



# THE HILLS AT CHARLESWORTH

## Green home features

 **Base level** All Homes Meet Baseline Criteria. |  **Diamond level** 8 or More Option Credits.

The Hills at Charlesworth homes are designed to create a community that raises the bar for sustainable development in Edmonton. By embracing the notion of sustainable development and using environmentally friendly design elements, we are developing a community not just for today but for the future.

All homes at The Hills at Charlesworth will be evaluated on a two-tiered system and awarded a Baseline or Diamond level. All builders must build homes according to the Base level criteria.

 **Baseline Criteria** All builders within the neighbourhood will meet the following criteria in all The Hills at Charlesworth homes.

### Save energy

#### Efficient water heating

- Install power vented tank DHW system with minimum energy factor of 0.67.
- Install U loop on hot water tank outlet.

#### Efficient space heating

- Install programmable thermostat with dual set back & continuous fan setting.
- Install high efficiency, sealed combustion heating appliance, with a minimum 92% AFUE.
- Install EnerGuide-rated fireplace fan kit to circulate warm air into room, if applicable.

#### Efficient lighting

- Builder installed interior and exterior light fixtures are fluorescent (T8), compact fluorescent light bulbs or LEDs. Lighting allowance provided to customers only applicable for energy efficient products.

#### Minimum EnerGuide rating

- Complete a blower door test and provide homeowner with a community branded certification indicating the EnerGuide rating of their home.

### Save water

#### Low flow fixtures

- Install kitchen and lavatory faucets with a maximum flow rate of 8.3 litres per minute (1.8 imp. Gal./min) or less; install low-flow shower heads with a maximum flow rate of 6.0 litres per minute (1.6 imp. Gal./min).
- Install toilets with a maximum 4.8 litres per flush (1.28 Gal/flush).

#### Minimize outdoor water use

- Provide a water barrel with insect screen to downspout. Water barrel should also have a drain spout and overflow spout.

### Clean air

#### Efficient and quiet fans

- Install an active Heat Recovery Ventilator or Energy Recovery Ventilator (HRV or ERV) with minimum efficiency of 70%. Verify balanced installation according to CSA F326.

#### Minimize dust

- Install pleated media filter on HVAC system with minimum MERV 10 rating. Provide (2) spare pleated media filters for each respective household.

### Responsible materials

#### Responsible wood sources

- The following materials must contain at least 15% recycled content:
  - Doors
  - Exterior window frames
  - Millwork and/or cabinets
  - Shelving

#### Responsible exterior materials

- Use roofing materials with a minimum 30-year manufacturer warranty.

#### Responsible interior materials

- Use only paints or finishes with minimum of 20% recycled content.
- Ensure gypsum wallboard has minimum recycled and/or recovered content of 15% recycled content.

#### Storage of recycling

- Incorporate recycling separation area/system in convenient location such as kitchen, pantry, garage or mudroom, designed to accommodate indoor recycling and organics collection receptacles. The system should be adequate in size relative to the home, as well as easy to access and clean.

### Construction management

#### Quality assurance

- Provide buyer with program certificate and narrative including list of green building features.
- Provide product manufacturers' information to homeowner.

#### Minimize construction waste

- Participate in municipal construction waste management program requiring a landfill diversion rate of 50% or more.
- Use recycled/reused wood, metal or engineered durable form systems for concrete foundation walls.

# Work with your builder to achieve Diamond Level by including these option credits in your new home:



## Optional Criteria to achieve Diamond Level 8 or More Credits Required.

### Save energy

#### Energy conscious design (possible 2 points)

##### High performance appliances

- Ensure all appliances installed are energy efficient. Applicable appliances may include:
  - ENERGY STAR labelled refrigerator
  - ENERGY STAR labelled dishwasher
  - ENERGY STAR labelled clothes washer or combination washer-dryer (condensing unit)
  - ENERGY STAR labelled clothes washer

##### Renewable energy solar-ready home

- Provide an unobstructed 4 m x 3 m area on south-facing roof surfaces. The ideal pitch for solar collection in Edmonton is 45 - 55 degrees, but this may be achieved through brackets and/or racks. Ensure roof conforms to building code for loading and the appropriate conduit to the electrical panel has been installed.
- Install a marker for a single 4" or two 2" chases for piping. (Example chase materials include lightweight PVC solid sewer pipe.)
- Providing a Net-Zero Ready Home will achieve an automatic diamond level.

### Save water

#### High efficiency fixtures

- Install a dual flush or pressure assisted toilet in one or more bathrooms.
- Install shower heads with flow rate of 1.75 GPM (6.6 LPM) or less and faucets with a flow rate of 1.5 GPM (5.7 LPM) or less.

### Clean air

#### Advanced air filtration

- Install HEPA filtration system in conjunction with an HVAC system.
- Install thermostat that indicates the need for the air filter to be changed or cleaned.
- Ensure exhaust vent for central vacuum is no less than 3 metres from any windows on property or adjacent property. Exhaust vents may need to be installed on the back of the house if there is insufficient clearance between adjacent houses.

### Healthy home

#### Reduce harmful chemicals

- Use only low formaldehyde composite wood products and laminate adhesives.
- Use adhesives and plasticizer-free grout with a VOC content of 150 g/L or less for installation of all ceramic tiles.
- Use low or no VOC alternatives to vinyl flooring (such as natural linoleum, marmoleum or cork, or ceramic tile).

#### Minimize trapped pollutants

- Use only factory finished hardwood, laminate or ceramic flooring in all living areas. If using laminate flooring, the maximum thickness must be 8 mm.

#### Low voc paints & finishes

- Use only water-based lacquer or paints with a VOC content of 200 g/L or less, on all site built and installed millwork, including doors, casing and baseboards.
- Use interior paints with VOC content of 150 grams/litre or less.

#### Healthy carpet

- If carpet is installed, use only Carpet and Rug Institute (CRI) IAQ labelled carpet, underlay and adhesive in home.
- If carpet is installed, ensure it has a minimum of 50% recycled content.
- Use only natural or 90% recycled content carpet pad made from textile, carpet cushion or tire waste (rebond still qualifies).

### Responsible materials

#### Responsible interior materials

- Use dimensional lumber from FSC certified sources only.
- Use only domestic wood from reused/recovered or re-milled sources for all cabinets or all millwork.
- Ensure materials used for the listed items are made from FSC certified wood:
  - Doors
  - Exterior window frames
  - Millwork and/or cabinets
  - Shelving
- Use only natural stone or recycled content (minimum 30% of content) solid countertops for all countertops.
- Use of 3/8" PinkWood with approved fire, moisture & mildew protective coating on all exterior walls.

#### Advanced framing

- Use 4 of 6 of the following advanced framing techniques:
  - Exterior and interior wall stud spacing at 24" on-center
  - Elimination of headers at non-bearing interior and exterior walls
  - Use of header hangers instead of jack studs
  - Elimination of double plates, using single plates with connectors by lining up roof framing with wall and floor framing
  - Use of two stud corner framing with drywall clips or scrap lumber for drywall backing instead of studs
  - Use blocking or drywall clips at intersecting walls

#### Responsible exterior materials

- Concrete used in construction must have a minimum supplementary cementing material (SCM) of at least 30%.RE
- Use roofing underlay and roofing finish materials with minimum 25% recycled-content.
- All cellulose or fibreglass insulation must contain a minimum of 40% recycled content.
- Use stone/stucco/brick or fibre cement siding, or with minimum 30% flyash content for stucco.
- Use only third-party certified sustainable concrete and FSC certified wood sources for deck or veranda surfaces and/or structure.
- Ensure minimum 50% recycled content for any vinyl siding or cement board.

### Accessible home

#### Adaptable/accessible design & features

- Reinforce framing at strategic places for potential installation of grab-bars.
- Install lower or adjustable height countertops, work surfaces and sinks.
- Install lever-type water and door fixtures.
- Install pull out work boards, open space under sinks and cook top to accommodate wheelchair access.
- Install electrical switches and outlets at the front of counters.
- Install task lighting over the sink, stove and work surfaces.
- Ensure room dimensions allow for wheelchair mobility with a double bed.
- Ensure that telephone jack and electrical outlet are easily accessible from potential bed locations.

### Advanced site features

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- Install motion detector controls on all outdoor lights over 13 W.
- Install permeable patio surfaces.
- Employ passive solar designs including the use of horizontal and vertical shading devices.