

# Building Summary

## Canada Package A1 Reference

### Property

Royal Pine Homes  
Model 45-06 WUB - Proposed  
Richmond Hill,

### Organization

Clearsphere Consulting  
416-481-4218  
John Godden

### HERS

Projected Rating  
June 13, 2021  
Rating No:N/A  
Rater ID:0001

Weather:Toronto, ON\_CAN

Model 45-06 WUB - Proposed  
Model 45-06 WUB - Proposed.blg

### Builder

Royal Pine Homes

### Property/Builder Information

|                  |                            |
|------------------|----------------------------|
| Building Name    | Model 45-06 WUB - Proposed |
| Owner's Name     | Royal Pine Homes           |
| Property Address | Model 45-06 WUB - Proposed |
| City, St, Zip    | Richmond Hill,             |
| Phone Number     |                            |

|                       |                  |
|-----------------------|------------------|
| Builder's Name        | Royal Pine Homes |
| Phone Number          |                  |
| Email Address         |                  |
| Plan/Model Name       | Model            |
| Community/Development | Centerfiled      |
| Identifier/Other      |                  |

### Organization Information

|                   |                         |
|-------------------|-------------------------|
| Organization Name | Clearsphere Consulting  |
| Address           | 1632 O'Connor Dr.       |
| City, St, Zip     | Toronto, ON_CAN M4B 3P4 |
| Phone Number      | 416-481-4218            |
| Website           | www.clearsphere.ca      |

### Rating/RESNET Information

|                          |                       |
|--------------------------|-----------------------|
| Provider ID              | 2006-001              |
| Sample Set ID            | 00000000              |
| Registry ID              |                       |
| Registry Date Registered |                       |
| Rater's Name             | John Godden           |
| Rater's ID               | 0001                  |
| Rater's Email            | howard@clearsphere.ca |
| Last Field Insp          | June 13, 2021         |
| Rating Type              | Projected Rating      |
| Reason for Rating        | New Home              |
| Rating Number            | N/A                   |
| Rating Permit Date       | 11/22/2019            |

REM/Rate - Residential Energy Analysis and Rating Software v16.0.2 Canada

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| <b>Weather:</b> Toronto, ON_CAN<br>Model 45-06 WUB - Proposed<br>Model 45-06 WUB - Proposed.blg | <b>Builder</b><br>Royal Pine Homes   |  |

### General Building Information

|  |                        |
|--|------------------------|
| Area of Conditioned. Space(sq ft)                | 4843                   |
| Volume of Conditioned. Space                     | 48786                  |
| Year Built                                       | 2021                   |
| Housing Type                                     | Single-family detached |
| Level Type(Apartments Only)                      | None                   |
| Floors on or Above-Grade                         | 2                      |
| Number of Bedrooms                               | 4                      |
| Foundation Type                                  | Conditioned basement   |
| Foundation is w/in Infiltration Volume:          | N/A                    |
| Enclosed Crawl Space Type                        | N/A                    |
| Number of Stories Including Conditioned Basement | 3                      |
| Thermal Boundary Location                        | N/A                    |

### Foundation Wall Information

| Name            | Library Entry | Location          | Length(ft) | Total Height(ft) | Depth Below Grade(ft) | Height Above Grade(ft) | Uo Value Combo* | Uo Value (wall only) |
|-----------------|---------------|-------------------|------------|------------------|-----------------------|------------------------|-----------------|----------------------|
| Foundation Wall | N/A           | Cond->ambient/grr | 193.00     | 10.08            | 9.08                  | 1.00                   | 0.047           | N/A                  |

\* Uo Value Combo combines wall, airfilm, and soil path

### Slab Floor Information

| Name     | Library Entry                             | Area(sq ft) | Depth Below Grade(ft) | Full Perimeter(ft) | Exposed Perimeter(ft) | On-Grade Perimeter(ft) |
|----------|---|-------------|-----------------------|--------------------|-----------------------|------------------------|
| Slab     | (Under R-0.0; Per R-0.0; Per depth-0.00)  | 1426        | 9.08                  | 193                | 166                   | 0                      |
| WUB Slab | (Under R-10.0; Per R-0.0; Per depth-0.00) | 71          | 0.00                  | 54                 | 27                    | 27                     |

### Frame Floor Information

| Name          | Library Entry | Location           | Area(sq ft) | Uo Value |
|---------------|---------------|--------------------|-------------|----------|
| Exposed Floor | N/A           | Btwn cond & garage | 357         | 0.047    |

### Rim and Band Joist Information

| Name | Location | Area(sq ft) | Continuous Ins | Framed Cavity Ins | Cavity Ins Thk(in) | Joist Spacing | Insulation Grade | Uo Value |
|------|----------|-------------|----------------|-------------------|--------------------|---------------|------------------|----------|
|------|----------|-------------|----------------|-------------------|--------------------|---------------|------------------|----------|

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| Royal Pine Homes                | Clearsphere Consulting | Projected Rating |
| Model 45-06 WUB - Proposed      | 416-481-4218           | June 13, 2021    |
| Richmond Hill,                  | John Godden            | Rating No:N/A    |
|                                 |                        | Rater ID:0001    |
| <b>Weather:</b> Toronto, ON_CAN | <b>Builder</b>         |                  |
| Model 45-06 WUB - Proposed      | Royal Pine Homes       |                  |
| Model 45-06 WUB - Proposed.blg  |                        |                  |

### Rim and Band Joist Information

| Name           | Location        | Area(sq ft) | Continuous Ins | Framed Cavity Ins | Cavity Ins Thk(in) | Joist Spacing | Insulation Grade | Uo Value |
|----------------|-----------------|-------------|----------------|-------------------|--------------------|---------------|------------------|----------|
| Rim Band Joist | Cond -> ambient | 385.80      | N/A            | N/A               | N/A                | N/A           | 1                | 0.065    |

### Above-Grade Wall

| Name    | Library Entry | Location        | Exterior Color | Area(sq ft) | Uo Value |
|---------|---------------|-----------------|----------------|-------------|----------|
| AGW     | [frame wall]  | Cond -> ambient | Medium         | 3782.20     | 0.065    |
| AGW WUB | [frame wall]  | Cond -> ambient | Medium         | 243.70      | 0.065    |

### Window Information

| Name         | Wall Assignment | Orient | U-Value | SHGC  | Area (sqft) | Overhang   |             |             | Interior       |                | Adjacent       |                |
|--------------|-----------------|--------|---------|-------|-------------|------------|-------------|-------------|----------------|----------------|----------------|----------------|
|              |                 |        |         |       |             | Depth (ft) | To Top (ft) | To Btm (ft) | Winter Shading | Summer Shading | Winter Shading | Summer Shading |
| front        | AGWall 1        | South  | 0.280   | 0.450 | 5.00        | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| front        | AGWall 1        | South  | 0.280   | 0.450 | 10.70       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| front        | AGWall 1        | South  | 0.280   | 0.450 | 36.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| front        | AGWall 1        | South  | 0.280   | 0.450 | 37.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| front        | AGWall 1        | South  | 0.280   | 0.450 | 38.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| Left         | AGWall 2        | West   | 0.280   | 0.450 | 10.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| Left         | AGWall 1        | West   | 0.280   | 0.450 | 84.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| Left         | AGWall 1        | West   | 0.280   | 0.450 | 36.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| Left         | AGWall 1        | West   | 0.280   | 0.450 | 7.60        | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| Left Door    | AGWall 1        | West   | 0.280   | 0.450 | 17.30       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| Left         | AGWall 1        | West   | 0.280   | 0.450 | 72.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| Left         | AGWall 1        | West   | 0.280   | 0.450 | 40.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| Left         | AGWall 1        | West   | 0.280   | 0.450 | 14.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| WUB Door     | AGWall 2        | North  | 0.280   | 0.450 | 7.00        | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| back         | FndWall 1       | North  | 0.280   | 0.450 | 6.70        | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| back         | AGWall 1        | North  | 0.280   | 0.450 | 36.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| back Sliding | AGWall 1        | North  | 0.280   | 0.450 | 70.50       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| back         | AGWall 1        | North  | 0.280   | 0.450 | 28.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| back         | AGWall 1        | North  | 0.280   | 0.450 | 25.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |
| Right        | AGWall 1        | East   | 0.280   | 0.450 | 8.00        | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |

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| <b>Weather:</b> Toronto, ON_CAN<br>Model 45-06 WUB - Proposed<br>Model 45-06 WUB - Proposed.blg | <b>Builder</b><br>Royal Pine Homes   |  |

### Window Information

| Name  | Wall Assignment | Orient | U-Value | SHGC  | Area (sqft) | Overhang   |             |             | Interior       |                | Adjacent       |                |
|-------|-----------------|--------|---------|-------|-------------|------------|-------------|-------------|----------------|----------------|----------------|----------------|
|       |                 |        |         |       |             | Depth (ft) | To Top (ft) | To Btm (ft) | Winter Shading | Summer Shading | Winter Shading | Summer Shading |
| Right | AGWall 1        | East   | 0.280   | 0.450 | 17.00       | 0.0        | 0.0         | 0.0         | 0.83           | 0.83           | None           | None           |

### Door Information

| Name        | Library Entry | Wall Assignment | Opaque Area(sq ft) | Uo Value | R-Value of Opaque Area | Storm Door |
|-------------|---------------|-----------------|--------------------|----------|------------------------|------------|
| Front       | N/A           | AGWall 1        | 21.4               | 0.250    | N/A                    | N/A        |
| garage      | N/A           | AGWall 1        | 18.2               | 0.250    | N/A                    | N/A        |
| Cold Cellar | N/A           | FndWall 1       | 17.1               | 0.250    | N/A                    | N/A        |
| WUB Door    | N/A           | AGWall 2        | 16.5               | 0.250    | N/A                    | N/A        |

### Roof Information

| Name               | Library Entry | Ceiling Area(sq ft) | Roof Area(sq ft) | Exterior Color | Radiant Barrier | Type  | Uo Value | Cement or Clay Tiles | Roof Tile Ventilation |
|--------------------|---------------|---------------------|------------------|----------------|-----------------|-------|----------|----------------------|-----------------------|
| Ceiling-with attic | N/A           | 1849.00             | 2311.25          | Medium         | No              | Attic | 0.017    | No                   | No                    |

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| Model 45-06 WUB - Proposed      | Royal Pine Homes       |                  |
| Model 45-06 WUB - Proposed.blg  |                        |                  |

### Mechanical Equipment

|                              |             |
|------------------------------|-------------|
| Number of Mechanical Systems | 3           |
| Heating SetPoint(F)          | 72.0        |
| Heating Setback Thermostat   | Not Present |
| Cooling SetPoint(F)          | 75.0        |
| Cooling Setup Thermostat     | Not Present |
| DHW SetPoint(F)              | 125.0       |

### Heat: 96 AFUE Gas ECM 64k\*\*\*\*\*

|                               |                             |
|-------------------------------|-----------------------------|
| SystemType                    | Fuel-fired air distribution |
| Fuel Type                     | Natural gas                 |
| Rated Output Capacity (kBtuh) | 52.2                        |
| Seasonal Equipment Efficiency | 96.0 AFUE                   |
| Auxiliary Electric            | 371 Watts                   |
| Note                          |                             |
| Number Of Units               | 1                           |
| Location                      | Conditioned area            |
| Performance Adjustment        | 100                         |
| Percent Load Served           | 100                         |

### DHW: Reference DHW

|                                 |                  |
|---------------------------------|------------------|
| Water Heater Type               | Conventional     |
| Fuel Type                       | Natural gas      |
| Energy Factor                   | 0.80             |
| Recovery Efficiency             | 0.80             |
| Water Tank Size (gallons)       | 50               |
| Extra Tank Insulation (R-Value) | 0.0              |
| Note                            |                  |
| Number Of Units                 | 1                |
| Location                        | Conditioned area |
| Performance Adjustment          | 100              |
| Percent Load Served             | 100              |

### Cool: \*\*\*Code Generated Cooling\*\*\*

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### Mechanical Equipment

|                               |                  |
|-------------------------------|------------------|
| System Type                   | Air conditioner  |
| Fuel Type                     | Electric         |
| Rated Output Capacity (kBtuh) | 28.8             |
| Seasonal Equipment Efficiency | 13.0 SEER        |
| Sensible Heat Fraction (SHF)  | 0.70             |
| Note                          |                  |
| Number Of Units               | 1                |
| Location                      | Conditioned area |
| Performance Adjustment        | 100              |
| Percent Load Served           | 100              |

### DHW Efficiencies

|                                      |                             |
|--------------------------------------|-----------------------------|
| All bath faucets & showers <= 2gpm   | false                       |
| All DHW pipes fully insulated >= R-3 | false                       |
| Recirculation type                   | None (standard system)      |
| TOTAL Pipelength for longest DHW run | 110                         |
| refPipeL                             | 110                         |
| refLoopL                             | 201                         |
| DWHR unit present?                   | true                        |
| DWHR unit efficiency per CSA 55.1    | 42.00                       |
| DWHR preheats cold supply for shower | false                       |
| DWHR preheats hot supply for shower  | true                        |
| Number showerheads in home           | 2                           |
| Number showers connected to DWHR     | 2                           |
| DHW Diagnostics                      | Canada Package A1 Reference |
| dhwGpd                               | 58.84                       |
| peRatio                              | 1.00                        |
| EDef                                 | 1.00                        |
| ewaste                               | 32.00                       |
| tmains                               | 54.00                       |

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### Infiltration and Mechanical Ventilation

#### Whole Dwelling Infiltration

|                                   |                     |
|-----------------------------------|---------------------|
| Input Type                        | Blower door         |
| Heating Season Infiltration Value | 0.26 CFM50/sf shell |
| Cooling Season Infiltration Value | 0.26 CFM50/sf shell |
| Shelter Class                     | 4                   |
| Code Verification                 | Tested              |

#### Mechanical Ventilation for IAQ

|  |          |
|--|----------|
| Type                                     | Balanced |
| Unable to Measure Mechanical Ventilation | FALSE    |
| Rate(cfm)                                | 66       |
| Adjusted Sensible Recovery Efficiency(%) | 75.00    |
| Adjusted Total Recovery Efficiency(%)    | 0.00     |
| Hours per Day                            | 24.0     |
| Fan Power (watts)                        | 70.40    |
| ECM Fan Motor                            | false    |

#### Ventilation Strategy for Cooling

|                            |                     |
|----------------------------|---------------------|
| Cooling Season Ventilation | Natural Ventilation |
|----------------------------|---------------------|

|                                    |    |
|------------------------------------|----|
| Good Air Exchange for Multi-Family | NA |
|------------------------------------|----|

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### Lights and Appliances

#### Rating/RESNET audit

|                        |             |
|------------------------|-------------|
| Ceiling Fan CFM / Watt | 0.00        |
| Refrigerator kWh/yr    | 691         |
| Refrigerator Location  | Conditioned |
| Range/Oven Fuel Type   | Electric    |
| Induction Range        | No          |
| Convection Oven        | No          |

#### Dishwasher

|                        |      |
|------------------------|------|
| Energy Factor          | 0.46 |
| Dishwasher kWh/yr      | 0    |
| Place Setting Capacity | 12   |

#### Clothes Dryer

|                  |             |
|------------------|-------------|
| Fuel Type        | Electric    |
| Location         | Conditioned |
| Moisture Sensing | No          |
| CEF              | 2.62        |

#### Clothes Washer

|                  |             |
|------------------|-------------|
| Location         | Conditioned |
| LER (kWh/yr)     | 704         |
| IMEF             | 0.331       |
| Capacity (CU.Ft) | 2.874       |
| Electricity Rate | 0.08        |
| Gas Rate         | 0.58        |
| Annual Gas Cost  | 23.00       |

#### Qualifying Light Fixtures

|                   |     |
|-------------------|-----|
| Interior Lights % | 0.0 |
| Exterior Lights % | 0.0 |
| Garage Lights %   | 0.0 |
| Interior LEDs %   | 0.0 |
| Exterior LEDs %   | 0.0 |
| Garage LEDs %     | 0.0 |