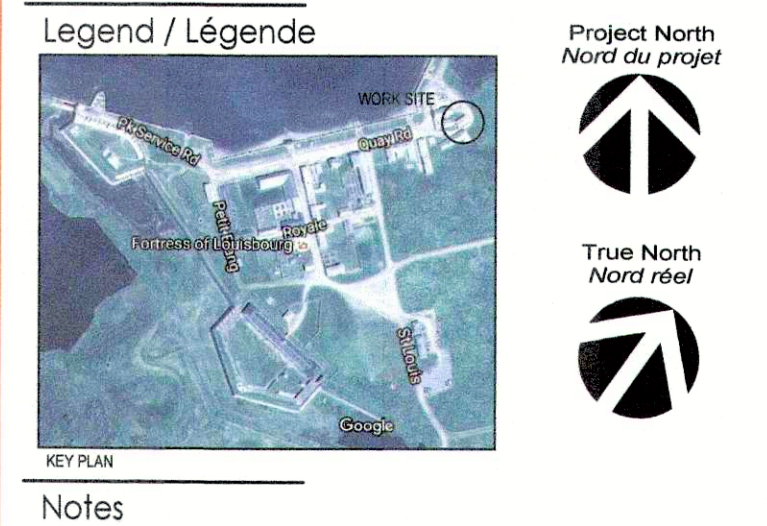
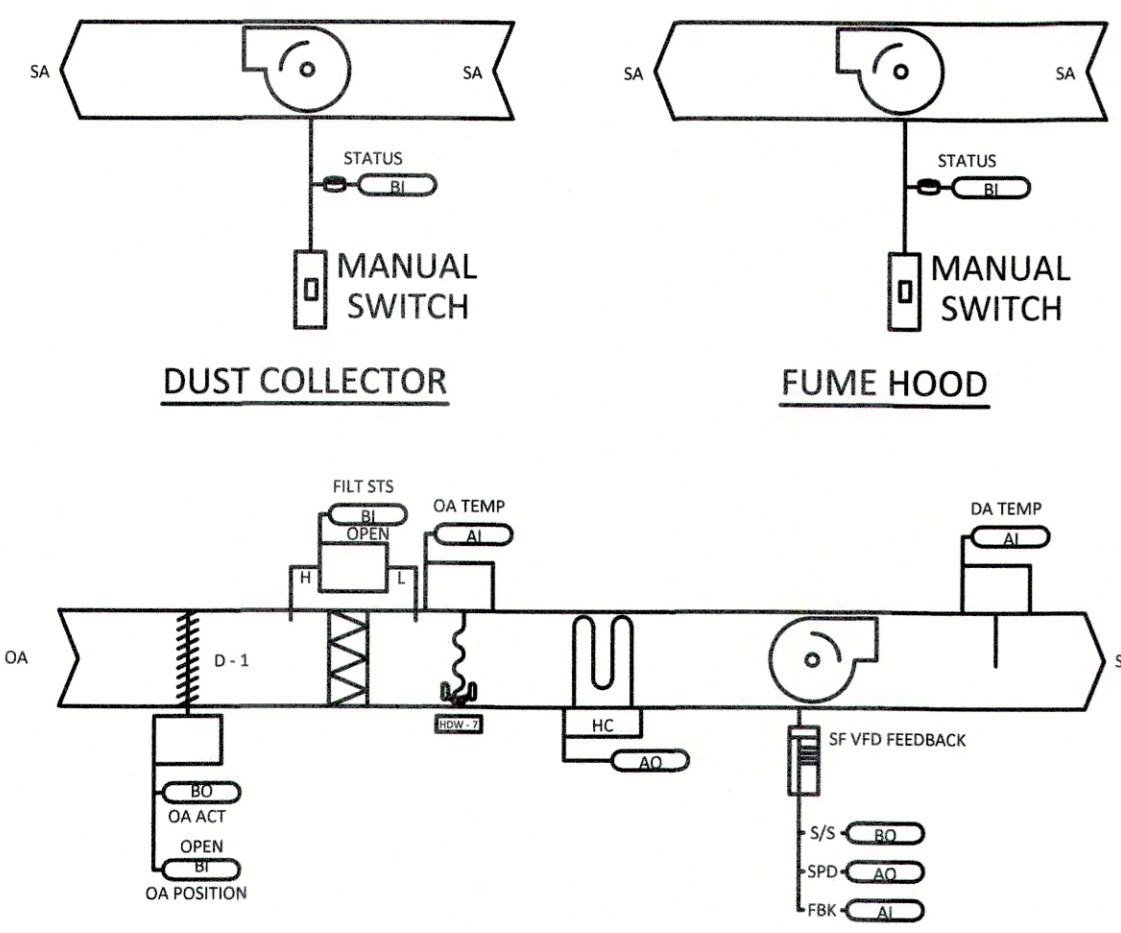


Copyright Reserved
The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawings - any errors or omissions shall be reported to Stantec without delay.
The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.
Droits de reproduction réservés
L'entrepreneur vérifiera et sera responsable pour toutes dimensions. NE PAS mesurer ces dessins - toutes erreurs ou omissions seront notées à Stantec sans délai.
Les droits de reproduction de tous dessins et dessins demeurent la propriété de Stantec. Reproduction ou emploi pour toutes fins pratiques sans l'autorisation de Stantec est défendu.

Consultants / Experts-conseils

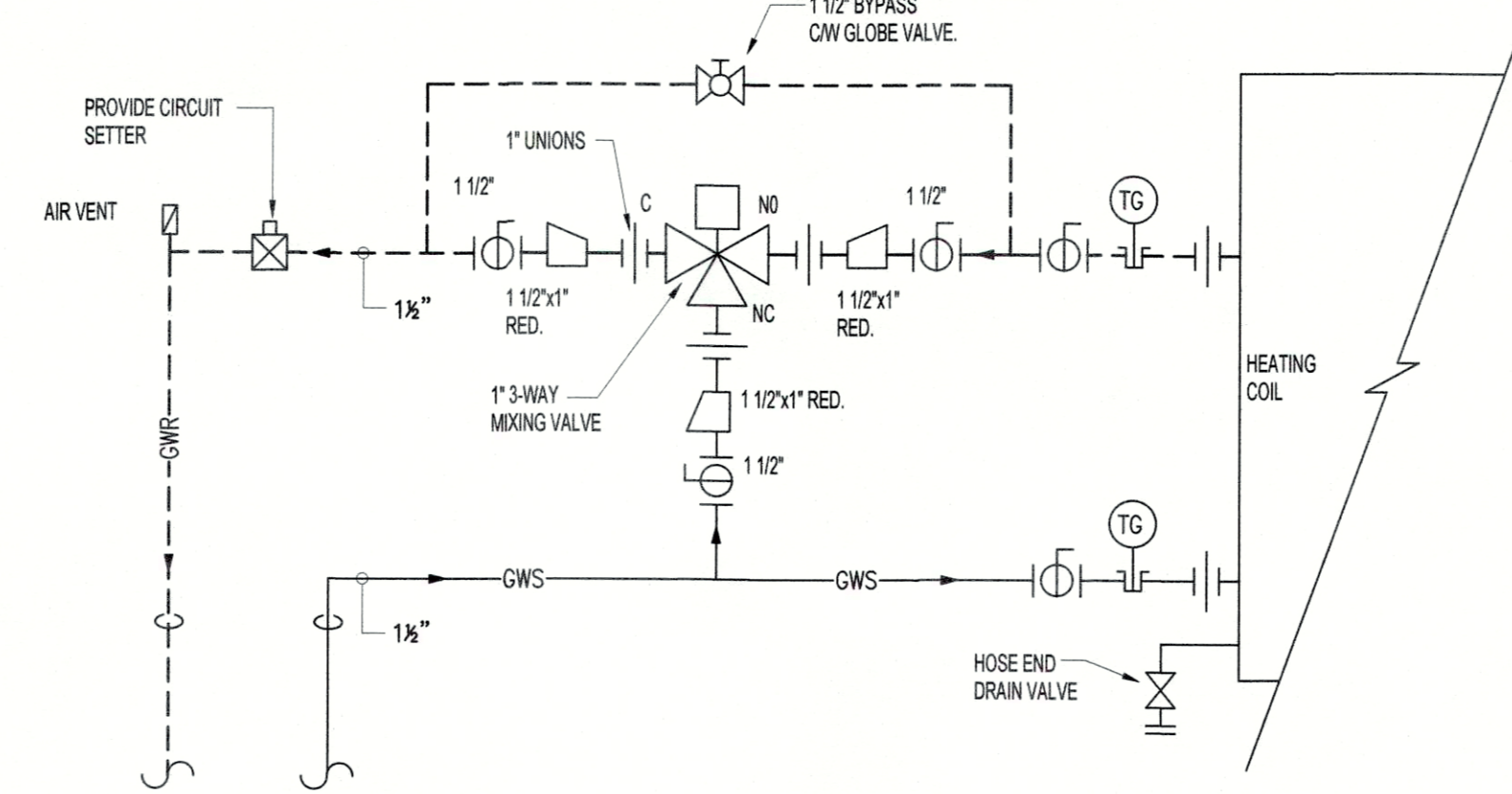


CONFIDENTIAL AND NOT TO BE DISTRIBUTED

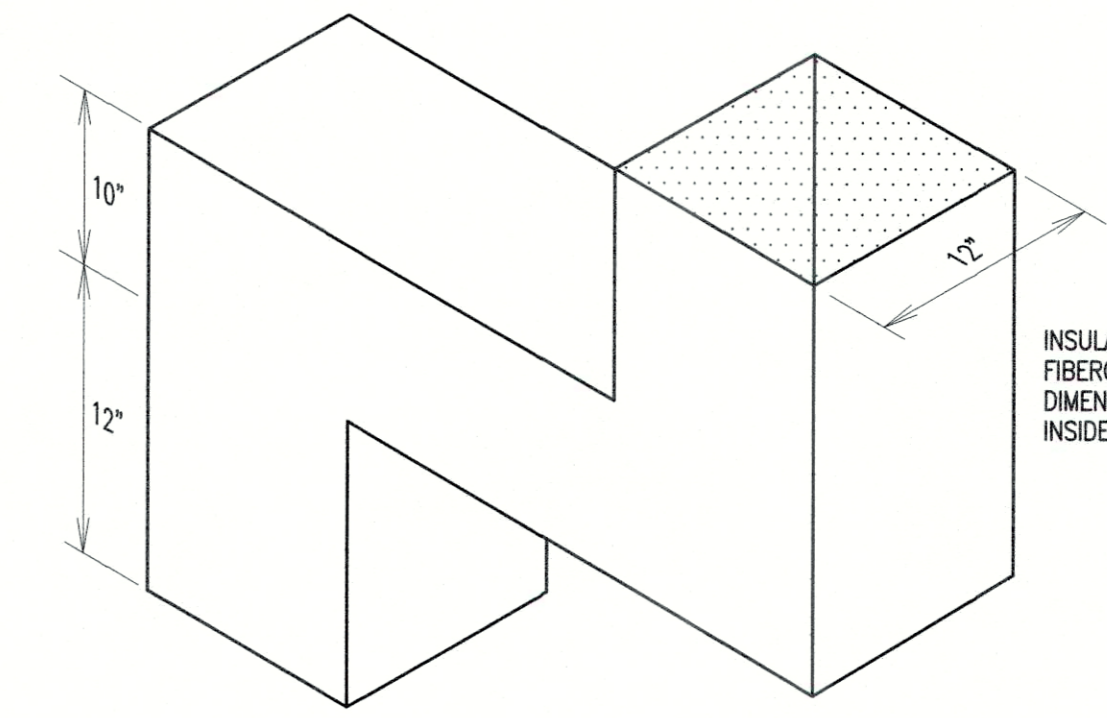


1 MAU-1 CONTROL SCHEMATIC
M103 N.T.S.

MAU-1 SEQUENCE OF OPERATION:
SUPPLY FAN:
IF THE DUST COLLECTOR OR FUME HOOD STATUS IS ON MAU-1 OUTDOOR AIR DAMPER WILL BE ENERGIZER. WHEN THE DAMPER END SWITCH PROVES THE DAMPER IS OPEN THE SUPPLY FAN VFD WILL BE ENABLED. IF THE DUST COLLECTOR IS ON SET FAN SPEED TO 1071. IF FUME IS ON SET FAN SPEED TO DELIVER 1140 CFM.
IF BOTH THE DUST COLLECTOR AND FUME HOOD ARE ON SET FAN SPEED TO 2211 CFM. IF BOTH THE DUST COLLECTOR AND FUME HOOD ARE OFF, TURN OFF VFD AND CLOSE OUTDOOR AIR DAMPER.
IF THE SUPPLY FAN FAILS TO PROVE STATUS FOR 30 SECONDS (ADJ.) THE FAN SHALL BE COMMANDED OFF, THE OUTSIDE AIR DAMPER SHALL CLOSE, AND ELECTRIC HEAT SHALL BE DISABLED AND AN ALARM WILL BE ANNUNCIATED AT THE BAS. A MANUAL RESET SHALL BE REQUIRED TO RESTART THE FAN.
HEATING COIL
UPON PROOF OF FAN STATUS, THE HEATING COIL WILL BE MODULATED TO MAINTAIN 72 DEG F (ADJ.).
FILTER STATUS:
A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSURES DURING NORMAL OPERATION A DIRTY FILTER ALARM SHALL BE ANNUNCIATED AT THE BAS.

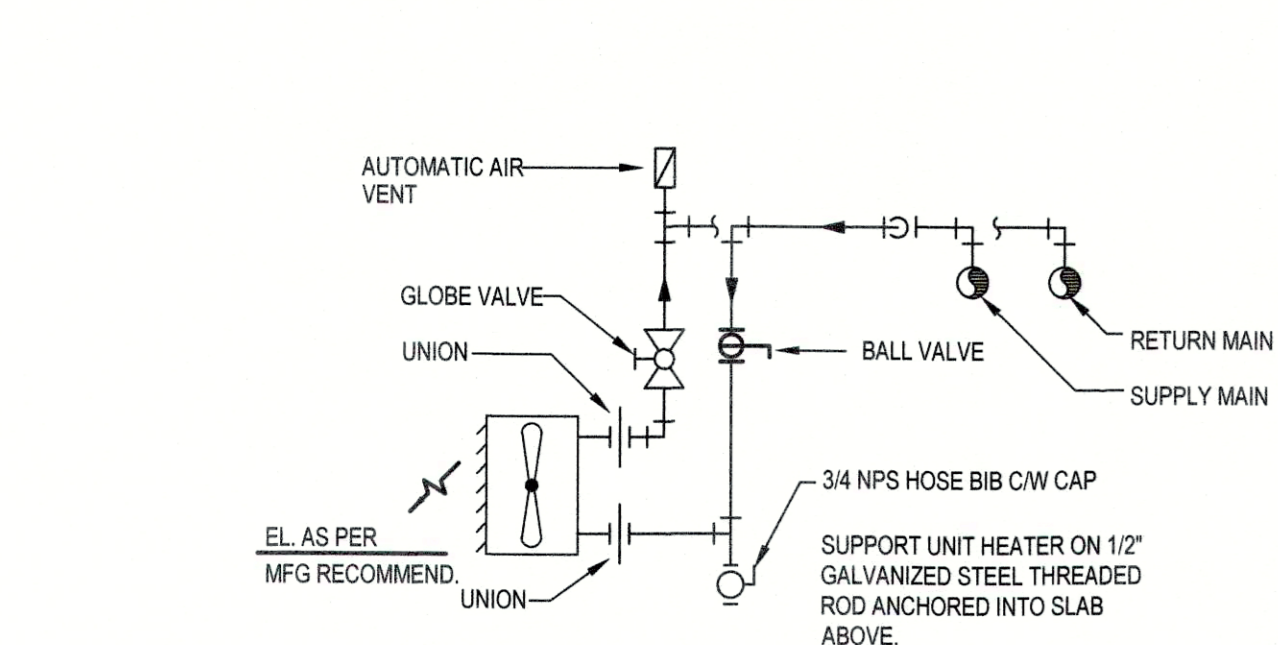


4 HOT WATER HEATING COIL DETAIL
M103 N.T.S.



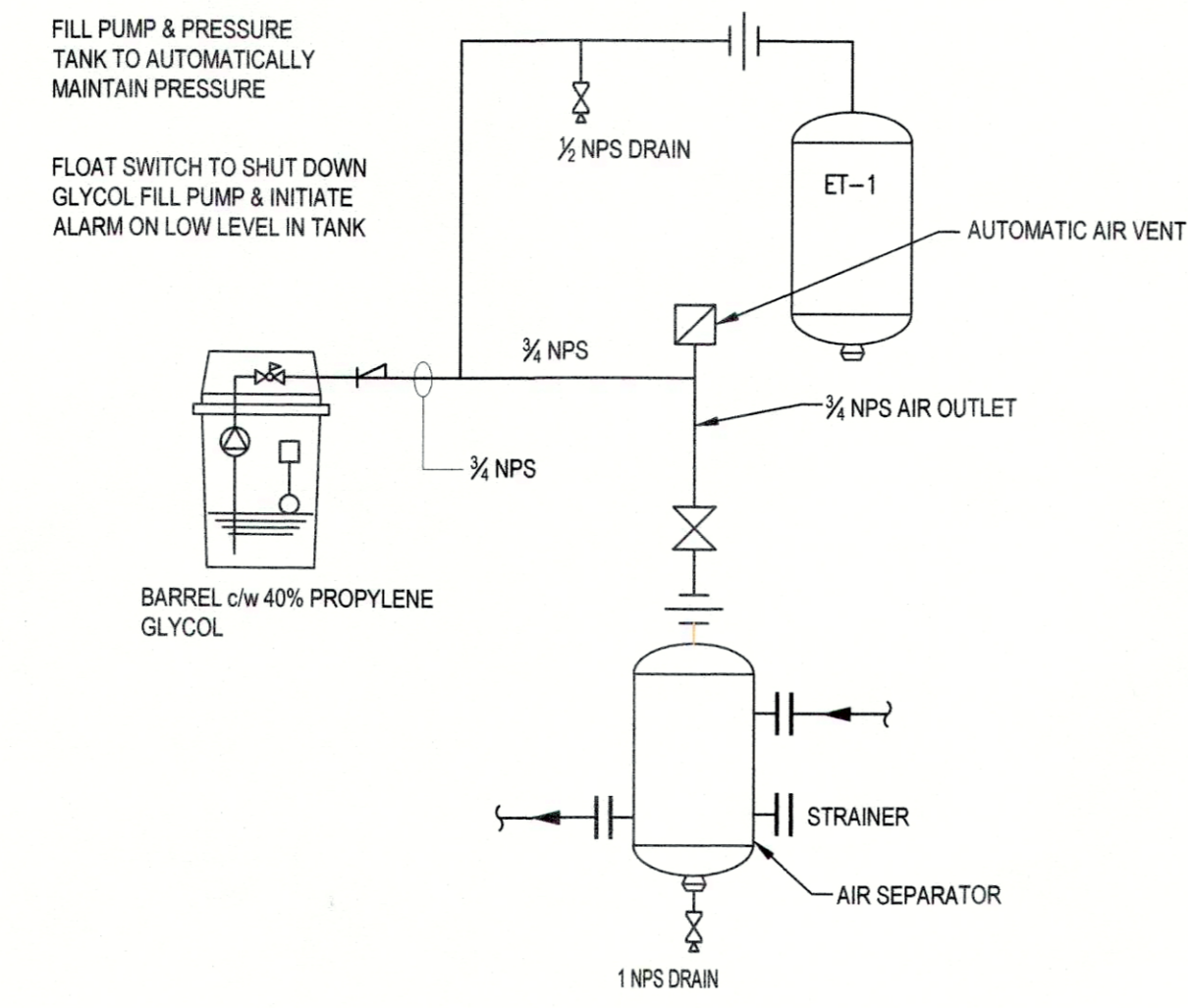
8 CROSS TALK SILENCER DETAIL
M103 N.T.S.

INSULATE INSIDE DUCT WITH 1" FIBERGLAS ACOUSTIC LINING. ALL DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.

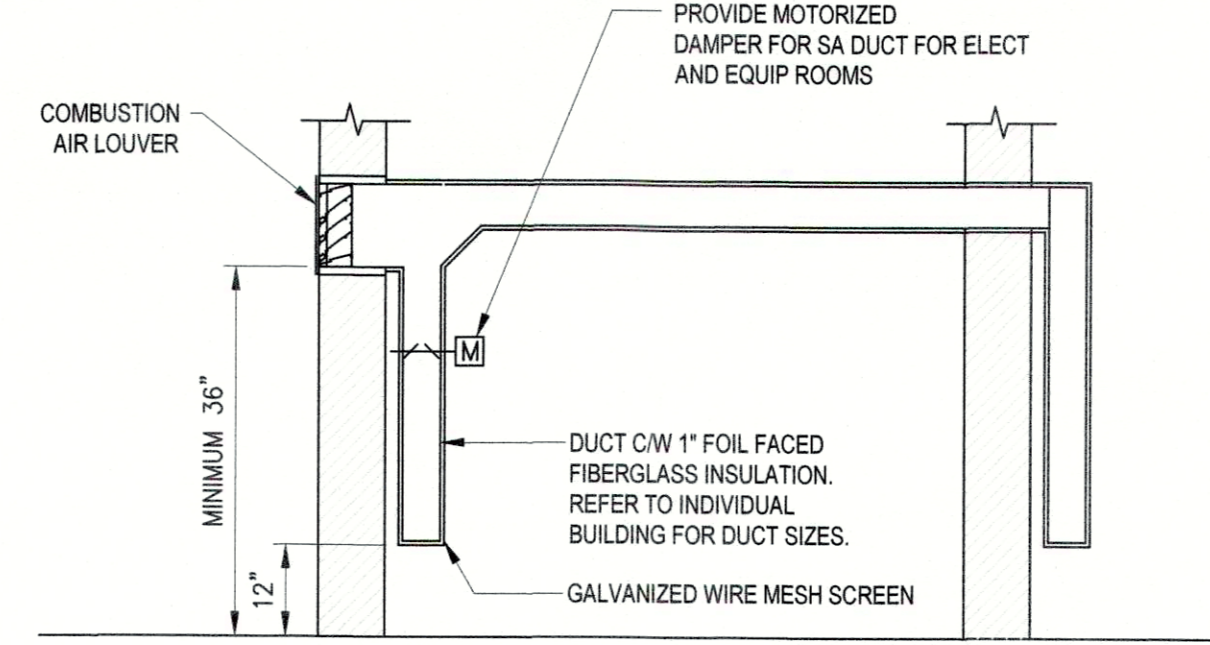


2 UNIT HEATER PIPING SCHEMATIC
M103 N.T.S.

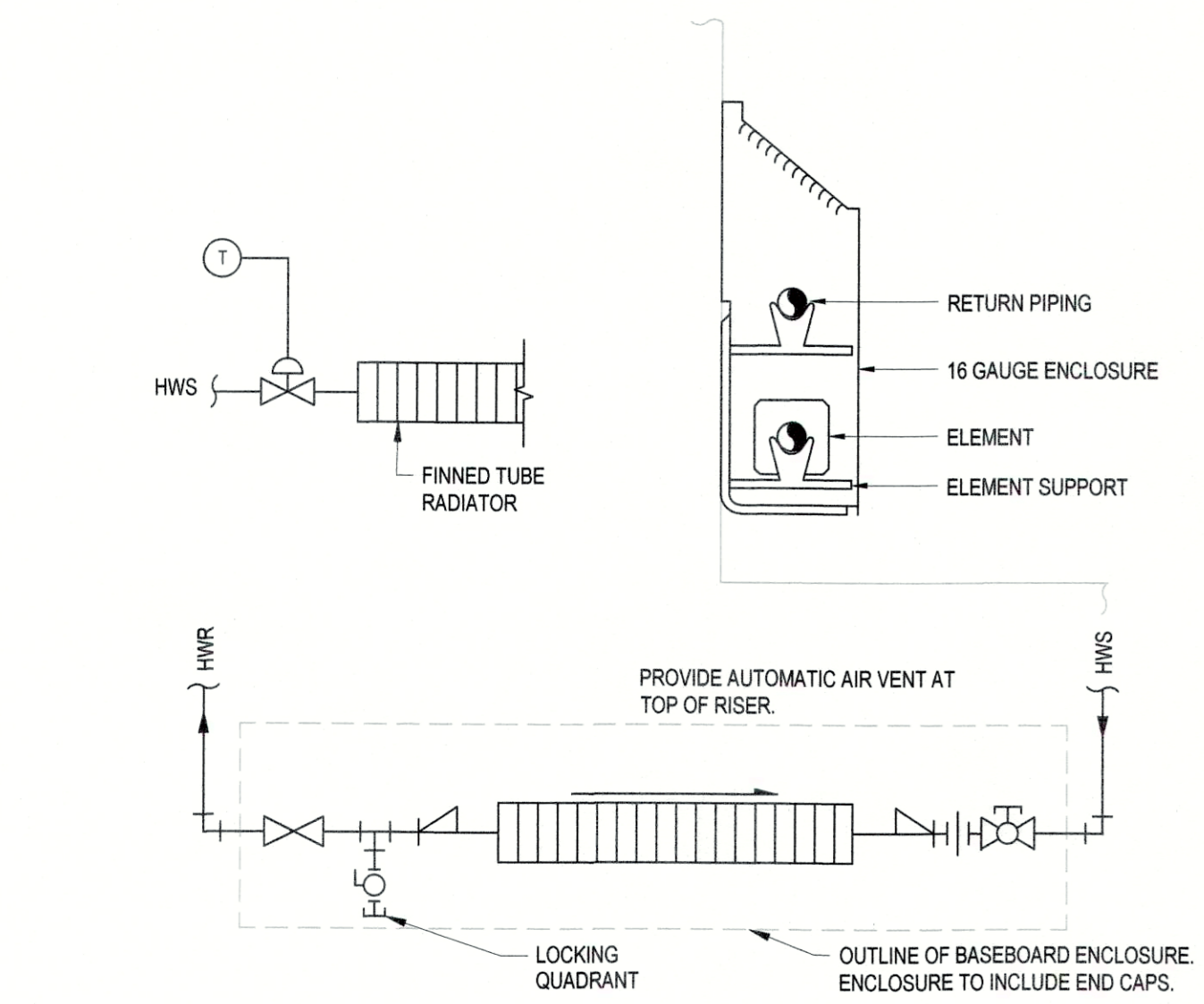
UNIT HEATER SCHEDULE SCHEDULE										
TAG	MBH	TYPE	FLUID TYPE	GPM	EWTF	LWTF	ELECTRICAL	MANUFACTURER	MODEL	REMARKS
UH-1	6.0	HORIZ	40% PROP GLYC	0.66	180	160	115/160	TRANE	S-A28	CONTROLLED BY REMOTE THERMOSTAT
UH-2	12.0	HORIZ	40% PROP GLYC	1.9	180	160	115/160	TRANE	S-A18	CONTROLLED BY REMOTE THERMOSTAT
UH-3	12.0	HORIZ	40% PROP GLYC	1.9	180	160	115/160	TRANE	S-A18	CONTROLLED BY REMOTE THERMOSTAT
UH-4	10.0	HORIZ	40% PROP GLYC	1.1	180	160	115/160	TRANE	S-A18	CONTROLLED BY REMOTE THERMOSTAT
UH-5	6.0	HORIZ	40% PROP GLYC	0.67	180	160	115/160	TRANE	S-A28	CONTROLLED BY REMOTE THERMOSTAT



5 EXPANSION & MAKE-UP DETAIL
M103 N.T.S.



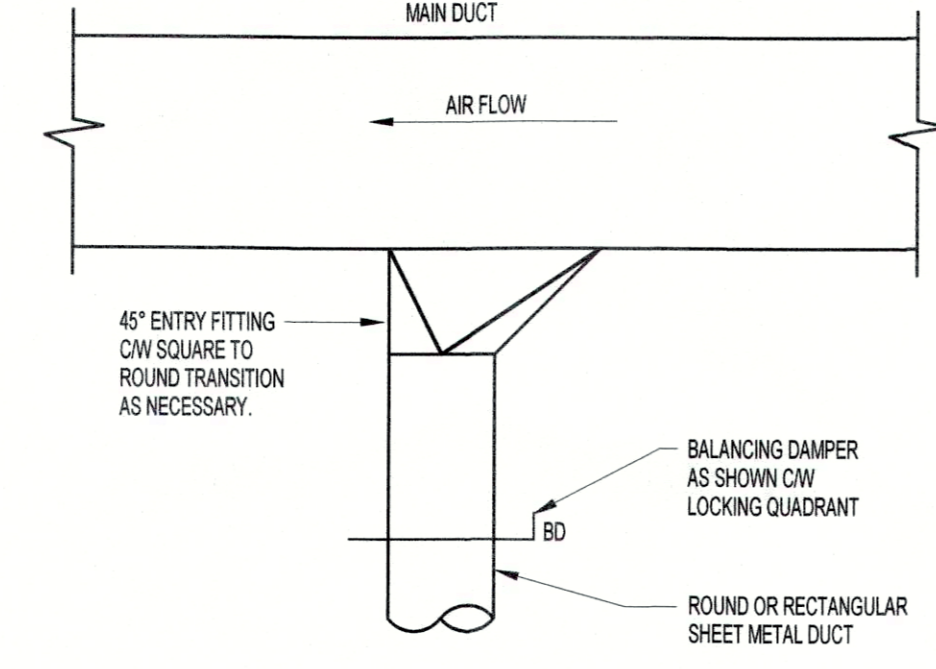
9 COMBUSTION AIR AND SA DUCT DETAIL
M103 N.T.S.



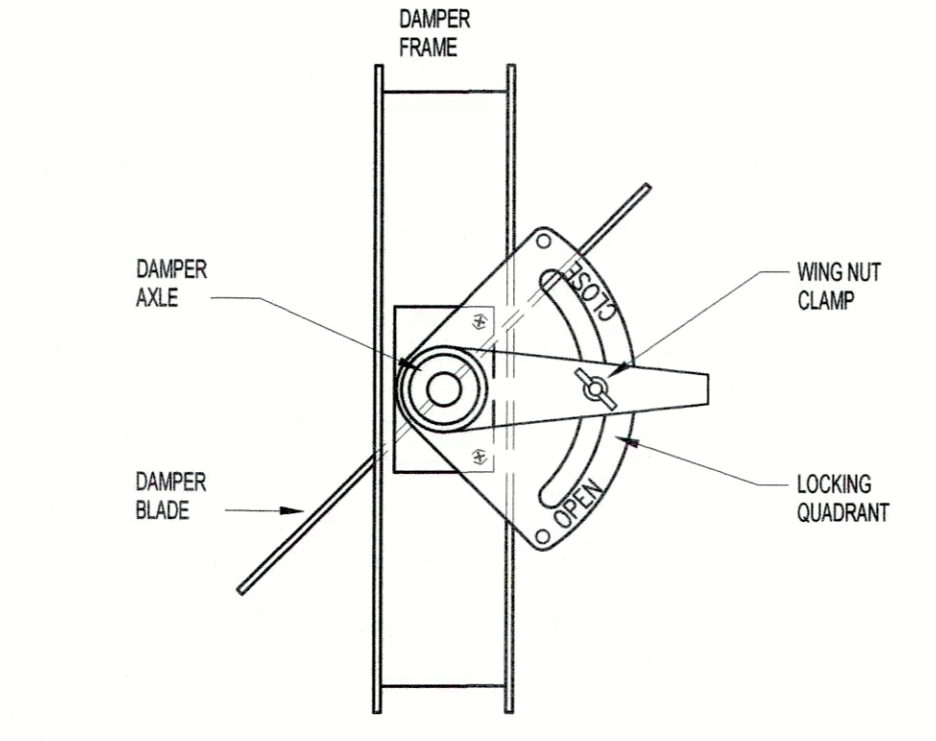
3 FIN TUBE RADIATION PIPING SCHEMATIC
M103 N.T.S.

FINNED TUBE RADIATION SCHEDULE										
TAG	MBH	MBHFT	GPM	EWTF	LWTF	TUBE	FINS	ACTIVE FN LENGTH (FT)	ROWS	ENCLOSURE
WF-1	2.0	0.890	0.22	180	160	Cu	Al	3	1	0.75 4 14
WF-2	2.5	0.890	0.27	180	160	Cu	Al	3	1	0.75 4 14
WF-3	5.0	0.890	0.54	180	160	Cu	Al	6	1	0.75 4 14
WF-4	1.5	0.890	0.16	180	160	Cu	Al	2	1	0.75 4 14

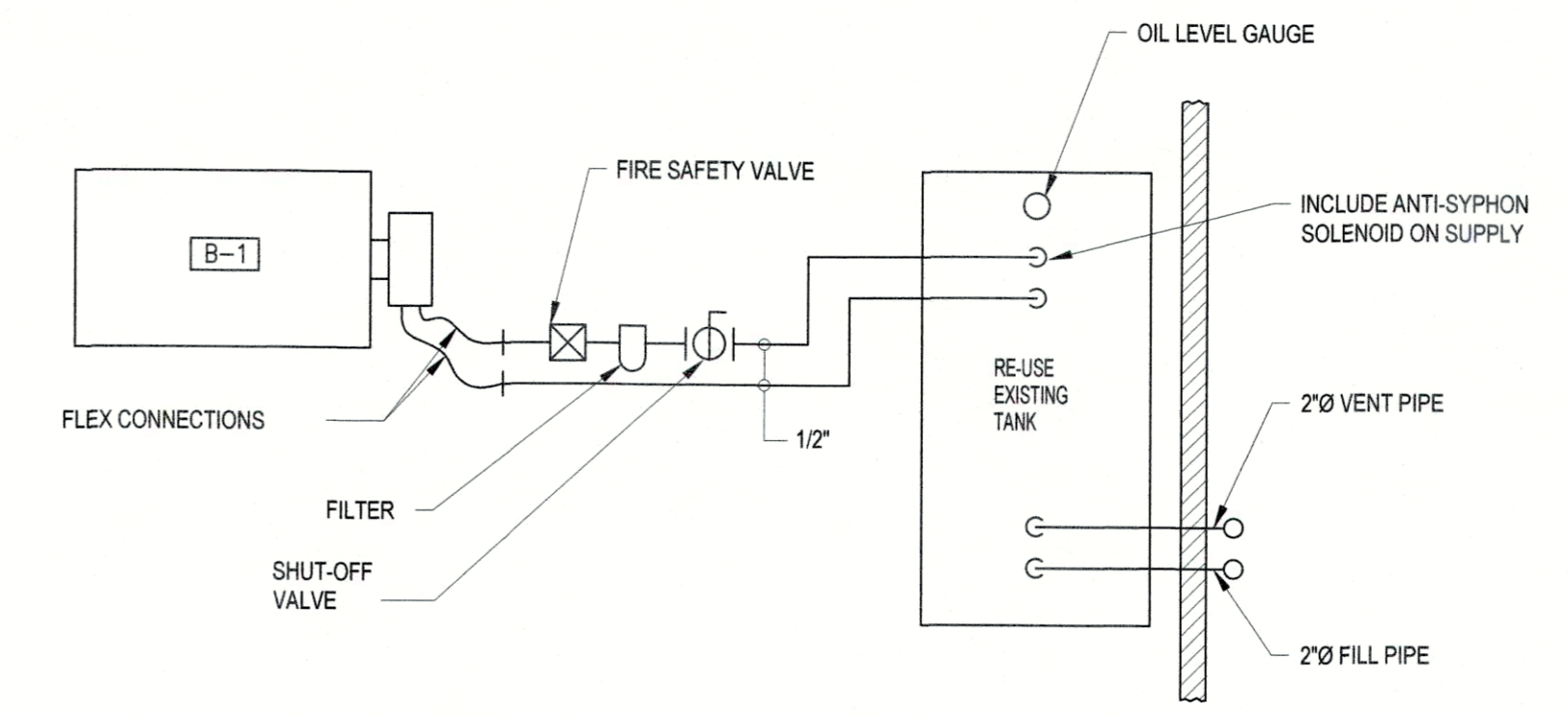
SEQUENCE OF OPERATION
UPON A DROP IN SPACE TEMPERATURE BELOW SET-POINT, THE THERMOSTAT SHALL OPEN THE CONTROL VALVE. HEATING CIRCULATOR P-2 SHALL START. THE REVERSE SHALL OCCUR WHEN SPACE TEMPERATURE IS SATISFIED.



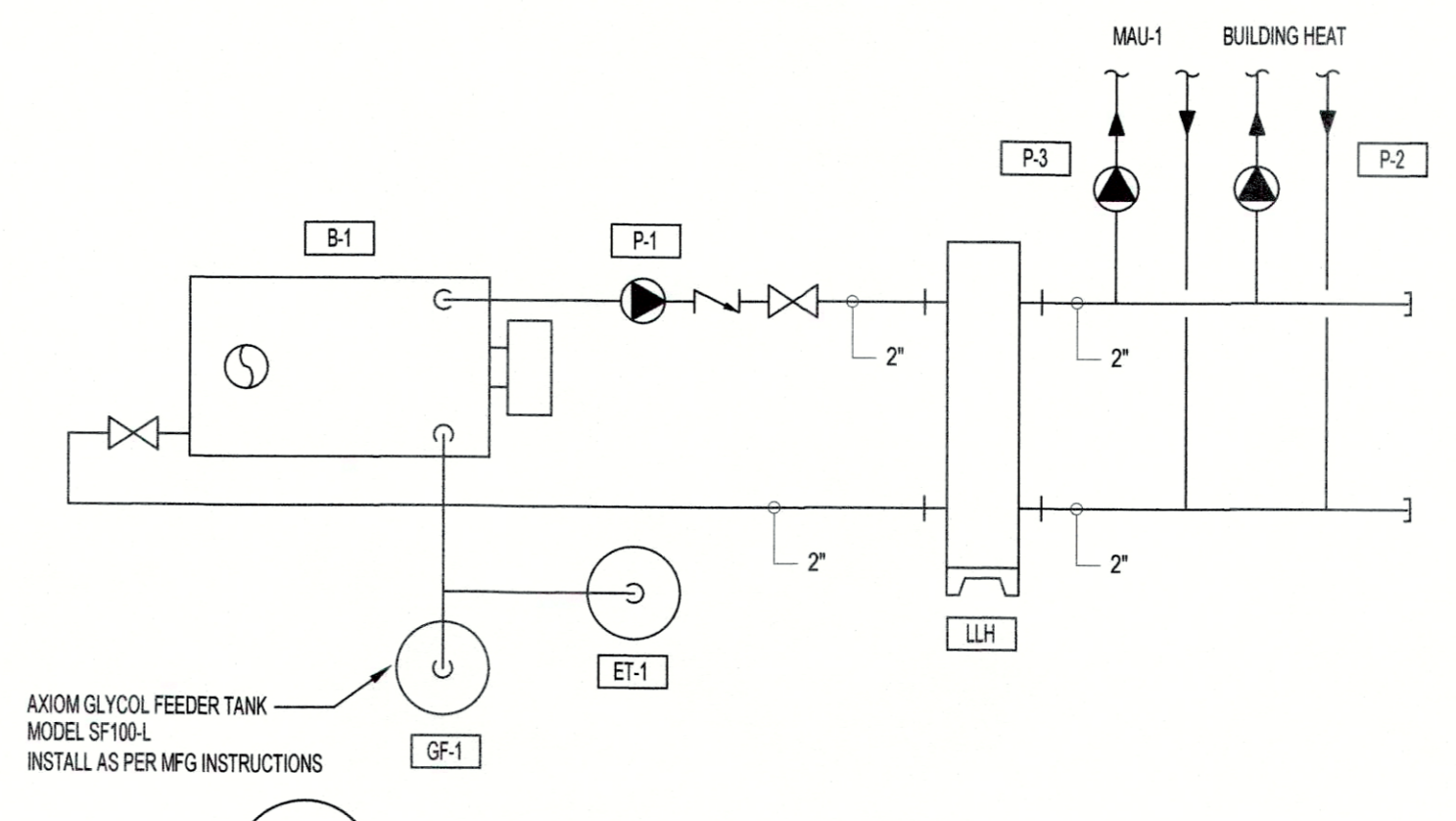
6 TYPICAL BRANCH DUCT DETAIL
M103 N.T.S.



7 BALANCING DAMPER DETAIL
M103 N.T.S.



10 FUEL PIPING SCHEMATIC
M103 N.T.S.



11 BOILER PIPING SCHEMATIC
M103 N.T.S.

Revision / Révision			
No.	Description	By	Appd.
0	ISSUED FOR 100% REVIEW	MM	PL
	Issued / Émission	By	Appové
	File Name:	MM	CJ
	Permit-Seal / Permis-sceau	Dwn.	Chkd.
		Désigné	Vérifié
		Design	Design
			16.11.24
			YY/MM/DD
			AA/MM/DD

Client
BARRON LAB

FORTRESS OF LOUISBOURG
NATIONAL HISTORIC SITE, LOUISBOURG

Title
HVAC
DETAILS

Project No.	Scale
140170136	AS SHOWN
Drawing No.	Sheet
M103	3 of de 4
Revision	Revision
	0

C:\Users\jbaron\OneDrive\Documents\Projects\140170136\140170136_140170136_M103.dwg
20/03/2016 11:52 AM By: jbaron