

CLARIFICATIONS

Owner:	VAMC Huntington, WV
Project Title:	Boiler #1 Repair
Owner Contract/Project No.:	VA245-17-R-0261 / 581-17-103
HDG Project No.:	15013

In addition to the Bidder Inquiries List, the following items need to be included in the Amendment:

Drawings:

1. MP001
Add Feed Water Control Valve Schedule.
2. MP101
Add Note 23.17.

STANDARD ABBREVIATIONS

A	ARCHITECT/ENGINEER	G	GALVE	P	PUMP
A/E	AIR CHANGES PER HOUR	GA	GALLON	PA	PASCAL
ACH	ACCESS FLOOR	GALV	GALVANIC OR GALVANIZED	PD	PRESSURE DROP
ACS FLR	AFTER FILTER	GC	GENERAL CONTRACTOR	PF	PENETRATE
AF	ABOVE FINISHED FLOOR	GS	GALVANIZED STEEL	PG	PENDANT
AFF	ABOVE FINISHED GRADE	GYP BD	GYPSUM BOARD	PLBG	PLUMBING
AFG	AIR FLOW MEASURING DEVICE	H		PNEU	PNEUMATIC
AFMD	AIR HANDLING UNIT	HAC	HOUSEKEEPING AID CLOSET	PRESS	PRESSURE
AHU	AUXILIARY LOW WATER CUT OFF	HAC	HOUSEKEEPING AID CLOSET	PRV	PRESSURE REGULATING VALVE
ALWCO	AMPERAGE	HC	EATING COIL	PSF	POUNDS PER SQUARE FOOT
AMP	AMERICAN NATIONAL STANDARDS INSTITUTE	HD	HEAD	PSI	POUNDS PER SQUARE INCH
ANSI	ACCESS PANEL	HEPA	HIGH EFFICIENCY PARTICULATE AIR (FILTER)	PSIA	POUNDS PER SQUARE INCH - ABSOLUTE
AP	AIR PRESSURE DROP	HOA	HAND/OFF/AUTOMATIC	PSIG	POUNDS PER SQUARE INCH - GAUGE
APD	ARCHITECT	HORIZ	HORIZONTAL	R	RETURN AIR
ARCH	AIR CONDITIONING AND REFRIGERATIONS	HP	HORSEPOWER	RAT	RETURN AIR TEMPERATURE
ARI	AIR SEPARATOR	HWR	HOT WATER RETURN	RD	REFRIGERANT DISCHARGE
AS	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	HWS	HOT WATER SUPPLY	RET	RETURN
ASME		HZ	HEAT EXCHANGER	RG	RETURN GRILLE
B		I	HERTZ	RH	RELATIVE HUMIDITY
BDD	BACKDRAFT DAMPER	IO	INPUT/OUTPUT	RLA	RUN LOAD AMPERE
BHP	BACKDRAFT DAMPER	ID	INSIDE DIAMETER	RP	RADIANT CEILING PANEL
BLDG	BRAKE HORSEPOWER	IN	INCHES	RPM	REVOLUTIONS PER MINUTE
BTUH	BRITISH THERMAL UNIT PER HOUR	IN WG	INCHES WATER GAUGE	S	SUPPLY AIR
C		IN-LB	INCH-POUND	SAD	SUPPLY AIR DIFFUSER
CC	CENTIGRADE (CELSIUS)	K	KILOGRAM	SAG	SUPPLY AIR GRILLE
CC	COOLING COIL	kg	KILOPASCAL	SAR	SUPPLY AIR REGISTER
CCD	COOLING COIL CONDENSATE DRAIN	KPa	KILOPASCAL	SAT	SUPPLY AIR TEMPERATURE
CD	CEILING DIFFUSER	KPL	KICKPLATE	SD	SMOKE DETECTOR
CFM	CUBIC FEET PER MINUTE	KW	KILOWATT	SDPR	SMOKE DAMPER
CFS	CUBIC FEET PER SECOND	KWh	KILOWATT HOUR	SEN	SENSIBLE HEAT
CHR	CHILLED WATER RETURN	L	LEAVING AIR TEMPERATURE	SF	SQUARE FOOT (FEET)
CHS	CHILLED WATER SUPPLY	LAT	LEAVING AIR TEMPERATURE	SF	SUPPLY FAN
CY	CONSTANT VOLUME	LBS	POUND	SP GR	STATIC PRESSURE
CWP	CHILLED WATER PUMP	LBSHR	POUNDS PER HOUR	SPEC	SPECIFICATION
D		LF	LINEAR FOOT (FEET)	SQS	SQUARE
DA	DENTAL AIR	LWT	LEAVING WATER TEMPERATURE	SQ FT	SQUARE FOOT (FEET)
DB	DECIBELS	M	METER	SQ IN	SQUARE INCH
Db	DRY BULB	MA	MIXED AIR	SS	STAINLESS STEEL
DC	DIRECT CURRENT	MAINT	MAINTAIN, MAINTENANCE	STL	STEEL
DDC	DIRECT DIGITAL CONTROLS	MAN	MANUAL	STRUCT	STRUCTURAL SYSTEM
DEG	DEGREE	MAT	MIXED AIR TEMPERATURE	T	TESTING, ADJUSTING, BALANCE
DEMO	DEMOLITION	MAX	MAXIMUM	TAB	TEMPERATURE OR TEMPORARY
DF	DIFFUSER	MBH	1000 BTUH	TRAP	TRANSFER GRILLE
DIA	DIAMETER	MCA	MINIMUM CIRCUIT AMPACITY	THERM	THERMAL
DIAG	DIAGONAL, DIAGRAM OR DIAGRAM DIAGONAL	ME	MECHANICAL ENGINEER	THK	THICKNESS
DIM	DIMENSION	MECH	MECHANICAL	THRU	THROUGH
DIST	DISTANCE	MCH RM	MECHANICAL ROOM	TP	TRAP
DIV	DIVIDE OR DIVISION	MERV	MINIMUM EFFICIENCY REPORTING VALUE	TSP	TOTAL STATIC PRESSURE
DP	DEWPOINT	MEZZ	MEZZANINE	TSTAT	THERMOSTAT
DPS	DIFFERENTIAL PRESSURE SENSOR	MFG	MANUFACTURING	TU	TERMINAL UNIT
DWG	DRAWING	MFR	MANUFACTURER	TYP	TYPICAL
E		MFR REC	MANUFACTURER'S RECOMMENDATION	U	UNLESS NOTED OTHERWISE
EA	EXHAUST AIR	MH	MANHOLE	U.O.N.	UNLESS OTHERWISE NOTED
EAT	ENTERING AIR TEMPERATURE	MIN	MINIMUM	V	VALVE
EF	EXHAUST FAN	MISC	MISCELLANEOUS	VAV	VARIABLE AIR VOLUME
EG	EXHAUST GRILLE	MM	MILLIMETER	VENT	VENTILATION
EL	ELEVATION	MTD	MOUNTED	VERT	VERTICAL
ELEC	ELECTRIC	MTG	MOUNTING		
ELEVS	ELEVATIONS	MVD	MANUAL VOLUME DAMPER		
ENGR	ENGINEER	N	NOT APPLICABLE		
ENT	ENTERING	NA	NATIONAL		
EQ	EQUAL	NATL	NATIONAL		
EQUIP	EQUIPMENT	NC	NOISE CRITERIA		
EQUIV	EQUIVALENT	NC	NORMALLY CLOSED		
ERD	EXISTING ROOF DRAIN	NEC	NATIONAL ELECTRICAL CODE		
ESEM	EASEMENT	NEG	NEGATIVE		
ESP	EXTERNAL STATIC PRESSURE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION		
ET	EXPANSION TANK	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION		
ETC	AND SO FORTH OR ET CETERA	NO	NORMALLY OPEN		
EWT	ENTERING WATER TEMPERATURE	NOM	NOMINAL		
EX	EXISTING	NPSH	NET POSITIVE SUCTION HEAD		
EXH	EXHAUST	NRCA	NATIONAL ROOFING CONTRACTORS ASSOCIATION		
EXIST	EXISTING	NS	NARROW STILE		
F		NTS	NOT TO SCALE		
F	FAHRENHEIT OR FEMALE	O			
F/SDPR	COMBINATION FIRE SMOKE DAMPER	OA/OSA	OUTSIDE AIR		
FA	FREE AREA	OD	OUTSIDE DIAMETER OR OUTSIDE DIMENSION		
FC	FLEXIBLE CONNECTION	OV	OXYGEN VACUUM		
FD	FLOOR DRAIN				
FM	FLOW METER				
FP	FIRE PROTECTION OR FIREPROOF				
FPM	FEET PER MINUTE				
FPS	FEET PER SECOND				
FR	FIRE RATING, FIRE RESISTANT, OR FRAME				
FREQ	FREQUENCY				
FS	FLOW SWITCH				
FSTAT	FREEZE/STAT				
FT	FEET OR FOOT				

GENERAL PIPING SYMBOLS

	DIRECTION OF PIPE PITCH (DOWN)
	DIRECTION OF FLOW
	ANCHOR
	REDUCER OR INCREASER
	ECCENTRIC REDUCER
	TOP CONNECTION, 45° OR 90°
	BOTTOM CONNECTION, 45° OR 90°
	SIDE CONNECTION
	CAPPED OUTLET
	RISE OR DROP IN PIPE
	UNION
	PIPE UP
	PIPE DOWN
	INVERTED BUCKET TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
	FLOAT & THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
	THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
	THERMOMETER
	PRESSURE GAGE
	TEST PLUG (PRESSURE/TEMPERATURE)
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	QUICK-COUPLE HOSE CONNECTOR
	HPS HIGH PRESSURE STEAM (80 PSIG AND ABOVE)
	HPR HIGH PRESSURE STEAM CONDENSATE RETURN
	MPS MEDIUM PRESSURE STEAM (16 PSIG - 59 PSIG)
	MPR MEDIUM PRESSURE STEAM CONDENSATE RETURN
	LPS LOW PRESSURE STEAM (15 PSIG AND BELOW)
	LPR LOW PRESSURE STEAM CONDENSATE RETURN
	PC CONDENSATE PUMP DISCHARGE
	MW MAKE-UP WATER
	D DRAIN LINE
	V VENT LINE
	FWPD FEEDWATER PUMP DISCHARGE
	FWPS FEEDWATER PUMP SUCTION
	CTPD CONDENSATE TRANSFER PUMP DISCHARGE
	CTPS CONDENSATE TRANSFER PUMP SUCTION
	BO BOILER BLOWOFF
	CBD CONTINUOUS BLOWDOWN
	BWS BOILER WATER SAMPLE
	FWS FEEDWATER SAMPLE (FROM DEAERATOR)
	OFL OVERFLOW
	G NATURAL GAS MAIN FUEL
	G(i) NATURAL GAS IGNITER FUEL
	LPG(i) LIQUEFIED PETROLEUM GAS IGNITER FUEL
	FOS FUEL OIL SUPPLY
	FOR FUEL OIL RETURN
	CW COLD WATER (CITY WATER)
	TW TREATED WATER

VALVE/DRAWING SYMBOLS

	SHUT-OFF VALVE - SEE SPECIFICATIONS
	GLOBE VALVE
	GATE VALVE WITH 3/4" HOSE ADAPTER
	GATE VALVE
	CHECK VALVE
	ANGLE GLOBE VALVE
	BUTTERFLY VALVE
	BALL VALVE
	BALANCING VALVE
	CIRCUIT SETTER
	STRAIGHT-THRU MODULATING CONTROL VALVE
	STRAIGHT-THRU TWO POSITION CONTROL VALVE
	THREE-WAY MODULATING CONTROL VALVE
	AUTOMATIC FLOW CONTROL VALVE
	SAFETY OR PRESSURE RELIEF VALVE
	PRESSURE REDUCING VALVE
	MANUAL AIR VENT
	TEST PLUG (PRESSURE/TEMPERATURE)
	STEAM TRAP (MEDIUM/HIGH PRESSURE)
	CIRCUIT SETTER (METERING AND BALANCING)
	CONCENTRIC REDUCER
	PIPE ANCHOR
	PIPE GUIDES
	FLEXIBLE CONNECTION
	WYE STRAINER (WITH BALL VALVE & HOSE CONNECTION)
	MODULATING CONTROL VALVE
	MODULATING CONTROL BUTTERFLY VALVE
	THREE-WAY TWO POSITION CONTROL VALVE
	PRESSURE REGULATING VALVE
	BACK PRESSURE VALVE
	EMERGENCY STOP SWITCH

GENERAL NOTES

- COORDINATE ALL WORK WITH OTHER TRADES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES, PERMITS AND LICENSES FOR THE COMPLETE INSTALLATION OF THEIR WORK.
- ALL NEW HVAC EQUIPMENT AND DDC CONTROLS SHALL GET INTEGRATED BACK INTO THE EXISTING ENGINEERING CONTROL CENTER (ECC).
- ALL PIPING RUNS SHOWN ARE REPRESENTATIVE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONDITIONS IN THE FIELD THAT MAKE NECESSARY ALTERNATE ROUTING OF PIPING.
- MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDING POWER CONNECTIONS FOR ALL EQUIPMENT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY ARCHITECTURAL WORK (INCLUDING, BUT NOT LIMITED TO: FLOORING, CEILING TILE AND GRID, SMOKE PARTITIONS ABOVE CEILING, GYPSUM WALL BOARD AND PAINTING, PLASTER, ETC.) THAT IS DAMAGED, DISTURBED, OR REMOVED INCIDENTAL TO THIS WORK.
- FOR TYPICAL WATER PIPING CONNECTIONS TO EQUIPMENT SEE STANDARD EQUIPMENT DETAILS.
- BOILER PLANT, INCLUDING SAFETY DEVICES, SHALL BE TESTED AND MEET ALL REQUIREMENTS AND CONFORM TO THE VA BOILER PLANT SAFETY DEVICE TESTING MANUAL 3RD EDITION. ENSURE THAT NO EQUIPMENT IS TO BE USED FOR BENEFICIAL USE UNTIL ALL SAFETY DEVICES ON THAT EQUIPMENT OR THAT AFFECT THE PLANT AS A WHOLE HAVE TESTED AND PASSED 100% OF THE SAFETY DEVICE TESTS. SEE SECTION 23 08 11 FOR ALL TEST REQUIREMENTS AND THE VA BOILER PLANT SAFETY DEVICE TESTING MANUAL.

FEED WATER CONTROL VALVE

SERVICE	FLOW RATE (GPM)	Cv	BODY RATING
BOILER 1 PRIMARY	48	15	250 psi W.O.G.

BOILER SAFETY LIMIT SWITCH SETTINGS

SWITCH DESCRIPTION	SETTING
RECYCLING BOILER STEAM PRESSURE LIMIT SWITCH	105 PSI
NON-RECYCLING BOILER STEAM PRESSURE LIMIT SWITCH	110 PSI

RELIEF VALVE SCHEDULE

SERVICE	RELIEF PRESSURE (PSIG)	RELIEF CAPACITY (LBS/HR)	ACCUMULATION VALUE (PSIG)
BOILER 1 PRIMARY	115	12,000	115
BOILER 1 SECONDARY	120	15,000	124

BOILER/BURNER SCHEDULE

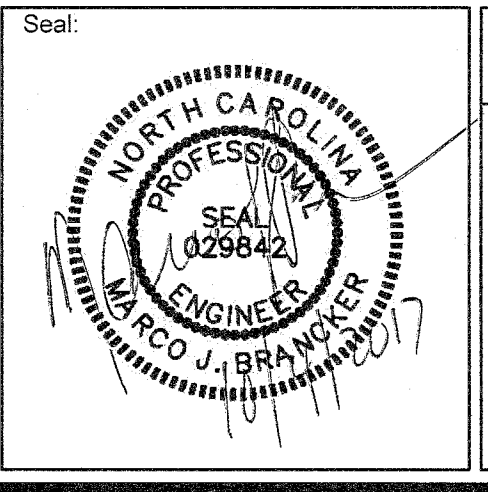
MARK	LOCATION	SERVICE	TYPE	MIN. CAPACITY (LBS.HR)	BOILER HP	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	BOILER OPERATING PRESSURE (PSIG)	MIN. ASME PRESSURE RATING (PSIG)	HEATING SURFACE (SQ.FT.)	MIN. CONTINUOUS FIRING RATE (LBS/HR)	GAS		OIL		FORCED DRAFT FAN MOTOR		AIR COMPRESSOR		BURNER BASIS OF DESIGN MANUFACTURER	BURNER BASIS OF DESIGN MODEL NUMBER	NOTES
													INPUT (MMBH)	OUTPUT (MMBH)	INPUT (MMBH)	OUTPUT (MMBH)	POWER (HP)	VOLT/PHASE	POWER (HP)	VOLT/PHASE			
B-1	BUILDING 3	STEAM	FIRETUBE	16,000	400	JOHNSTON	- 509		95	150	2,000	16,000	16.8	13.44	16.56	13.24	15	460/3	5	460/3	-	-	ALL

- THE FUEL TO BE FIRED SHALL BE NATURAL GAS AND #2 FUEL OIL.
- ALTITUDE IS 884 FT ABOVE SEA LEVEL.
- #2 FUEL OIL PRESSURE SUPPLIED TO BURNER IS 100 PSIG.
- MINIMUM TURNDOWN RATIO - NATURAL GAS: 10 TO 1 - FUEL OIL: 5 TO 1.
- SEE SPECIFICATIONS FOR TESTING REQUIREMENTS.
- PROVIDE NATURAL GAS REGULATOR AT EACH BOILER BURNER TO SUPPLY 10 PSIG GAS INLET TO BOILERS BASED ON 11.8 PSIG MINIMUM AVAILABLE TO THE INLET OF THE REGULATOR.
- COORDINATE CONTROLS WITH BOILER CONTROLS/SCADA SYSTEMS PROVIDER.
- NOX REQUIREMENT IS 30 PPM MAXIMUM.
- CO LIMIT IN FLUE ON NATURAL GAS IS 200 PPM.
- PROVIDE BURNER FUEL OIL MANAGEMENT PUMP WITH 3 PHASE MOTOR.

Revisions:

No.	Description	Date
1	AMENDMENT #1	10/4/2017

CONSULTANTS:



ARCHITECT / ENGINEERS:

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HGS PROJECT: 15013

Drawing Title:
LEGEND, ABBREVIATIONS AND GENERAL NOTES

Project Title:
CORRECT BOILER PLANT AND STEAM DEFICIENCIES

Project Number:
581-16-103

Building Number:
3

Project Phase:
BID DOCUMENTS

Location:
VAMC HUNTINGTON, WEST VIRGINIA

Date:
JULY 7, 2017

Checked:
Drawn:
DJB

Drawing Number:
MP001

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

GENERAL SHEET NOTES

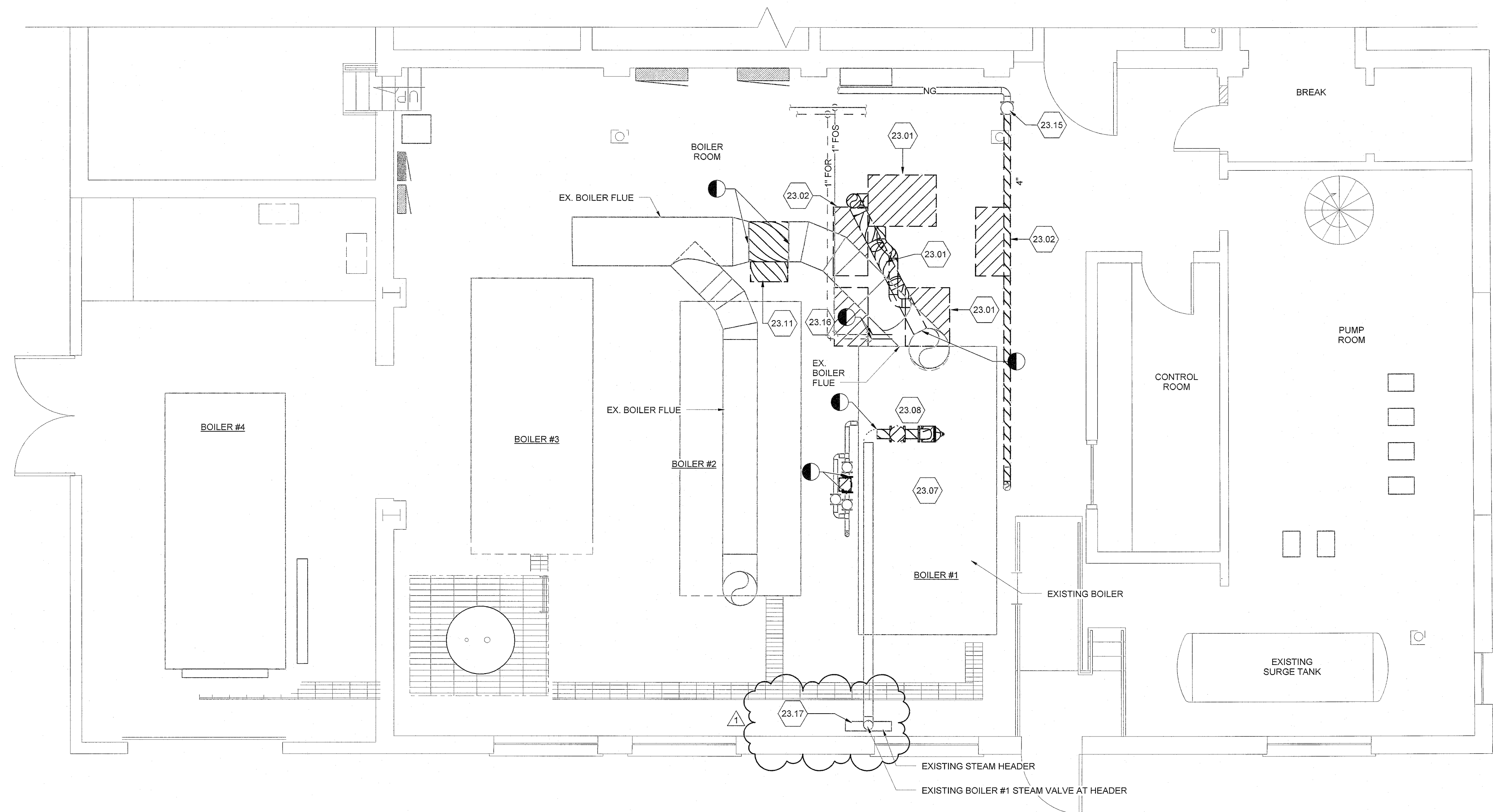
- A. REFER TO SHEET MP001 FOR GENERAL PROJECT NOTES.
- B. EXISTING BOILER #1 - JOHNSTON MODEL 509 SERIAL 8586-01 4 PASS DRY BACK

SHEET KEYNOTES

- 03.04 CONCRETE HOUSEKEEPING PAD REF. SHEET MP501.
- 23.01 DEMOLISH EXISTING BURNER, FLUE GAS RECIRCULATION DUCT, AND RECIRCULATION FAN.
- 23.02 DEMOLISH EXISTING CONTROLS.
- 23.04 NEW BOILER CONTROL PANEL.
- 23.05 NEW BOILER MASTER CONTROL PANEL.
- 23.06 PROVIDE AND INSTALL NEW BRUNER ON NEW HOUSEKEEPING PAD. MODIFY BURNER MATING FLANGE TO MATCH BOILER MOUNTING FLANGE AS NECESSARY. RECONNECT TO FUEL OIL PIPING AND NATURAL GAS PIPING. MAKE MODIFICATIONS NECESSARY FOR CONNECTIONS. COORDINATE ELECTRICAL AND CONTROL CONNECTIONS WITH CONTROL CONTRACTOR AND ELECTRICAL CONTRACTOR. INSTALL NEW AIR COMPRESSOR ON NEW HOUSEKEEPING PAD. LOCATE WITHIN FOOT PRINT OF BOILER SHELL AND MAINTAIN SERVICE CLEARANCES.
- 23.07 DEMOLISH AND REPLACE BOILER REFRACTORY.
- 23.08 SHUT OFF BOILER #1 HPS VALVE AT THE HEADER. VERIFY FULL SHUT OFF OF VALVE. SCHEDULE TEMPORARY SHUT DOWN OF BOILER PLANT AND REMOVE FLANGE BOLTS ON BOILER SIDE OF VALVE. INSERT BLANKING PLATE BETWEEN FLANGES AND REBOLT FLANGES. RESTART BOILER PLANT. REMOVE NON-RETURN VALVE UP TO POINT INDICATED.
- 23.09 INSTALL NEW SECONDARY HPS VALVE. SPOOL PIECE WITH 2" BLEED VALVE, NEW ASME NON-RETURN VALVE, AND ASME SPOOL PIECE ON BOILER #1 STEAM NOZZLE. SIDE NON-RETURN VALVE FOR MAXIMUM 5 PSI PRESSURE DROP @ 10,000 POUNDS PER HOUR STEAM FLOW AT 95 PSI BOILER PRESSURE. SCHEDULE PLANT SHUTDOWN AND REMOVE BLANKING PLATE AT PRIMARY HPS VALVE AT HEADER.
- 23.10 PROVIDE AND INSTALL NEW MODULATING BOILER FEED WATER VALVE. SEE 23.02 39 FOR VALVE SPECIFICATIONS. MODIFY PIPING AS NECESSARY TO INSTALL VALVE.
- 23.11 DEMOLISH EXISTING DRAFT CONTROL DAMPER.
- 23.12 PROVIDE AND INSTALL NEW DRAFT CONTROL DAMPER AND ACTUATOR.
- 23.13 NEW EMERGENCY STOP SWITCH.
- 23.14 PROVIDE AND INSTALL NEW SECTION OF FLUE PIPE TO INFILL REMOVED BAROMETER DAMPER. INSULATE AND JACKET TO MATCH EXISTING. SEE 23.07.11.
- 23.15 PROVIDE BLIND FLANGE ON MAIN GAS VALVE TO BOILER #1. DO NOT REMOVE UNTIL NEW SECONDARY GAS VALVE IS INSTALLED. SEE NEW WORK.
- 23.16 DEMOLISH EXISTING AIR COMPRESSOR.
- 23.17 PROVIDE BLIND ON DOWN STREAM SIDE OF MAIN STEAM VALVE AT HEADER FOR BOILER #1. DO NOT REMOVE UNTIL NEW SECONDARY STEAM VALVE IS INSTALLED.

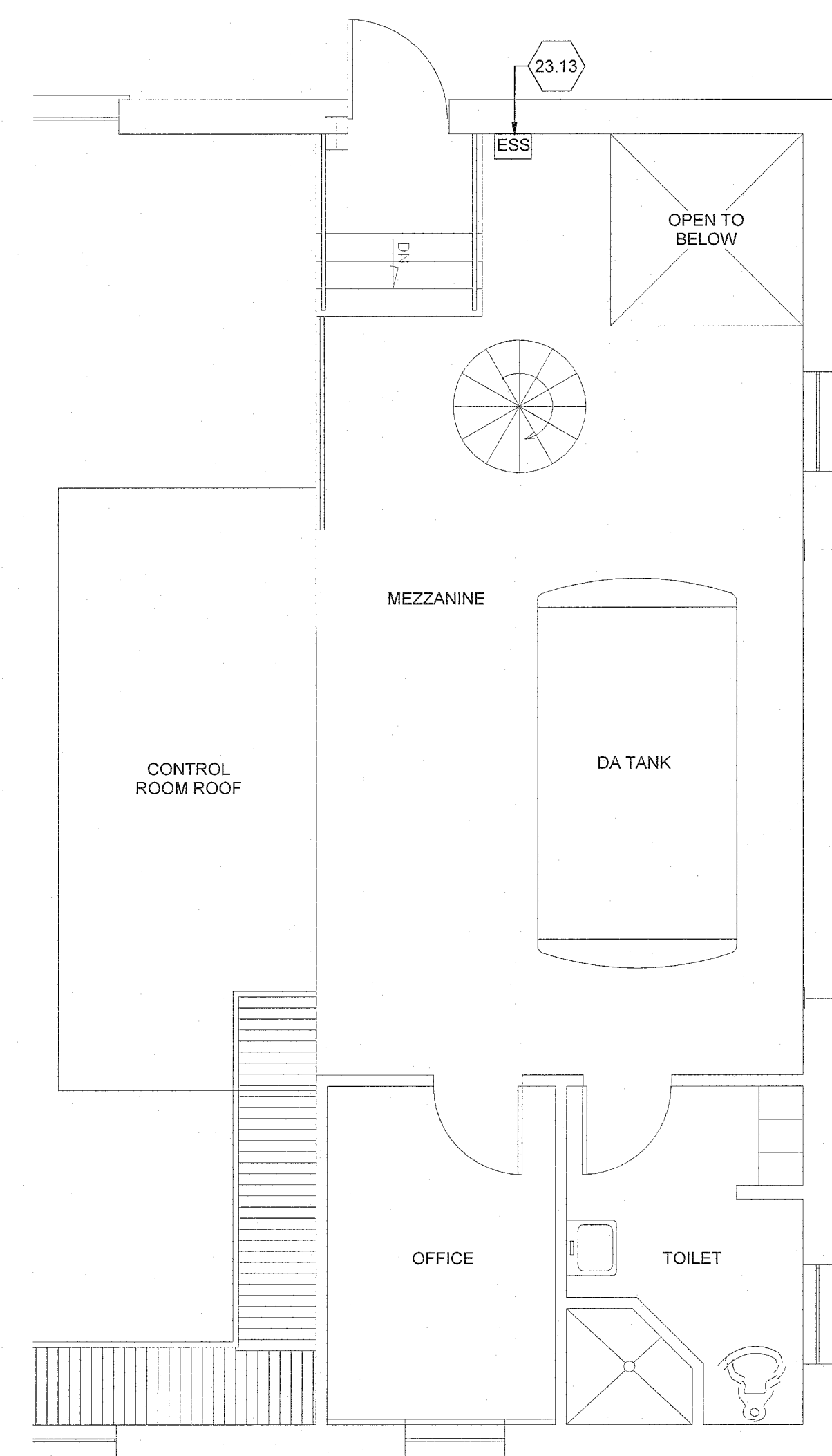
PARTITION GRAPHICS

- NO RATING
- SMOKE RESISTIVE PARTITION - NON RATED
- 1 HOUR FIRE BARRIER
- 1 HOUR FIRE/SMOKE BARRIER
- 2 HOUR FIRE BARRIER
- 2 HOUR FIRE/SMOKE BARRIER



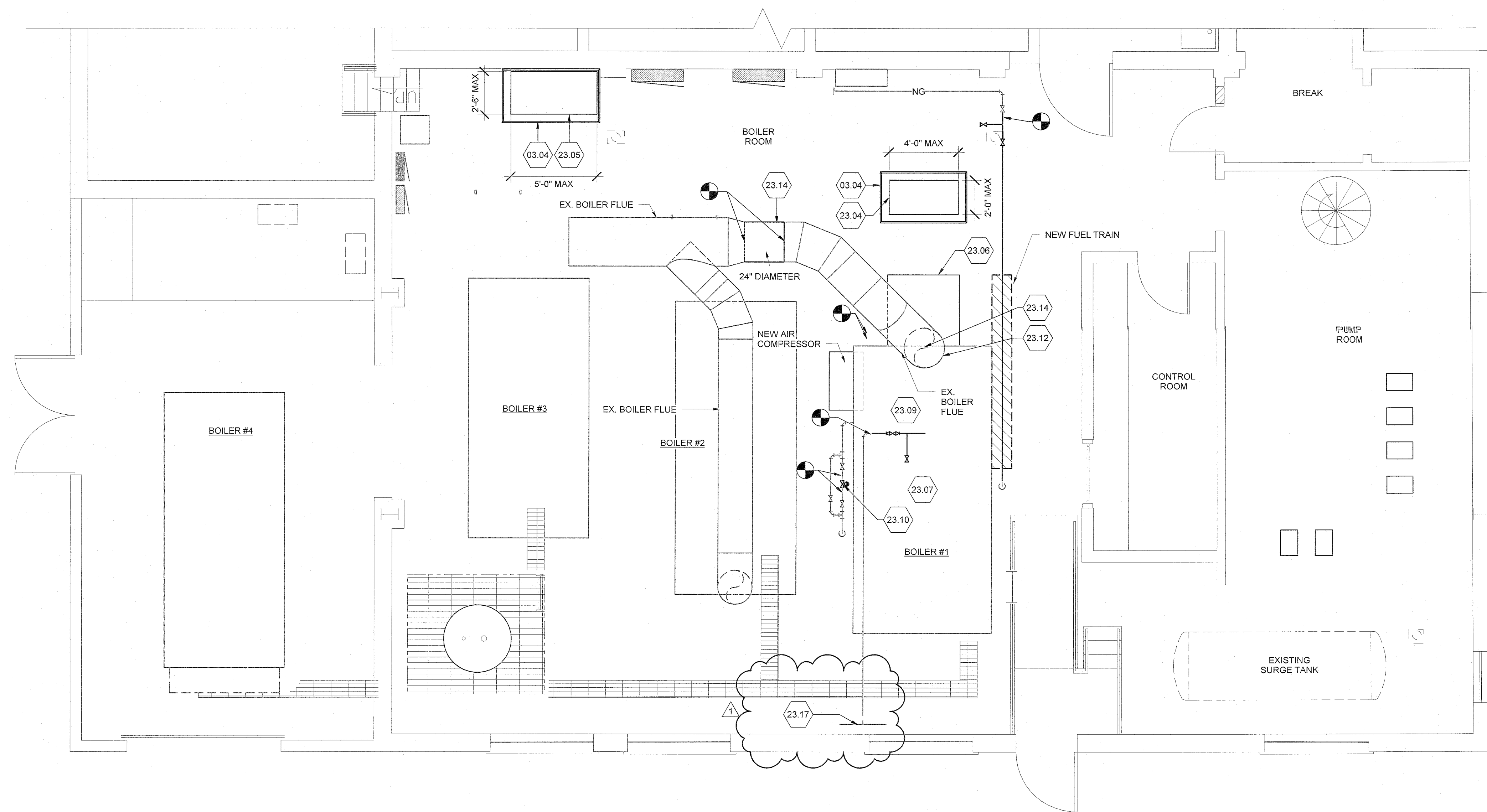
B2 FIRST FLOOR PLAN - DEMOLITION

1/4" = 1'-0" 0 2' 4' 8'



D1 MEZZANINE FLOOR PLAN

1/4" = 1'-0" 0 2' 4' 8'

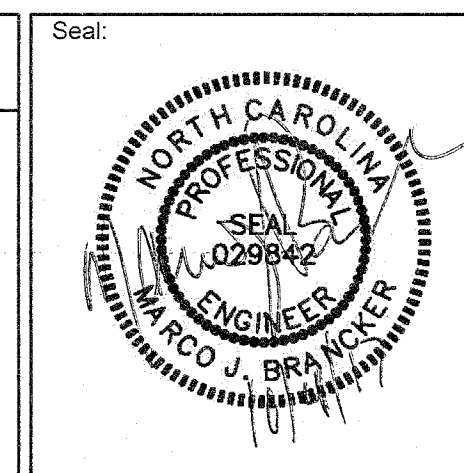


D2 FIRST FLOOR PLAN

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FIRST FLOOR PLAN - DEMOLITION AND NEW WORK

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