

Rideau Residences

Assemblies

X0 . Footing:

reinforced concrete (width and depth as per OBC)
formed with 2.0" extruded polystyrene rigid board insulation (R 10), joints sealed
on 2.0" high-load extruded polystyrene rigid board insulation (R 10)
covered with 2.0" extruded polystyrene rigid board insulation (R 10)
top sprayed with waterproof membrane continuous from foundation wall waterproof membrane

W1 . Wall Foundation Below Grade:

6.0" extruded polystyrene rigid board insulation (R 30), joints sealed
0.02" water barrier (adhesive sheet or fluid-applied membrane)
8.0" reinforced concrete
0.75" wood strapping
0.5" gypsum board

W2 . Wall Foundation Above Grade:

0.5" parging with metal lath
0.5" cement board
6.0" extruded polystyrene rigid board insulation (R 30), joints sealed
0.02" water barrier (adhesive sheet or fluid-applied membrane)
8.0" reinforced concrete
0.75" wood strapping
0.5" gypsum board

W3 . Wall Exterior Brick:

3.5" brick
0.75" wood strapping rain screen with brick ties
4.0" foil-faced polyisocyanurate rigid insulation (R 22), joints sealed
0.44" oriented strand board sheathing
1.5" x 5.5" (2" x 6") wood frame (16" on centre) with 3.5" closed-cell polyurethane spray foam insulation (R 21)
0.5" gypsum board

W4 . Wall Exterior Metal:

1.0" corrugated metal siding
0.75" wood strapping rain screen
4.0" foil-faced polyisocyanurate rigid insulation (R 22), joints sealed
0.44" oriented strand board sheathing
1.5" x 5.5" (2" x 6") wood frame (16" on centre) with 3.5" closed-cell polyurethane spray foam insulation (R 21)
0.5" gypsum board

W5 . Wall Partition:

0.5" gypsum board
1.5" x 3.5" (2" x 4") wood frame
0.5" gypsum board

W6 . Wall Partition Wet:

0.5" paperless gypsum board (high-humidity side)
1.5" x 3.5" (2" x 4") wood frame
0.5" gypsum board (dry side)

W7 . Wall Chase:

0.5" gypsum board
1.5" x 3.5" (2" x 4") wood frame
0.5" gypsum board

W8 . Wall Fire Partition:

0.625" gypsum board (Type X)
1.5" x 5.5" (2" x 6") independent wood frame with mineral fibre
0.006" sheathing membrane / air barrier
0.5" sheathing
0.5" air gap
0.5" sheathing
0.006" sheathing membrane / air barrier
1.5" x 5.5" (2" x 6") independent wood frame with mineral fibre
0.625" gypsum board (Type X)

F1 . Floor Basement Slab:

3.0" agilia screed A
0.006" polyethylene vapour retarder
6.0" closed-cell polyurethane spray foam (R 30)
>6.0" granular drainage

F2 . Floor Concrete:

1.5" agilia screed A
1.0" extruded polystyrene rigid panel insulation with foil faces (R 5)
0.75" subfloor
14.0" wood I-joist
0.75" strapping
0.5" gypsum board

R1 . Roof Flat Vegetated:

vegetation (vegetables, grasses, shrubs)
12.0" engineered soil (growing medium)
filter fabric (separation layer)
geo-composite / granular material (water retention & drainage layer)
water barrier protection (separation layer)
fully-bonded water barrier
2.0" sloped polyisocyanurate rigid panel insulation (R 10)
0.75" plywood
14.0" wood I-joist
9.5" closed-cell polyurethane spray foam (R 57)
0.5" strapping
0.5" gypsum board

R2 . Roof Flat Wood Deck:

1.5" wood decking (cedar)
0.02" water barrier
2.0" sloped polyisocyanurate rigid panel insulation (R 10)
0.75" plywood
9.5" wood I-joist
9.5" closed-cell polyurethane spray foam (R 57)
0.5" strapping
0.5" gypsum board

Windows & Doors

3x7 doors = Inline Fiberglass 301 series (tilt-n-turn) = 0.22 U Value, 0.35 SHGC, 0.39 Vt, x ER
2x2 windows = Inline Fiberglass 700 series (hopper) = 0.25 U Value, 0.36 SHGC, 0.39 Vt, x ER
2x4 windows = Inline Fiberglass 700 series (casement) = 0.25 U Value, 0.36 SHGC, 0.39 Vt, 30 ER
2x5 window (casement) with 4x4 window (fixed) = Inline Fiberglass 700 series = 0.19 U Value, 0.46 SHGC, 0.53 Vt, 43 ER
4x7 windows = Inline Fiberglass (fixed) = 0.20 U Value, 0.49 SHGC, 0.55 Vt, x ER

Triple Glazed, Clear, Low E (Hard Coat), Argon, Thermal Edge Spacer

Heating & Ventilation Equipment

Heat Recovery Ventilator = Lifebreath 195 ECM Dual Core
Air Filter = Lifebreath TFP3000HEPA
Geothermal Heat Pump = Nordic DXW25H
Geothermal Heating System Water Storage Tank = GSW SS640LDE
Domestic Hot Water Tank = GSW SS640LDE

Photovoltaic Electrical Generation Equipment

Panels = Heliene HEE 215M
Microinverter = Enphase Energy D380
(grid tied / Ontario Micro Feed In Tariff Contract)

Envelope Penetrations

1 supply air = 48" Duct Length (exterior wall face to face of unit)
1 exhaust air = 96" Duct Length (exterior wall face to face of unit)
2 roof drains - one above third floor roof, one above second floor roof
1 plumbing vent stack
1 radon vent stack
1 solar ready conduit
1 central vacuum
1 dryer vent
4 water hose bibs
1 electrical supply
5 electrical outlets

Air Tightness

pressurization test at 0.57 ACH50 (by Homesol Building Solutions)

Site & Building Orientation

project site is located north of a public park (undeveloped open space) and the Rideau River
walls of building are oriented within 15 degrees of the cardinal points

Declaration

I certify that the Rideau Residences, located at 279 Crichton Street in Ottawa, was built using the specifications, materials and equipment outlined above.



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