











Date Revised:	April 2019	Overall Task Risk Rating:	<b>B</b>
Description:	All utilities must be located and marked. Underground utilities range from hydro, communication cables, gas, fibre optic lines, existing water mains, TV cables, storm drains, sanitary sewers, etc.		
Location(s):	Construction Projects		
Associated Documents: Trenching and Excavating WTS, Housekeeping WTS, Equipment and Machinery Operation WTS, Hazardous Energy Control WTS			

## RED FLAGS (HOLD WORK UNTIL CORRECTED):

### Note:

- Do not commence work if you haven't got the locates done for the underground utilities in the area
- Always remember to contact "ONTARIO ONE CALL" before you dig
- If you find an unidentified utility, STOP and contact the utility owner immediately

## PERSONAL PROTECTIVE EQUIPMENT (CSA APPROVED)

									
Head Protection	Foot Protection	High-Vis Protection	Hearing Protection	Hand Protection	Eye Protection	Respiratory Protection	Skin Protection	Face Protection	Fall Protection
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note:

- Additional PPE such as eye protection (i.e. safety glasses), hand protection (i.e. gloves) and respiratory protection (i.e. a full face respirator) may be required depending on the task and surrounding environment

## SAFE WORK PRACTICES (SWP)

### General Locates Practices:









- All underground utilities that may be encountered during the excavation must be located and marked prior to breaking ground
- Always contact "ONTARIO ONE CALL" for locating any underground utilities that may be on a project for locate request services
- Where underground utility cannot be located contact utility owner to assist with manual locate
- Ensure supervisors and operators have locates available if equipment is to be used around underground electrical or energy hazards
- Ensure workers are provided copies of utility locates (as necessary) and that the content/specifications set out therein, are current and communicated to them
- If you find an error or an unidentified utility, STOP and contact the utility owner immediately
- If the utility may pose a hazard, the service shall be locked-out / tagged-out (LO / TO)
- While the excavation is open, underground utilities shall be protected, supported, or removed as necessary to protect employees

### Digging Techniques:

- Do not use mechanical excavation within locate boundary limits
- Use non-intrusive methods of excavating material within restricted areas around utilities
- Uncover utilities using hand digging methods
- To ensure that you've exposed the correct utility, you may need assistance (hydro vac, subsurface imaging, radar (GPR), x-ray, etc.)
- Ensure excavation does not occur outside of the area where locates were obtained, without obtaining further locates

## Utility Locate Markings:

- Ensure locates are up to date, and clearly marked onsite
- To help the locator on site, the excavator is to white line the dig area
- Ensure utility owner indicates, using labelled stakes / flags / paint, the centre line of underground utilities in the vicinity of the proposed excavation
- Ensure a diagram of the locate information is provided
- A colour code for marking buried utilities is used by contractors, locators, and utility owners throughout North America
- Re-conduct locates if markings not identifiable
- If locates are expired a new set of locates must be obtained
- Locate documents must be available onsite
- Do not remove or deface conducted utility locates

Utility or Product	Paint Colour	
Electric - Powerlines; Cables; Conduit and lighting cables	Red	
Gas; Oil; Steam; Petroleum; Compressed air and gases (e.g., propane); Other hazardous liquid or gaseous materials except water	Yellow	
Communications - CATV; Alarms; Signal lines; Cables and conduit (phone and fibre optics)	Orange	
Water	Blue	
Sewers; Drain lines	Green	
Reclaimed/treated water; Irrigation and slurry lines	Purple	
Temporary survey marks	Pink	
Proposed excavations	White	

## Inspections:

- Keep track of utility locates conducted onsite
- Inspect uncovered utilities for damage, and to ensure they are supported appropriately
- All workers must consult the utility locates report/diagram, prior to commencing excavation (and related) activities

## Training:

- Employee Orientations (including roles, responsibilities, applicable workplace task standards, WHMIS, etc.)
- Ensure utility locates are conducted by competent workers
- Ensure workers who are provided copies of utility locates, are competent and understand the content and specifications outlined
- Only trained, authorized personnel are allowed to operate machinery or equipment
- Only operate machinery and equipment that you are authorized and trained to use

## Personal Protective Equipment:

- Workers on construction projects must wear, at a minimum, head, foot and high visibility protection. Eye protection when necessary
- Eye protection is required when completing tasks that may cause debris / objects to dislodge or become airborne

JOB HAZARD AND RISK ANALYSIS		RISK RATING SYSTEM	A	High risk of injury or equipment / property damage.
			B	Medium risk of injury or equipment / property damage.
		C	Low risk of injury or equipment / property damage.	
TASK HAZARDS	TASK CONTROLS	RATING		
<ul style="list-style-type: none"> <li>• Lack of Documentation, Locates</li> </ul>	<ul style="list-style-type: none"> <li>• Before you dig, mark the proposed excavation area and contact "ONTARIO ONE CALL" to obtain locates for all underground utilities</li> <li>• Keep all documentation on the job-site showing proof that the locates were made</li> </ul>	<b>B</b>		
<ul style="list-style-type: none"> <li>• Lack of Communication</li> </ul>	<ul style="list-style-type: none"> <li>• Established safe working zones while digging in proximity to underground utilities</li> </ul>	<b>C</b>		
<ul style="list-style-type: none"> <li>• Lack of Training</li> </ul>	<ul style="list-style-type: none"> <li>• Excavation equipment is to be operated and maintained by competent trained and authorized personnel</li> <li>• Ensure utility locates are conducted by competent workers</li> <li>• Ensure workers who are provided copies of utility locates, are competent and understand the content and specifications outlined</li> </ul>	<b>C</b>		
<ul style="list-style-type: none"> <li>• Lack of Site Planning and Storage Knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure excavation does not occur outside of the area where locates were obtained, without obtaining further locates</li> </ul>	<b>B</b>		
<ul style="list-style-type: none"> <li>• Utilities Not Located</li> </ul>	<ul style="list-style-type: none"> <li>• Where underground utility cannot be located contact utility owner to assist with manual locate</li> <li>• Confirm location of all utilities within excavation area by hand digging</li> </ul>	<b>B</b>		

<ul style="list-style-type: none"> <li>Located Utilities Not Marked</li> </ul>	<ul style="list-style-type: none"> <li>Ensure locates are up to date, and clearly marked onsite</li> <li>Ensure utility owner indicates, the centre line of underground utilities in the vicinity of the proposed excavation</li> <li>Ensure a diagram of the locate information is provided</li> <li>Re-conduct locates if markings not identifiable</li> </ul>	<b>B</b>
<ul style="list-style-type: none"> <li>Mechanical Excavation in Close Proximity to Utilities</li> </ul>	<ul style="list-style-type: none"> <li>Do not use mechanical excavation in locate boundary limits</li> <li>Use non-intrusive methods of excavating material within 1 metre of centre line of marked utilities (i.e. hand digging or hydro vactor)</li> <li>Dig test holes to find the line and depth of the utility</li> </ul>	<b>B</b>
<ul style="list-style-type: none"> <li>Unstable or Live Utilities</li> </ul>	<ul style="list-style-type: none"> <li>If the utility may pose a hazard, the service shall be LO / TO</li> <li>While the excavation is open, underground utilities shall be protected, supported, or removed as necessary</li> </ul>	<b>B</b>
<ul style="list-style-type: none"> <li>Expired Utility Locates</li> </ul>	<ul style="list-style-type: none"> <li>Each utility can have different expiration periods (~30 days)</li> <li>Get new locates done before the old ones expire</li> <li>Request locates at least 5 to 10 days in advance of expiry</li> </ul>	<b>C</b>

## SAFE JOB PROCEDURES (SJP)

<p><b><u>Pre-Task Commencement:</u></b></p> <ol style="list-style-type: none"> <li>Gather and wear the required PPE for the task - on construction sites, all must wear head, foot and high visibility protection. Eye protection when necessary</li> <li>Ensure the site-specific workplace violence assessment is complete</li> <li>Complete the Daily GAZZ Card and review with all workers the shift's tasks with any associated hazards and control strategies</li> <li>Ensure all workers understand the GAZZ Card contents, and sign off in acknowledgement</li> <li>Ensure controls are in place prior to commencing work so risks are mitigated / eliminated</li> <li>Determine what equipment / machinery / tools and material, are required for the completion of the task</li> <li>Inspect all equipment / machinery / tools prior to use and document the inspections on appropriate forms when required</li> <li>Ensure preventative maintenance activities have been completed where required, prior to using equipment / machinery / tools</li> <li>If equipment / machinery / tools are observed to be damaged, remove it from use and notify the Foreman / Superintendent</li> <li>Install fencing and hoarding where needed</li> <li>Call "ONTARIO ONE CALL" for locating services of all buried utilities to request that they locate and mark the utilities and provide a diagram describing the locate information</li> <li>The excavation area should be outlined by a white line when possible</li> </ol>
<p><b><u>During Task:</u></b></p> <ol style="list-style-type: none"> <li>Review locate and ensure compliance to utility location and active work</li> <li>Locate centre line of utility</li> <li>Ensure the operator has a copy of the locates</li> <li>Determine excavating procedures</li> <li>Communicate with near-by workers to inform them that work is commencing</li> <li>Support utilities to prevent failure or breakage</li> </ol>
<p><b><u>Note - If un-located utilities or damaged utilities are discovered:</u></b></p> <ol style="list-style-type: none"> <li>Stop all related work activities</li> <li>Contact the utility owner</li> <li>Verify the damaged area by taking pictures, notes (i.e. elevations, etc.) and complete an incident report</li> </ol>
<p><b><u>Task Completion:</u></b></p> <ol style="list-style-type: none"> <li>Ensure all equipment / machinery / tools are maintained and stored appropriately in the designated locations</li> <li>Implement any housekeeping or maintenance as required</li> </ol>