

PART 1 - GENERAL

1.1 REFERENCES

- .1 American National Standards Institute/Canadian Standards Association (ANSI/CSA).
- .2 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations.
- .3 Canadian Standards Association (CSA International)
 - .1 CSA B51-03(R2007), Boiler, Pressure Vessel, and Pressure Piping Code.
 - .2 CAN/CSA C22.2 No.110-94(R2004), Construction and Test of Electric Storage Tank Water Heaters.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
 - .1 Provide manufacturer's printed product literature and datasheets for domestic water heater, and include product characteristics, performance criteria, physical size, finish and limitations.
 - .3 Shop Drawings:
 - .1 Provide drawings stamped and signed by professional engineer registered or licensed in the Province of Newfoundland and Labrador, Canada.
 - .2 Indicate:
 - .1 Equipment, including connections, fittings, control assemblies and ancillaries, identifying factory and field assembled.
 - .4 Sustainable Design Submittals:
 - .1 LEED Submittals: in accordance with Section 01 35 21 - LEED Requirements.
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1.3 CLOSEOUT
SUBMITTALS .1 Provide maintenance and engineering data for
incorporation into manual specified in Section
01 78 00 - Closeout Submittals.

1.4 DELIVERY,
STORAGE AND
HANDLING .1 Deliver, store and handle in accordance with
Section 01 61 00 - Common Product
Requirements.

.2 Deliver materials to site in original factory
packaging, labelled with manufacturer's name,
address.

.3 Packaging Waste Management: remove for reuse
or return of pallets, crates, padding and
packaging materials in accordance with Section
01 74 21 - Construction/Demolition Waste
Management and Disposal.

1.5 WARRANTY .1 For the Work of this Section 22 30 05 -
Domestic Water Heaters, 12 months warranty
period prescribed in subsection GC 32.1 of
General Conditions "C" is extended to number
of years specified for each product.

.2 Contractor hereby warrants domestic water
heaters in accordance with CCDC2, but for
number of years specified for each product.

PART 2 - PRODUCTS

2.1 COMPONENTS .1 Sustainable Requirements:
.1 Materials and products in accordance
with Section 01 35 21 - LEED Requirements.

2.2 HYBRID
ELECTRIC WATER
HEATER .1 CSA,ULC and Energy Star Certified.

.2 Tank:
.1 See schedule on drawings for model
capacities and size.
.2 63 mm non-cfc foam insulation, enamelled
steel jacket, 10 year warranty.

2.2 HYBRID
ELECTRIC WATER
HEATER
(Cont'd)

- .3 Self contained heat pump unit integrated unto top of tank. Operating modes include efficiency, hybrid or electric. Vacation setting can be selected to reduce operating costs during extended absence.

2.3 TRIM AND
INSTRUMENTATION

- .1 Drain valve: NPS 1 with hose end.
- .2 Electronic user interface allows for control of temperature setting, operating mode and communicates diagnostics.
- .3 Thermometer: 100 mm dial type with red pointer and thermowell filled with conductive paste.
- .4 Pressure gauge: 75 mm dial type with red pointer, syphon, and shut-off cock.
- .5 Thermowell filled with conductive paste for control valve temperature sensor.
- .6 ASME rated temperature and pressure relief valve sized for full capacity of heater control valve, having discharge terminating over floor drain and visible to operators.
- .7 Anode rods with stainless steel cable. Adequate for 20 years of operation and located for easy replacement.
- .8 Acceptable Product: A.O. SMith - Residential hybrid electric heat pump water heater, or approved equal.

2.4 ANCHOR BOLTS
AND TEMPLATES

- .1 Supply anchor bolts and templates for installation in concrete support pad in accordance with Section 03 30 00 - Cast-in-Place Concrete.
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PART 3 - EXECUTION

- 3.1 APPLICATION .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.
- 3.2 INSTALLATION .1 Install in accordance with manufacturer's recommendations and authority having jurisdiction.
- 3.3 FIELD QUALITY CONTROL .1 Manufacturer's factory trained, certified Engineer to start up and commission DHW heaters.
- 3.4 CLEANING .1 Clean in accordance with Section 01 74 11 - Cleaning.
.1 Remove surplus materials, excess materials, rubbish, tools and equipment.
- .2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.