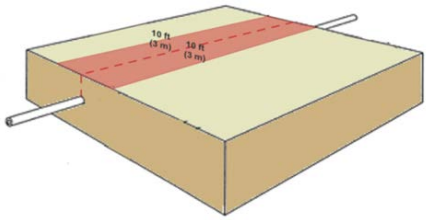
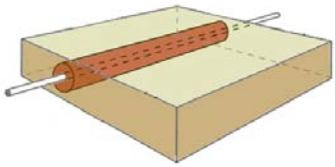
Subsurface Clearance (SSC)
Review Checklist for Contractors

Site Name:	
Client:	
ERM Project No.:	
Contractor activities to be performed on site:	

Use this form to conduct and document review with contractor personnel, to ensure they have been properly briefed on the applicable components of ERM's SSC Procedure.

TOPIC	REVIEWED	N/A	COMMENTS
All personnel on ERM projects are empowered to stop work, without fear of reprimand, if it is unsafe to proceed or if there are concerns or questions.	☐	☐	
If at any time during project execution, the scope of work or site conditions change, work should be stopped and the potential impacts of the change discussed.	☐	☐	
Ground disturbance activities may NOT be performed at any location without authorization by the ERM SSC Experienced Person (EP) or field team lead. Clearance activities may NOT be performed at any location unless the ERM EP or field team lead is physically present.	☐	☐	
Unless explicitly authorized by ERM's EP, Partner-in-Charge and Local Managing Partner, ground disturbance may NOT be performed within 10 feet (3 meters) distance (referred to as the "Critical Zone") of the surface projection of: • Any known or suspected underground pipes, cables, conduits, drains, galleries, edges of tanks, or any other useful property; or • Aboveground structures with associated subsurface pipes and/or cables, including but not limited to pump islands, pump galleries, manifolds, electrical transformers, compressors, production wells, loading racks, or other process equipment.	☐	☐	**"The Critical Zone"** 
Unless authorized by the ERM EP, ground disturbance / clearance activities must NOT be performed in areas that are in direct conflict with any markings made by public or private utility locators.	☐	☐	
Unless explicitly authorized by ERM's Partner-in-Charge and Local Managing Partner, all borehole and small test pit locations must be physically cleared prior to use of mechanized equipment. Required physical clearance depths and diameters for point disturbances are as follows: • Physically clear to a diameter at least 125% of the largest downhole tool to be used. • Physically clear to the deeper of: o Outside Critical Zones to 5 feet (1.5 meters); OR o Inside Critical Zones to the deeper of: 8 feet (2.4 meters), or 2 feet (0.6 meters) deeper than the expected bottom depth of the subsurface structure; OR o 2 feet (0.6 meters) beyond the bottom of the frost line at the site.	☐	☐	

TOPIC	REVIEWED	N/A	COMMENT:
Mechanical digging is prohibited inside a 2-foot (0.6-meter) distance (referred to as the "Excavation Buffer") in all directions from subsurface structures that will be intentionally exposed due to ground disturbance activities. Removal of material inside the Excavation Buffer may only proceed by hand using non-conductive tools or by compressed air excavation, if allowed by law and authorized by the owner/operator the structure.	☐	☐	**"The Excavation Buffer"** 
For all equipment brought to the site, the minimum horizontal distance from any point on the equipment to the nearest overhead electrical power line must adhere to the minimum safe clearance requirements stipulated by regulation, utility companies, client requirements, and/or industry best practice. Other access constraints should be reviewed to plan vehicle moves accordingly.	☐	☐	
If subsurface structures are to be de-energized prior to ground disturbance activities, only trained personnel may do so via a formal, written energy isolation program.	☐	☐	
For compressed air excavation equipment, the operators should wear coveralls, ear, eye and hard hat protection. Safety precautions associated with compressed air must be employed. Grounding the hose and the tanker may also be required and should be assessed prior to start of operations. Filtering devices should be used to reduce release of materials and dust to the environment.	☐	☐	
Contractor personnel should be observant during ground disturbance activities for the presence of warning signs indicating non-native soil, fill materials, and/or the presence of unexpected subsurface structures. Any evidence of warning signs, unexpected encounters with subsurface structures, or any other near misses or incidents must result in immediate work stoppage and be reported to the ERM EP or field team lead.	☐	☐	
In the event of contact or potential contact with a subsurface structure, contractor personnel must observe a no touch principle. The service is to be considered live and potentially damaged, therefore hazardous, until investigated by a specialist.	☐	☐	
Once physical clearance is completed, holes must be secured or covered in order to prevent slips, trips and falls until mechanical advancement commences.	☐	☐	
Contractor personnel must participate, as requested, in investigations of near misses and incidents.	☐	☐	
Contractors must comply with all other applicable regulatory or client requirements.	☐	☐	
Other topics discussed:	☐	☐	

N/A = Not applicable to this project.

REQUIREMENTS FOR TOOLS AND EQUIPMENT:

- Authorized hand tools include shovels, trenching spades, post-hole diggers and hand augers. Hand digging tools must have a non-conductive handle (e.g., fiberglass, wood, composite) AND / OR fully insulated handles and potential contact surfaces.
- Blades on shovels and post-hole diggers must have rounded or blunt edges.
- Tools that come to a point, e.g., pick axes or pointed spades, are not to be used for physical clearance.
- Crow bars, pinch bars or pry bars must not be used to break hardened soil or backfill. The ERM EP or field team lead may authorize use of bars only to loosen materials like bricks or larger stones so that removal of these materials is possible. Bars must also have a non-conductive handle (e.g., fiberglass, wood, composite) AND / OR fully insulated handles and potential contact surfaces, and must not be used with excessive force.
- Electric-powered equipment must have ground fault protection. If this is not feasible, fully insulated electrical gloves certified to appropriate standards must be worn at all times during equipment use/operation.
- Equipment must be inspected prior to use, maintained according to manufacturer recommendations, and operated only by trained personnel. Training documentation must be provided upon request.
- Hand tools must be used properly and not "over-muscled." In case of refusal or difficult advancement, the contractor must stop work and notify the ERM EP or field team lead.
- Rig- or stand-mounted concrete coring equipment must be anchored to the ground/floor using proper anchors.

Checklist Completed By: (SSC Experienced Person or Field Team Lead)		
Name (Print)	Name (Sign)	Date / Time

Reviewed By: (All Contractor Personnel)		
Name (Print)	Name (Sign)	Date / Time