## Activity Name: Soft Soil Investigations (Auger drilling)

### Activity Description & Purpose:
Soft drilling using augers. Drilling using Hollow Stem Augers (HSA) or 4" solid augers is an in situ testing method used to determine the geotechnical engineering properties of soils and delineating soil stratigraphy.

### Date Prepared: 04/01/2009

### Typical Equipment

<table>
<thead>
<tr>
<th>Description</th>
<th>Class Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drill Rig</td>
<td>900</td>
</tr>
<tr>
<td>Drill Truck Mounted</td>
<td>900</td>
</tr>
<tr>
<td>Trailer - Lowboy</td>
<td>813</td>
</tr>
<tr>
<td>Equipment -KS</td>
<td>902-903</td>
</tr>
</tbody>
</table>

### Typical Crew Size: 3 to 11

### Typical Material

<table>
<thead>
<tr>
<th>Description</th>
<th>Class Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Boots, Hardhat, Reflective Vest, Safety Glasses, Dust Mask, Hearing Protection, Appropriate Gloves</td>
<td></td>
</tr>
</tbody>
</table>

### PPE Required

- Safety Boots
- Hard hat
- Reflective Vest
- Safety Glasses
- Dust Mask
- Hearing Protection
- Appropriate Gloves

### Typical Crew Size: 3 to 11

(Crew sizes may vary due to different site conditions such as on-road, off road drilling, winter conditions, summer conditions, day time or night time drilling.

### Sequence of Job Tasks

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Potential Hazards</th>
<th>Safe Job Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preplan</td>
<td>N/A</td>
<td>Use unsafe equipment</td>
</tr>
<tr>
<td>Undergound</td>
<td>Buried power, gas &amp; water lines, fibre optics, overhead lines</td>
<td>Insure UNCC clearance and non-member utilities are contacted and cleared</td>
</tr>
<tr>
<td>Pretrip</td>
<td>Tripping, Falling, Pinching, Crushing, Burns, Lifting, Bending, Pulling, Twisting</td>
<td>Lift with your back, no loose clothing</td>
</tr>
<tr>
<td>Loading</td>
<td>Equipment backing truck or equipment into objects/people or off the side of a trailer, Unsecured loads, Tripping, Falling, Pinching, Crushing, Moving Parts, Burns, Lifting, Bending, Pulling, Twisting</td>
<td>Load equipment without a spotter, Travel with unsecured loads</td>
</tr>
<tr>
<td>Traffic Control</td>
<td>Setup</td>
<td>Tripping, Falling, Pinching, Crushing, Moving Parts, Burns, Lifting, Bending, Pulling, Twisting</td>
</tr>
<tr>
<td>Traffic Control</td>
<td>Removal</td>
<td>Tripping, Falling, Pinching, Crushing, Moving Parts</td>
</tr>
</tbody>
</table>

### Activity Description & Purpose:
Soil drilling using augers, Drilling using Hollow Stem Augers (HSA) or 4" solid augers is an in situ testing method used to determine the geotechnical engineering properties of soils and delineating soil stratigraphy.

### Safe Job Procedures

- Always perform equipment inspections before and after operations (pre and post)
- Use a spotter, Do a walk around, Proper loading/unloading of equipment, Secure loads, Display appropriate warning signs, Wear appropriate PPE
- Always perform traffic control setup correctly and your traffic control plan must be approved
- Always perform equipment inspections before and after operations (pre and post)
- Lift with your back, No loose clothing
- Always perform equipment inspections before and after operations (pre and post)
- Use sandbags
- Follow your traffic control plan (MHT) and insure the plan is on location. Mark all overhead obstructions with cones, signs, or flags. Always use attenuator trucks when available and test your plan and insure it is working.
- Use clean and legible traffic control devices
- Use identified escape routes in your traffic control plan – always have a set of eyes watching traffic

### Other Related Resources

- Driller Safety Handbook
- MMS Manual
- MUTCD
- PD 80.1, Personal Protective Equipment
- M & S Standards
- Lane Closure Strategy Book
- Notes and Specifications Instructions

### Distribution

- CDOT Safety Manual
- Notes and Specifications Instructions

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**Safety Manuals, Handbooks, or Other Information:**
- Other related resources
- As indicated

**Distribution:**
- CDOT Safety Manual
- Notes and Specifications Instructions
- As indicated