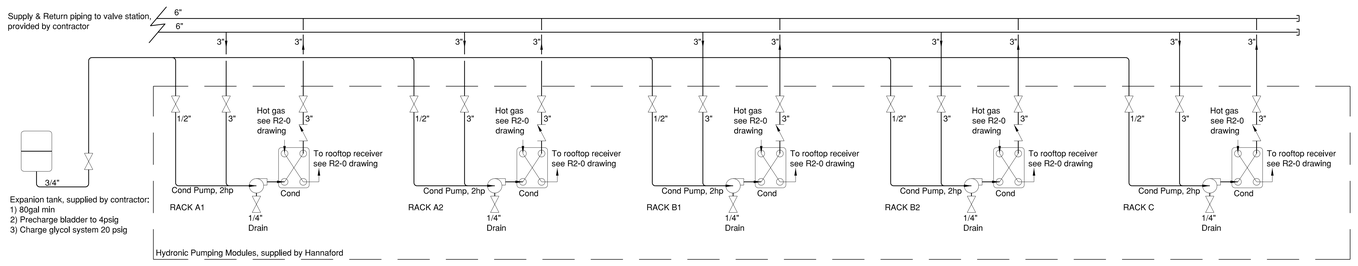
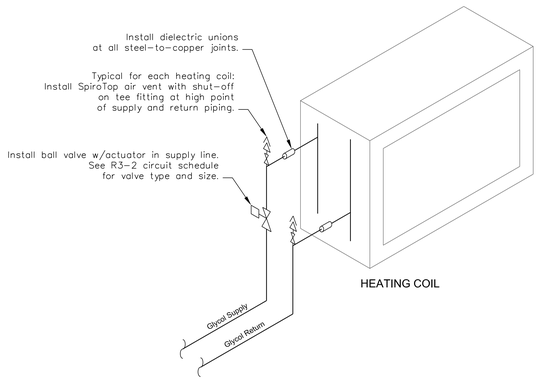


G1 | DETAIL ~ HYDRONIC PIPING

NOT TO SCALE

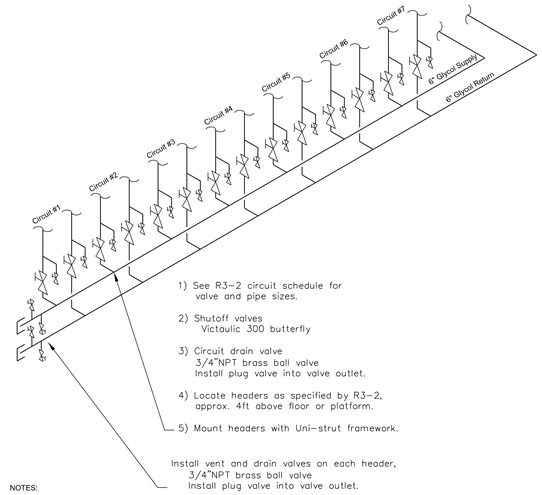


NOTES:

1) HANNAFORD SHALL PROVIDE HEATING COILS. ALL OTHER PARTS TO BE SUPPLIED BY CONTRACTOR.

E1 | DETAIL ~ GLYCOL COIL PIPING

NOT TO SCALE



NOTES:

1) SUPPLIED BY CONTRACTOR.

E4 | DETAIL ~ GLYCOL DISTRIBUTION HEADER DETAIL (typical)

NOT TO SCALE

1.0 WORKMANSHIP:

1.1 All piping shall be installed in accordance with governing codes and in a workmanlike manner.

1.2 The run and arrangement of all pipes shall be approximately as shown on the R3.2 drawing and as directed during installation. Piping shall be as straight and direct as possible, neatly spaced, and forming right angles or parallel lines with the building walls and other pipes.

1.3 Work shall be arranged to avoid interferences with the work of all other trades. Consult with other contractors and coordinate the location of work with that of the other trades.

2.0 PIPE MATERIALS & FITTINGS:

2.1 For piping 2" and larger: Pipe shall be Sch10 per ASTM-A-53. Fittings shall be Victaulic groove-type, Zero-Flex Style 07, with gaskets suitable for propylene glycol. All grooved couplings, fittings and valves shall be manufactured by Victaulic.

2.2 For piping 1-1/2" and smaller: Pipe shall be either Sch40 per ASTM-A-53 with pipe thread fittings or Type L copper with solder fittings.

3.0 INSTALLATION OF PIPING SYSTEM:

3.1 All piping shall be properly supported or suspended on 10ft (max) centers with Unistrut clamps or equivalent.

3.2 All groove-type joints shall be constructed in accordance wit the appropriate Victaulic specifications.

3.3 All copper joints shall be constructed using 95/5 lead-free, solid core wire and appropriate flux.

3.4 All glycol piping located in the sales area shall be clean and unpainted. All other glycol piping shall be clean and treated with light-green, weather-resistance paint, approved by Hannaford Engineering.

3.5 All glycol heat reclaim piping located outdoors shall be insulated with jacketed 1" Armorflex insulation.

4.0 TESTING & CHARGING OF PIPING SYSTEM:

4.1 Prior to cleaning, leak-checking and chargeing, the expansion tank pre-charge shall be set at 4.0 psig.

4.2 After the completion of the piping installation, the piping system shall be flushed with fresh water until free of dirt and debris.

4.3 To verify that the piping system is leak-free, the piping system shall be pressurized to 50psig using fresh water with all pumps operating, isolation valves open and diverting valves periodically cycled, in order to assure that all joints are pressurized. All joints shall be inspected for leaks.

4.4 After the piping system is verified to be leak-free, it shall be charged to 20psig with a 45% propylene-glycol mixture, approved by Hannaford Engineering. During the charging process, all pumps shall be operating, isolation valves shall be open and diverting valves periodically cycled., in order to assure that air has been fully purged from the system.

4.5 Propylene-glycol mixture shall be suitable for use with cast aluminum metal.

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REVISIONS

NUMBER	DATE	BY	DESCRIPTION
0	11/18/11		Issued for construction

Date: AUGUST, 2011
Drawn By: PDS
Checked By: BEI
Project Mgr: BEI
Project No:
Old Fairforest Ave. Refrigeration.dwg
Graphic Scale: 0 1"

GREENCHILL
GLYCOL SYSTEM
PIPING DETAILS

HANNAFORD SUPERMARKET & PHARMACY No.8351
295 FOREST AVENUE
PORTLAND, MAINE 04101

R3-1