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PROJECT: Proposed Spruit House
Ottawa, ON

CUSTOMER: Noble
Ottawa, ON

REFERENCE NO.:
RCP-14/03-3575

SCALE:
NTS

DRAWN BY:
JYJ

CHECKED BY:
DH

ISSUE DATES:

<input type="radio"/>	Mar. 11, 2014	ORIGINAL
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DRAWING TITLE:
Proposed Spruit House
Project Summary

DRAWING NO.:

R1

It is the full responsibility of the user to thoroughly review these suggested drawings and determine the suitability of the drawing for user's intended use prior to ordering materials or the installation of the project. The user shall assume all risk and liability in connection therewith, including that the user must seek their own licensed local professional advice for any particular project.

All REHAU Technical Information and Instructions are available at na.rehau.com/resourcecenter.

The heat loss calculation was based on the following information. See attached calculation report for detailed information.

Description	Value
Outside Design Temperature	-13°F
Inside Design Temperature	72°F**
Exterior Wall	R-20*
Interior Ceiling	NA
Exterior Ceiling	R-50*
Basement Floor	R-10*
Main Level Floor	NA
Upper Level Floor	NA
Windows	NA
Air Change Rate	Tight Building**

* Provided by customer
** Assumed by designer

The included design was based on the following information.

Description	Value
Supply Temperature Range	120 °F
Supply/ Return Delta-T	20 °F**
Fluid Type	30% Glycol Mixed Water, 100% Water
Floor Temperature Range	80 °F - 85 °F
Floor Coverings	0.5**
Pipe Size	1/2" RAUPEX O2 Barrier**
Pipe Spacing	6"/12***
Basement Level Floor Structure	Slab on Grade
Main Level Floor Structure	NA
Upper Level Floor Structure	NA
Backloss	20%

* Provided by customer
** Assumed by designer

Notes:

- Design information, Floor Plan & project information were provided by Kelly Cameron @ Noble - Ottawa.

General Installation Notes

- All installations Must be in compliance with REHAU Technical Installation Guides for all systems and products. To download the latest technical publications go to na.rehau.com/resourcecenter.
- Cutting - Use a pipe cutter designed for plastic pipe that is sharp and produces clean, square cuts. Do not cut RAUPEX with a saw blade, as the rough edges will interfere with fitting connections. A clean, square cut is required.
- Check that the proposed finished floor coverings are per this design. System performance may not be attained if the insulation values of the floor coverings have not been taken into account.
- It is recommended to install the pipe along outside walls first to ensure the hottest (supply) water goes to the coldest areas.
- Keep pipe at least 6" (15 cm) from the edges of slabs, walls or other permanent objects. Keep pipe at least 6" (15 cm) from wax seals on toilets.
- Pipe bends should be carefully formed to prevent kinking.
- Install nail guards where nailing is likely, such as doorways.
- Pipe should not be installed in areas under cabinets used for food storage or under appliances such as freezers. It is acceptable to install pipe under bathtubs and shower stalls to warm the bases.
- Label pipes as they are installed. Record this information on the PRO-BALANCE Manifold Circuit Chart, on the manifold, or with tabs on the pipe. Record actual circuit lengths along with circuit numbers.
- When installing pipe in a confined area that does not permit the suggested pipe spacing, it is recommended to use tighter spacing and more pipe rather than wider spacing and less pipe. This helps to avoid "cold spots".
- The manifold should be securely mounted, either horizontally or vertically, in its final position. Position the manifold a minimum of 16" (40 cm) above finished floor level.
- Protect the manifold from damage and vandalism during and after construction.
- The manifold should remain accessible for service after completion of the job. This may require installation of an access panel.
- Properly connect RAUPEX pipe supply/return tails to the PRO-BALANCE manifold. Cut pipe squarely using a pipe cutter. Slide R20 compression nut and split ring over the pipe. Push in the R20 insert fitting all the way to the top of the pipe. Do not use damaged R20 connectors or O-rings, damaged parts may cause leakage. Push the conical end of the R20 insert fitting all the way into the appropriate manifold connection. Hand tighten the R20 compression nut, making sure the pipe and insert fitting are pushed all the way in. Do not use thread sealant tape or pipe dope on these manifold connections which may prevent a proper seal, causing leaks. While holding the hex end of the manifold connection with an adjustable wrench, turn the R20 compression nut no more than a half turn beyond hand tight. For 10.1 mm or 3/8, 1/2 and 5/8 in. pipe connections, use a 1 1/4 in. (32 mm) wrench. Do not over tighten. Use approximate force of 12 Nm or 9 lb ft. Over tightening will damage the O-ring or the manifold connection, causing leaks.
- Pressure test the radiant heating system to ensure the RAUPEX pipes and connections are leak free. Tests shall comply with local codes where applicable and, where required, shall be witnessed by the building official.
- Pressure testing applies to both compressed air and hydrostatic (water) testing. Use an air test if water could freeze in the system, or when convenient. Recommend that compressed air tests not be used with plastic fittings, valves or manifolds. If a water (hydrostatic) test is used and there is a chance the water could freeze, use a water/glycol mixture when filling the system or else drain water from pipes.
- Pressure testing must be done with all circuit valves on the RFH/SIM manifold fully open. All pipes and the manifolds must be tested together.
- Pressure gauges must show pressure increments of 1 PSIG and should be located at or near the lowest point in the distribution system. Air temperature will affect the gauge pressure, so perform all pressure tests at a constant temperature.
- Pressure Testing. Do not exceed 150 psi (1030 kPa) for the RAUPEX pipe. Verify maximum pressure requirements for other system components prior to performing the test. Perform a preliminary pressure test pressurizing the system to the greater of 1.5 times the maximum operating pressure, or 100 psi (690 kPa), for 30 minutes. As the piping expands, restore pressure, first at 10 minutes into the test and again at 20 minutes. At the end of the 30 minute preliminary test, pressure must not fall by more than 5 psi from the maximum, and there shall be no leakage. After performing the preliminary test, perform the main pressure test immediately. The main pressure test shall last at least 2 hours. The test pressure should be restored and must not fall more than 3 psi after 2 hours. No leakage should be detected.