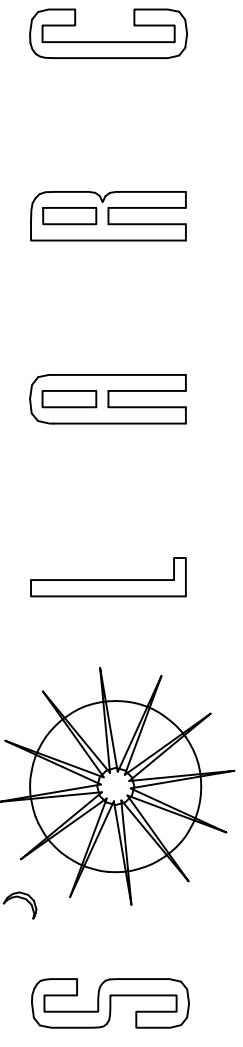


# TWIN OAKS ELEMENTARY SCHOOL BOILER MODIFICATIONS



223 West Twelfth Avenue - Eugene Oregon 97401 - Telephone: 541.343.0966 Facsimile: 541.343.1533

## PROJECT LOCATION

TWIN OAKS ELEMENTARY SCHOOL  
85916 BAILEY HILL ROAD  
EUGENE, OR 97405

## SHEET INDEX

G001 COVER SHEET  
M001 MECHANICAL LEGEND  
M100 MECHANICAL PLANS  
M200 MECHANICAL DIAGRAMS & DETAILS  
M201 MECHANICAL DETAILS & PART PLANS  
M300 MECHANICAL SCHEDULES

## PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE FOLLOWING ELEMENTS:

### DEMOLITION BY OWNER PRIOR TO START OF WORK:

1. REMOVAL OF (E) OIL BURNER ASSEMBLY AND ALL RELATED OIL PIPING AND COMPONENTS INSIDE BOILER ROOM WILL BE PERFORMED BY OWNER.
2. REMOVAL OF (E) FUEL OIL STORAGE TANKS AND ALL FUEL OIL PIPING OUTSIDE BUILDING WILL BE PERFORMED BY OWNER.

### DEMOLITION BY CONTRACTOR:

1. REMOVAL OF (E) DOMESTIC HOT WATER (DHW) STORAGE TANK AND CONNECTIONS TO (E) SIDE-ARM DHW HEATER ON BOILER.
2. REMOVAL OF (E) PROPANE GAS PILOT PIPING ON SOUTHEAST EXTERIOR WALL OF BUILDING, AND WITHIN MECHANICAL ROOM, TO BOILER.
3. REMOVAL OF (E) ABOVE-GROUND PROPANE TANK AND RELATED VALVING AT SOUTHEAST EXTERIOR WALL OF BUILDING.

### NEW WORK BY OWNER AFTER COMPLETION OF CONTRACT WORK:

1. INSTALLATION AND PROCUREMENT OF NEW PROPANE FUEL BURNER ASSEMBLY AND RELATED ELECTRICAL CONNECTIONS WILL BE PROVIDED BY OWNER.

2. ALL LINE VOLTAGE ELECTRICAL AND LOW-VOLTAGE CONTROL WIRING WILL BE PROVIDED BY OWNER.

### NEW WORK BY CONTRACTOR:

1. PROVIDE NEW PROPANE PIPING AND COMPONENTS BOTH INSIDE BOILER ROOM AND OUTSIDE BUILDING, FROM NEW PROPANE BURNER, ACROSS (E) ASPHALT PAVED PARKING LOT TO LOCATION OF NEW PROPANE FUEL TANK.
2. PROVIDE NEW TRENCH THROUGH (E) ASPHALT CONCRETE PAVING BETWEEN BUILDING AND NEW PROPANE TANK PAD, INCLUDING SAW-CUTTING, TRENCH, BACKFILL, AND COMPACTION FLUSH WITH SURROUNDING AC PAVEMENT. COORDINATE TRENCH LOCATION WITH CONCURRENT BUT SEPARATE PROJECT "TWIN OAKS SOUTH PARKING LOT UPGRADE".
3. PROVIDE HOUSEKEEPING PAD AND PROTECTIVE BOLLARDS FOR NEW PROPANE TANKS. PROVIDE NEW PROPANE TANKS.
4. PROVIDE NEW POWERED COMBUSTION AIR SUPPLY FAN AND OEM SCR SPEED CONTROLLER (OWNER WILL PROVIDE WIRING).
5. PROVIDE NEW CONDENSING, PROPANE-FUELED, STORAGE TYPE DOMESTIC HOT WATER HEATER, INCLUDING ALL COMPONENTS AND CONNECTIONS TO (E) DHW COLD WATER, HOT WATER, AND RECIRCULATION PIPING.

## APPLICABLE CODES

2011 OREGON ELECTRICAL SPECIALTY CODE  
2011 OREGON PLUMBING SPECIALTY CODE  
2014 OREGON MECHANICAL SPECIALTY CODE  
2014 OREGON ENERGY EFFICIENCY SPECIALTY CODE  
2014 OREGON STRUCTURAL SPECIALTY CODE

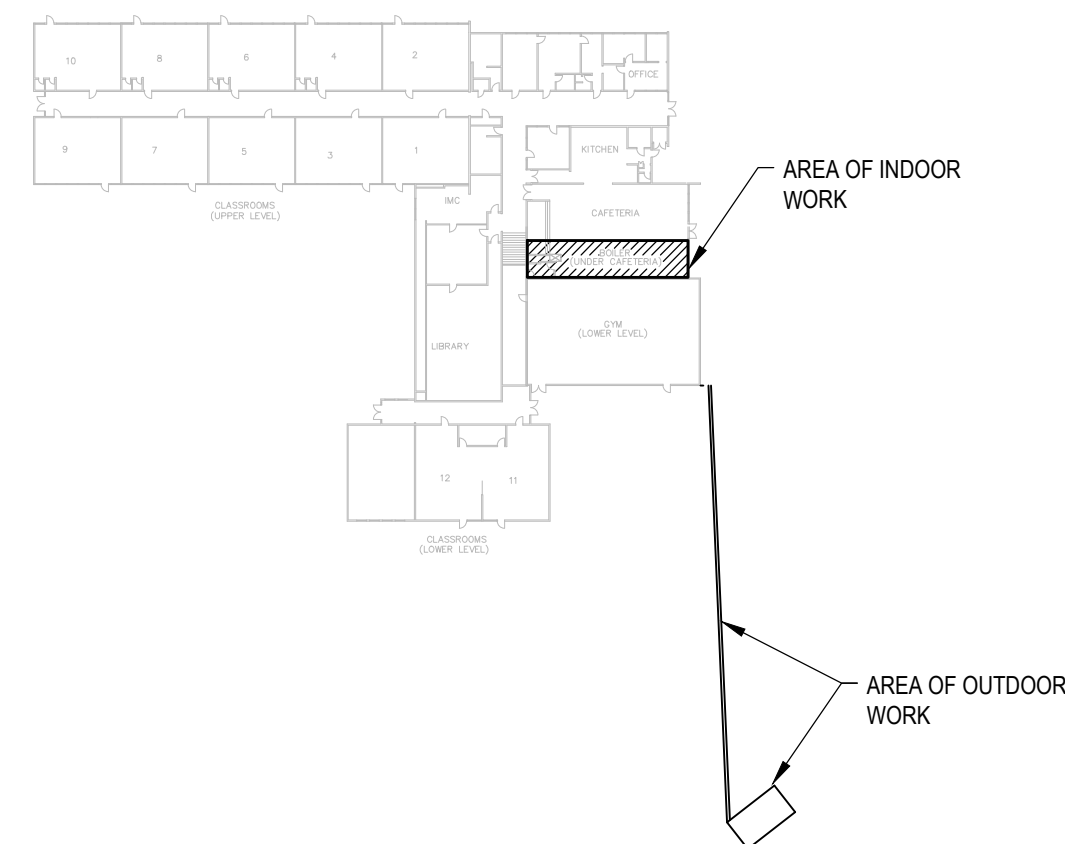
## PROJECT TEAM

### OWNER/PROJECT MANAGER/ELECTRICIAN

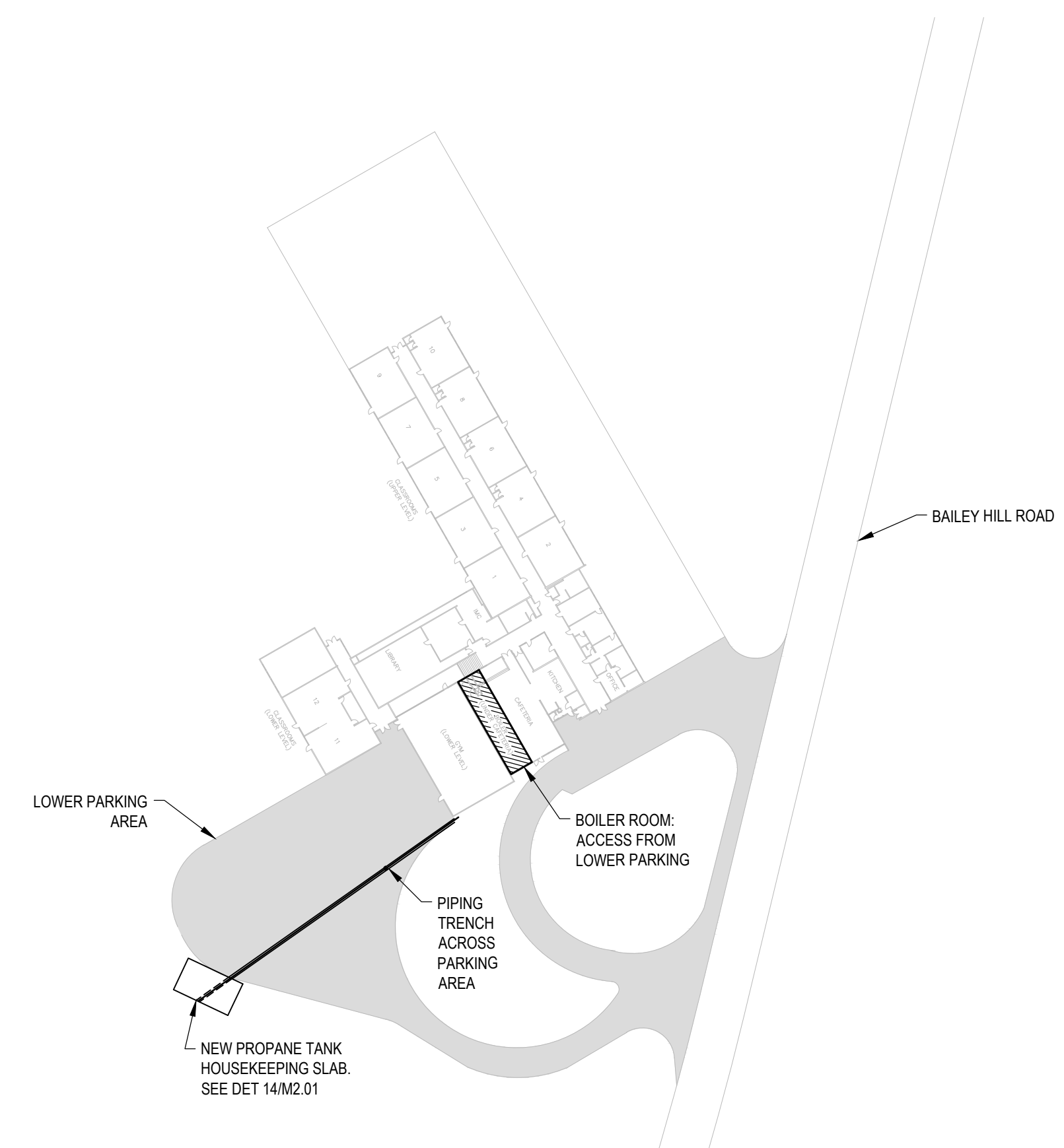
EUGENE SCHOOL DISTRICT 4J  
715 WEST 4TH AVENUE  
EUGENE, OREGON 97402-4295  
PHONE: (541) 790-7417 OFFICE, (541) 968-0950 CELL  
CONTACT: KIRK GEBB

### MECHANICAL ENGINEER / ARCHITECT

SOLARC  
223 WEST 12TH AVENUE  
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FAX: (541) 343-1533  
CONTACT: GENE JOHNSON, P.E.



13 WORK LOCATION PLAN  
SCALE: 1" = 80'

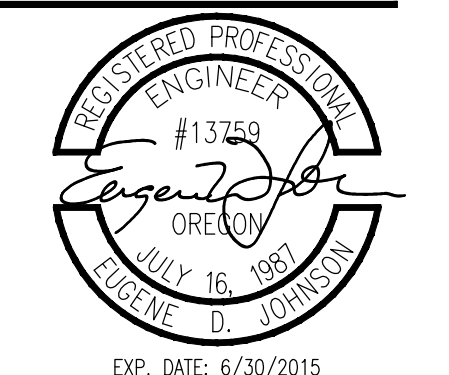


16 SITE PLAN  
SCALE: 1" = 80'

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PROJECT NO: 14-127  
DATE: 04-23-15  
DRAFT DATE:  
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CHECKED BY: EDJ

COVER SHEET

G001

SHEET 1 OF 6

PIPING LABELS	
— MU —	MAKEUP WATER
— D —	EQUIPMENT DRAIN
— CD —	CONDENSATE DRAIN
— —	DOMESTIC COLD WATER
— —	DOMESTIC HOT WATER SUPPLY
— (140) —	DOMESTIC HOT WATER SUPPLY - 140 F
— —	DOMESTIC HOT WATER RETURN
— G —	GAS, PROPANE (PRESSURE AS INDICATED)
— NAME —	MISCELLANEOUS
— (E) NAME —	EXISTING PIPING
— X (R) NAME — X —	EXISTING PIPING TO BE REMOVED
— (R) NAME —	EXISTING PIPING TO BE REMOVED
— 1-1/4" PIPE —	PIPE WITH SIZE CALLOUT

GENERAL SYMBOLS	
∅	AT
∅	DIAMETER
"	INCHES
&	AND
X °	X DEGREES (ANGLE)
①	KEYED NOTE DESIGNATION
③	OWNER'S EQUIPMENT NUMBER
10 M301	DETAIL OR DETAIL REFERENCE
10 M301	ELEVATION
6 M301	SECTION TAKEN AT
AH-1	EQUIPMENT TAG

PIPE FITTINGS	
	FLANGE
	UNION
	PIPING REDUCER
	PIPE SLEEVE
	PIPE ANCHOR
	ELBOW INTO PAPER PLANE
	ELBOW OUT OF PAPER PLANE
	TEE INTO PAPER PLANE
	TEE OUT OF PAPER PLANE
	PIPE CAP OR PLUG
	FLOW ARROW
	BREAK IN LINE

VALVES	
	TWO WAY CONTROL VALVE
	THREE WAY CONTROL VALVE
	BALL VALVE
	GATE VALVE
	GATE VALVE - OS&Y
	GLOBE VALVE
	BUTTERFLY VALVE
	NEEDLE VALVE
	GAS COCK
	CHECK VALVE
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	RELIEF(R), OR SAFETY(S) VALVE
	BALANCING VALVE
	AUTOMATIC FLOW LIMITING VALVE
	STRAINER, STRAINER W/BLOWOFF
	HOSE END DRAIN VALVE
	VALVE IN RISER
	REDUCED PRESSURE BACKFLOW PREVENTER
	DOUBLE CHECK VALVE

HVAC SPECIALTIES	
	DUCT OR PIPE MOUNTED TEMPERATURE SENSOR
	THERMOSTAT OR TEMPERATURE SENSOR
	WALL MOUNTED CARBON DIOXIDE SENSOR
	DUCT SMOKE DETECTOR

PIPING SPECIALTIES	
	FLEXIBLE PIPE CONNECTOR
	EXPANSION JOINT
	PRESSURE GAUGE
	THERMOMETER
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	TEMPERATURE/PRESSURE TEST PORT
	SENSOR WELL
	HOSE BIBB
	PUMP, IN SCHEMATIC PRESENTATION
	STEAM TRAP
	POINT OF CONNECTION

### ABBREVIATIONS

AC	AIR CONDITIONING	F	FAHRENHEIT	(R)	REMOVE
ACH	AIR CHANGES PER HOUR	FC	FORWARD CURVED	R	RADIUS
AD	ACCESS DOOR	FCU	FAN COIL UNIT	RA	RETURN AIR
AF	AIR FOIL	FLA	FULL LOAD AMPS	RAD	RETURN AIR DAMPER
AFF	ABOVE FINISHED FLOOR	FLR	FLOOR	(RL)	RELOCATE
AH	AIR HANDLING UNIT	FPM	FEET PER MINUTE	REQD	REQUIRED
ALT	ALTERNATE	FPS	FEET PER SECOND	RF	RETURN FAN
AMP	AMPERE	FT	FEET	RP	REDUCED PRESSURE BACKFLOW PREVENTER
AP	ACCESS PANEL	G	NATURAL GAS	RPM	REVOLUTIONS PER MINUTE
ARCH	ARCHITECTURAL	GA	GAUGE	SA	SUPPLY AIR
ASSY	ASSEMBLY	GAL	GALLON	SAN	SANITARY
B	BOILER	GALV	GALVANIZED	SCH	SCHEDULE
BG	BELOW GRADE	GPM	GALLONS PER MINUTE	SF	SQUARE FEET
BHP	BRAKE HORSEPOWER	GSM	GALVANIZED SHEET METAL	SHT	SHEET
BI	BASKWARD INCLINED	HB	HOSE BIBB	SP	STATIC PRESSURE
BLDG	BUILDING	HP	HORSEPOWER, OR HEAT PUMP	SQ	SQUARE
BOP	BOTTOM OF PIPE	HZ	HERTZ	SR	SPRING RANGE
BS	BELOW SLAB	ID	INSIDE DIAMETER	SS	STAINLESS STEEL
BTU	BRITISH THERMAL UNIT	IN	INCHES	STD	STANDARD
BTUH	BRITISH THERMAL UNITS PER HOUR	KW	KILOWATTS	TDH	TOTAL DYNAMIC HEAD
C	COMMON	KWH	KILOWATT HOURS	TEMP	TEMPERATURE, OR TEMPORARY
CA	COMPRESSED AIR, COMBUSTION AIR	L	LENGTH	TOS	TOP OF SLAB
CAP	CAPACITY	LAT	LEAVING AIR TEMPERATURE	TSP	TOTAL STATIC PRESSURE
CB	CIRCUIT BREAKER	LBS	POUNDS	TTC	TIGHT TO CEILING
CC	COOLING COIL	LRA	LOCKED ROTOR AMPS	TYP	TYPICAL
CD	CONDENSATE DRAIN	LTG	LIGHTING	UNO	UNLESS NOTED OTHERWISE
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	LWT	LEAVING WATER TEMPERATURE	V	VENT OR VOLTS
CFM	CUBIC FEET PER MINUTE	MAX	MAXIMUM	VA	VOLT-AMPERE
CH	CHILLER	MBH	THOUSAND BTUH	VAV	VARIABLE AIR VOLUME
CLG	CEILING	MCA	MINIMUM CIRCUIT AMPACITY	VEL	VELOCITY
CMU	CONCRETE MASONRY UNIT	MEZZ	MEZZANINE	VFD	VARIABLE FREQUENCY DRIVE
COND	CONDENSER, CONDENSATE	MFR	MANUFACTURER	VOL	VOLUME
CONT	CONTINUATION	MIN	MINIMUM	VV	VARIABLE VOLUME
COP	COEFFICIENT OF PERFORMANCE	MISC	MISCELLANEOUS	W/	WITH
CTE	CONNECT TO EXISTING	MTD	MOUNTED	WB	WET BULB
CW	COLD WATER	MTG	MEETING	WC	WATER COLUMN
D	DRAIN	(N)	NEW	WG	WATER GAGE
DDC	DIRECT DIGITAL CONTROL	NC	NORMALLY CLOSED	W/O	WITHOUT
DET	DETAIL	NO	NORMALLY OPEN, OR NUMBER		
DHW	DOMESTIC HOT WATER	NPT	NATIONAL PIPE THREAD		
DHR	DOMESTIC HOT WATER RETURN	NTS	NOT TO SCALE		
DIA	DIAMETER	OC	ON CENTER		
DIM	DIMENSION	OD	OUTSIDE DIAMETER		
DN	DOWN	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED		
DWG	DRAWING	OFOI	OWNER FURNISHED, OWNER INSTALLED		
(E)	EXISTING	OSA	OUTSIDE AIR		
EA	EACH, OR EXHAUST AIR	OSAD	OUTSIDE AIR DAMPER		
EAD	EXHAUST AIR DAMPER	P	PUMP		
EAT	ENTERING AIR TEMPERATURE	PD	PRESSURE DROP		
EF	EXHAUST FAN	PH	PHASE		
EFF	EFFICIENCY	PLBG	PLUMBING		
EG	EXHAUST GRILLE	PLC	PROGRAMMABLE LOGIC CONTROL		
ELEV	ELEVATION	PRV	PRESSURE REDUCING VALVE		
ENT	ENTERING	PSI	POUNDS PER SQUARE INCH		
EQUIP	EQUIPMENT	PSIG	POUNDS PER SQUARE INCH GAGE		
ESP	EXTERNAL STATIC PRESSURE				
ET	EXPANSION TANK				
ETR	EXISTING TO REMAIN				
EWT	ENTERING WATER TEMPERATURE				
EXT	EXTERIOR				

### GENERAL NOTES - MECHANICAL

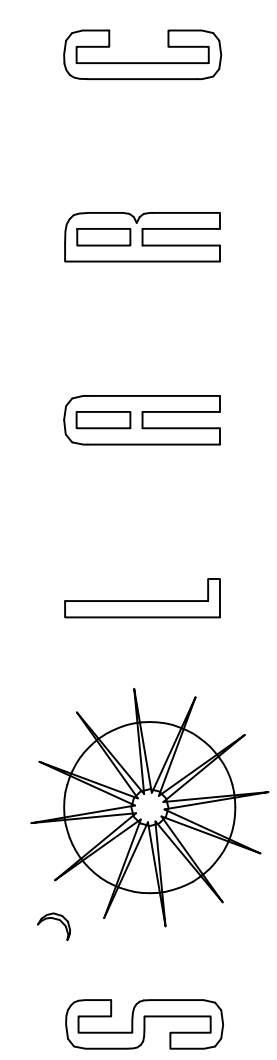
1. PROVIDE ESCUTCHEON PLATES FOR EXPOSED PIPING PENETRATIONS.
2. MECHANICAL CONTRACTOR SHALL PROVIDE PIPING OFFSETS AS NEEDED TO MAINTAIN NEC REQUIRED CLEARANCES AROUND ELECTRICAL PANELS.

### MECHANICAL EQUIPMENT INSTALLATION NOTES

1. VERIFY LAYOUT, INSTALLATION REQUIREMENTS, AND PHYSICAL DIMENSIONS OF ACTUAL EQUIPMENT PROVIDED TO ENSURE THAT ACCESS CLEARANCES CAN BE MET.
2. PROVIDE SEISMIC BRACING FOR EQUIPMENT WEIGHING GREATER THAN 75 POUNDS. USE CABLE SYSTEM TO ENSURE THAT BRACING DOES NOT SHORT-CIRCUIT VIBRATION ISOLATION.

### PIPING NOTES

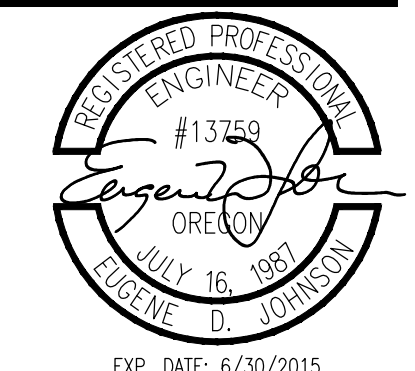
1. PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS FOR EQUIPMENT, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
2. PIPE ROUTING INDICATED IS DIAGRAMMATIC IN NATURE AND IS NOT INTENDED TO SHOW EVERY OFFSET REQUIRED TO MAKE FINAL CONNECTION TO EQUIPMENT. CONTRACTOR SHALL DETERMINE THE EXACT ROUTE OF PIPING, INCLUDING OFFSETS, TO MAKE THE SIMPLEST AND MOST EFFICIENT PIPING SYSTEM.
3. PROVIDE DIELECTRIC NIPPLES AT CONNECTIONS OF DISSIMILAR PIPE MATERIALS.



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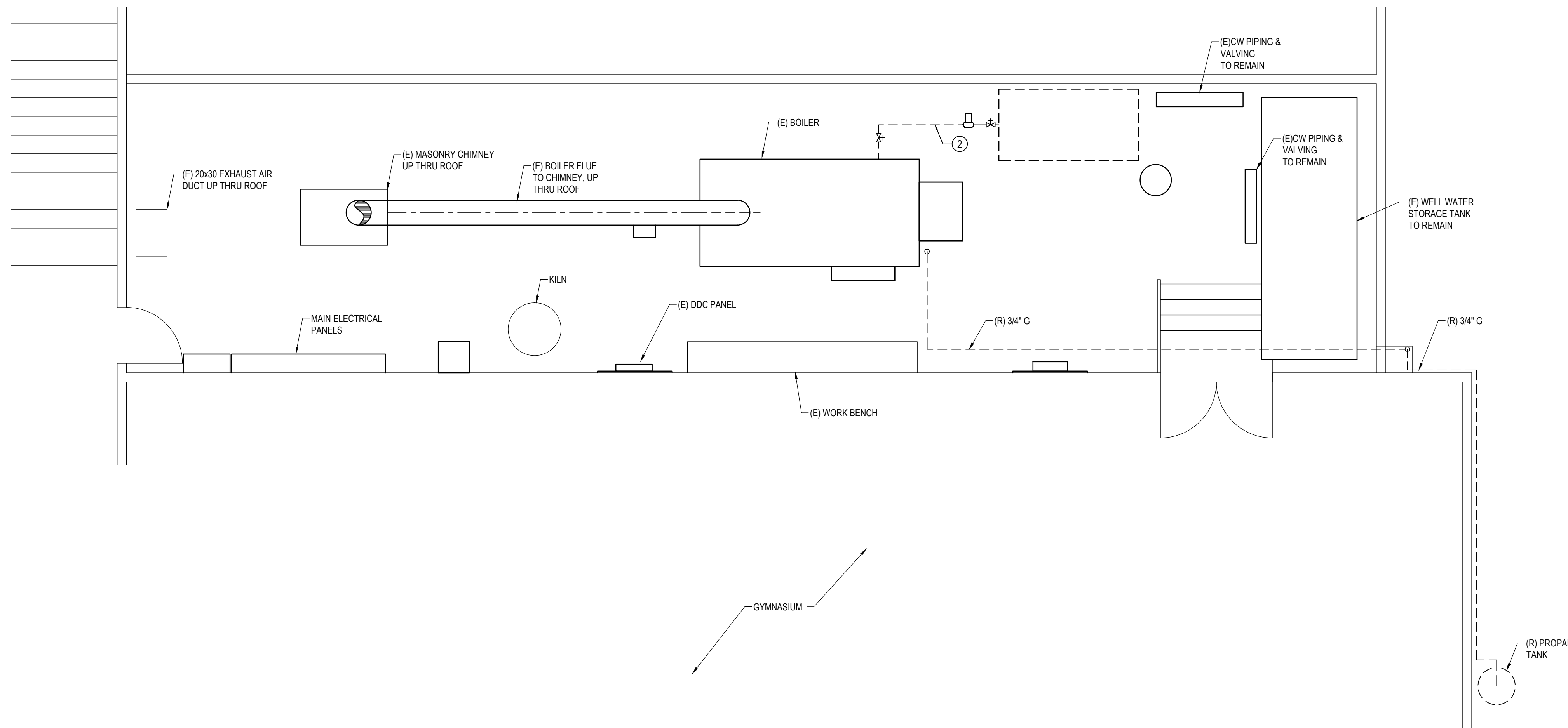
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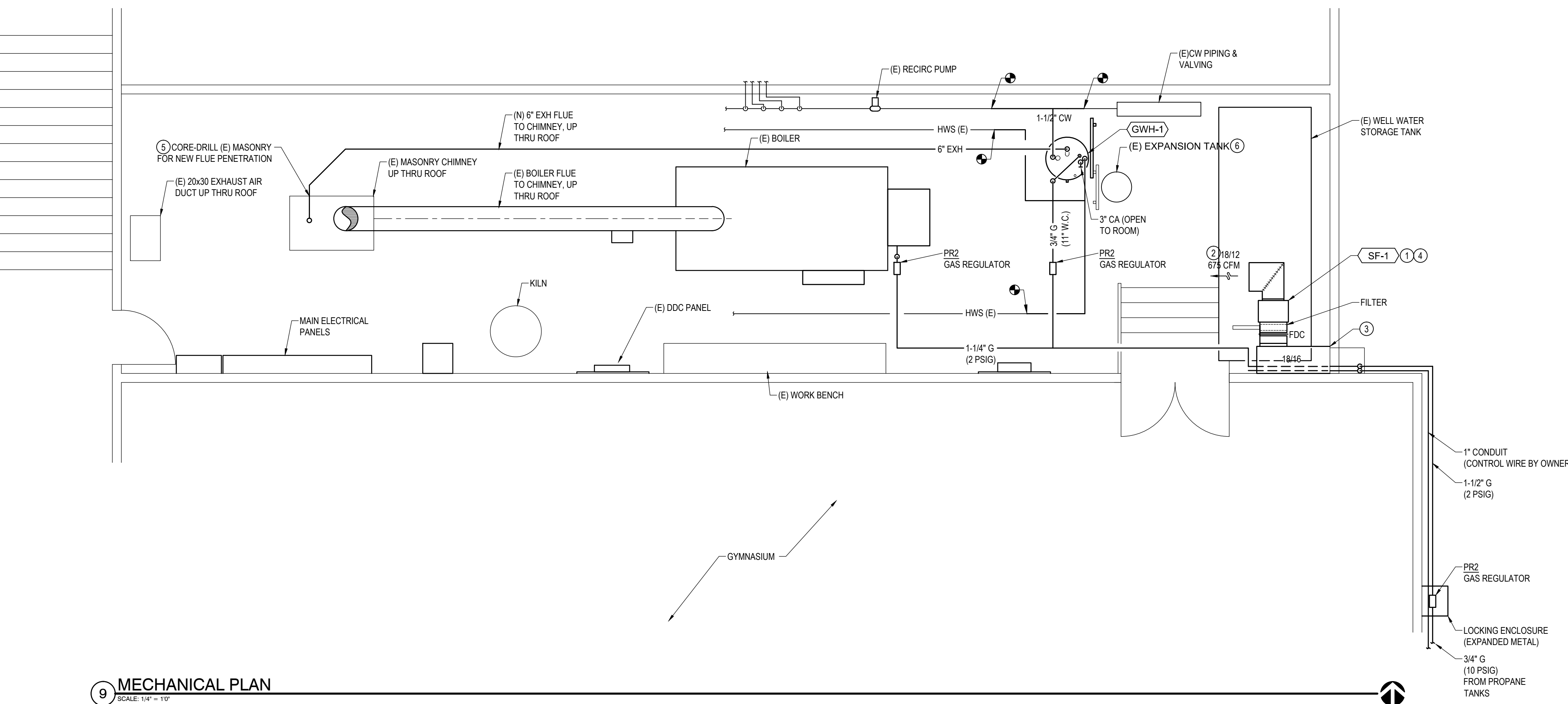
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REVISED:	
DRAWN BY:	GJ/KC
CHECKED BY:	EDJ

### MECHANICAL SYMBOLS & ABBREVIATIONS

# M001



1 MECHANICAL DEMOLITION PLAN  
SCALE: 1/4" = 1'



9 MECHANICAL PLAN  
SCALE: 1/4" = 1'

**GENERAL SHEET NOTES**

1. DEMO'D FLANGES AND VALVES MAY CONTAIN ASBESTOS. LEAVE ALL VALVES AND FLANGES IN A DESIGNATED LOCATION FOR OWNER'S DISPOSAL.
2. REMOVAL OF FUEL OIL PIPING AND OUTSIDE (BURIED) FUEL OIL TANK ARE OUTSIDE THE SCOPE OF THIS PROJECT, AND WILL HAVE BEEN REMOVED BY DISTRICT PRIOR TO START OF THE WORK OF THIS PROJECT.
3. CONTRACTOR TO VERIFY ALL FIELD CONDITIONS DURING PRE-BID PERIOD. CONTRACTOR'S BID SHALL INCLUDE ANY AND ALL ADJUSTMENTS TO LOCATIONS OF NEW WORK SHOWN ON THESE DRAWINGS TO AVOID INTERFERENCE WITH EXISTING DUCTWORK, PIPING, CONDUIT, EQUIPMENT, AND STRUCTURAL FEATURES.

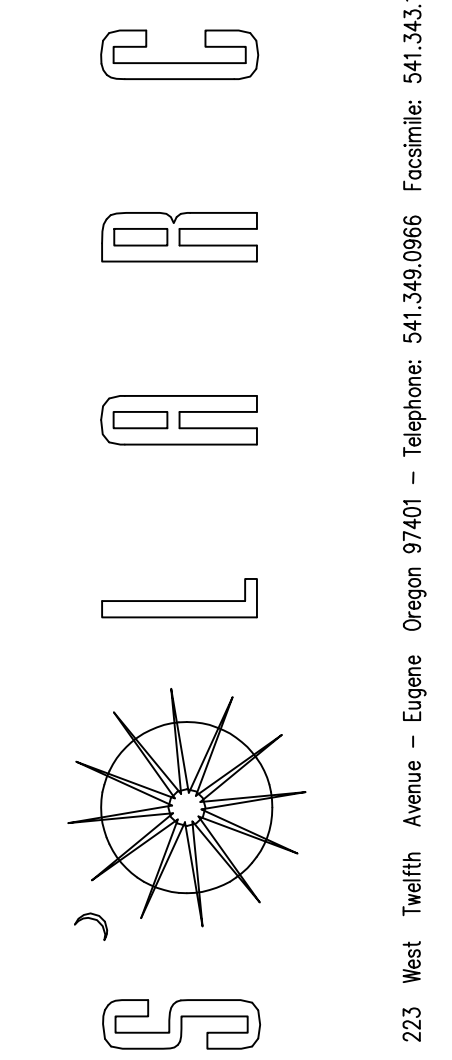
**KEYED SHEET NOTES - DEMOLITION (DET 01/M101)**

- 1 REMOVE (E) DOMESTIC HOT WATER STORAGE TANK AND PORTIONS OF (E) DHW RECIRCULATION, CW SUPPLY, AND HW SUPPLY PIPING AS INDICATED.
- 2 REMOVE (E) SIDE-ARM DHW PIPING, INSULATION, CIRCULATION PUMP, PIPELINE DEVICES AND ACCESSORIES. CAP PIPING AT BOILER AFTER REMOVING ISOLATING GATE VALVES.
- 3 (E) WATER METER, BACKFLOW ASSY AND FEEDWATER REGULATOR TO REMAIN.

**KEYED SHEET NOTES - NEW WORK (DET 09/M101)**

- 1 COMBUSTION AIR SUPPLY FAN TO BE INTERLOCKED TO BOILER BURNER OPERATION BY DISTRICT. PROVIDE TIME DELAY IN PROGRAMMING TO PREVENT SHORT CYCLING OF FAN.
- 2 PROVIDE SUPPLY GRILLE WITH HORIZONTAL BLADES ALLOWING COMBUSTION AIR TO BE DIRECTED DOWNWARD TOWARDS FLOOR IN FRONT OF BOILER. ALL WATER PIPING IN AIRFLOW PATH OF SUPPLY FAN DISCHARGE SHALL BE INSULATED, INCLUDING FITTINGS, TO ENSURE FREEZE PROTECTION DURING COLD WEATHER.
- 3 SEAL NEW COMBUSTION AIR DUCT TO (E) 15' x 17" OPENING IN CONCRETE WALL USING MASTIC AND TAPCON SCREWS. SEAL AROUND GAS PIPING AND CONDUIT WHERE THEY PENETRATE DUCT.
- 4 INSTALL SF-1 AND DUCTWORK TO AVOID (E) PIPING ON TOP OF WELL TANK, IF POSSIBLE. CONTRACTOR SHALL REMOVE AND RECONFIGURE (E) PIPING IF REQUIRED.
- 5 PROVIDE MOUNTING FLANGE TO SUPPORT NEW EXHAUST FLUE AT PENETRATION THRU CHIMNEY WALL. SEAL MOUNTING FLANGE TO FLUE AND TO CHIMNEY WITH SILICONE SEALANT.
- 6 RECONNECT (E) EXPANSION TANK TO (N) GWH-1 AT HOT OUTLET PIPE.

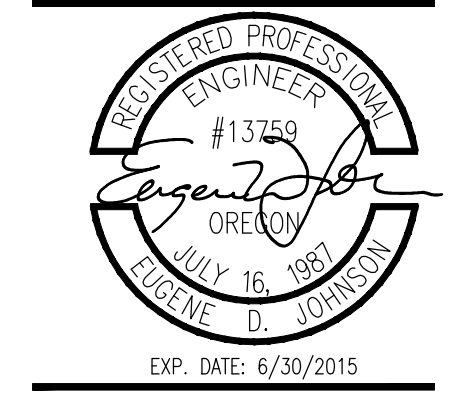
16 SITE/KEY PLAN  
SCALE: 1" = 10'



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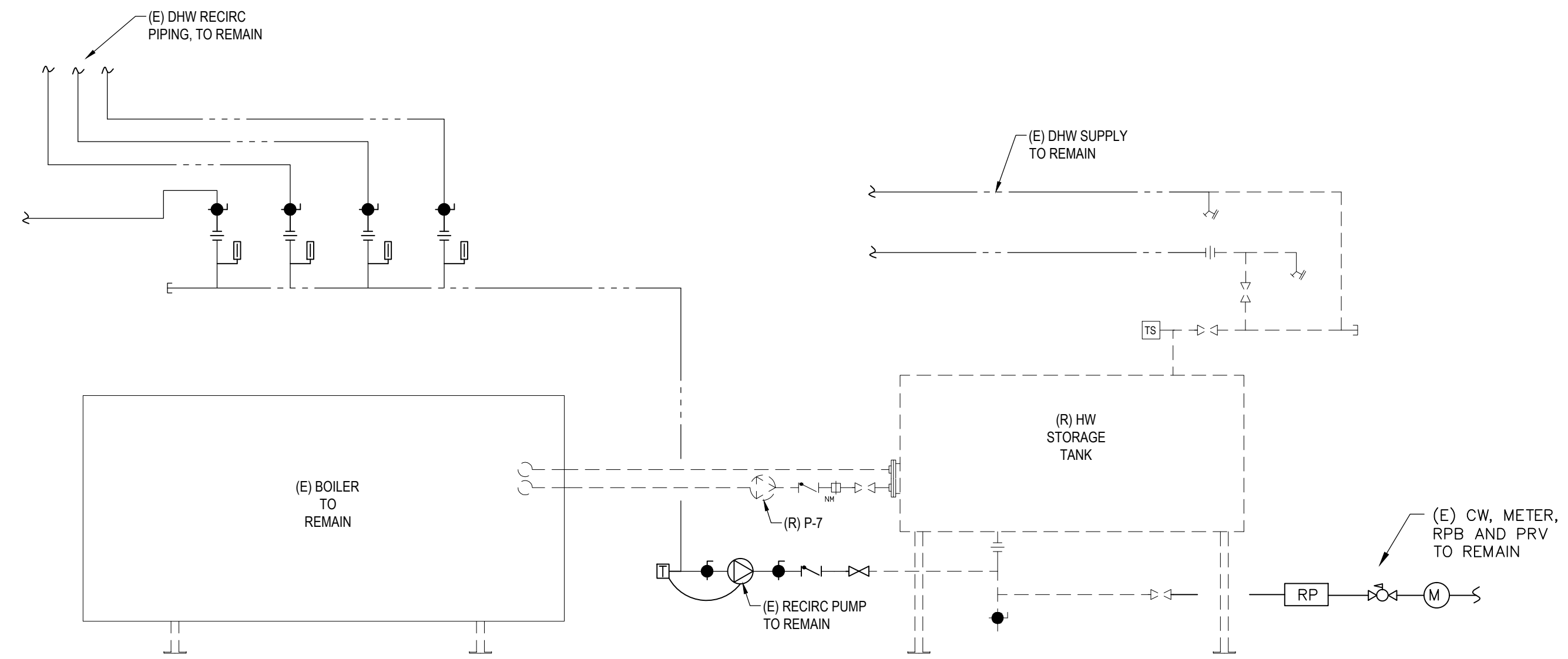
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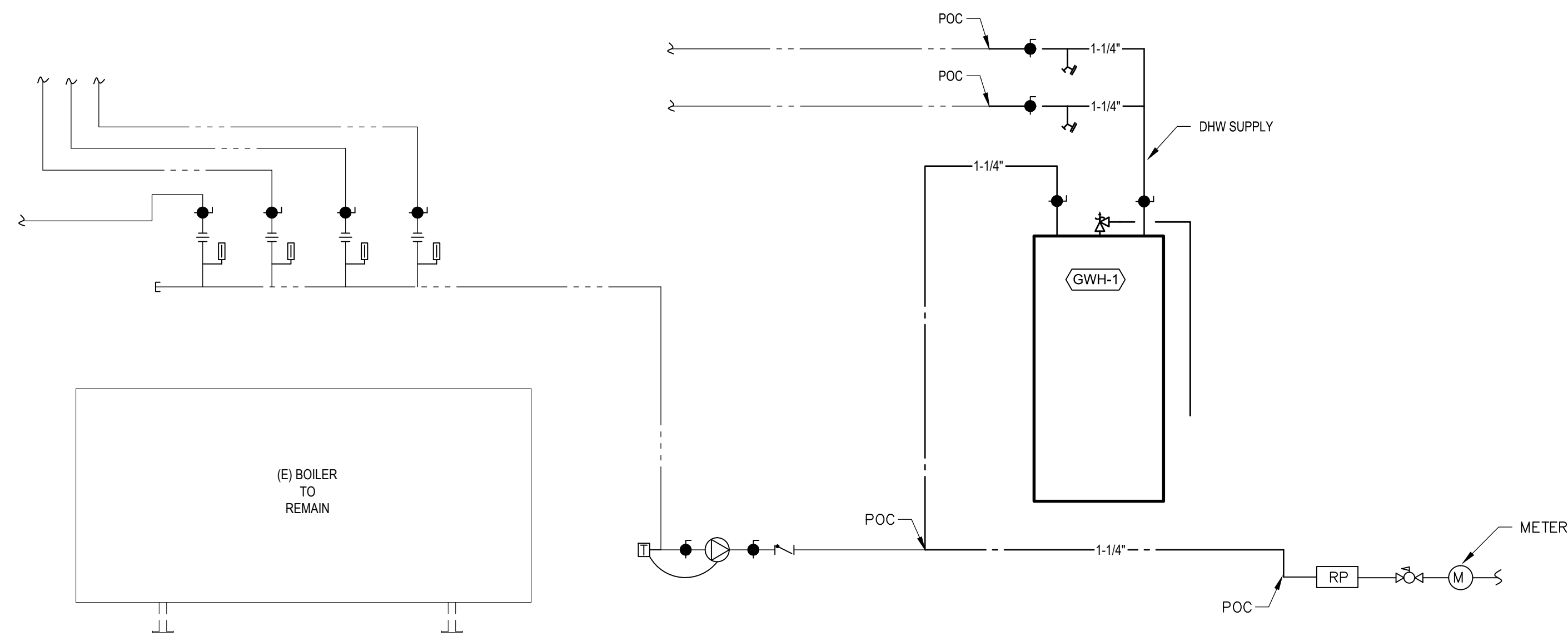
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**MECHANICAL PLANS**

**M100**



**1** DOMESTIC WATER HEATING DIAGRAM - DEMOLITION  
NTS



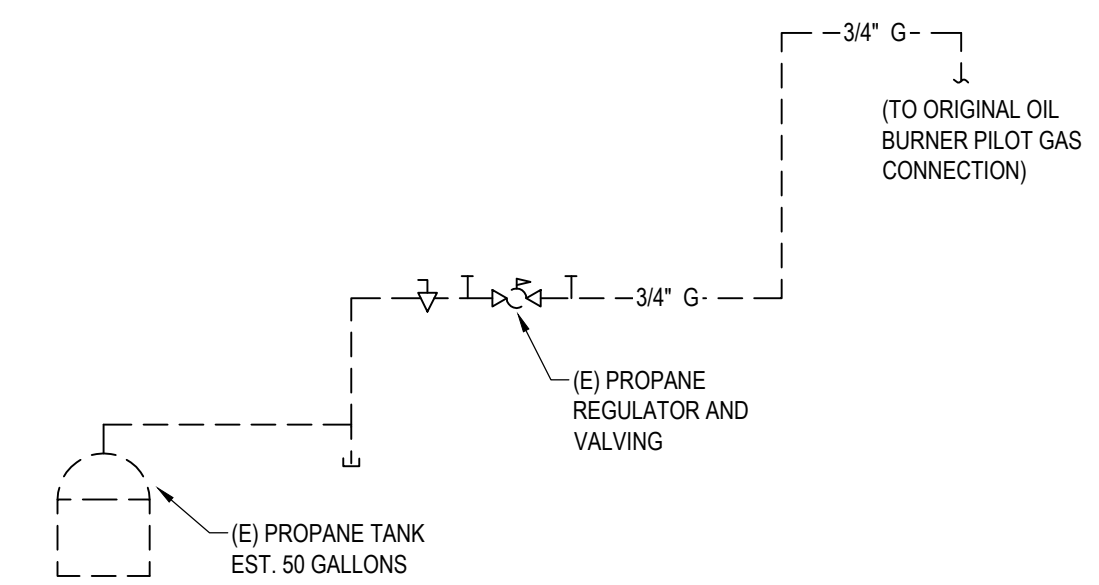
**2** DOMESTIC WATER HEATING DIAGRAM - NEW WORK  
NTS

**KEYED SHEET NOTES**

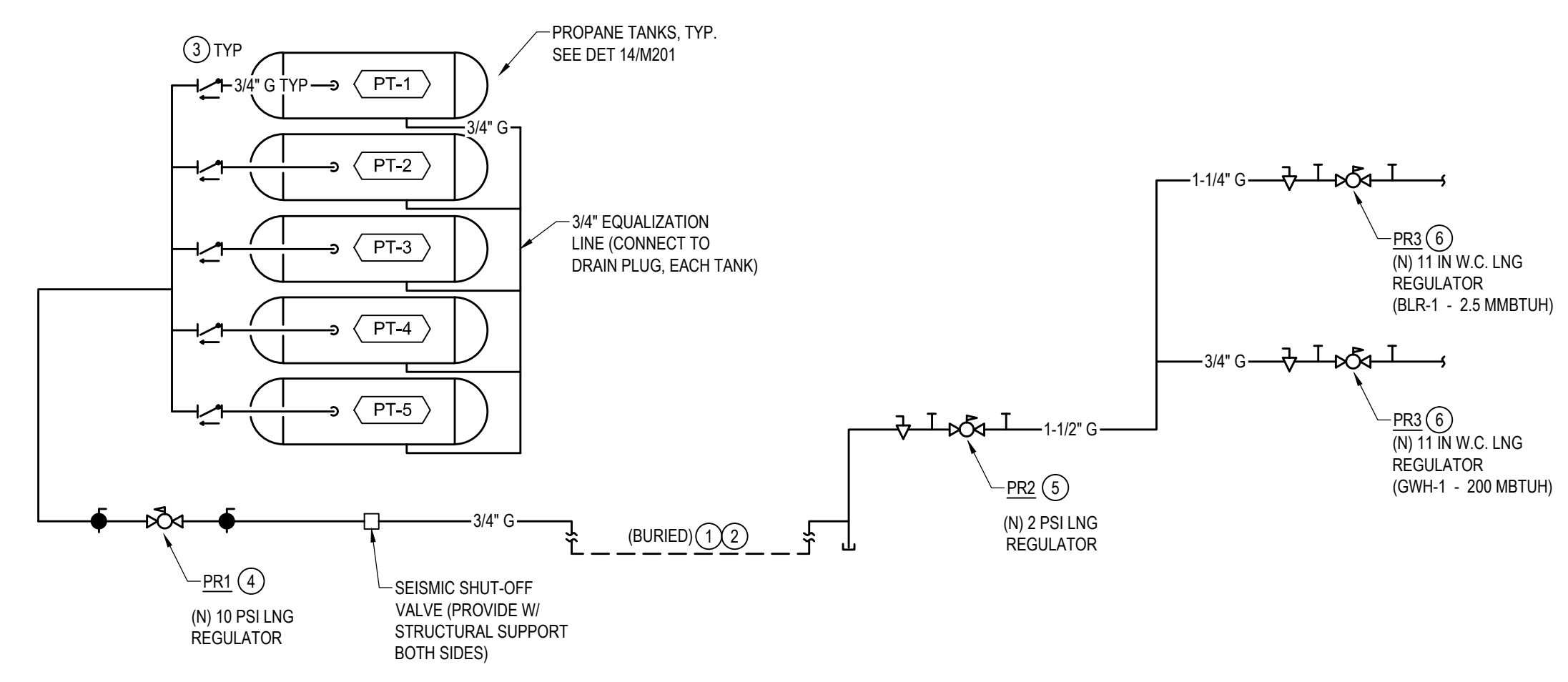
- ① SAWCUT (E) ASPHALT, AND EXCAVATE FOR NEW BURIED GAS LINE. PROVIDE A MINIMUM OF 18" COVER OVER NEW PROPANE LINE. BACKFILL AND COMPACT TO 95% OF STANDARD PROCTOR. INSTALL 14 GA TRACER WIRE 6" ABOVE GAS PIPE.
- ② COMPACTED BACKFILL TO BE BROUGHT FLUSH WITH SURROUNDING AC PAVEMENT.
- ③ CHECK VALVES: REGO 3146S, OR EQUAL.
- ④ PR1: FIRST STAGE REGULATOR: REGO 1586VN, WITH OVERPRESSURIZATION CONTROL REGO 3139-26, OR EQUAL. INSTALL AND ADJUST TO PROVIDE 10 PSIG LINE PRESSURE THROUGH BURIED PIPING AND TO LOW-PRESSURE REGULATOR PR2.
- ⑤ PR2: SECOND STAGE REGULATOR: REGO LV6503B14, OR EQUAL. INSTALL AND ADJUST TO PROVIDE 2 PSIG LINE PRESSURE INTO BUILDING.
- ⑥ PR3: FINAL REGULATOR: PIETRO FIORENTINI, VENTLESS DESIGN. SIZE AND ADJUST TO PROVIDE 11" W.C. OR AS REQUIRED BY APPLIANCE MANUFACTURER.

**GENERAL SHEET NOTES**

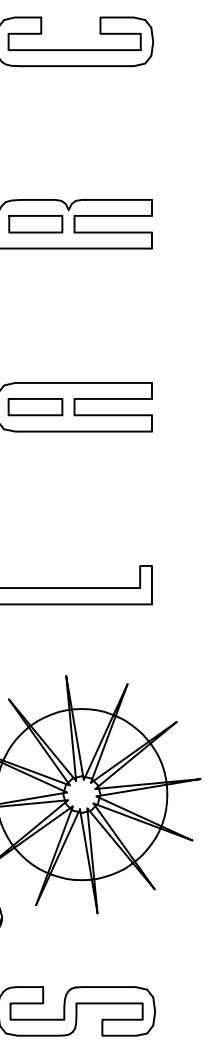
1. DISTRICT WILL REMOVE ALL (E) FUEL OIL PIPING AND FUEL OIL TANKS PRIOR TO THE START OF PROJECT.
2. ALL WORK TO COMPLY WITH NFPA 54, NFPA 58, AND ALL STATE AND LOCAL CODES.



**11** PROPANE PIPING DIAGRAM - DEMOLITION  
NTS



**16** PROPANE PIPING DIAGRAM  
NTS

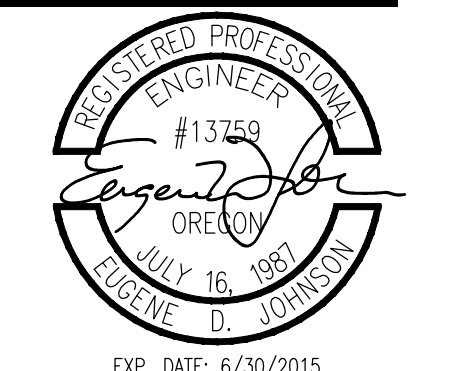


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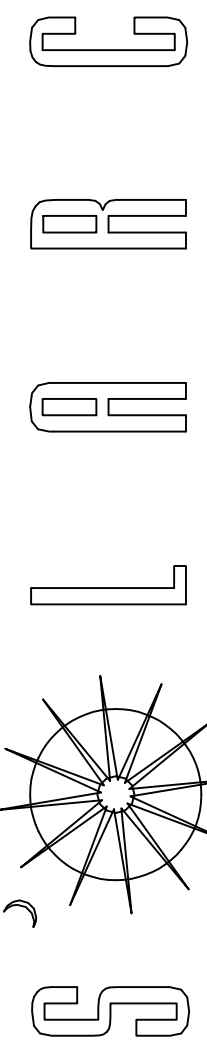
MECHANICAL  
DIAGRAMS &  
DETAILS

**M200**

SHEET 4 OF 6

PERMIT / BID DRAWINGS - APRIL 23, 2015

223 West Twelfth Avenue - Eugene Oregon 97401 - Telephone: 541-346-0986 Facsimile: 541-343-1533

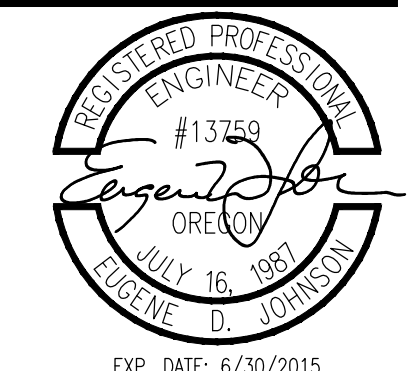


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MECHANICAL  
DETAILS  
AND  
PART PLANS

**M201**

SHEET 5 OF 6

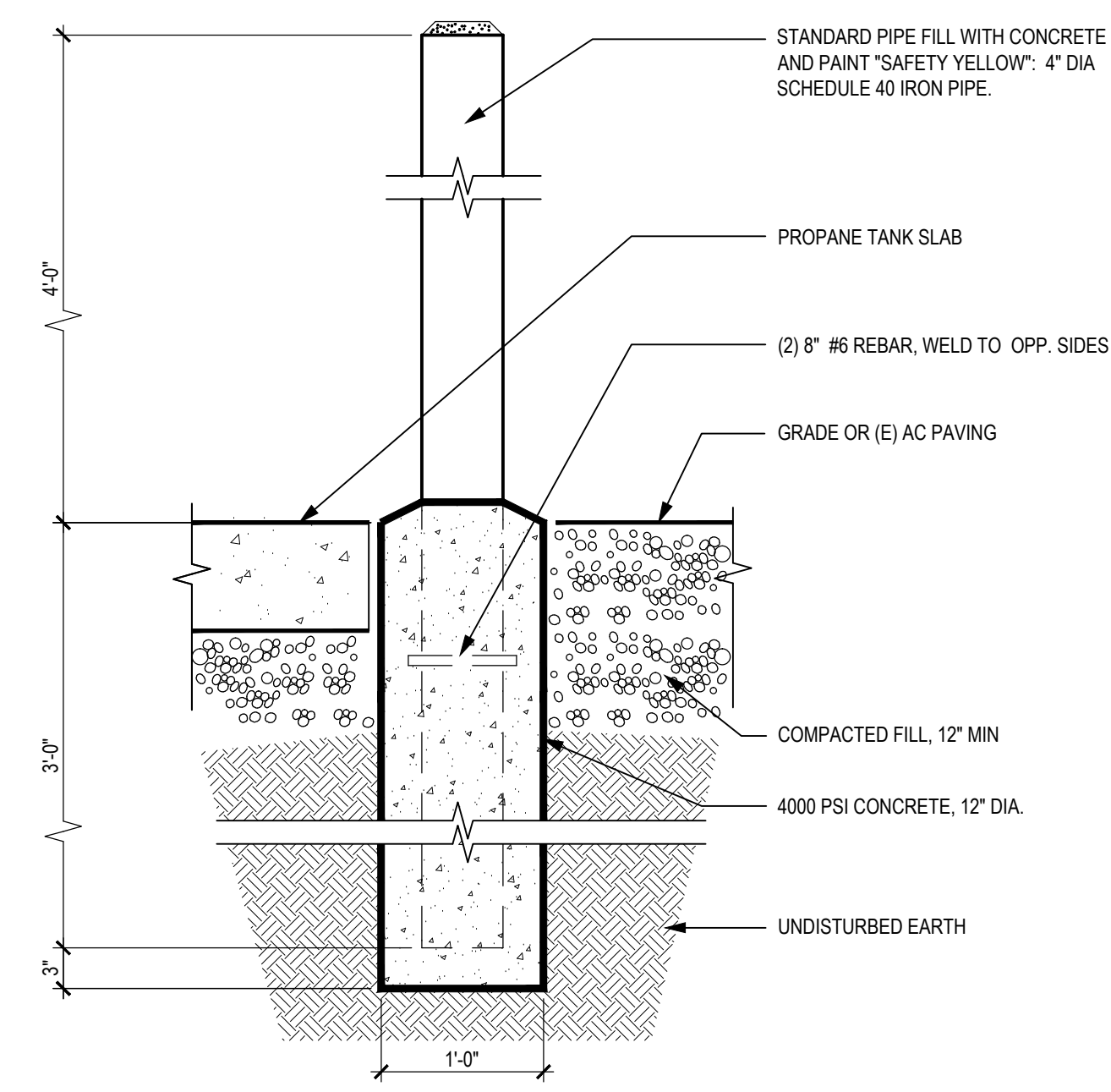
PERMIT / BID DRAWINGS - APRIL 23, 2015

**KEYED SHEET NOTES**

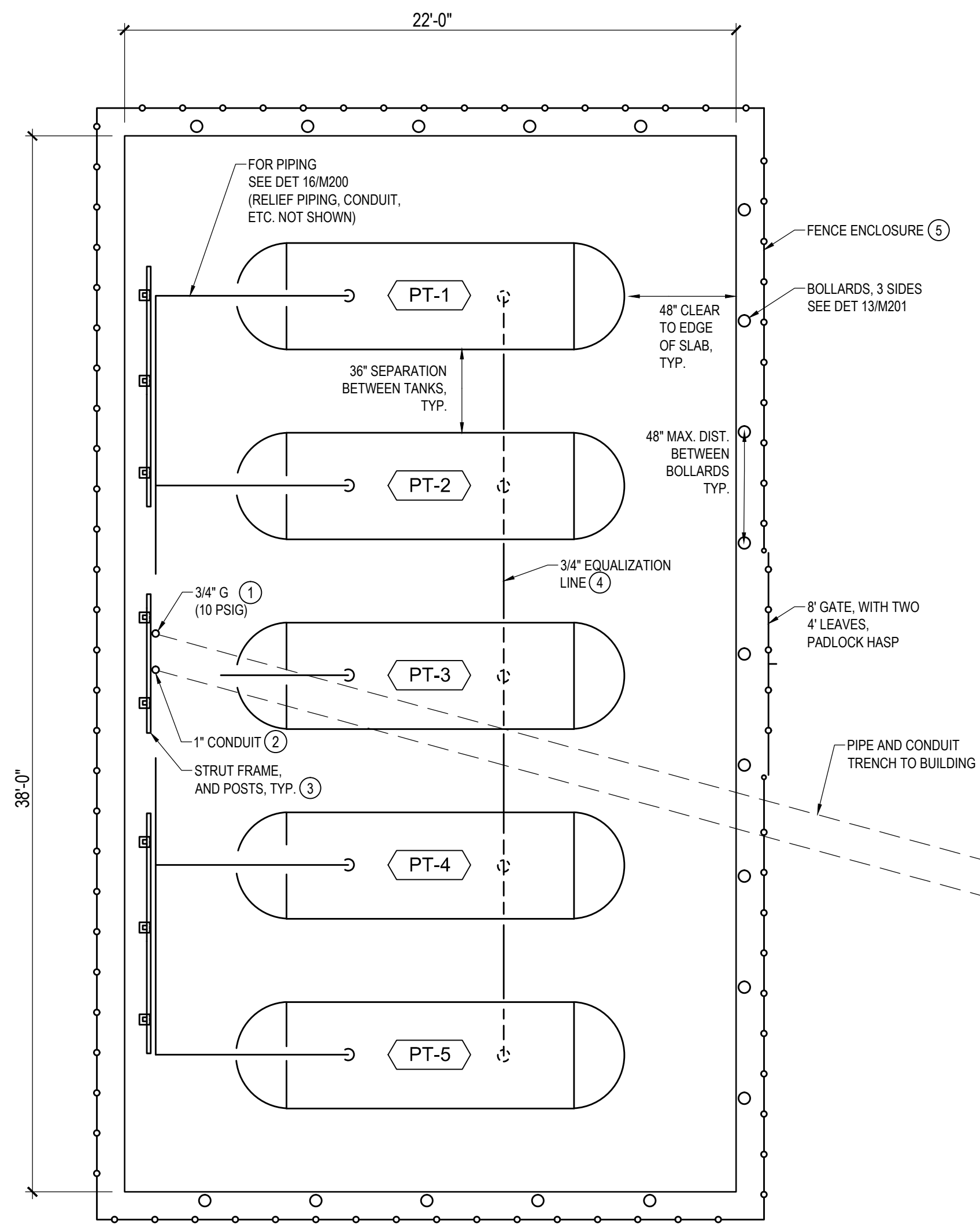
- ① PROVIDE GAS RISER CONFORMING TO NFPA.
- ② CONDUIT SHALL BE SCHEDULE 40 PVC. PROVIDE WITH PULL-STRING FOR OWNER'S USE IN PULLING CONDUCTORS.
- ③ PROVIDE STRUT FRAME AND POSTS, 48" HEIGHT, FOR ATTACHMENT OF GAS RISER UP THROUGH SLAB, REGULATOR PR1 AND RELATED VALVING, CONTROL CONDUIT, AND BRANCH GAS PIPING AND CONDUIT TO EACH PROPANE TANK. ATTACH FIELD PIPING AND CONDUIT TO STRUT FRAME AT EACH PROPANE TANK, AND PROVIDE ANY ADDITIONAL PIPING SUPPORT REQUIRED TO PROVIDE RIGID CONNECTION POINT FOR JUNCTION OF RIGID AND FLEXIBLE PIPING AT EACH PROPANE TANK.
- ④ PROVIDE EQUALIZATION LINE CONNECTED TO DRAIN PORT ON EACH PROPANE TANK. INSTALL ISOLATION VALVE BETWEEN EACH TANK.
- ⑤ 6' HIGH, BLACK CHAIN-LINK FENCE, WITH GATE.

**GENERAL SHEET NOTES**

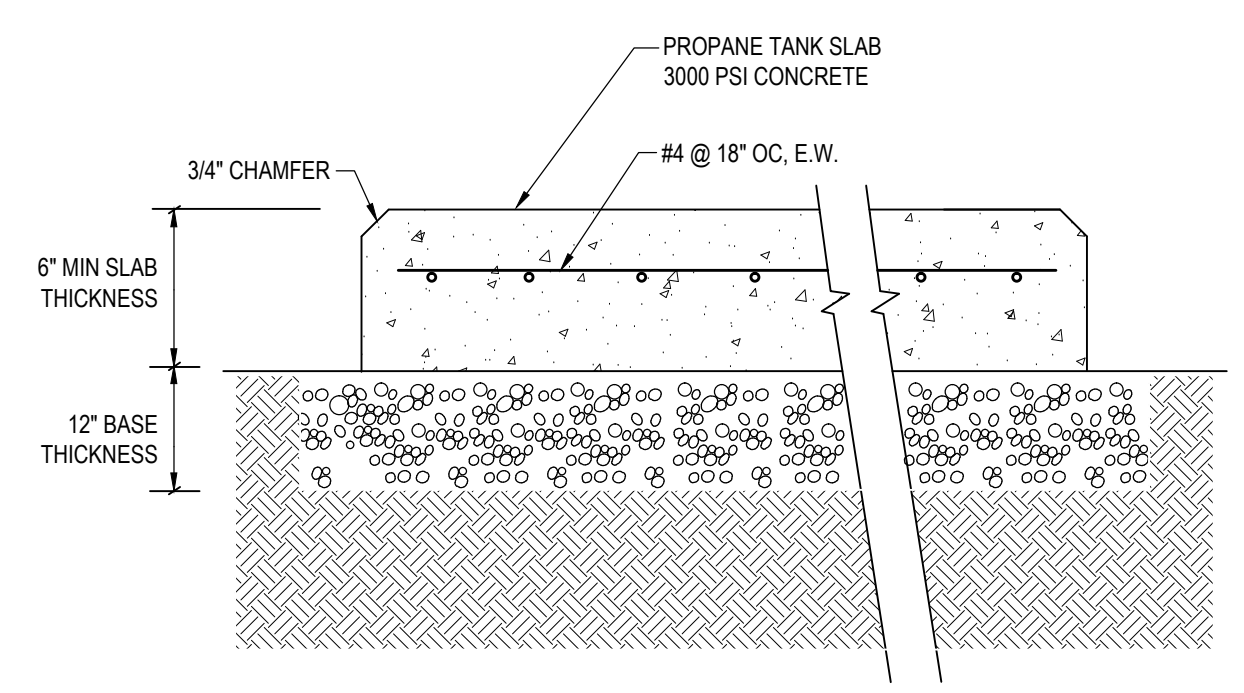
1. ALL WORK TO COMPLY WITH NFPA 54, NFPA 58, AND ALL STATE AND LOCAL CODES.
2. ALL GAS REGULATOR DEVICES AND EQUIPMENT TO CONFORM TO ANSI Z21.80.



**13 BOLLARD DETAIL AT PROPANE SLAB**  
SCALE: NTS



**14 PARTIAL PLAN AT PROPANE TANK SLAB**  
SCALE: NTS



NOTES:  
1. MOUNT TANK SUPPORTS TO PROPANE TANK SLAB USING ANCHOR BOLTS SIZED PER TANK MANUFACTURER.

**15 PROPANE TANK SLAB DETAIL**  
SCALE: NTS

WATER HEATER SCHEDULE

TAG	SERVICE	BASIS OF DESIGN		RECOVERY (100F RISE)	INPUT CAPACITY BTU/HR		STORAGE CAPACITY GAL	ELECTRICAL DATA			FUEL TYPE	WET WT. LBS	NOTES
		MANUFACTURER	MODEL		GPH	MIN		MAX	VOLTS	PH			
GWH-1	DOMESTIC HOT WATER	LOCHINVAR	SNR200-100	233	40,000	199,999	93	120	1	--	PROPANE	1497	

FANS

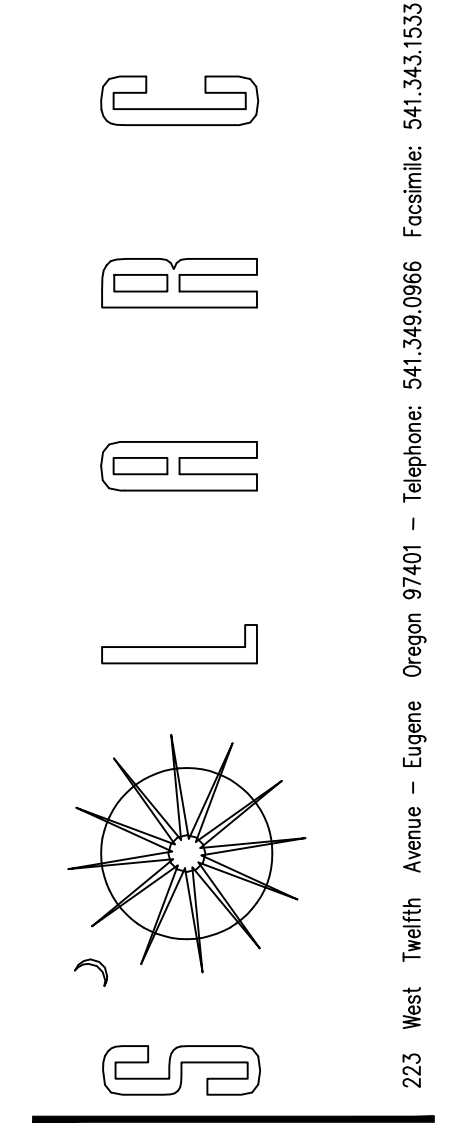
TAG	SERVICE	BASIS OF DESIGN		TYPE	FLOW CFM	STATIC PRESS IN WC	STORAGE CAPACITY GAL	ELECTRICAL DATA			WET WT. LBS	NOTES
		MANUFACTURER	MODEL					VOLTS	PH	AMPS FLA		
SF-1	COMBUSTION AIR	LOREN COOK	GC 740	CABINET FAN	675	0.25	93	120	1	3.5	35	PROVIDE WITH MFR. OEM FILTER RACK, AND MFR. OEM MANUAL SPEED CONTROL (MOUNT ON FAN CABINET.

PROPANE TANKS

TAG	SERVICE	BASIS OF DESIGN		TYPE	PHYSICAL DATA			ELECTRICAL DATA			WT. FULL LBS	NOTES
		MANUFACTURER	MODEL		VOLUME GAL	LENGTH FT	DIAMTER IN	VOLTS	PH	AMPS FLA		
PT-1	PROPANE TANK 1	QUALITY STEEL CORP	ASME	HORIZ. CYL.	1,000	16	41	--	--	--	5500	SEE NOTE 1. TANK AND ALL FITTINGS SHALL CONFORM TO NFPA 54 AND NFPA 58.
PT-2	PROPANE TANK 2	QUALITY STEEL CORP	ASME	HORIZ. CYL.	1,000	16	42	--	--	--	5500	SEE NOTE 1. TANK AND ALL FITTINGS SHALL CONFORM TO NFPA 54 AND NFPA 58.
PT-3	PROPANE TANK 3	QUALITY STEEL CORP	ASME	HORIZ. CYL.	1,000	16	43	--	--	--	5500	SEE NOTE 1. TANK AND ALL FITTINGS SHALL CONFORM TO NFPA 54 AND NFPA 58.
PT-4	PROPANE TANK 4	QUALITY STEEL CORP	ASME	HORIZ. CYL.	1,000	16	44	--	--	--	5500	SEE NOTE 1. TANK AND ALL FITTINGS SHALL CONFORM TO NFPA 54 AND NFPA 58.
PT-5	PROPANE TANK 5	QUALITY STEEL CORP	ASME	HORIZ. CYL.	1,000	16	45	--	--	--	5500	SEE NOTE 1. TANK AND ALL FITTINGS SHALL CONFORM TO NFPA 54 AND NFPA 58.

NOTES:

- PROVIDE EACH TANK WITH:
  - PRESSURE RELIEF VALVE
  - MANUAL LEVEL GAUGE
  - REMOTE LEVEL TRANSMITTER, 4-20MA PROPORTIONAL SIGNAL
  - ISOLATION VALVE
  - FLEX CONNECTION TO RIGID SITE PIPING



REVISIONS:

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**TWIN OAKS ELEMENTARY SCHOOL  
BOILER MODIFICATIONS**

85916 BAILEY HILL ROAD  
EUGENE, OREGON 97405



PROJECT NO: 14-127  
DATE: 04-23-15  
DRAFT DATE:  
REVISED:  
DRAWN BY: GJ/KC  
CHECKED BY: EDJ

MECHANICAL  
SCHEDULES

**M300**  
SHEET 6 OF 6

PERMIT / BID DRAWINGS - APRIL 23, 2015