Hydronic heating system details to be provided with the application

DESIGN REQUIREMENTS Hydronic heating system design shall be submitted as either:
1. a **pre-engineered package**, which shall consist of basic generic system specifications and installation details prepared by a registered engineering professional together **with additional system design data and floor plans specific to the project** completed by
(a) A registered engineering professional licensed to practice in the province of Alberta; or
(b) A person who holds either one or both of the following qualifications:
i. A Certified Hydronics Designer, as certified by the Canadian Hydronics Council, a council within the Canadian Institute for Plumbing and Heating; or
ii. A Residential Hydronics Design Technician, as certified by the Heating, Refrigeration and Air Conditioning Institute of Canada.
2. a **custom** design by
(a) A registered engineering professional licensed to practice in the province of Alberta; or
(b) A person who holds either one or both of the following qualifications:
i. A Certified Hydronics Designer, as certified by the Canadian Hydronics Council, a council within the Canadian Institute for Plumbing and Heating; or
ii. A Residential Hydronics Design Technician, as certified by the Heating, Refrigeration and Air Conditioning Institute of Canada.

SUBMISSION REQUIREMENTS Plans and specifications submitted shall include but not limited to the following information:
1. The schematic arrangement of the system and the equipment specifications including, but not limited to, boilers, pumps, expansion tanks, zone controls, mixing valves and other system components such as supplementary baseboard and/or fan-coil units, water heater, etc. connecting to the system.
2. Mechanical room layout, venting and combustion air provisions for all fuel-fired appliances.
3. Piping specifications, spacing, sizes, maximum loop lengths, and pipe support details. Floor plans showing a general layout of the piping loops required for each room or space and the location of the main headers, if applicable.
4. Locations, sizes and specifications for all heat terminal units, such as baseboard heaters, radiators, fan-coil units, etc., if applicable.
5. Cross sections through typical floor assemblies to show piping loop locations and the type of insulation to be provided.
6. System operating parameters including supply and return water temperatures, design flow rates and heat output coefficient of individual piping loops.
7. Room by room heat loss calculations.
8. Heat Exchangers.
9. Toxic Heat transfer fluids must be separated from the potable water using atmospherically vented double wall heat exchangers or equivalent protection.
10. Single wall heat exchangers may be installed when the heat transfer fluid is non-toxic and the installation shall comply with STANDATA P-08-01-NPC.