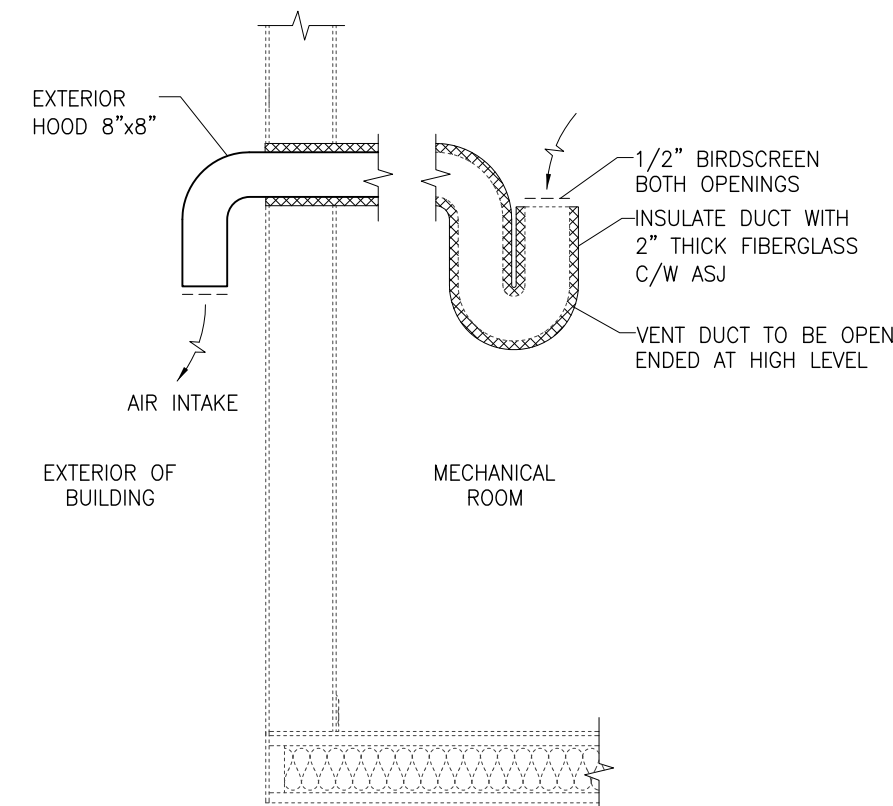


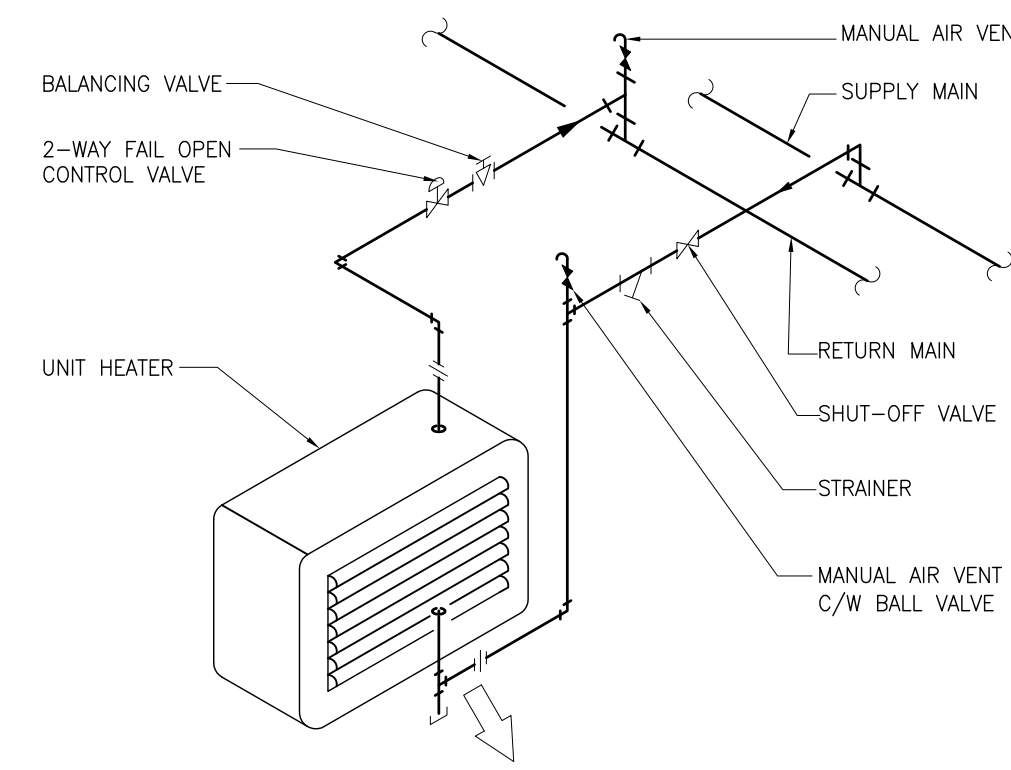
A COMBUSTION AIR INTAKE DETAIL

- M103** NTS
1. INTERIOR OPENING AT 45° ANGLE.
 2. INTERIOR BIRDSCREEN TO BE REMOVABLE.
 3. PASS DUCT THROUGH THE EXTERIOR WALL AT HIGHEST LEVEL POSSIBLE.



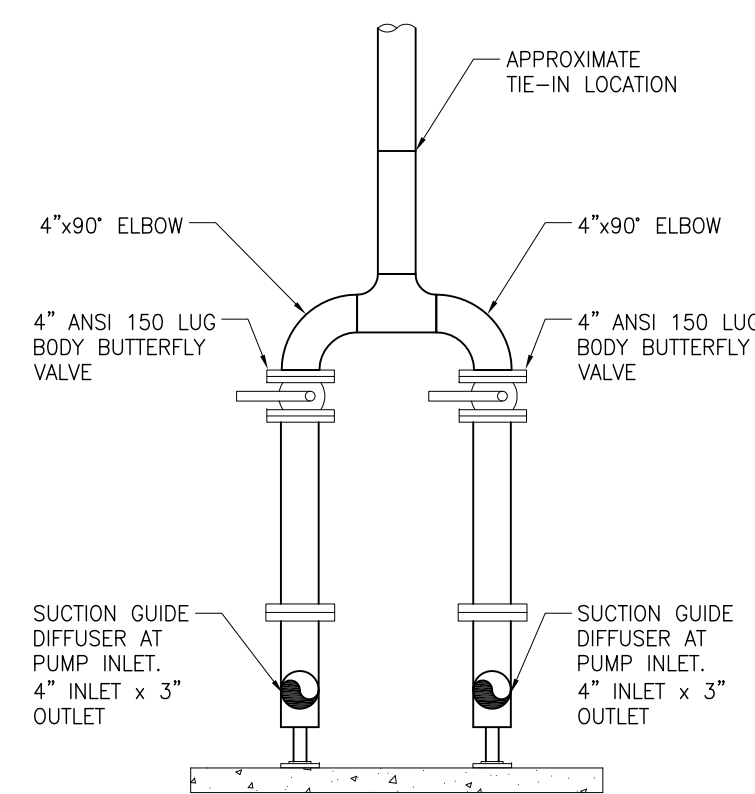
B VENT DUCT DETAIL

- M103** NTS
- LOCATE DUCT AT HIGH LEVEL WITH OPENING INSIDE BUILDING AT MINIMUM OF 36\"/>



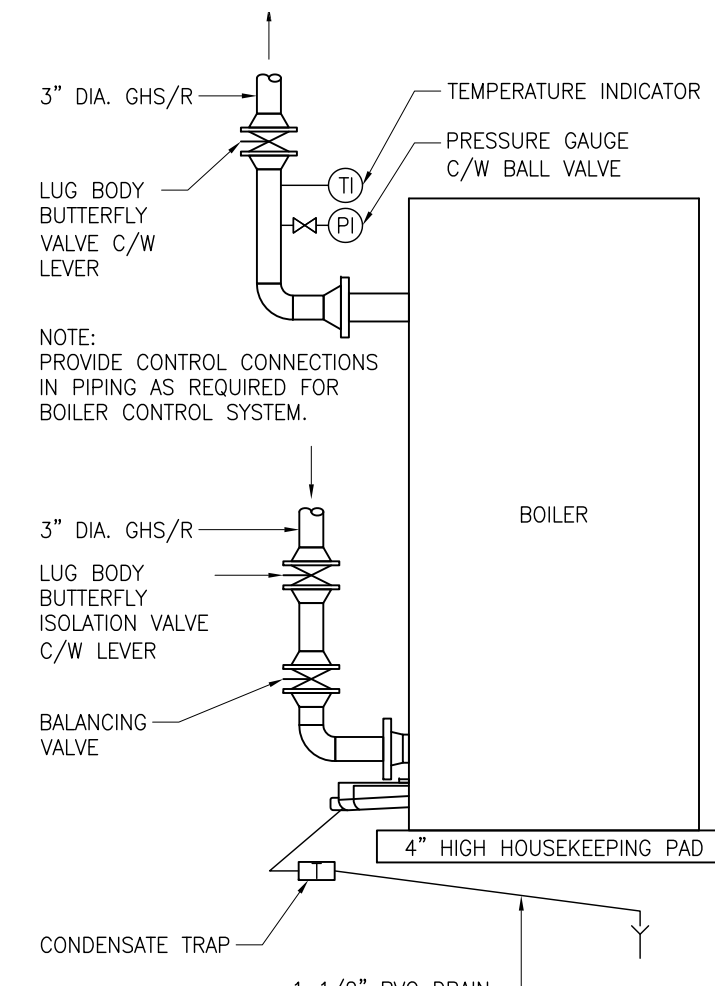
C HORIZONTAL UNIT HEATER

- M103** NTS
- CONTROL STRATEGY:**
1. PROVIDE LOCAL ELECTRIC THERMOSTAT, ONE PER UNIT HEATER.
 2. ON CALL FOR HEAT, START UNIT HEATER FAN AND OPEN CONTROL VALVE.



1 SECTION AT PUMP INLET

M103 NTS

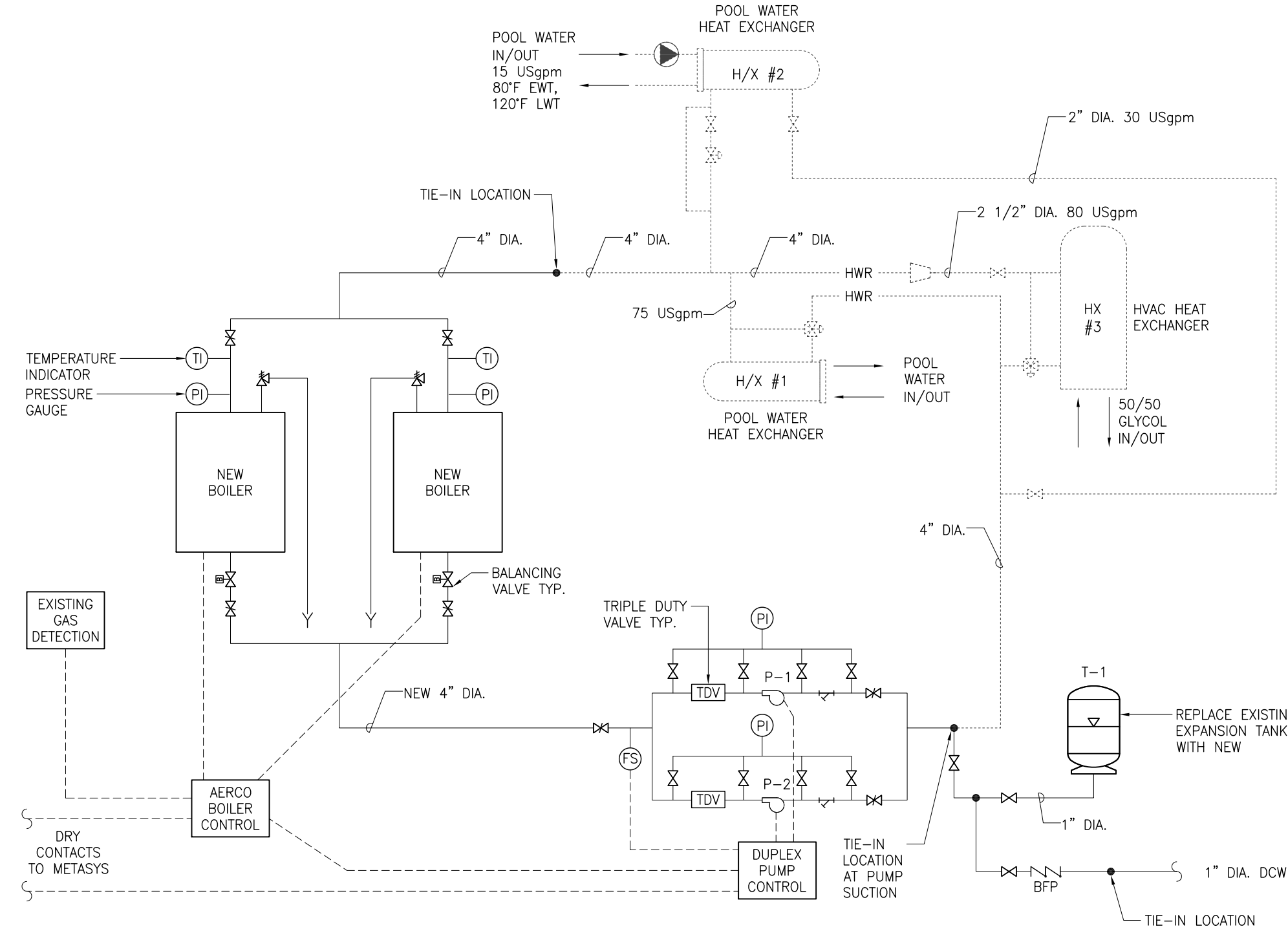


3 BOILER DETAIL

M103 NTS

MARGARET GRANT POOL - BOILER CONTROL STRATEGY

1. PUMP CONTROL
 - a. BOILER LOOP PUMPS P-1 OR P-2 ARE TO RUN CONTINUOUSLY.
 - b. PROVIDE A NEW LEAD/LAG PUMP CONTROLLER FOR P-1/P-2.
 - c. IF THE LEAD PUMP FAILS, START THE LAG PUMP.
 - d. PROVIDE A DRY CONTACT TO THE CITY METASYS CENTRAL ALARM CONTROL PANEL. PROVIDE WIRING BETWEEN THE PUMP CONTROLLER AND THE METASYS PANEL.
2. BOILER CONTROL
 - a. INTERLOCK THE BOILERS WITH THE BOILER PUMPS. IF BOTH PUMPS SHUT DOWN, DO NOT LET THE BOILERS FIRE.
 - b. INTERLOCK THE BOILERS WITH THE GAS DETECTION SYSTEM CURRENTLY INSTALLED IN THE ROOM. ON DETECTION OF HIGH GAS LEVELS, DO NOT LET THE BOILERS FIRE.
 - c. CONTROL THE TWO BOILERS THROUGH AN AERCO CONTROL SYSTEM FULLY COMPATIBLE WITH THE BOILERS INSTALLED.
 - d. IF THE BOILERS FAIL TO FIRE, PROVIDE AN ALARM TO THE CITY'S METASYS ALARM SYSTEM.
3. PROVIDE LOW TEMPERATURE ALARMS IN THE NEW BOILER ROOM, AND ON THE HOT WATER SUPPLY PIPE. IF THE TEMPERATURE IN EITHER OF THESE LOCATIONS FALLS BELOW THE SETPOINT, ENUNCIATE AN ALARM THROUGH THE CITY'S METASYS SYSTEM.
4. HEAT EXCHANGER CONTROL (EXISTING) - TO REMAIN AS-IS.



D HEATING SYSTEM FLOW DIAGRAM

M103 NTS

P-1 AND P-2
EXISTING PUMPS TO BE REPLACED WITH NEW. EXISTING PUMPS ARE ARMSTRONG MODEL 2.5 SERIES 4280, CAPACITY IS 155-USgpm AT 31' HEAD. NEW PUMPS REQUIRED AT ARMSTRONG SERIES 4280 SIZE 3x2.5x8 C/W 5-HP MOTOR, 1800 RPM, BRONZE FITTED; CAPACITY 155-USGPM AT 55'-W.C.. FLUID IS WATER.

HX#1 POOL WATER HEAT EXCHANGER (PRIMARY)
EXISTING UNIT MANUFACTURED BY AIC S.A. SERIAL NUMBER 06G310334. FOUR PASS UNIT, 6" DIAMETER 61" OVERALL LENGTH.
HOT SIDE FLOW - 75-USgpm, 200°F EWT, FLUID:WATER.
COLD SIDE - ESTIMATED AT 40-USgpm, EWT IS 85°F, FLUID: SWIMMING POOL WATER.
TOTAL DESIGN HEAT TRANSFER IS 200,000-BTU/HR.

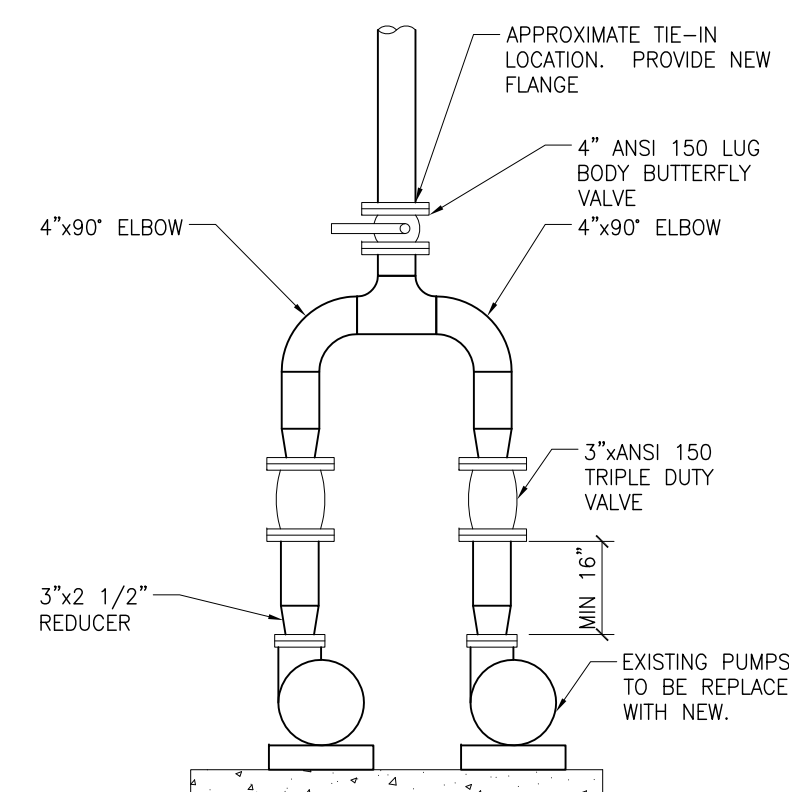
HX#2 POOL WATER HEAT EXCHANGER (SECONDARY)
THIS UNIT IS ONLY USED DURING AFTER A POOL RE-FILL. OTHERWISE, IT IS SHUT OFF AND ISOLATED. EXISTING UNIT ARMSTRONG W84-44.

HX#3 HVAC HEAT EXCHANGER
EXISTING UNIT TO REMAIN AS IS. MANUFACTURED BY S.A. ARMSTRONG. MODEL W106-45, SERIAL NUMBER 58363.
HOT SIDE - 80-USgpm OF WATER, EWT IS 200°F.
COLD SIDE - 60-USgpm OF 50/50 GLYCOL, EWT IS 140°F TO 170°F.

EXISTING BOILER
TELEDYNE LAARS - INPUT IS 1,260,000-BTU/HR. THIS BOILER IS TO BE REMOVED AND DECOMMISSIONED.

NEW BOILERS
REFER TO SPECIFICATIONS, THE NEW BOILERS ARE TO PROVIDE 100% BACKUP. OUTPUT PER BOILER REQUIRED, 1,200,000-BTU/HR OUTPUT (TYP. OF 2).

EXPANSION TANK T-1
REPLACE EXISTING BOILER LOOP EXPANSION TANK WITH NEW. USE HAMLET AND GARNEAU MODEL AL-130 20" DIA. x 30" H. FLOOR MOUNT THE UNIT AS SHOWN ON PLAN, TIE INTO SUCTION SIDE OF PUMPS P-1 AND P-2.



2 SECTION THRU PUMPS

M103 NTS



REV	DESCRIPTION	DWN	APP	REV DATE
0	ISSUED FOR CONSTRUCTION	VCV	BKW	APR 16 2014
C	ISSUED FOR CLIENT REVIEW	VCV	BKW	APR 09 2014
B	ISSUED FOR COST ESTIMATE	VCV	BKW	SEP 18 2013
A	ISSUED FOR CLIENT REVIEW	VCV	BKW	SEP 18 2013

Accutech Engineering Inc.
Tomorrow's Technology Today

605-287 Broadway, Winnipeg, Manitoba Canada R3C 0R9
Phone 204.944.1555 Fax 204.944.1444
www.accutecheng.ca

ENG SEAL ARCH SEAL

CITY OF WINNIPEG
MARGARET GRANT POOL BOILER REPLACEMENT

SHEET TITLE
DIAGRAMS AND DETAILS

DESIGNED BY BKW	CHECKED BY BKW	DATE APR 16 2014	SHEET NO. M103
JOB NUMBER 18553	SCALE AS NOTED	REVISION NO. 0	