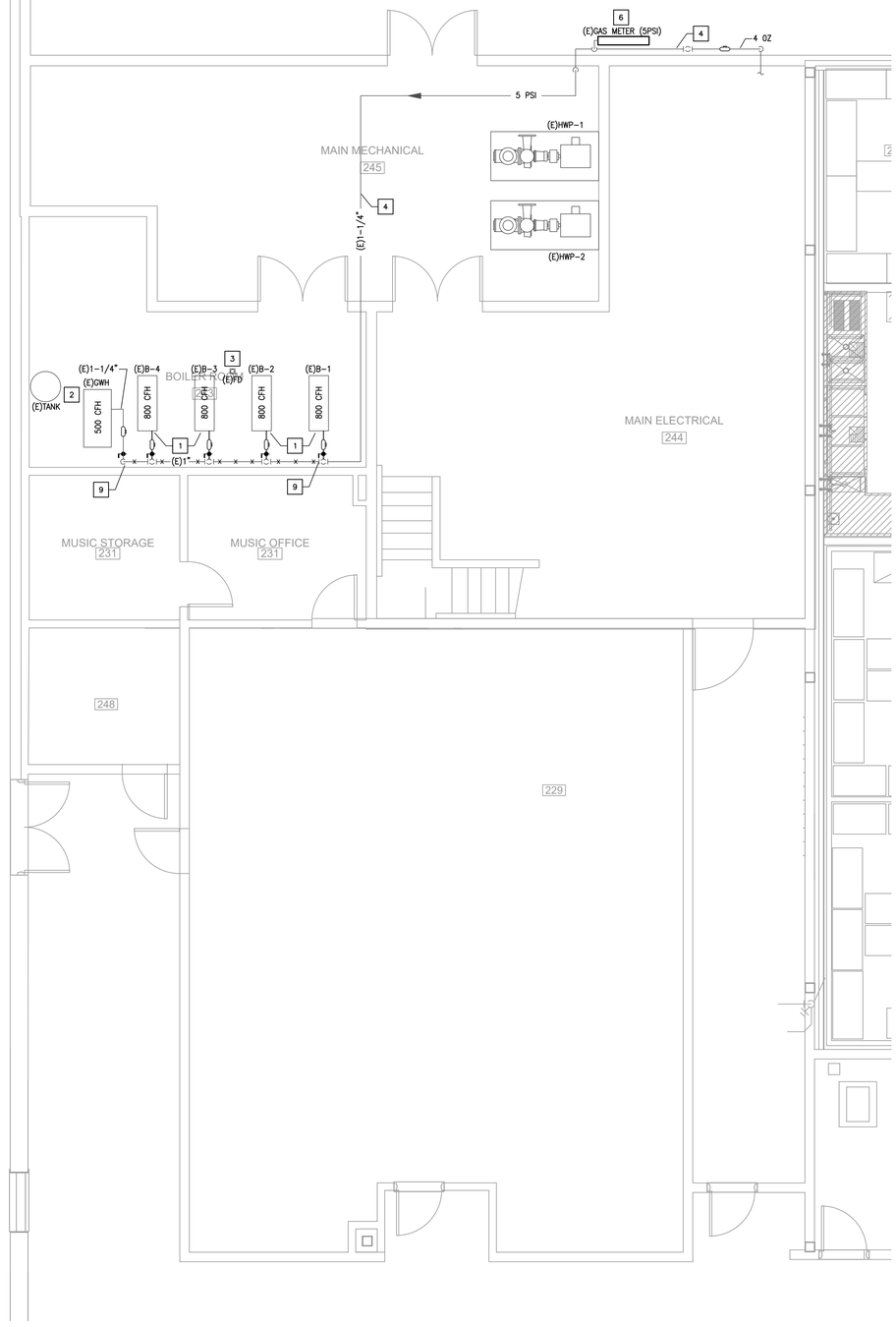
PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED. REMOVE GAS PIPING SERVING BOILER BACK TO MAIN 5 PSI LINE. REFER TO RISER DIAGRAM ON P2.1.
2. EXISTING GWH AND TANK TO REMAIN.
3. EXISTING FLOOR DRAIN TO REMAIN.
4. EXISTING GAS PIPING TO REMAIN.
5. 1" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (1,255 CFH). 2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER. CONNECT EXISTING VENT PIPING TO NEW PRESSURE REGULATOR. TYPICALLY ALL 4 NEW BOILERS.
6. EXISTING GAS METER TO BE REMOVED AND REPLACED. COORDINATE REPLACEMENT WITH CENTERPOINT ENERGY.
7. PROVIDE NEW GAS METER AT 5 PSI. COORDINATE REPLACEMENT WITH CENTERPOINT ENERGY.
8. REFER TO P2.1 FOR RISER DIAGRAM.
9. REMOVE GAS PIPING BACK TO THIS POINT.



NORTH

2 **PLUMBING FLOOR PLAN - CURTIS ES**
SCALE: 1/4" = 1'-0"



NORTH

1 **PLUMBING DEMOLITION FLOOR PLAN - CURTIS ES**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: BR
Checked By: EH
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Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

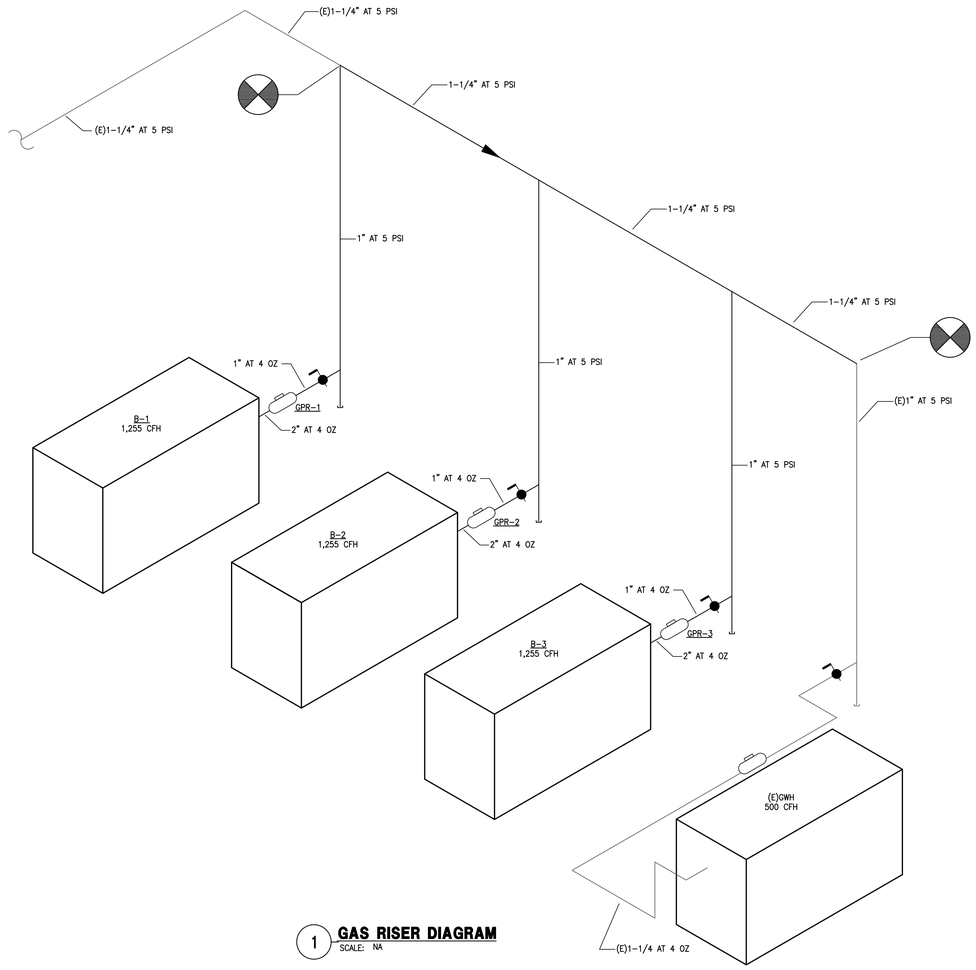
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04-06-2023

PLUMBING FLOOR PLANS - CURTIS ES

P1.1



1 **GAS RISER DIAGRAM**
SCALE: NA

GAS EQUIPMENT

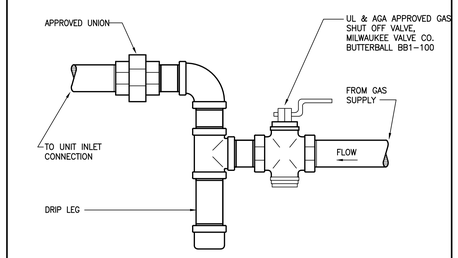
EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-2	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-3	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
TOTALS:			3,765,000 BTUH	3,765 CFH

INLET PRESSURE MAX 14 W.C. MIN 4.5 W.C. INLET CONNECTION 2"

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER RM 243	B-1	1,255	5 PSI - INLET 4 OZ. - OUTLET
GPR-2	GAS PRESSURE REGULATOR	BOILER RM 243	B-2	1,255	5 PSI - INLET 4 OZ. - OUTLET
GPR-3	GAS PRESSURE REGULATOR	BOILER RM 243	B-3	1,255	5 PSI - INLET 4 OZ. - OUTLET

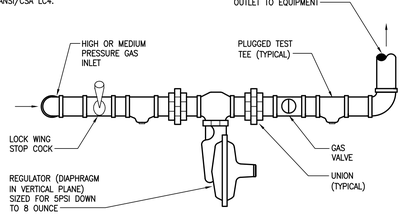
GENERAL NOTES:
1. MAINTAIN MINUMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.



2 **GAS CONNECTION**
SCALE: NONE

PROVIDE AMERICAN METER COMPANY REGULATORS OR APPROVED EQUAL SUITABLE FOR OUTDOOR INSTALLATION. REGULATORS OUTSIDE EXPOSED TO WEATHER SHALL BE INSTALLED WITH VENT IN VERTICAL DOWN POSITION.

SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA OF ANSI/CSA LC4.



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

1 **GAS PRESSURE REGULATOR INSTALLATION**
SCALE: NONE

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT
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80219
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ENGINEER
04-06-2023

PLUMBING DETAILS - CURTIS ES

P2.1

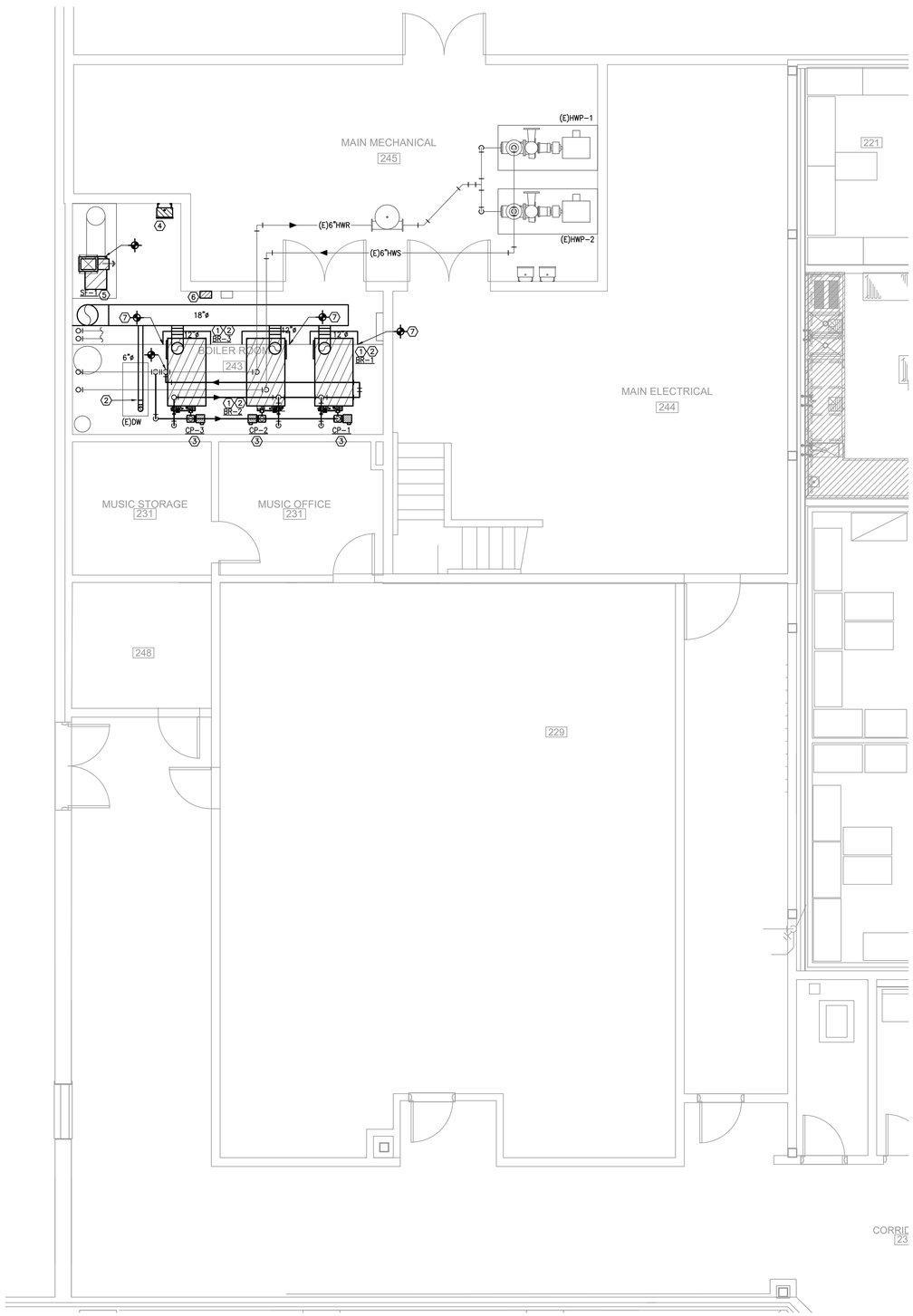
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. PROVIDE NEW BOILER SYSTEM VENT CONTROLLER. INTERLOCK SF & EF. REFER TO BOILER SPECIFICATION FOR ADDITIONAL INFORMATION.
5. PROVIDE NEW SUPPLY FAN TIE IN TO EXISTING SUPPLY DUCTWORK AND EXISTING OA DUCTWORK. MODIFY AS NECESSARY.
6. PROVIDE CARBON MONOXIDE MONITORING STATION. MOUNT ENCLOSURE AT 5'-0" AFF. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
7. CONCRETE EXTENSION TO EXISTING CONCRETE PAD. NOTCH OUT CONCRETE EXTENSION TO AVOID EXISTING FLOOR SINK.



NORTH

2 **MECHANICAL FLOOR PLAN - CALDWOOD ES**
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

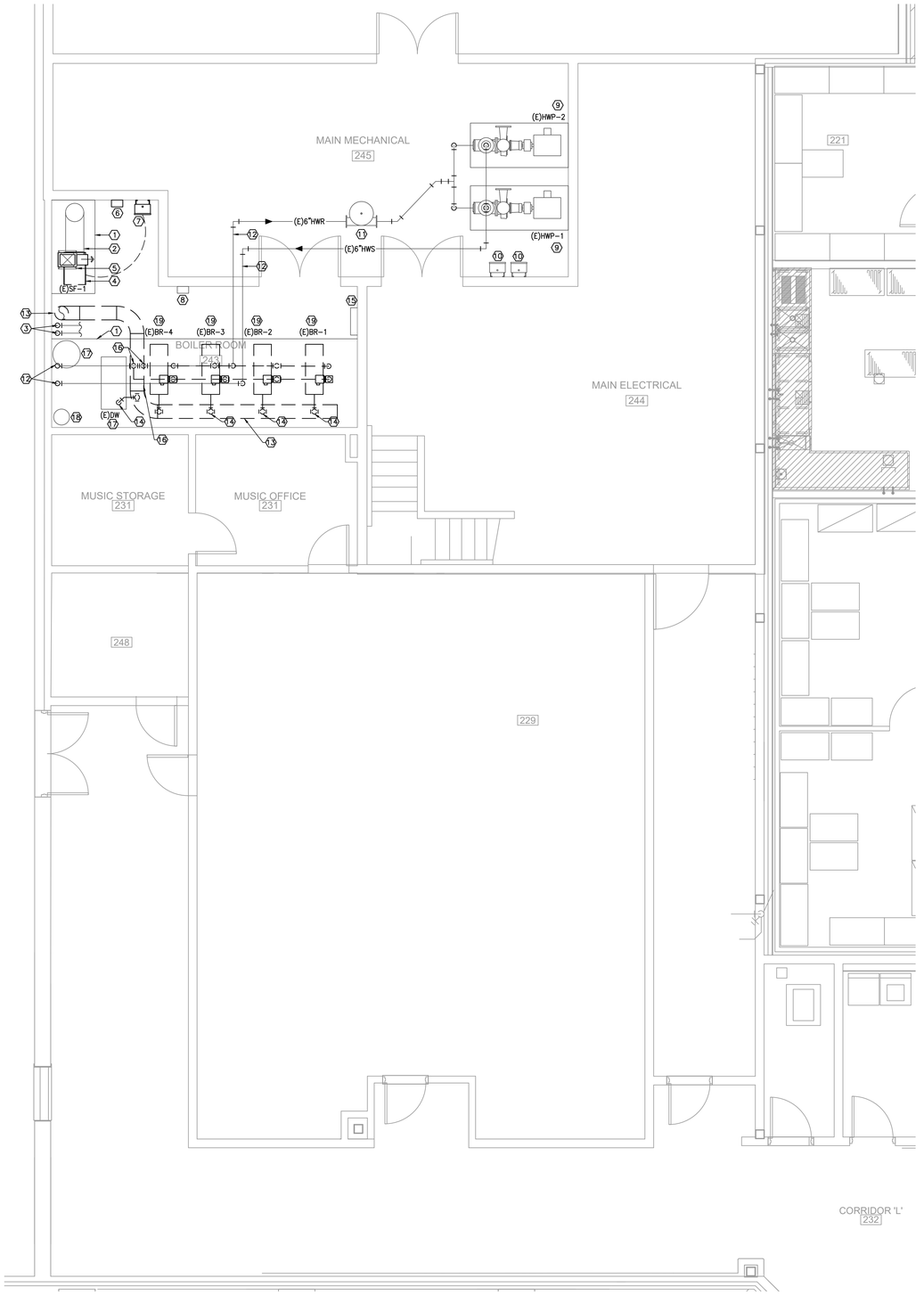
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND

RENOVATIONS	
▭	ITEM TO REMAIN
[ ]	ITEM TO BE REMOVED
✦	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING OA DUCTWORK SHALL REMAIN.
3. EXISTING CHWS&R PIPING SHALL REMAIN.
4. EXISTING FLOOR MOUNTED SUPPLY FAN SHALL BE REMOVED.
5. EXISTING SUPPLY DUCTWORK, SIDEWALL GRILLES, AND ASSOCIATED APPURTENANCES, SHALL REMAIN.
6. EXISTING EXHAUST FAN PANEL SHALL BE REMOVED.
7. EXISTING VFD SHALL BE REMOVED.
8. EXISTING CO (CARBON MONOXIDE) MONITOR PANEL SHALL REMAIN.
9. EXISTING HOT WATER PUMP SHALL REMAIN.
10. EXISTING VFD SHALL REMAIN.
11. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
12. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
13. EXISTING FLUE VENT SHALL BE REMOVED. MODIFY FLOOR PENETRATION TO ACCOMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
14. EXISTING BRANCH FLUE VENT SHALL BE REMOVED BACK TO THIS POINT.
15. EXISTING BMCS CONTROL PANEL SHALL REMAIN.
16. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
17. EXISTING DOMESTIC WATER HEATER SHALL REMAIN. EXISTING BRANCH FLUE VENT SHALL BE REMOVED.
18. EXISTING HW EXPANSION TANK SHALL REMAIN.
19. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - CALDWOOD ES**
SCALE: 1/4" = 1'-0"

Project No:	2022-04652-00
Drawn By:	MR
Checked By:	VP
Date:	04-06-2023
Revision Dates:	

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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04-06-2023

MECHANICAL FLOOR PLANS - CALDWOOD ES

M1.1

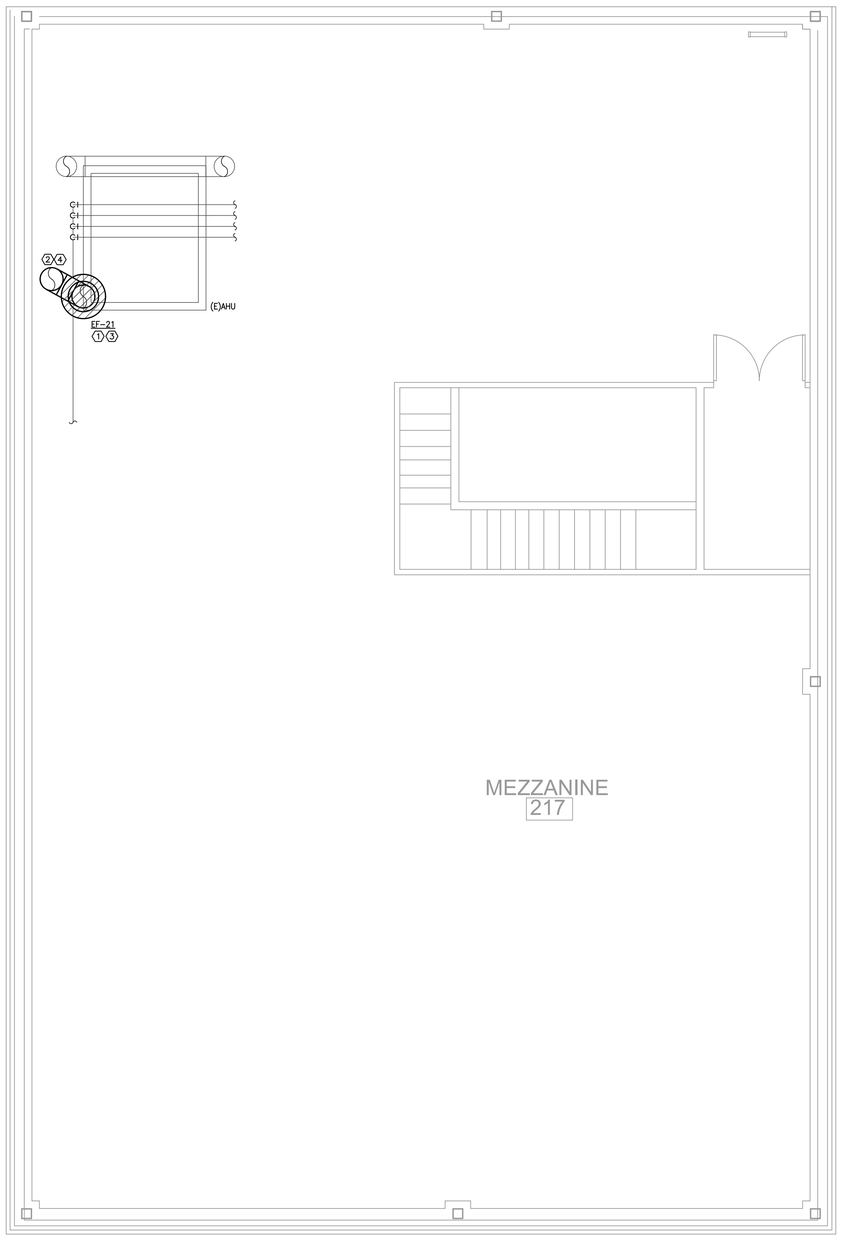
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. ROUTE FLUE UP THRU MEZZANINE PENETRATION TO ROOF PENETRATION AND EXHAUST FAN ON ROOF.
3. PROVIDE NEW FLUE ASSIST EXHAUST FAN AT EXISTING ROOF PENETRATION. PROVIDE NEW ROOF CURB.
4. PROVIDE THROUGH PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH CHAPTER 7 OF THE 2018 IBC.



NORTH

2 **MECHANICAL MEZZANINE PLAN - CALDWOOD ES**
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

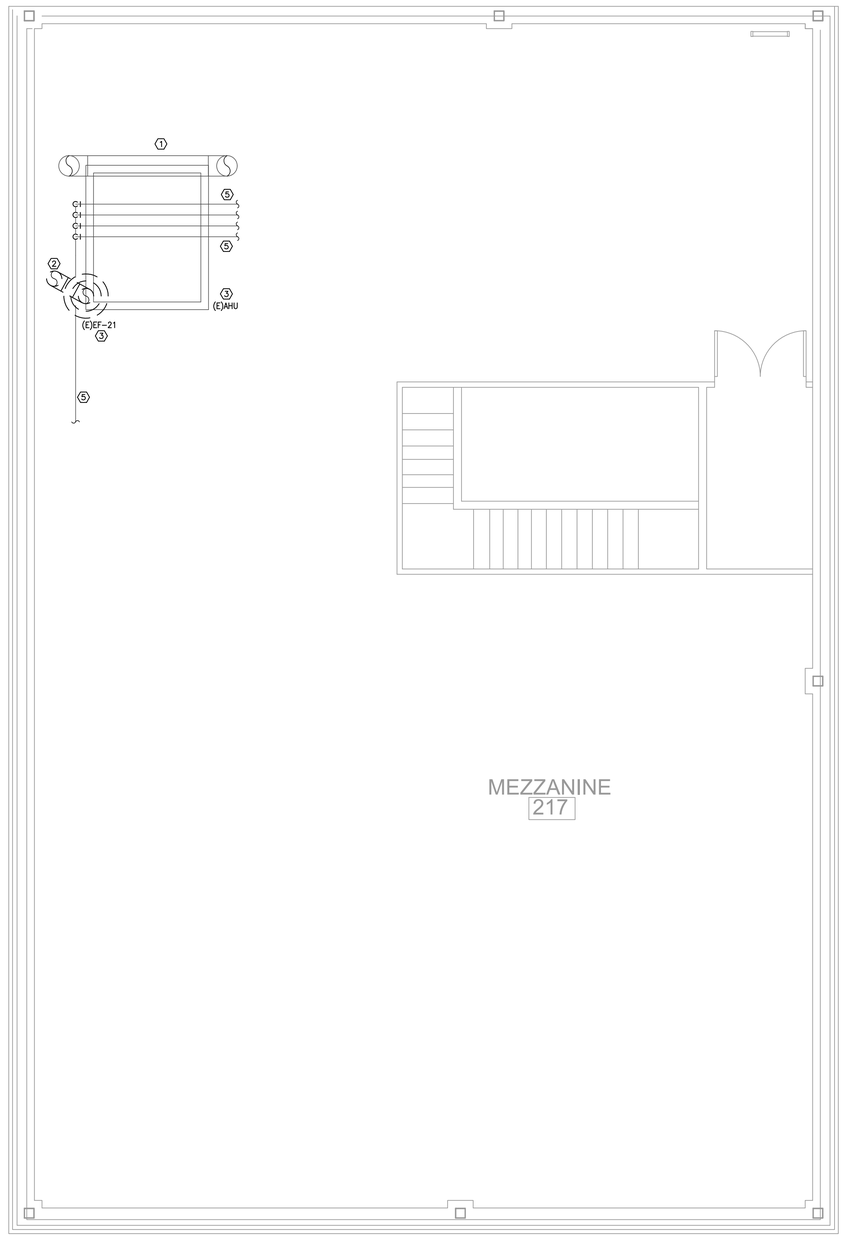
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND

RENOVATIONS	
	ITEM TO REMAIN
	ITEM TO BE REMOVED
✦	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING COMBUSTION AIR DUCTWORK SHALL REMAIN.
2. EXISTING FLUE VENT TO BE REMOVED UP TO EXHAUST FAN ON ROOF. EXISTING MEZZANINE FLOOR PENETRATION TO REMAIN. MODIFY FLOOR PENETRATION TO ACCOMMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
3. EXISTING EXHAUST FAN ON ROOF TO BE REMOVED. EXISTING ROOF PENETRATION TO REMAIN.
4. EXISTING AHU TO REMAIN.
5. EXISTING CHW/HW S/R PIPING TO REMAIN.



NORTH

1 **MECHANICAL DEMOLITION MEZZANINE PLAN - CALDWOOD ES**
SCALE: 1/4" = 1'-0"

Project No:	2022-04652-00
Drawn By:	MR
Checked By:	VP
Date:	04-06-2023
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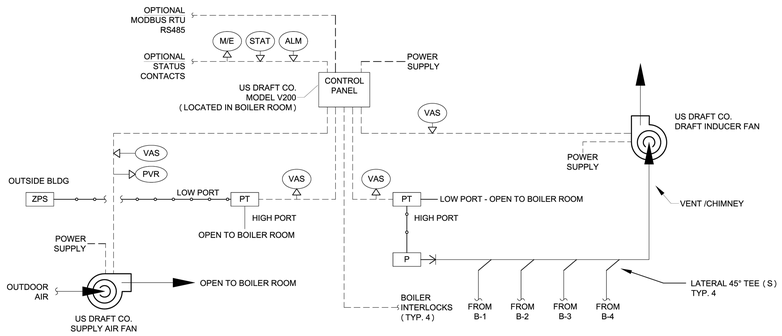
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04-06-2023

MECHANICAL
MEZZANINE PLANS -
CALDWOOD ES

M1.2

SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
(#)	NOTE SPECIFIC TO DETAIL TAG
1	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	THERMOSTAT AND TEMPERATURE SENSOR
H	HUMIDISTAT
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
AIR DEVICES	
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWSAR-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CWS-	CONDENSER WATER SUPPLY
-CWR-	CONDENSER WATER RETURN
-CHWSAR-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CHWS-	CHILLED WATER SUPPLY
-CHWR-	CHILLED WATER RETURN
-HWSAR-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-HWS-	HOT WATER FOR HYDRONIC HEATING SUPPLY
-HWR-	HOT WATER FOR HYDRONIC HEATING RETURN
-D-	CONDENSATE DRAIN LINE
-AD-	AUXILLARY CONDENSATE DRAIN LINE
-RLR-	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-RL-	REFRIGERANT LIQUID LINE
-HG-	REFRIGERANT HOT GAS LINE
-RS-	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
FM	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
GA	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR



Application:	VCS & PAS Diagram
Control System:	V200-VP
Date: 10/05/17	Version: 1.0 / DWG Rev: 0 / Page #: 1 of 1
Draft Inducer Voltage:	120/ 208-230 1PH
	US Draft Co. Phone: (817) 393-4029 www.usdraftco.com
	Controller Output / Controller Input
	Field Wiring Refer to specifications for voltage, amperage, and wiring type
	Pneumatic Tubing for pressure reference
	Vent or Duct
ALM	Alarm output
M/E	Master Enable: input of controller
P	Stack Pressure Probe
PT	Pressure Transducer -1 to 1 in. WC
PVR	Supply Fan Proving Device Output CS75 Current Switch or GFS Differential Pressure Switch
STAT	System run status
VAS	Variable Analog Signal 0-10VDC
ZPS	Outdoor Air Static Pressure Pickup Port

FAN CONTROL SEQUENCE (VCS: VENT CONTROL SYSTEM / PAS: PRESSURE AIR SYSTEM)

1. EACH HEATING APPLIANCE SHALL BE INTERLOCKED WITH THE CONTROL PANEL. UPON A CALL FOR HEAT, THE CONTROL PANEL SHALL ACTIVATE THE DRAFT INDUCER FAN TO ESTABLISH DRAFT IN THE CHIMNEY SYSTEM. THE SUPPLY AIR FAN SHALL START TO ESTABLISH THE REQUIRED PRESSURE IN THE COMBUSTION AIR DUCT OR BOILER ROOM. ALL EXTERNAL MECHANICAL LIMITS ARE MONITORED FOR STATUS. ONCE ALL THESE CONDITIONS ARE MET THE CONTROL SYSTEM WILL RELEASE THE FLAME PROGRAMMER OR GAS VALVE OF THE APPLIANCE CALLING FOR HEAT. THE SEQUENCE IS REPEATED EVERY TIME AN INITIAL APPLIANCE CALLS FOR HEAT. EACH ADDITIONAL CALL FOR HEAT THE CONTROL WILL NOT DELAY THE SEQUENCING OF THE ADDITIONAL HEATING APPLIANCES.

2. WHEN APPLIANCES SHUT DOWN BOTH THE DRAFT INDUCER FAN AND THE SUPPLY AIR FAN WILL WILL CONTINUE TO RUN IN POST-PURGE MODE FOR A SET PERIOD OF TIME TO REMOVE RESIDUAL FLUE GASES.

3. ONCE THE POST-PURGE CYCLE IS COMPLETED THE SYSTEM SECURES AND THE CONTROL PANEL ENTERS STAND-BY MODE.

4. IF PROPER DRAFT CANNOT BE MAINTAINED OR AN EXTERNAL MECHANICAL LIMIT OPENS BECAUSE OF MECHANICAL OR ELECTRICAL FAILURE, THE CONTROL WILL GO IN ALARM MODE AND THE INTEGRATED PROVEN DRAFT FUNCTION WILL SHUT DOWN ALL THE APPLIANCES WITHIN 15 SECONDS . WHILE IN ALARM MODE, THE CONTROL CONSTANTLY MONITORS THE DRAFT AND LIMIT INPUTS. IF THE FAILURE CORRECTS ITSELF OR IS CORRECTED VIA INTERVENTION, THE SYSTEM WILL RESTART AUTOMATICALLY. IF THE FAILURE IS NOT CORRECTED BEFORE THE ADJUSTABLE SYSTEM RELEASE FAULT TIMER EXPIRES, THE CONTROL WILL DISABLE AND LOCKOUT THE SYSTEM FOR FREEZE PROTECTION.

5. WHEN THE FAN TEST IS ENABLED, THE CONTROL PANEL WILL RUN A SELF DIAGNOSTIC ON THE STATUS OF THE VENT SYSTEM EACH HEATING CYCLE TO VERIFY THAT THE SYSTEM IS FUNCTIONING PROPERLY. IF THE FAN TEST FAILS, THE CONTROL PANEL WILL ALARM, LOCKOUT SYSTEM AND ANNUNCIATE THE TEST FAILURE.

6. ATC CONTRACTOR, MECHANICAL CONTRACTOR, EQUIPMENT MANUFACTURER, GENERAL CONTRACTOR, DESIGN ENGINEER, AND COMMISSIONING ENGINEER SHALL MEET PRIOR TO SUBMITTING SHOP DRAWINGS TO REVIEW COORDINATION AND IMPLEMENTATION OF THE SPECIFIED CONTROL SEQUENCE OF BOILER/BOILER/CONTROLLER/HOT WATER SYSTEM, EXHAUST BOILER FLUE/MAKE UP AIR SYSTEM, AND ROOF TOP UNITS.

3 **VCS & PAS DIAGRAM**
SCALE: NO SCALE

FAN SCHEDULE

MARK	LOCATION	CFM	MAXIMUM RPM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER	CURRENT CHARAC.	LOCALLY SWITCHED BY	INTERLOCKED WITH	FAN TYPE	BELT/DIRECT DRIVE	MANUFACTURER	MODEL NUMBER	REMARKS
EF-21	BOILER ROOM	1830	1950	.25	1	120/1/60	–	BR-1,2,3,(E)DWH	CHIMNEY	DIRECT	US DRAFT CO.	CBX22	(1,2,3,4,5,6,7)
SF-1	BOILER ROOM	1110	1950	1.25	1/2	120/1/60	–	EF-21	CENTRIFUGAL BLOWER	DIRECT	US DRAFT CO.	MEF015	(1,2,3,4,5,6,7)

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.
3. FAN SHALL BE CENTRIFUGAL, BELT DRIVEN TYPE UNLESS OTHERWISE SCHEDULED.

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH OSHA APPROVED MOTOR GUARD.
3. PROVIDE WITH BOILER SYSTEM VENT CONTROLLER (120V, 0.4 AMPS)
4. PROVIDE FAN WITH EC MOTOR.
5. PROVIDE WITH SPRING ISOLATION RAIL.
6. PROVIDE WITH TOP DISCHARGE.
7. PROVIDE WITH DRAIN AT BOTTOM OF FAN HOUSING.

PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MAXIMUM RPM	MOTOR HORSEPOWER	CURRENT	MANUFACTURER	MODEL	REMARKS
CP-1	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-2	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-3	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

BOILER - FORCED AIR

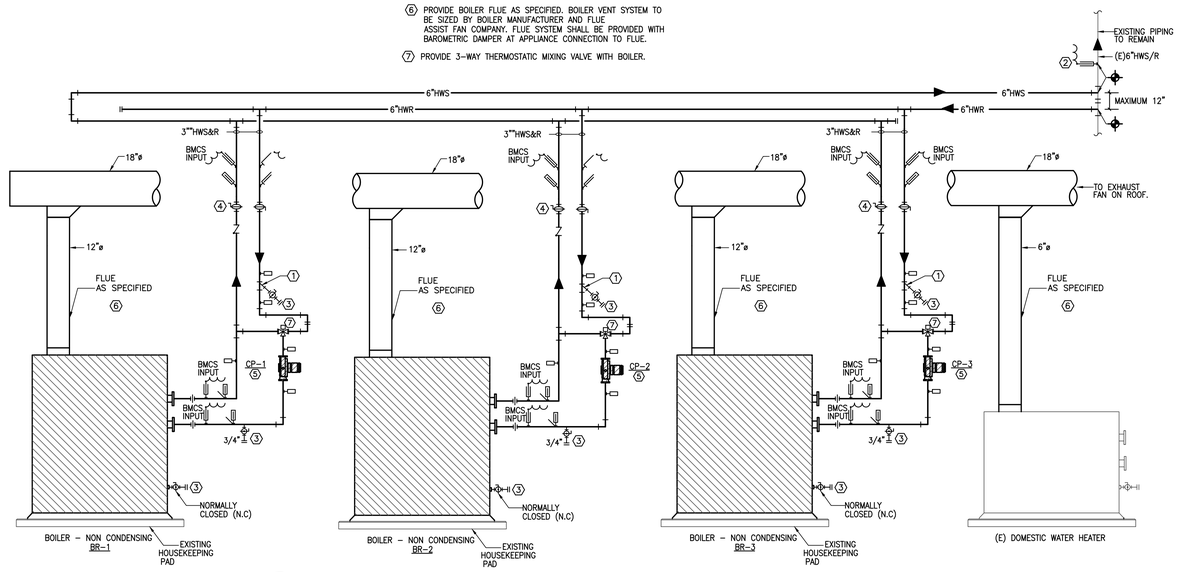
MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL: BLOWER HORSEPOWER	ELECTRICAL: CURRENT CHARAC. (V/PH/Hz)	MANUFACTURER	MODEL	REMARKS
BR-1	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-2	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-3	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

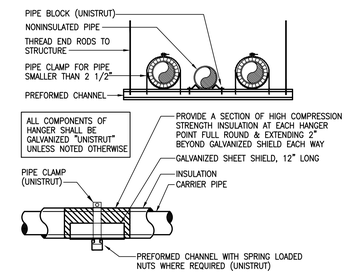
REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.
3 PROVIDE US DRAFT CO FLUE EXHAUST SYSTEM. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

MECHANICAL HOT WATER KEYED NOTES:

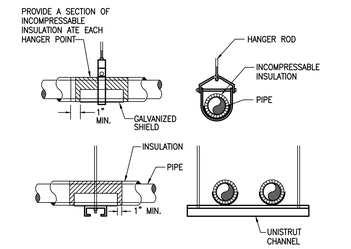
1. PROVIDE INLINE STRAINER.
2. HEADER TEMPERATURE SENSOR. PROVIDED BY BOILER MANUFACTURER.
3. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE UNLESS OTHERWISE NOTED.
4. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE.
5. CIRCULATING PUMP SIZED AND PROVIDED BY BOILER MANUFACTURER.
6. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
7. PROVIDE 3-WAY THERMOSTATIC MIXING VALVE WITH BOILER.



3 **PARTIAL HOT WATER PIPING DIAGRAM**
SCALE: NO SCALE



2 **MULTI-PIPE TRAPEZE HANGER**
SCALE: NONE PS001



1 **PIPE HANGERS**
SCALE: NONE PS002

Project No:	2022-04652-00
Drawn By:	MR
Checked By:	VP
Date:	04-06-2023
Revision Dates:	

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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Bradley Kalmans
REGISTERED
BRADLEY KALMANS
80219
LICENSED
MECHANICAL
04-06-2023

MECHANICAL DETAILS - CALDWOOD ES

M2.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

ELECTRICAL KEYED NOTES:

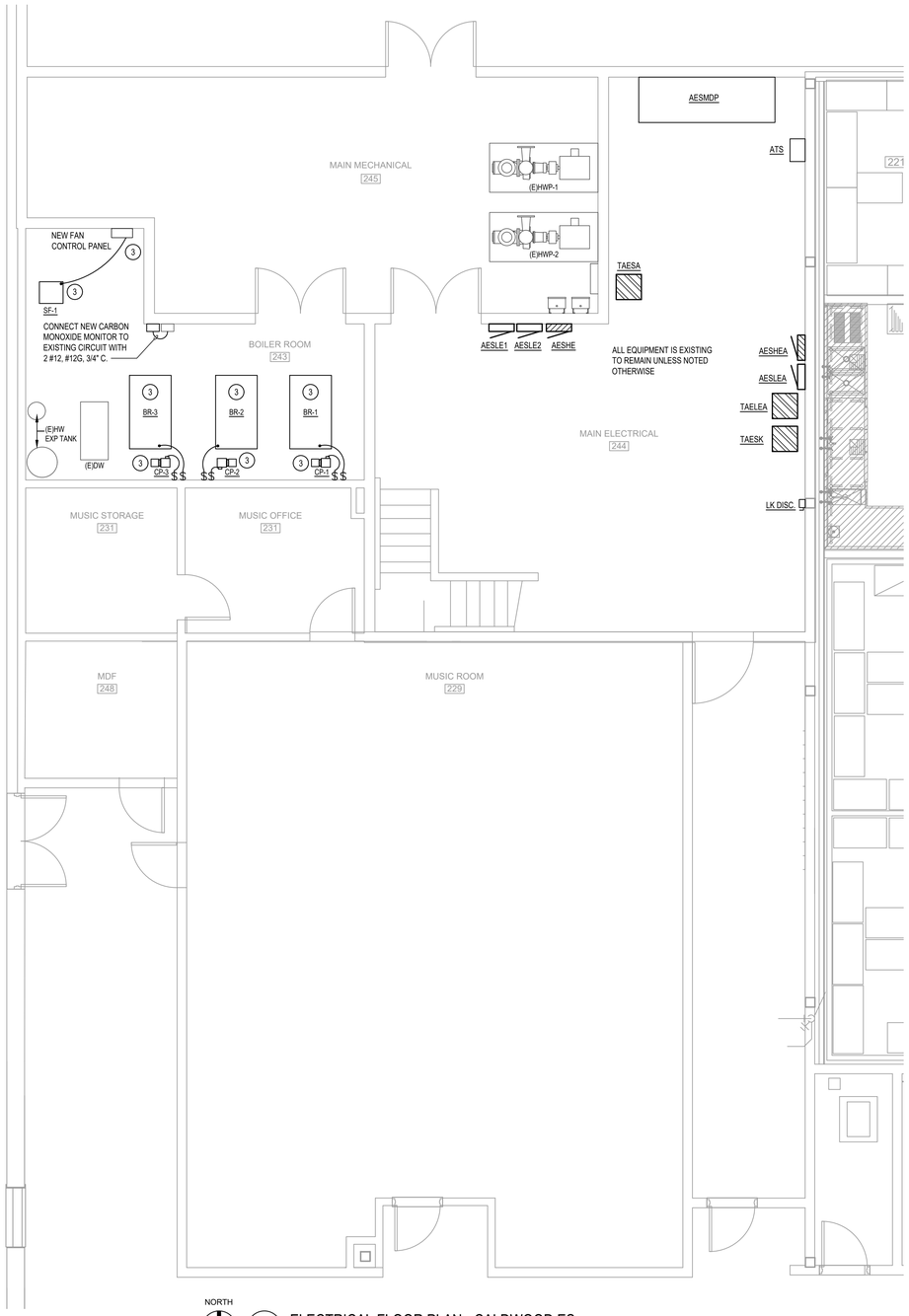
(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) NOT USED

(3) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

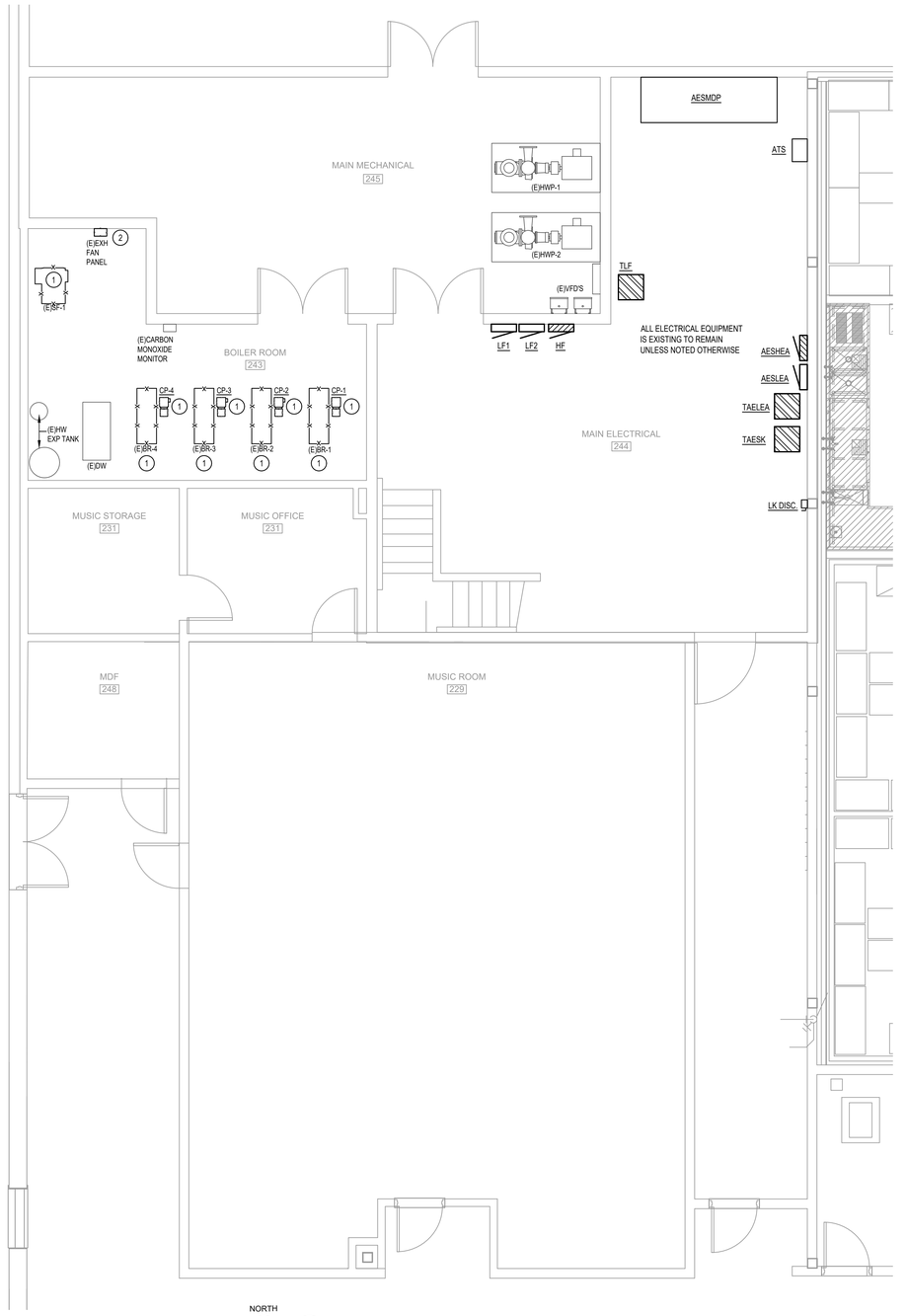
LINETYPE LEGEND

DISCONNECT AND REMOVE
EXISTING TO REMAIN
NEW WORK



NORTH

2 ELECTRICAL FLOOR PLAN - CALDWOOD ES
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - CALDWOOD ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: AW
Checked By: JZ
Date: 04-06-2023
Revision Dates:

CONSULTANTS

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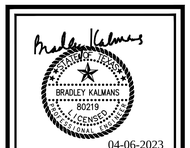
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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

BISD Preparing Our Next Generation



04-06-2023

ELECTRICAL FLOOR PLANS - CALDWOOD ES

E1.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

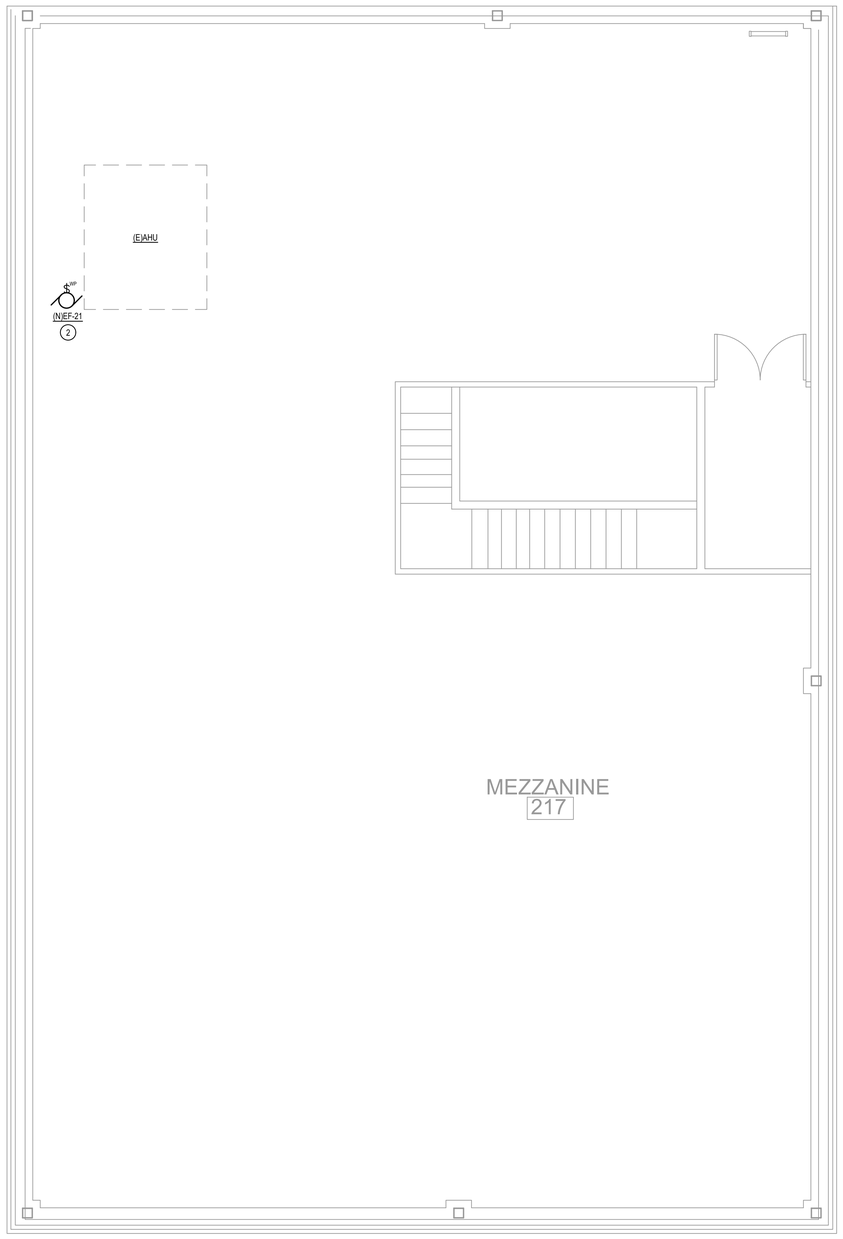
ELECTRICAL KEYED NOTES:

(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

LINETYPE LEGEND

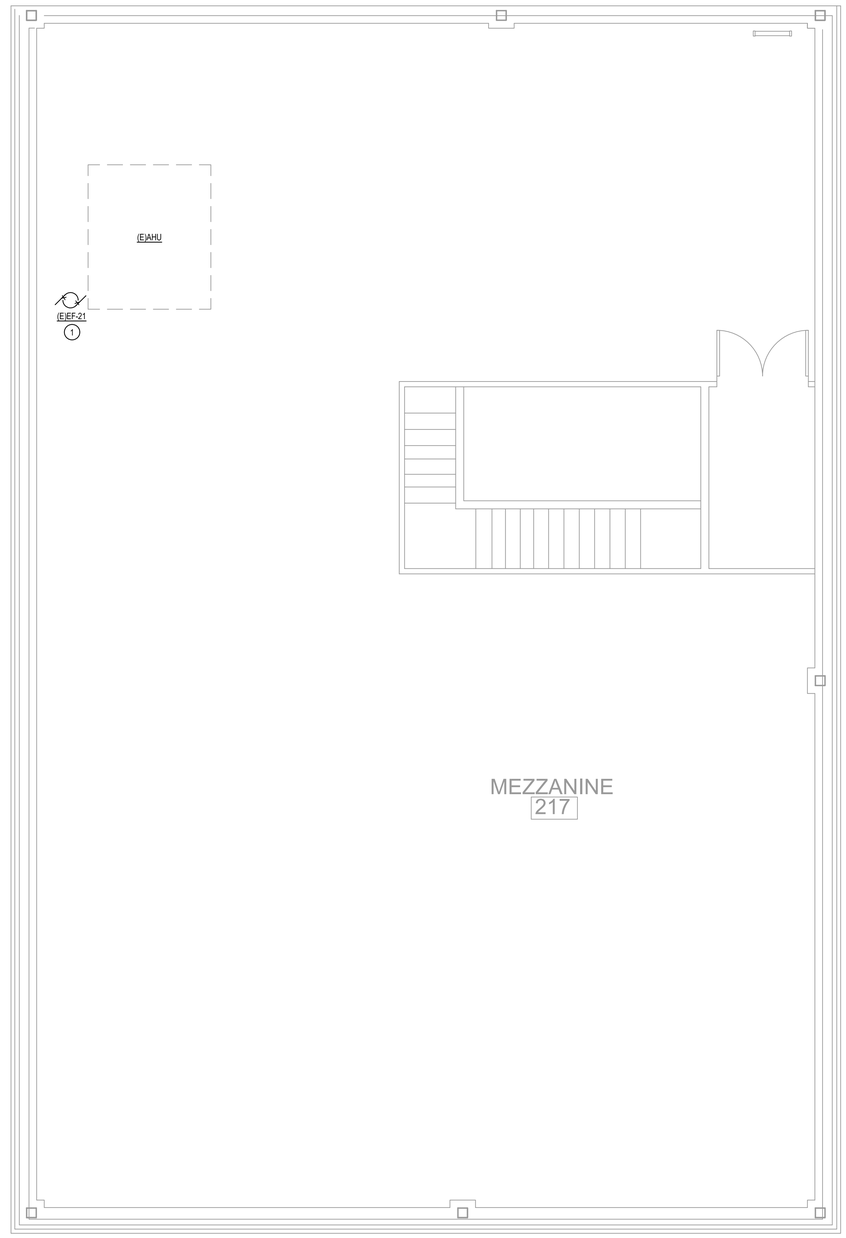
DISCONNECT AND REMOVE	—x—x—x—
EXISTING TO REMAIN	— — — —
NEW WORK	———————



NORTH

2 ELECTRICAL MEZZANINE PLAN - CALDWOOD ES

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



NORTH

1 ELECTRICAL DEMOLITION MEZZANINE PLAN - CALDWOOD ES

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

Project No: 2022-04652-00

Drawn By: AW

Checked By: JZ

Date: 04-06-2023

Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

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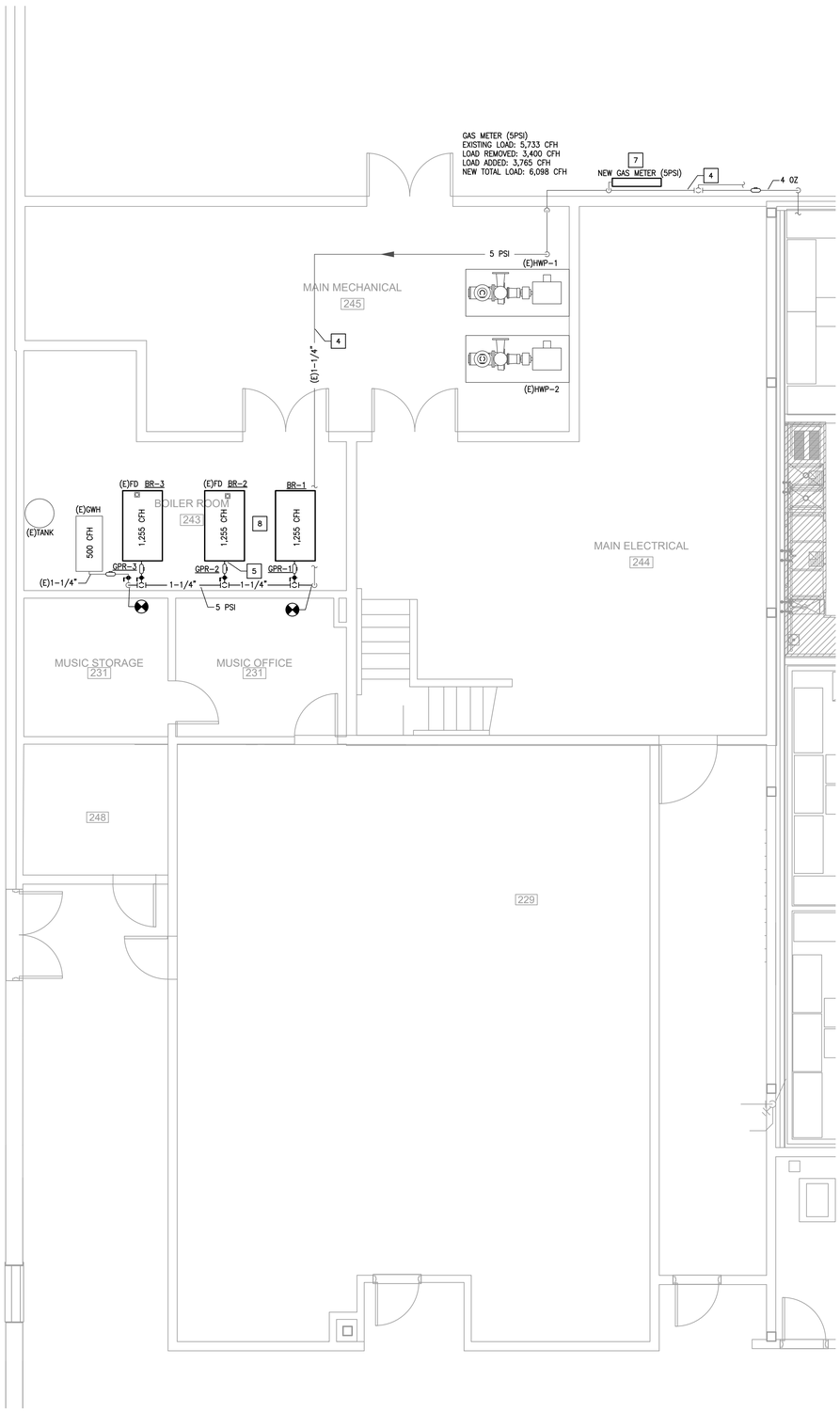
04-06-2023

ELECTRICAL MEZZANINE PLANS - CALDWOOD ES

E1.2

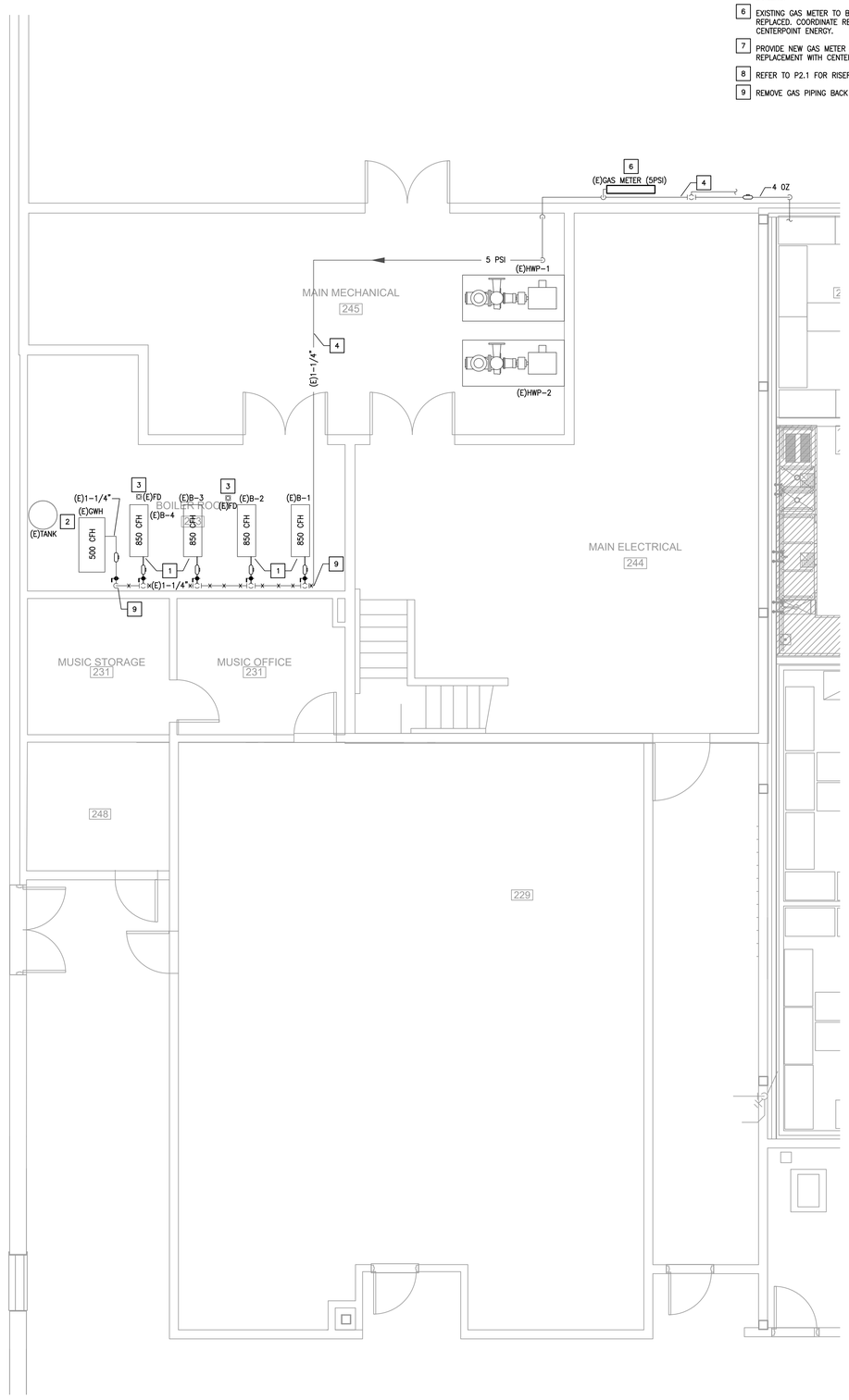
PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED. REMOVE GAS PIPING SERVING BOILER BACK TO MAIN 5 PSI LINE. REFER TO RISER DIAGRAM ON P2.1.
2. EXISTING GWH AND TANK TO REMAIN.
3. EXISTING FLOOR DRAIN TO REMAIN.
4. EXISTING GAS PIPING TO REMAIN.
5. 1" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (1,255 CFH). 2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER. CONNECT EXISTING VENT PIPING TO NEW PRESSURE REGULATOR. TYPICALLY ALL 3 NEW BOILERS.
6. EXISTING GAS METER TO BE REMOVED AND REPLACED. COORDINATE REPLACEMENT WITH CENTERPOINT ENERGY.
7. PROVIDE NEW GAS METER AT 5 PSI. COORDINATE REPLACEMENT WITH CENTERPOINT ENERGY.
8. REFER TO P2.1 FOR RISER DIAGRAM.
9. REMOVE GAS PIPING BACK TO THIS POINT.



NORTH

2 PLUMBING FLOOR PLAN - CALDWOOD ES
SCALE: 1/4" = 1'-0"



NORTH

1 PLUMBING DEMOLITION FLOOR PLAN - CALDWOOD ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: BR
Checked By: EH
Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

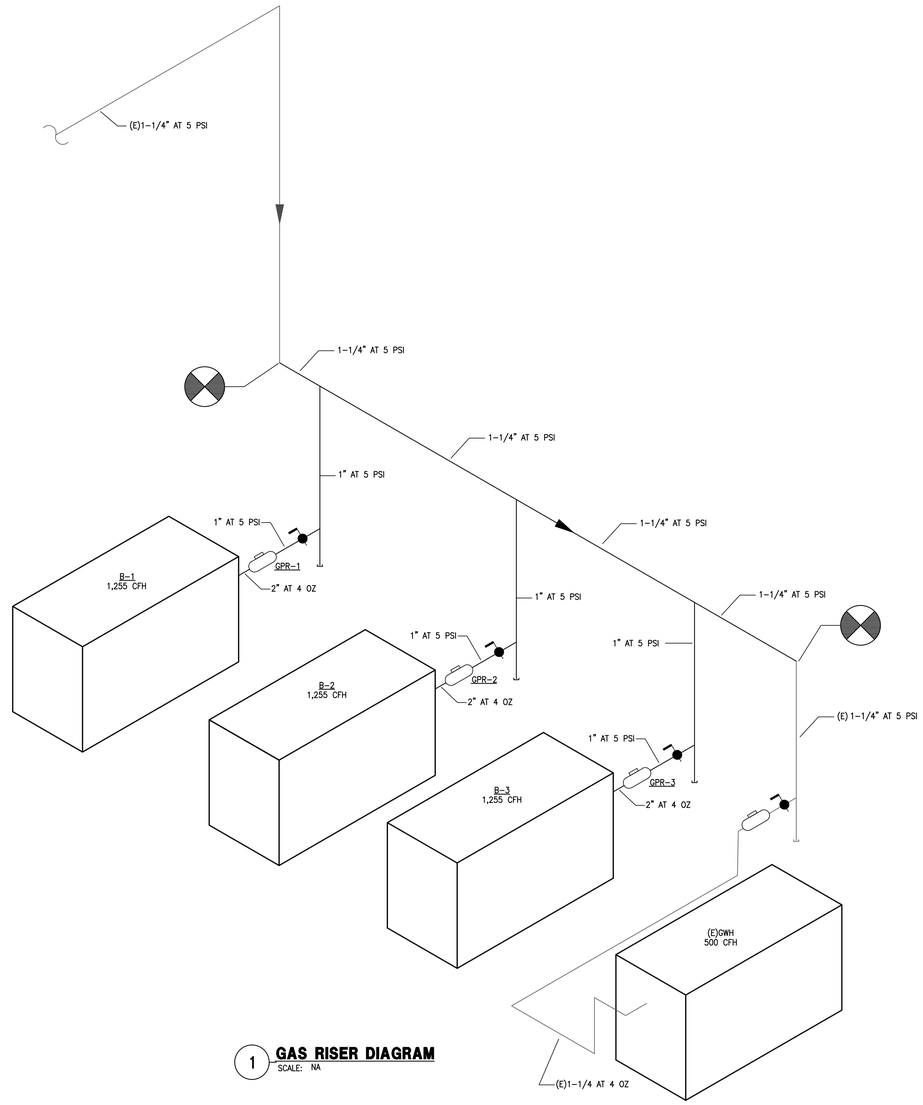
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PLUMBING FLOOR PLANS - CALDWOOD ES

P1.1



1 **GAS RISER DIAGRAM**
SCALE: NA

GAS EQUIPMENT

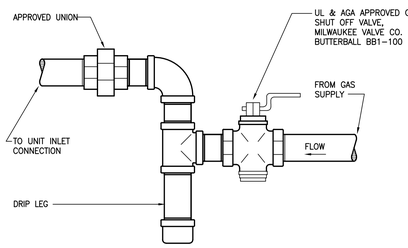
EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-2	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-3	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
TOTALS:			3,765,000 BTUH	3,765 CFH

INLET PRESSURE MAX 14 W.C. MIN 4.5 W.C. INLET CONNECTION 2"

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER RM 243	B-1	1,255	5 PSI – INLET 4 OZ. – OUTLET
GPR-2	GAS PRESSURE REGULATOR	BOILER RM 243	B-2	1,255	5 PSI – INLET 4 OZ. – OUTLET
GPR-3	GAS PRESSURE REGULATOR	BOILER RM 243	B-3	1,255	5 PSI – INLET 4 OZ. – OUTLET

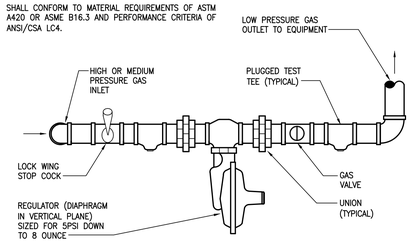
GENERAL NOTES:
1. MAINTAIN MINUMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.



2 **GAS CONNECTION**
SCALE: NONE

PROVIDE AMERICAN METER COMPANY REGULATORS OR APPROVED EQUAL, SUITABLE FOR OUTDOOR INSTALLATION. REGULATORS OUTSIDE EXPOSED TO WEATHER SHALL BE INSTALLED WITH VENT IN VERTICAL DOWN POSITION.

SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA OF ANSI/CSA LC4.



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

1 **GAS PRESSURE REGULATOR INSTALLATION**
SCALE: NONE

Project No: 2022-04652-00
Drawn By: BR
Checked By: EH
Date: 04-06-2023
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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

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04-06-2023

PLUMBING DETAILS - CALDWOOD ES

P2.1

MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
3. PROVIDE BOILER CIRCULATION PUMP. PUMP PROVIDED BY BOILER MANUFACTURER.
4. PROVIDE NEW BOILER SYSTEM VENT CONTROLLER. INTERLOCK SF & EF. REFER TO BOILER SPECIFICATION FOR ADDITIONAL INFORMATION.
5. PROVIDE NEW SUPPLY FAN TIE IN TO EXISTING SUPPLY DUCTWORK AND EXISTING OA DUCTWORK. MODIFY AS NECESSARY. PROVIDE NEW HOUSEKEEPING PAD
6. PROVIDE CARBON MONOXIDE MONITORING STATION. MOUNT ENCLOSURE AT 5'-0" AFF. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
7. CONCRETE EXTENSION TO EXISTING CONCRETE PAD. NOTCH OUT CONCRETE EXTENSION TO AVOID EXISTING FLOOR SINK.

GENERAL DEMOLITION NOTES:

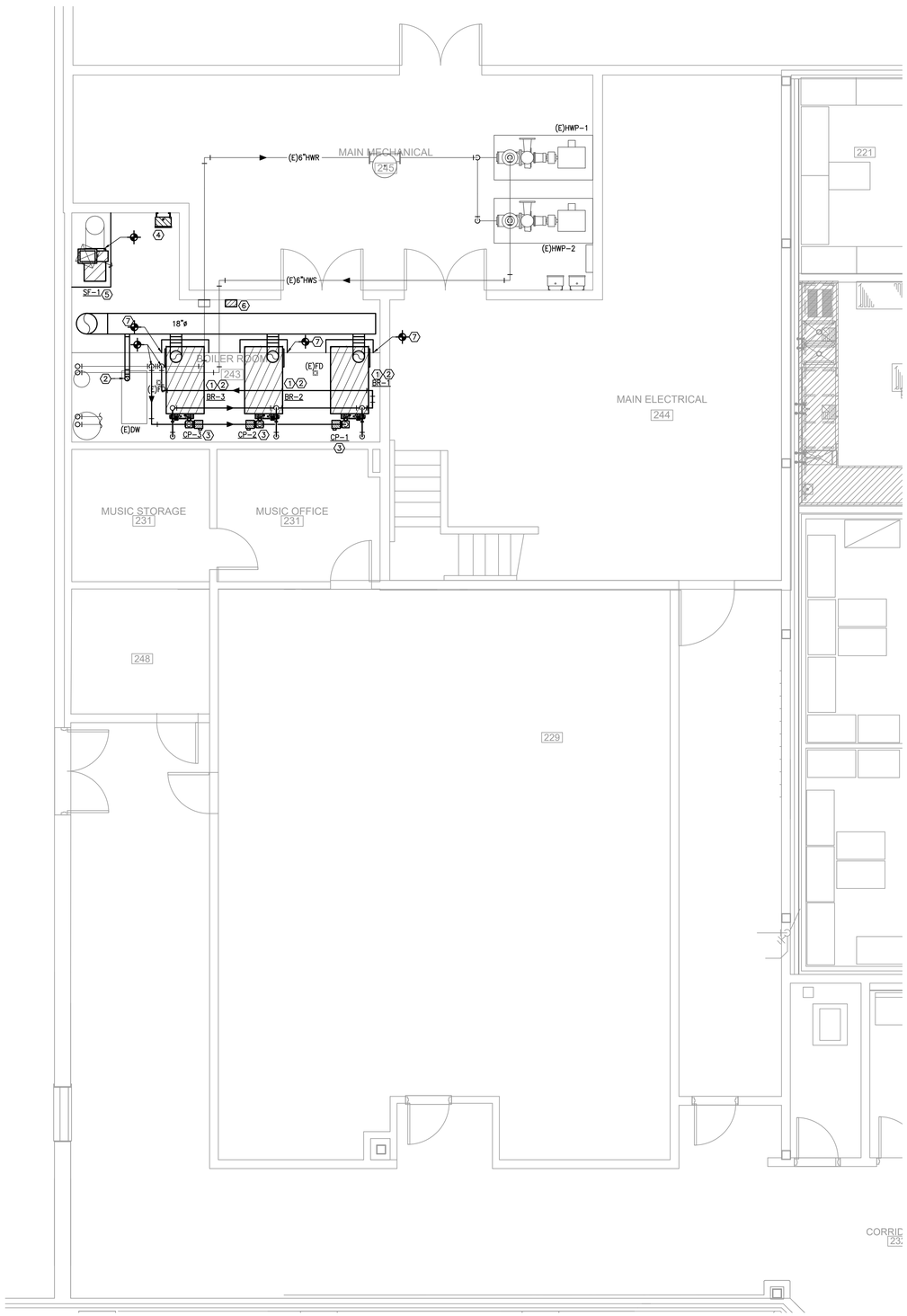
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND

RENOVATIONS	
	ITEM TO REMAIN
	ITEM TO BE REMOVED
	CONNECT TO EXISITNG

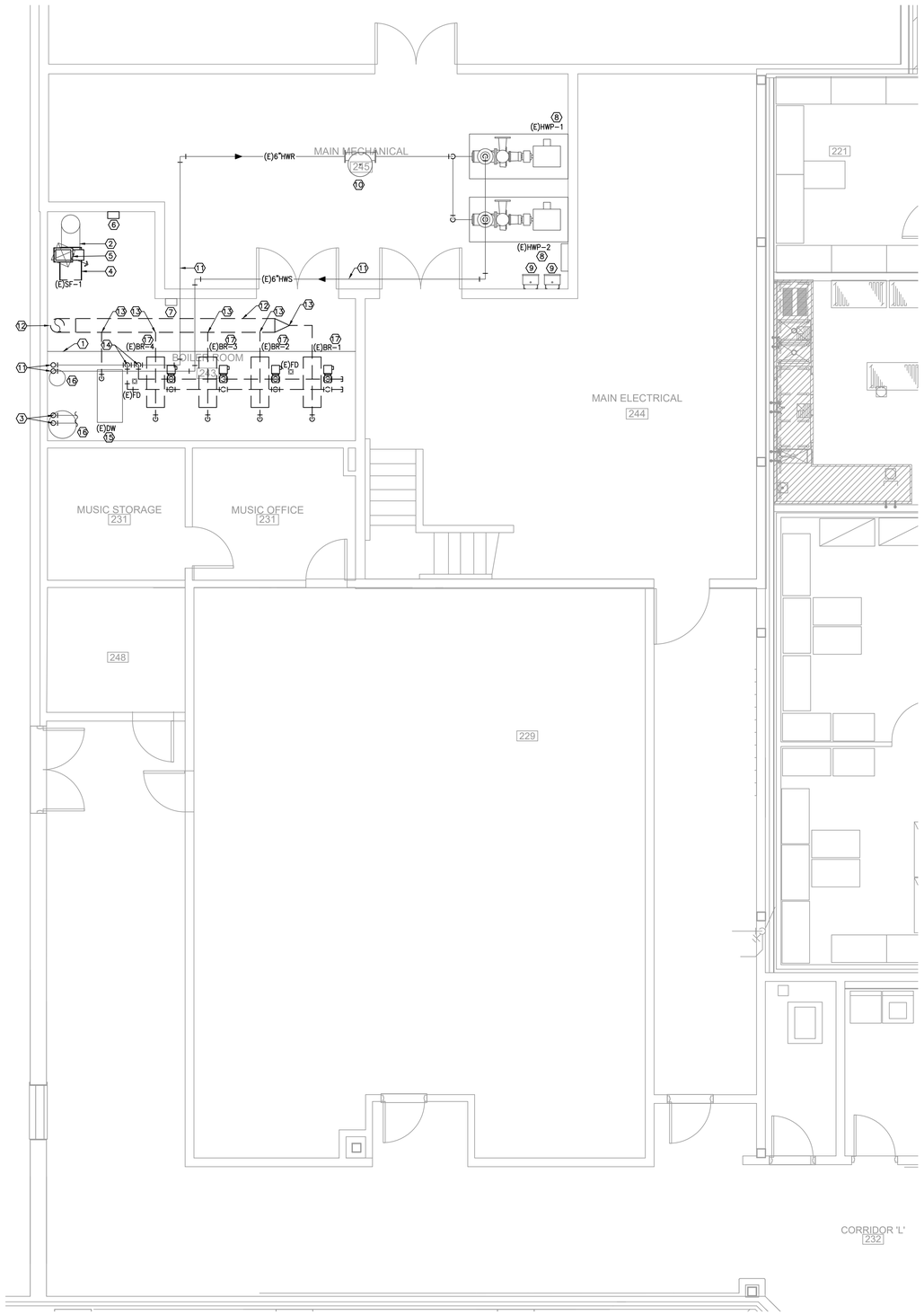
DEMOLITION KEYED NOTES:

1. EXISTING CONCRETE PAD SHALL REMAIN.
2. EXISTING OA DUCTWORK SHALL REMAIN.
3. EXISTING CHWS&R PIPING SHALL REMAIN.
4. EXISTING FLOOR MOUNTED SUPPLY FAN SHALL BE REMOVED.
5. EXISTING SUPPLY DUCTWORK, SIDEWALL GRILLES, AND ASSOCIATED APPURTENANCES, SHALL REMAIN.
6. EXISTING EXHAUST FAN PANEL SHALL BE REMOVED.
7. EXISTING CO (CARBON MONOXIDE) MONITOR PANEL SHALL REMAIN.
8. EXISTING HOT WATER PUMP SHALL REMAIN.
9. EXISTING VFD SHALL REMAIN.
10. EXISTING AIR/DIRT SEPERATOR SHALL REMAIN.
11. EXISTING MAIN HWS&R PIPING SHALL REMAIN.
12. EXISTING FLUE VENT SHALL BE REMOVED. MODIFY FLOOR PENETRATION TO ACCOMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
13. EXISTING BRANCH FLUE VENT SHALL BE REMOVED BACK TO THIS POINT.
14. EXISTING BRANCH HWS&R PIPING TO BE REMOVED BACK TO THIS POINT.
15. EXISTING DOMESTIC WATER HEATER SHALL REMAIN. EXISTING BRANCH FLUE VENT SHALL BE REMOVED.
16. EXISTING HW EXPANSION TANK SHALL REMAIN.
17. EXISTING BOILER, CONTROLS, AND ALL ASSOCIATED APPURTENANCES SHALL BE REMOVED.



NORTH

2 **MECHANICAL FLOOR PLAN - AMELIA ES**
SCALE: 1/4" = 1'-0"



NORTH

1 **MECHANICAL DEMOLITION FLOOR PLAN - AMELIA ES**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
Revision Dates:

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Project No. 2022-04652-00

BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

BISD Preparing Our Next Generation

BRADLEY KALMANS
86219
LICENSED
PROFESSIONAL ENGINEER
04-06-2023

MECHANICAL FLOOR PLANS - AMELIA ES

M1.1

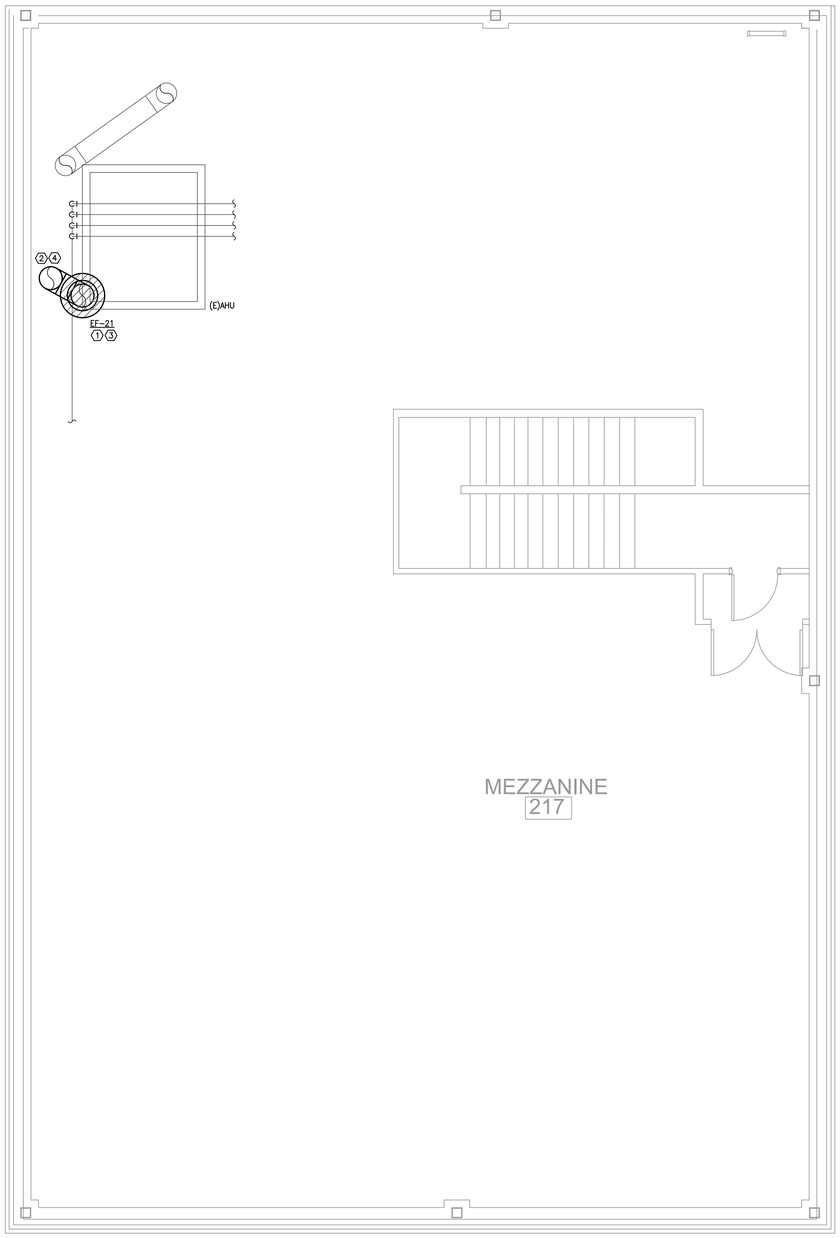
MECHANICAL GENERAL NOTES:

1. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THESE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC, AND DO NOT NECESSARILY REFLECT ACTUAL DIMENSIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD-VERIFY ALL DIMENSIONS AND COORDINATE PLACEMENT OF ALL EQUIPMENT AND ROUTING OF ALL PIPING AND/OR DUCT SYSTEMS.

NOTE:
ALL ROOFING WORK SHALL BE DONE BY BISD APPROVED ROOFING PROVIDER. CONTACT TIM MARSH WITH MARSH WATERPROOFING @ 409-769-0459 FOR PRICING.

MECHANICAL KEYED NOTES:

1. VERIFY SERVICE CLEARANCES WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ALL TRADES NOT TO OBSTRUCT.
2. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. ROUTE FLUE UP THRU MEZZANINE PENETRATION TO ROOF PENETRATION AND EXHAUST FAN ON ROOF.
3. PROVIDE NEW FLUE ASSIST EXHAUST FAN AT EXISTING ROOF PENETRATION. PROVIDE NEW ROOF CURB.
4. PROVIDE THROUGH PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH CHAPTER 7 OF THE 2018 IBC.



NORTH

2 **MECHANICAL MEZZANINE PLAN - AMELIA ES**
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

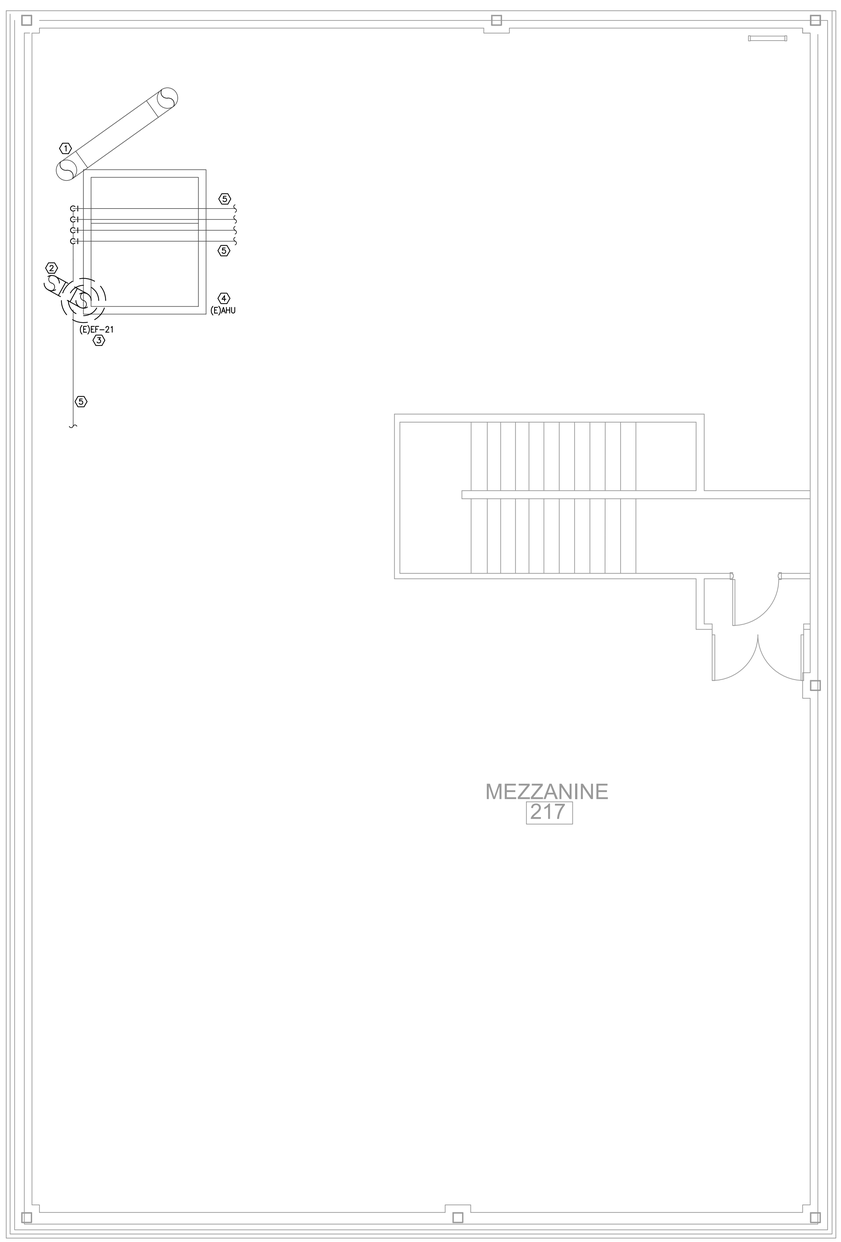
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL HVAC EQUIPMENT BEING REMOVED FROM THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO BOILERS, EXHAUST FANS, SUPPLY FANS, AND BMCS CONTROL PANELS.

DEMO SYMBOL LEGEND

RENOVATIONS	
	ITEM TO REMAIN
	ITEM TO BE REMOVED
	CONNECT TO EXISITNG

DEMOLITION KEYED NOTES:

1. EXISTING COMBUSTION AIR DUCTWORK SHALL REMAIN.
2. EXISTING FLUE VENT TO BE REMOVED UP TO EXHAUST FAN ON ROOF. EXISTING MEZZANINE FLOOR PENETRATION TO REMAIN. MODIFY FLOOR PENETRATION TO ACCOMMODATE NEW FLUE VENT. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
3. EXISTING EXHAUST FAN ON ROOF TO BE REMOVED. EXISTING ROOF PENETRATION TO REMAIN.
4. EXISTING AHU TO REMAIN.
5. EXISTING CHW/HW S/R PIPING TO REMAIN.



NORTH

1 **MECHANICAL DEMOLITION MEZZANINE PLAN - AMELIA ES**
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: MR
Checked By: VP
Date: 04-06-2023
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BOILER UPGRADES

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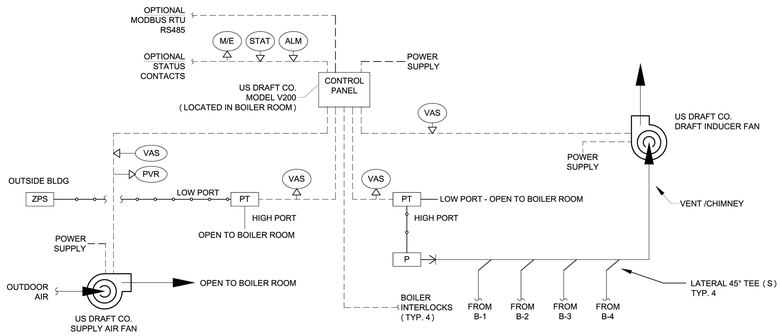
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PROFESSIONAL ENGINEER
04-06-2023

MECHANICAL
MEZZANINE PLANS -
AMELIA ES

M1.2

SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
(#)	NOTE SPECIFIC TO DETAIL TAG
1	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	THERMOSTAT AND TEMPERATURE SENSOR
H	HUMIDISTAT
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
AIR DEVICES	
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
20X12	RETURN AIR OPENING ABOVE CEILING
PIPING	
-CWSAR-	CONDENSER WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CWS-	CONDENSER WATER SUPPLY
-CWR-	CONDENSER WATER RETURN
-CHWSAR-	CHILLED WATER SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-CHWS-	CHILLED WATER SUPPLY
-CHWR-	CHILLED WATER RETURN
-HWSAR-	HOT WATER FOR HYDRONIC HEATING SUPPLY & RETURN (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-HWS-	HOT WATER FOR HYDRONIC HEATING SUPPLY
-HWR-	HOT WATER FOR HYDRONIC HEATING RETURN
-D-	CONDENSATE DRAIN LINE
-AD-	AUXILLARY CONDENSATE DRAIN LINE
-RLR-	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
-RL-	REFRIGERANT LIQUID LINE
-HG-	REFRIGERANT HOT GAS LINE
-RS-	REFRIGERANT SUCTION LINE
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE
	TEE DOWN
	TEE UP
	TOP BRANCH CONNECTION
	BOTTOM BRANCH CONNECTION
	FLANGE
	CAP
	CONTINUATION
	FLOOR DRAIN (REFER TO PLUMBING DRAWINGS)
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE WITH OPERATOR
	PLUG VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALL VALVE
	STRAINER
	UNION
	THERMOMETER WELL
	PETE'S PLUG
	PRESSURE GAUGE
	TEMPERATURE SENSOR IN PIPE
	VENTURI FLOW METER
FM	FLOW SWITCH
FM	FLOW MEASURING STATION
	EXPANSION JOINT
	FLEXIBLE CONNECTION
GA	GAUGE COCK
	SITE GLASS
	DIFFERENTIAL PRESSURE SENSOR
	TURBINE FLOW METER
	ANCHOR
	PIPE GUIDE
SUBSCRIPTS AND ABREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FPM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR



FAN CONTROL SEQUENCE (VCS: VENT CONTROL SYSTEM / PAS: PRESSURE AIR SYSTEM)

1. EACH HEATING APPLIANCE SHALL BE INTERLOCKED WITH THE CONTROL PANEL. UPON A CALL FOR HEAT, THE CONTROL PANEL SHALL ACTIVATE THE DRAFT INDUCER FAN TO ESTABLISH DRAFT IN THE CHIMNEY SYSTEM. THE SUPPLY AIR FAN SHALL START TO ESTABLISH THE REQUIRED PRESSURE IN THE COMBUSTION AIR DUCT OR BOILER ROOM. ALL EXTERNAL MECHANICAL LIMITS ARE MONITORED FOR STATUS. ONCE ALL THESE CONDITIONS ARE MET THE CONTROL SYSTEM WILL RELEASE THE FLAME PROGRAMMER OR GAS VALVE OF THE APPLIANCE CALLING FOR HEAT. THE SEQUENCE IS REPEATED EVERY TIME AN INITIAL APPLIANCE CALLS FOR HEAT. EACH ADDITIONAL CALL FOR HEAT THE CONTROL WILL NOT DELAY THE SEQUENCING OF THE ADDITIONAL HEATING APPLIANCES.

2. WHEN APPLIANCES SHUT DOWN BOTH THE DRAFT INDUCER FAN AND THE SUPPLY AIR FAN WILL WILL CONTINUE TO RUN IN POST-PURGE MODE FOR A SET PERIOD OF TIME TO REMOVE RESIDUAL FLUE GASES.

3. ONCE THE POST-PURGE CYCLE IS COMPLETED THE SYSTEM SECURES AND THE CONTROL PANEL ENTERS STAND-BY MODE.

4. IF PROPER DRAFT CANNOT BE MAINTAINED OR AN EXTERNAL MECHANICAL LIMIT OPENS BECAUSE OF MECHANICAL OR ELECTRICAL FAILURE, THE CONTROL WILL GO IN ALARM MODE AND THE INTEGRATED PROVEN DRAFT FUNCTION WILL SHUT DOWN ALL THE APPLIANCES WITHIN 15 SECONDS . WHILE IN ALARM MODE, THE CONTROL CONSTANTLY MONITORS THE DRAFT AND LIMIT INPUTS. IF THE FAILURE CORRECTS ITSELF OR IS CORRECTED VIA INTERVENTION, THE SYSTEM WILL RESTART AUTOMATICALLY. IF THE FAILURE IS NOT CORRECTED BEFORE THE ADJUSTABLE SYSTEM RELEASE FAULT TIMER EXPIRES, THE CONTROL WILL DISABLE AND LOCKOUT THE SYSTEM FOR FREEZE PROTECTION.

5. WHEN THE FAN TEST IS ENABLED, THE CONTROL PANEL WILL RUN A SELF DIAGNOSTIC ON THE STATUS OF THE VENT SYSTEM EACH HEATING CYCLE TO VERIFY THAT THE SYSTEM IS FUNCTIONING PROPERLY. IF THE FAN TEST FAILS, THE CONTROL PANEL WILL ALARM, LOCKOUT SYSTEM AND ANNUNCIATE THE TEST FAILURE.

6. ATC CONTRACTOR, MECHANICAL CONTRACTOR, EQUIPMENT MANUFACTURER, GENERAL CONTRACTOR, DESIGN ENGINEER, AND COMMISSIONING ENGINEER SHALL MEET PRIOR TO SUBMITTING SHOP DRAWINGS TO REVIEW COORDINATION AND IMPLEMENTATION OF THE SPECIFIED CONTROL SEQUENCE OF BOILER/BOILER/CONTROLLER/HOT WATER SYSTEM, EXHAUST BOILER FLUE/MAKE UP AIR SYSTEM, AND ROOF TOP UNITS.

Application:	VCS & PAS Diagram
Control System:	V200-VP
Date: 10/05/17 / Version: 1.0 / DWG Rev: 0 / Page #: 1 of 1	
Draft Inducer Voltage:	120/ 208-230 1PH
	US Draft Co. Phone: (817) 393-4029 www.usdraftco.com
	Controller Output / Controller Input
	Field Wiring Refer to specifications for voltage, amperage, and wiring type
	Pneumatic Tubing for pressure reference
	Vent or Duct
ALM	Alarm output
M/E	Master Enable: input of controller
P	Stack Pressure Probe
PT	Pressure Transducer -1 to 1 in. WC
PVR	Supply Fan Proving Device Output CS75 Current Switch or GFS Differential Pressure Switch
STAT	System run status
VAS	Variable Analog Signal 0-10VDC
ZPS	Outdoor Air Static Pressure Pickup Port

3 **VCS & PAS DIAGRAM**
SCALE: NO SCALE

FAN SCHEDULE

MARK	LOCATION	CFM	MAXIMUM RPM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER	CURRENT CHARAC.	LOCALLY SWITCHED BY	INTERLOCKED WITH	FAN TYPE	BELT/DIRECT DRIVE	MANUFACTURER	MODEL NUMBER	REMARKS
EF-21	BOILER ROOM	1830	1950	.25	1	120/1/60	–	BR-1,2,3,(E)DWH	CHIMNEY	DIRECT	US DRAFT CO.	CBX22	(1,2,3,4,5,6,7)
SF-1	BOILER ROOM	1110	1950	1.25	1/2	120/1/60	–	EF-21	CENTRIFUGAL BLOWER	DIRECT	US DRAFT CO.	MEF015	(1,2,3,4,5,6,7)

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.
3. FAN SHALL BE CENTRIFUGAL, BELT DRIVEN TYPE UNLESS OTHERWISE SCHEDULED.

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH OSHA APPROVED MOTOR GUARD.
3. PROVIDE WITH BOILER SYSTEM VENT CONTROLLER (120V, 0.4 AMPS)
4. PROVIDE FAN WITH EC MOTOR.
5. PROVIDE WITH SPRING ISOLATION RAIL.
6. PROVIDE WITH TOP DISCHARGE.
7. PROVIDE WITH DRAIN AT BOTTOM OF FAN HOUSING.

PUMP SCHEDULE

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MAXIMUM RPM	MOTOR HORSEPOWER	CURRENT	MANUFACTURER	MODEL	REMARKS
CP-1	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-2	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)
CP-3	HOT WATER	INLINE CIRCULATOR	101	20	1,800	1.0	120/1/60	BELL & GOSSETT	E-60	(1,2)

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PUMP SHALL BE SELECTED BY BOILER MANUFACTURER, WITH DISCONNECT AND STARTER BY ELECTRICAL CONTRACTOR AND CONTROLLED BY BOILER.
2. PROVIDE WITH GAUGE TAPPINGS.

BOILER - FORCED AIR

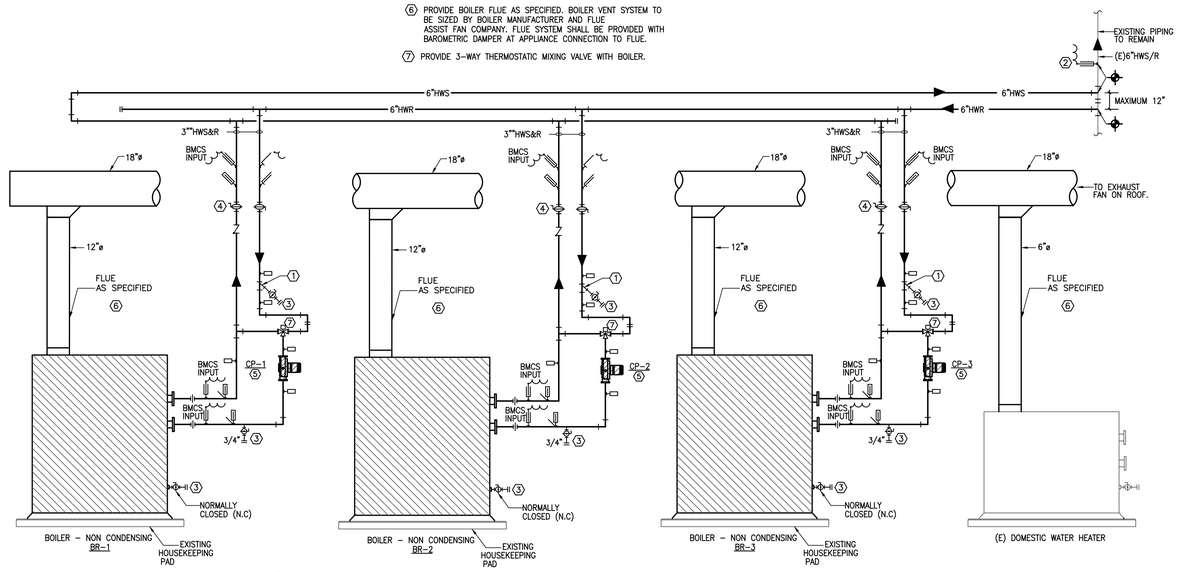
MARK	TYPE	MINIMUM GAS INPUT (MBH)	MINIMUM HEATING OUTPUT (MBH)	MAXIMUM WATER PRESSURE DROP (FT.)	GPM	FLUE SIZE (IN. ROUND)	ELECTRICAL: BLOWER HORSEPOWER	ELECTRICAL: CURRENT CHARAC. (V/PH/Hz)	MANUFACTURER	MODEL	REMARKS
BR-1	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-2	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)
BR-3	HOT WATER SYSTEM	1,255	1016	10	101	12	1	120/1/60	LOCHINVAR	COPPER FIN CB-1257	(1,2,3)

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCES FOR TUBE PULL AND CLEANING OF TUBES AS RECOMMENDED BY THE BOILER'S MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

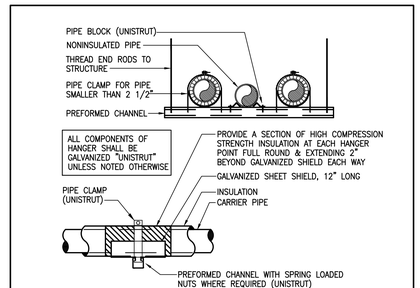
REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE NON-CONDENSING BOILER.
3 PROVIDE US DRAFT CO FLUE EXHAUST SYSTEM. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

MECHANICAL HOT WATER KEYED NOTES:

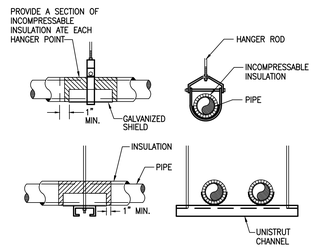
1. PROVIDE INLINE STRAINER.
2. HEADER TEMPERATURE SENSOR. PROVIDED BY BOILER MANUFACTURER.
3. PROVIDE BALL VALVE WITH HOSE THREAD ADAPTER AT FULL SIZE UNLESS OTHERWISE NOTED.
4. BALANCING VALVE TO BE PROVIDED WITH INFINITE POSITION CRANK OR MEMORY STOP FOR BALANCING SERVICE.
5. CIRCULATING PUMP SIZED AND PROVIDED BY BOILER MANUFACTURER.
6. PROVIDE BOILER FLUE AS SPECIFIED. BOILER VENT SYSTEM TO BE SIZED BY BOILER MANUFACTURER AND FLUE ASSIST FAN COMPANY. FLUE SYSTEM SHALL BE PROVIDED WITH BAROMETRIC DAMPER AT APPLIANCE CONNECTION TO FLUE.
7. PROVIDE 3-WAY THERMOSTATIC MIXING VALVE WITH BOILER.



3 **PARTIAL HOT WATER PIPING DIAGRAM**
SCALE: NO SCALE



2 **MULTI-PIPE TRAPEZE HANGER**
SCALE: NONE PS001



1 **PIPE HANGERS**
SCALE: NONE PS002

Project No:	2022-04652-00
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Checked By:	VP
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04-06-2023

MECHANICAL DETAILS - AMELIA ES

M2.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

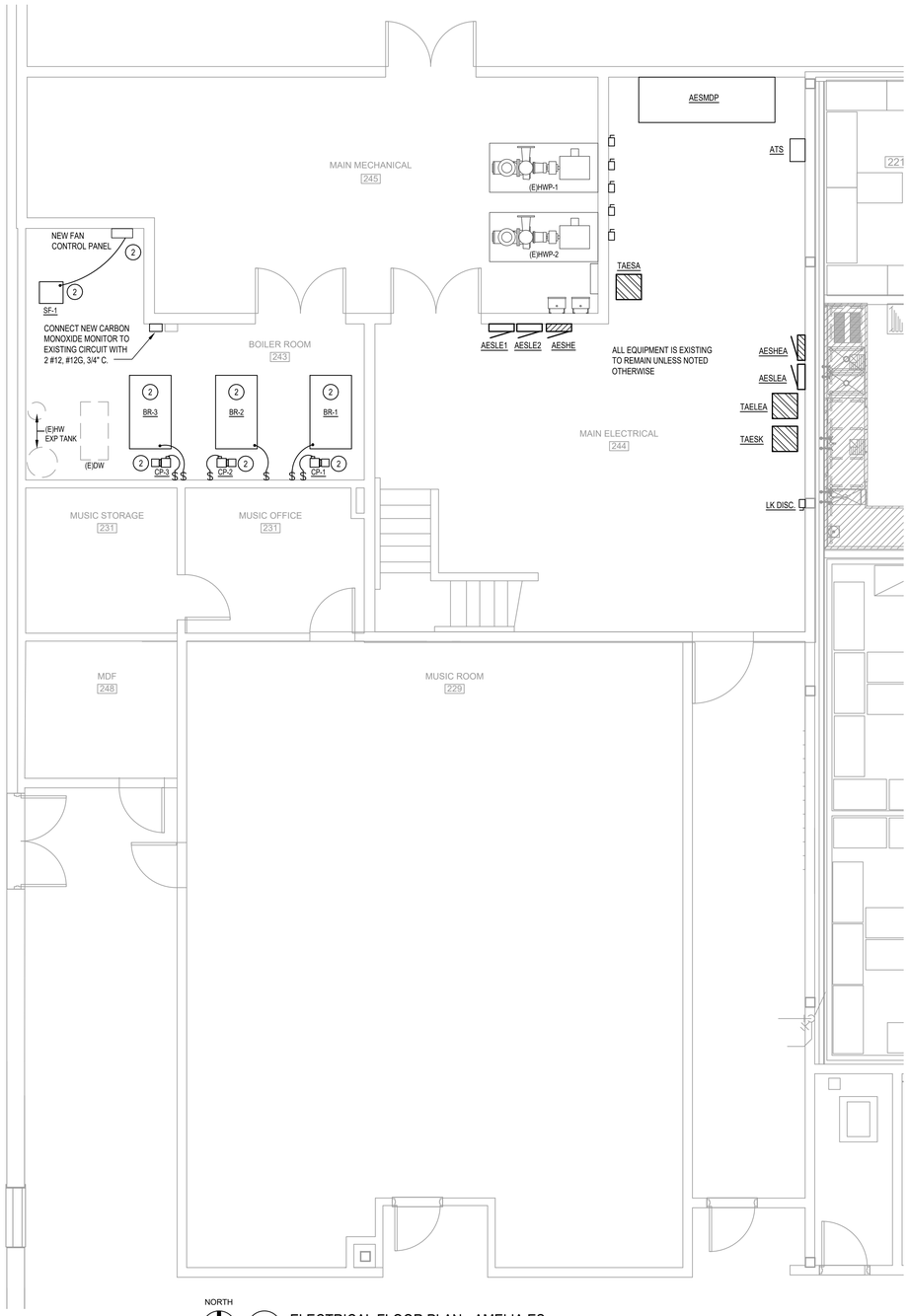
ELECTRICAL KEYED NOTES:

(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

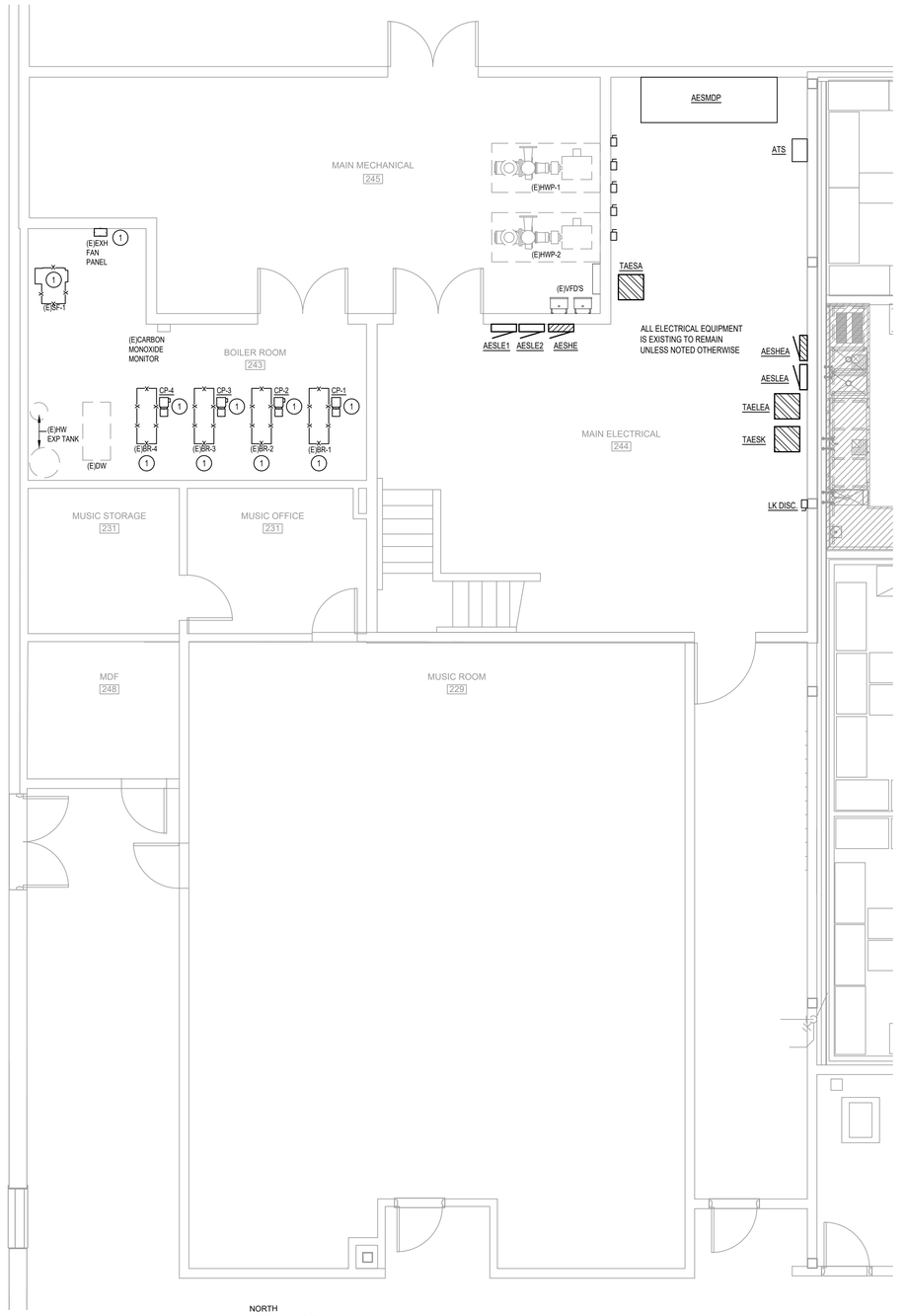
LINETYPE LEGEND

DISCONNECT AND REMOVE
EXISTING TO REMAIN
NEW WORK



NORTH

2 ELECTRICAL FLOOR PLAN - AMELIA ES
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION FLOOR PLAN - AMELIA ES
SCALE: 1/4" = 1'-0"

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STATE OF TEXAS

04-06-2023

ELECTRICAL FLOOR PLANS - AMELIA ES

E1.1

ELECTRICAL GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE, ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANEL BOARDS, DISCONNECT SWITCHES, AND VFD'S.
2. REUSE EXISTING DISCONNECT SWITCHES WHERE 30" WORKING CLEARANCE EXISTS, OTHERWISE PROVIDE NEW DISCONNECT SWITCHES IN LOCATIONS WHERE WORKING CLEARANCE CAN BE ACHIEVED.

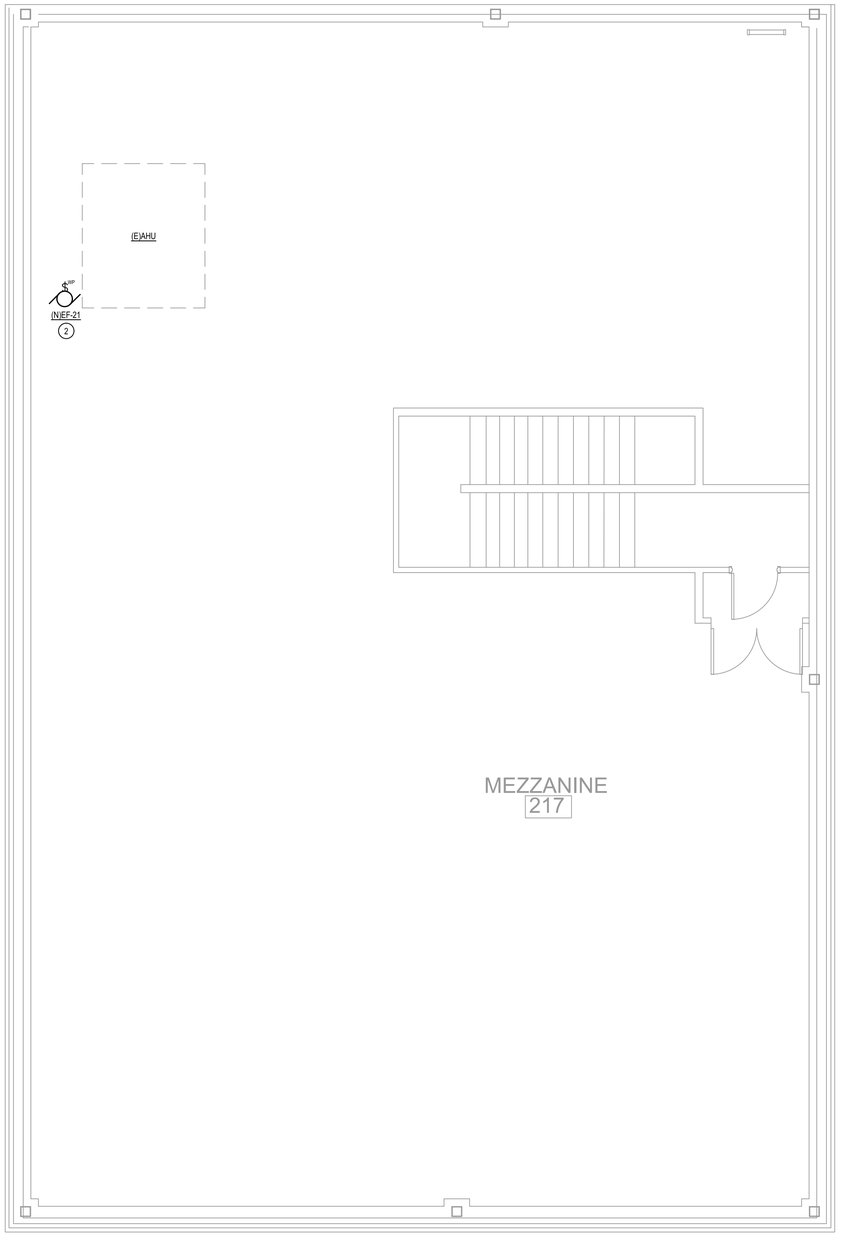
ELECTRICAL KEYED NOTES:

(1) DISCONNECT ALL POWER AND CONTROLS FROM EXISTING EQUIPMENT AND PRESERVE FOR REUSE WITH NEW EQUIPMENT.

(2) CONNECT TO EXISTING CIRCUIT SERVING DEMO'D EQUIPMENT. EXTEND CONDUIT AND NEW UNSPLICED WIRE AS NECESSARY.

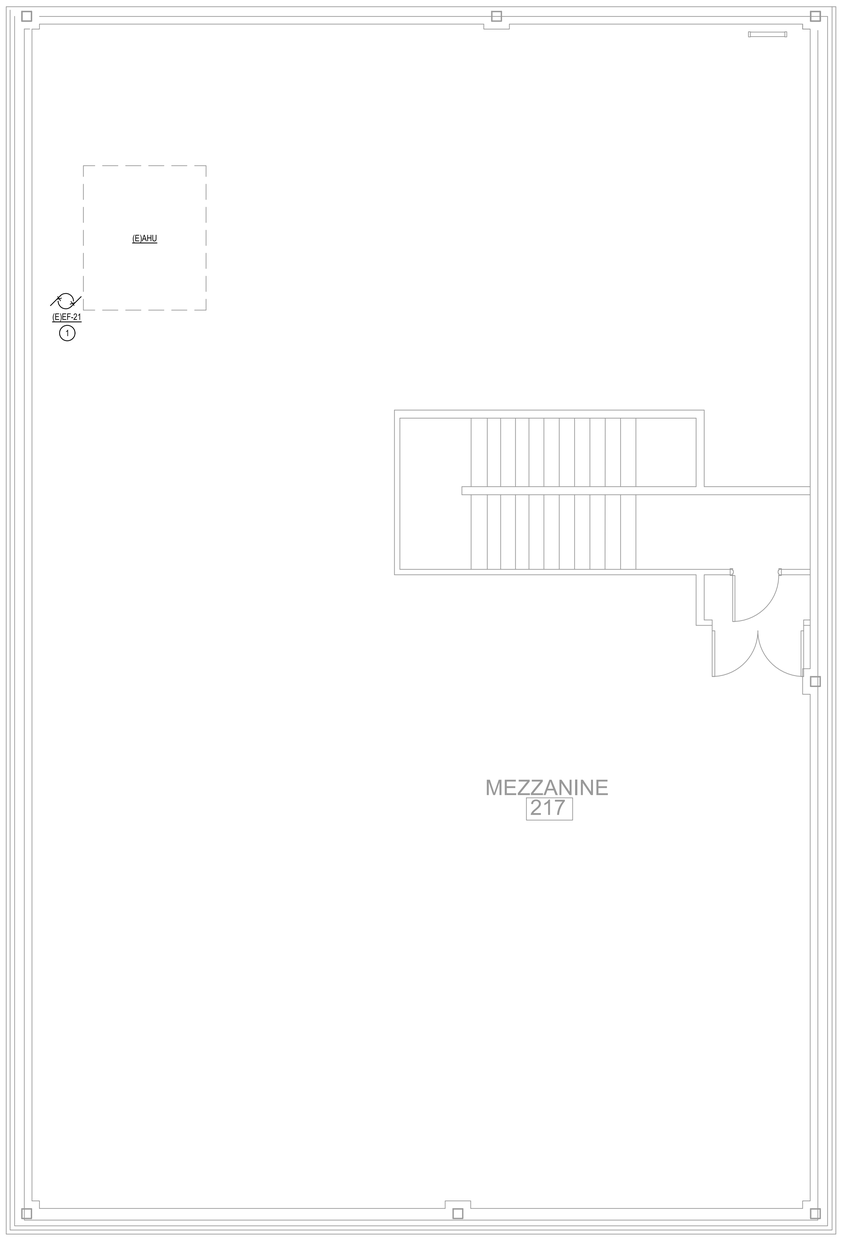
LINETYPE LEGEND

DISCONNECT AND REMOVE	——x——x——x——
EXISTING TO REMAIN	— — — — — —
NEW WORK	————————



NORTH

2 ELECTRICAL MEZZANINE PLAN - AMELIA ES
SCALE: 1/4" = 1'-0"



NORTH

1 ELECTRICAL DEMOLITION MEZZANINE PLAN - AMELIA ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: AW
Checked By: JZ
Date: 04-06-2023
Revision Dates:

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BEAUMONT INDEPENDENT SCHOOL DISTRICT
BOILER UPGRADES

BEAUMONT INDEPENDENT SCHOOL DISTRICT

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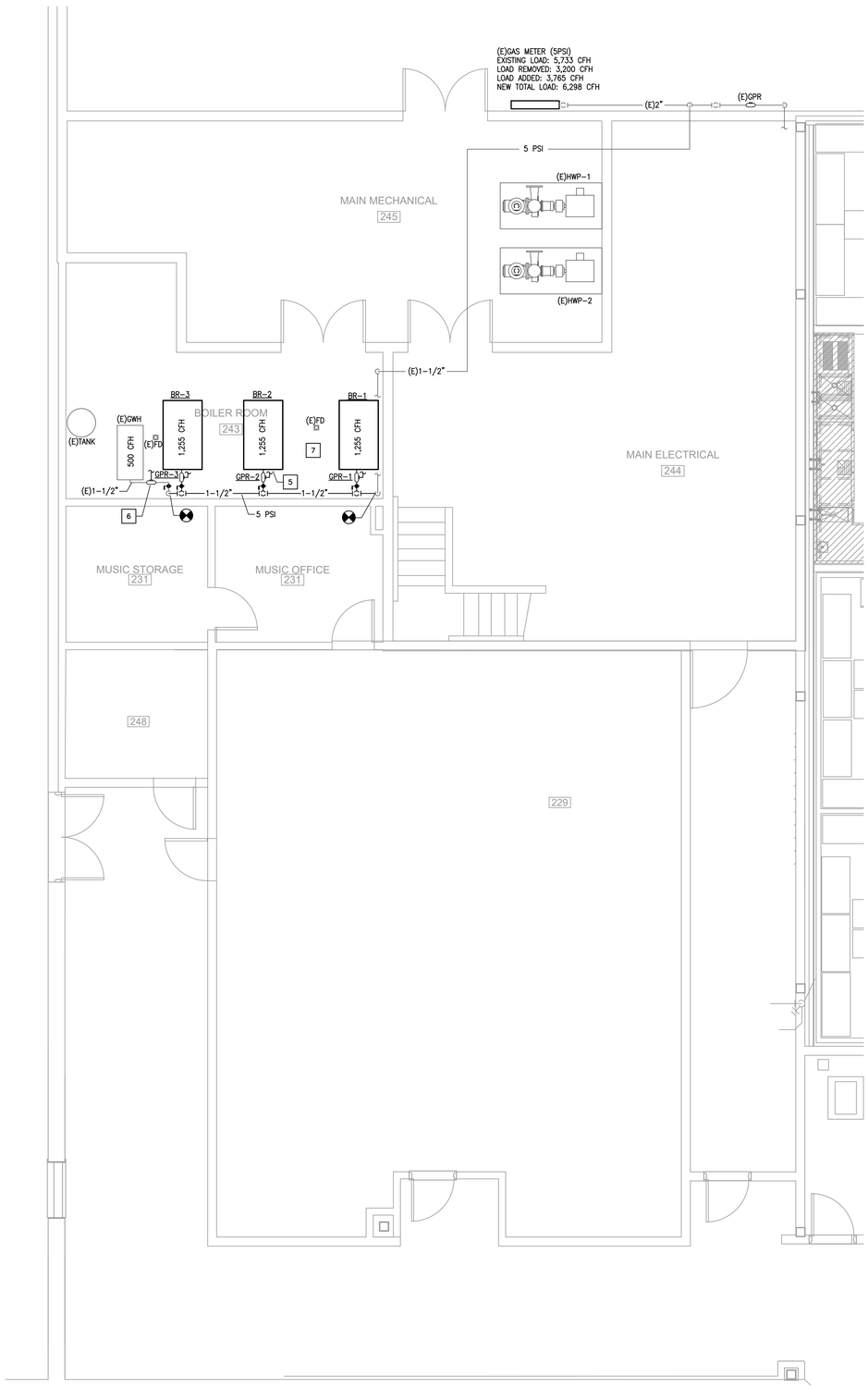
STATE OF TEXAS
BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL
ENGINEER
04-06-2023

ELECTRICAL MEZZANINE PLANS - AMELIA ES

E1.2

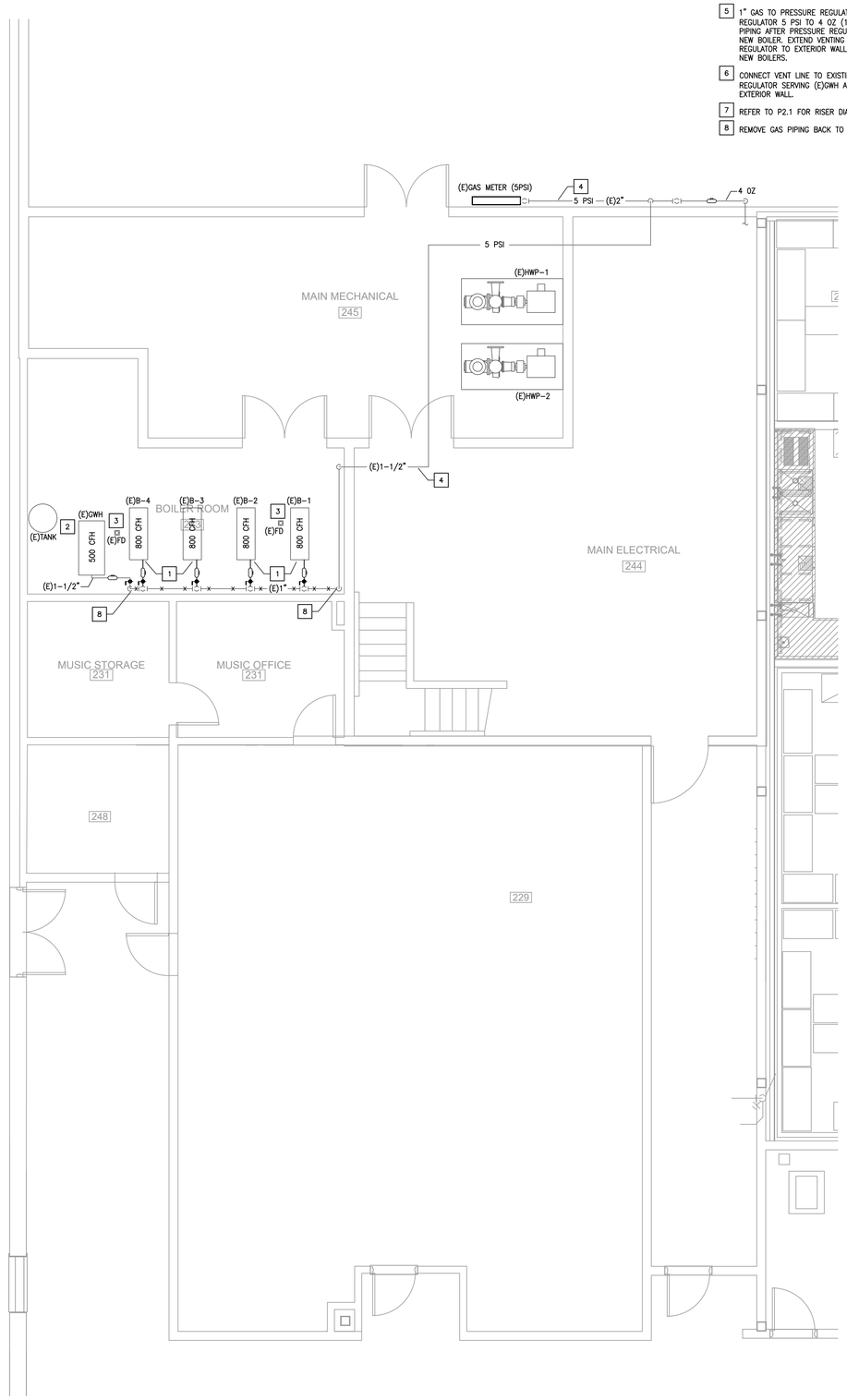
PLUMBING KEYNOTES

1. EXISTING BOILER TO BE REMOVED. REMOVE GAS PIPING SERVING BOILER BACK TO MAIN 5 PSI LINE. REFER TO RISER DIAGRAM ON P2.1.
2. EXISTING GWH AND TANK TO REMAIN.
3. EXISTING FLOOR DRAIN TO REMAIN.
4. EXISTING GAS PIPING TO REMAIN.
5. 1" GAS TO PRESSURE REGULATOR. PRESSURE REGULATOR 5 PSI TO 4 OZ (1,255 CFH). 2" GAS PIPING AFTER PRESSURE REGULATOR CONNECTING TO NEW BOILER. EXTEND VENTING FROM PRESSURE REGULATOR TO EXTERIOR WALL. TYPICALLY ALL 3 NEW BOILERS.
6. CONNECT VENT LINE TO EXISTING PRESSURE REGULATOR SERVING (E)GWH AND ROUTE TO EXTERIOR WALL.
7. REFER TO P2.1 FOR RISER DIAGRAM.
8. REMOVE GAS PIPING BACK TO THIS POINT.



NORTH

2 PLUMBING FLOOR PLAN - AMELIA ES
SCALE: 1/4" = 1'-0"



NORTH

1 PLUMBING DEMOLITION FLOOR PLAN - AMELIA ES
SCALE: 1/4" = 1'-0"

Project No: 2022-04652-00
Drawn By: BR
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BEAUMONT INDEPENDENT SCHOOL DISTRICT BOILER UPGRADES

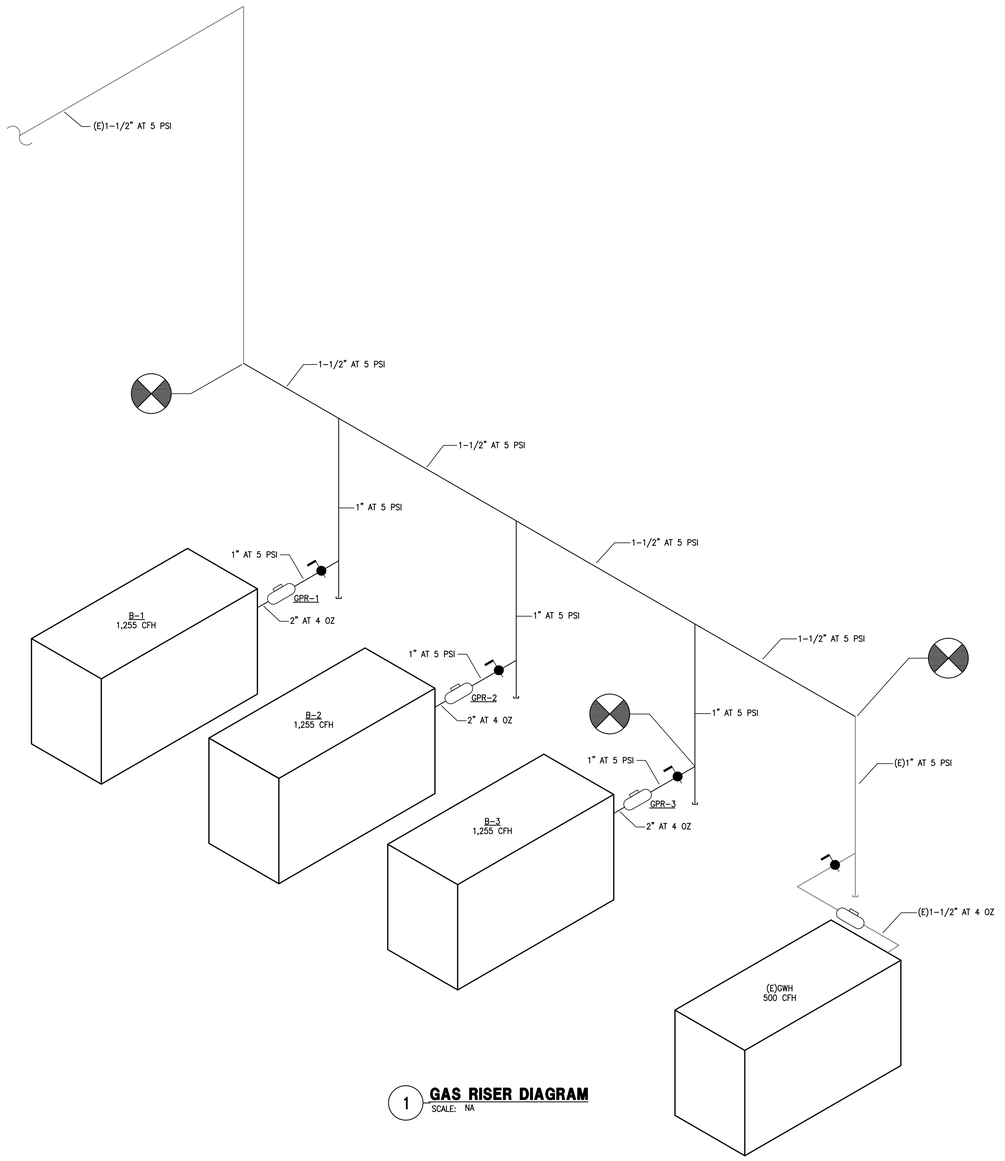
BEAUMONT INDEPENDENT SCHOOL DISTRICT

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PROFESSIONAL ENGINEER
04-06-2023

PLUMBING FLOOR PLANS - AMELIA ES

P1.1



1 **GAS RISER DIAGRAM**
SCALE: NA

GAS EQUIPMENT

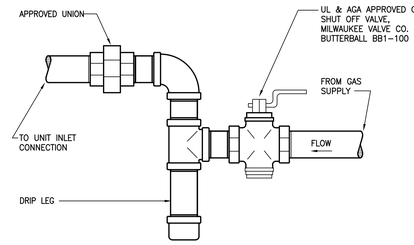
EQUIPMENT NUMBER	DESCRIPTION	BTU PER HOUR LOAD	TOTAL BTU PER HOUR	TOTAL CFH
B-1	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-2	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
B-3	NEW BOILER	1,255,000 BTUH	1,255,000 BTUH	1,255 CFH
TOTALS:			3,765,000 BTUH	3,765 CFH

INLET PRESSURE MAX 14 W.C. MIN 4.5 W.C. INLET CONNECTION 2"

GAS PRESSURE REGULATORS

ITEM NO.	DESCRIPTION	LOCATION	SERVES	CFH	INLET PRESSURE/ OUTLET PRESSURE
GPR-1	GAS PRESSURE REGULATOR	BOILER RM 243	B-1	1,255	5 PSI – INLET 4 OZ. – OUTLET
GPR-2	GAS PRESSURE REGULATOR	BOILER RM 243	B-2	1,255	5 PSI – INLET 4 OZ. – OUTLET
GPR-3	GAS PRESSURE REGULATOR	BOILER RM 243	B-3	1,255	5 PSI – INLET 4 OZ. – OUTLET

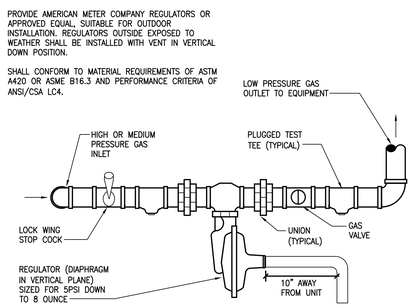
GENERAL NOTES:
1. MAINTAIN MINUMUM 10'-0" CLEARANCE BETWEEN REGULATOR VENTS AND OUTSIDE AIR INTAKES.



2 **GAS CONNECTION**
SCALE: NONE

PROVIDE AMERICAN METER COMPANY REGULATORS OR APPROVED EQUAL, SUITABLE FOR OUTDOOR INSTALLATION. REGULATORS OUTSIDE EXPOSED TO WEATHER SHALL BE INSTALLED WITH VENT IN VERTICAL DOWN POSITION.

SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA OF ANSI/CSA LC4.



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

1 **GAS PRESSURE REGULATOR INSTALLATION**
SCALE: NONE

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PLUMBING DETAILS - AMELIA ES

P2.1