Geoexchange Application Requirement List

Geoexchange Project

All of the following information is necessary to facilitate a thorough evaluation and timely decision on your application. To expedite the evaluation, all materials submitted must be clear, legible and precise. To achieve this level of customer service, staff have been instructed to accept only complete applications which include plans prepared to professional drafting standards. Thank you for your cooperation.

**NOTE:** Building and Development Permit applications must be submitted without personal information on any plans. Omitting this information will protect builders and tenants by reducing the risk of any personal information being wrongfully displayed, while also following the Province of Alberta’s FOIP Act. Failure to follow this requirement may result in an incomplete application. If you consider the information to be personal, do not put it on the plans.

<table>
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<th>Project Address</th>
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<th>Required Items</th>
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1. An approved development permit, if the Land Use Bylaw requirements are not met

2. Completed Mechanical Permit Application Form

3. Two (2) copies of a Dimensioned Site Plan (**Preferred scale** *Metric - 1:200* or *Engineer - 1" = 20' 0") including:
   - north arrow
   - municipal address
   - property lines
   - adjacent City streets, lanes, and adjacent lots
   - site area & coverage
   - front, side and rear yard dimensions
   - right-of-way setbacks, easements and utility rights-of-way, if any
   - overhead utilities
   - outline of all structures on property covered by permit
   - outline of all structures on adjoining properties (private or public)
   - planned ground exchanger field with bore hole placements, piping sizes, depths and spacing
   - layout of all ground circuits and headers including into structure

4. **System Information** – contractor verification. Failing to meet standard requirements may result in replacement of any or all non-compliant equipment and materials.

   - Part 3 (commercial) system per Alberta Building Code 2014 definition – Mechanical Engineer stamped and signed drawings.
   - Part 9 (residential/small building) system per Alberta Building Code 2014 definition – Mechanical Engineer OR geoexchange designer drawings
   - Cathodic protection system designed by Corrosion Engineer or system specialist, if DX system
   - All pipe shall be line printed in compliance with CAN/CSA C448 and be marked with “C448” and “Geo” or “Geothermal”
### 5. Ground Loop Information

- Refrigerant (DX) Information
  - Refrigerant specification sheet
  - Refrigerant type (per CAN/CSA B52 and/or ASHRAE 34)
    - R-22
    - R-410A
    - Other

  Operating pressures:
  - Maximum ______________ Minimum _________________________

- Thermal Transfer Fluid Information
  - Transfer fluid specification sheet
    - Propylene glycol
    - Methanol
    - Ethanol
    - Other

  Dilution level of antifreeze:
  - _____ % water
  - _____ litres of antifreeze
  - _____ % antifreeze
  - _____ litres total volume

### 6. Additional documentation, where required

- Thorough heat loss calculation for main structure (to meet CAN/CSA F280 for Part 9 applications and ASHRAE standards for Part 3 applications)
- Thorough and separate heat loss calculations for each peripheral heating/cooling load
  - On-demand domestic hot water (not applicable for desuperheater function)
  - Snow/ice melt
  - Spa
  - Pool
  - Other (description)

- Back-up heat source specification sheet including type, size, output, etc
- For DX systems only – Certified brazer’s (refrigeration) certificate (photocopy is acceptable)
- For DX systems only – Cathodic protection documentation (per NACE)
- Alberta Environment approval letter for regulated open loop system
- Energy Resources Conservation Board licence for bores > 150 m.
- Geotechnical report
- Hydrogeological report (required if Alberta Environment letter is required)
- Copy of independent utility locate report
- Copies of specification sheets for each equipment item

### 7. Drilling company

- Contact name & phone number

### 8. Fee (Fee Schedule), based on marked-up construction costs, including all labour, equipment and material (including drilling, trenching, excavating and backfilling)
FOIP DISCLAIMER: The personal information on this form is being collected under the authority of The Calgary Building Permit Bylaw 64M94 (Section 5) and amendments thereto. It will be used for the permit review and inspection processes and may be communicated to relevant City Business Units, utility providers, and Alberta Health Services. It may also be used to conduct ongoing evaluations of services received from Planning, Development & Assessment. The name of the applicant and the nature of the permit will be available to the public. Please send inquiries by mail to the FOIP Program Administrator, Planning, Development & Assessment, PO Box 2100, Station M, Calgary, AB T2P 2M5 or contact us by phone at 311.

Checklists are updated periodically. Please ensure you have the most recent edition.

<table>
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<tr>
<th>Phone: 403-268-5311</th>
<th>In Person:</th>
<th>Mail:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web: calgary.ca</td>
<td>3rd floor, Calgary Municipal Building</td>
<td>The City of Calgary</td>
</tr>
<tr>
<td>800 Macleod Trail SE, Calgary, Alberta</td>
<td>Planning, Development &amp; Assessment (#8108)</td>
<td></td>
</tr>
<tr>
<td>8:00 a.m. to 4:30 p.m. Monday – Friday</td>
<td>800 Macleod Trail SE, Calgary, Alberta T2P 2M5</td>
<td></td>
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