

**UNCONTROLLED IF PRINTED
Excavation Checklist**

Project: _____ Weather: _____ Date: _____

Measurements of Trench: Depth: _____ Length: _____ Width: _____

Soil Type: ____ See attached "Soils Analysis Checklist"

Type of Protective System Used: _____

General Inspection of the Job site

Yes	No	N/A	
___	___	___	Excavations, adjacent areas, and Protective Systems inspected by the Competent Person daily, prior to the start of work.
___	___	___	Competent Person has the authority to remove workers from the excavation immediately.
___	___	___	Surface encumbrances supported or removed.
___	___	___	Employees protected from loose rock or soil that could possibly pose a hazard by falling or rolling into the excavation.
___	___	___	Hard hats worn by all employees.
___	___	___	Spoils, materials, and equipment set back a minimum of 2' from the edge of the excavation.
___	___	___	Barriers provided at all remote excavations, well, pits, shafts, etc.
___	___	___	Walkways and bridges, over excavations 4' or more in depth, must be equipped with guardrails
___	___	___	Warning vests, or other highly visible garments, provided and worn by all employees exposed to public vehicular traffic.
___	___	___	Employees required to stand away from vehicles being loaded or unloaded.
___	___	___	Employees prohibited from working or walking under suspended loads.
___	___	___	Employees prohibited from working on the faces of sloped or benched excavations above other employees.
___	___	___	Warning system established and utilized when mobile equipment is operating near the edge of an excavation.

Utilities

___	___	___	Utility companies contacted and/or utilities located.
___	___	___	Exact location of utilities marked when approaching the utilities.
___	___	___	Underground installations protected, supported, or removed when the excavation is open.

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Means of Access and Egress

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lateral travel distance to a means of egress does not exceed 25', for excavations 4' or more in depth.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ladders, when used, must extend 3' above the edge of the trench and be secured.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structural ramps used by employees must be designed by a Competent Person.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structural ramps used for equipment must be designed by a Registered Professional Engineer (RPE).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ramps must be constructed of materials of uniform thickness, securely cleated together on the bottom, and have a non-slip surface.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Employees protected from cave-ins while entering, working in, or exiting excavation.

Wet Conditions

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Precautions taken to protect employees from accumulation of water.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water removal equipment monitored by a Competent Person.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Surface water controlled or diverted.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Inspection made after each rainstorm.

Hazardous Atmosphere

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Atmosphere tested when there is a reasonable possibility of oxygen deficiency, or build up of other hazardous gases, that may expose an employee to a hazard.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Oxygen content is between 19.5% and 21%.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ventilation provided to prevent flammable gas from building up to 20% of the lower explosive limit of the gas.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Testing conducted to ensure that atmosphere remains safe.

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Excavation Checklist

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|-----|-----|-----|--|
| ___ | ___ | ___ | Emergency Response Equipment readily available where a hazardous atmosphere could or does exist. |
| ___ | ___ | ___ | Employees trained on the use of Personal Protective and Emergency Response Equipment. |
| ___ | ___ | ___ | Safety harness and life line must be individually attended when an employee entering a deep confined excavation or bell bottom pier. |

Protective Support Systems

- | | | | |
|-----|-----|-----|--|
| ___ | ___ | ___ | Materials and/or equipment selected on soil analysis, expected loads, and trench parameters. |
| ___ | ___ | ___ | Materials and equipment inspected and in good condition. |
| ___ | ___ | ___ | Materials and equipment not in good condition must be removed from service and not returned until repaired, inspected, and approved by a Registered Professional engineer. |
| ___ | ___ | ___ | Protective systems installed without exposing employees to hazards of cave-ins, collapses, or from being struck by materials of equipment. |
| ___ | ___ | ___ | Install from the top, down, and from the bottom up. |
| ___ | ___ | ___ | Members of Protective Support System must be securely fastened. |
| ___ | ___ | ___ | Adjacent structures must be securely supported. |
| ___ | ___ | ___ | Excavations below the footing of base must be approved by a Registered Professional Engineer. |
| ___ | ___ | ___ | The backfill process must progress with the removal of the support system. |
| ___ | ___ | ___ | Material excavated to a level no greater than 2' from the bottom of the Protective Support System, and only if system is designed to support the calculated loads. |
| ___ | ___ | ___ | Shield system placed to prevent lateral movement. |
| ___ | ___ | ___ | Employee prohibited from remaining in a Trench Box when being moved vertically. |

Signature of Competent Person And Date

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Soils Analysis Checklist

This checklist must be completed when an analysis is performed to determine the soil(s) type present in the excavation. A separate analysis must be performed for each change in soil conditions, such as layers in the excavation wall, if the trench extends long distances, etc.

Project: _____

Weather: _____

Measurements of Trench: Depth: _____ Length: _____ Width: _____

Sample: Location Taken From: _____ Time: _____

Date: _____

Visual Test

Particle Type: Fine Grained (cohesive) _____ Course Grained (sand or gravel) _____

Water Conditions: Wet _____ Dry _____ Submerged _____ Surface Water Present _____

Previously Disturbed Soils? Yes _____ No _____

Underground Utilities Protected? Yes _____ No _____

Layered Soils? Yes _____ No _____

Layered Soil Dipping Into Excavation? Yes _____ No _____

Excavation Exposed to Vibration? Yes _____ No _____

Surface Encumbrances Present? Yes _____ No _____

If yes, what type? _____

Evidence of Cracking or Spalling Observed? Yes _____ No _____

Potentially Hazardous Atmosphere Exist? Yes _____ No _____

If yes, identify condition & source: _____

(If yes, follow the company Confined Space Procedures)

Manual Test

Plasticity: Cohesive _____ Non-cohesive _____

Dry Strength: Granular (crumbles easily) _____ Cohesive (broken w/difficulty) _____

Note: The following unconfined compressive strength tests should be performed on undisturbed soils.

Thumb Test: used to estimate unconfined compressive strength of a cohesive soil.

Test Performed Yes _____ No _____

____Type "A" Soil: indented by thumb with very great difficulty.

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- Type "B" Soil: indented by thumb with some difficulty.
- Type "C" Soil: easily penetrated, or if soil is submerged, seeping, or subject to water, runoff, etc.

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Excavation Checklist

Pentrometer or Shearvane: used to estimate unconfined compressive strength of saturated soils.

Test Performed

Yes___ No___

- ___Type "A" Soil: unconfined compressive strength of 1.5 tsf or greater.
- ___Type "B" Soil: unconfined compressive strength between 0.5 & 1.5 tsf.
- ___Type "C" Soil: unconfined compressive strength of 0.5 tsf or less or if soil is submerged, seeping or subject to water, runoff, etc.

Wet Shake Test:

used to determine the percentage of granular and cohesive materials in a soil sample. Compare results to a soil textural classification chart.

___% granular

___% cohesive

___% silt

- ___Type "A" Soil: clay, silty clay, sandy clay, clay loam, and in some cases silty clay loam, and sandy clay loam.
- ___Type "B" Soil: angular gravel (similar to crushed rock), silt, silt loam, sandy loam, and in some cases silty clay loam, and sandy clay loam.
- ___Type "C" Soil: granular soil including gravel sand and loamy sand.

Note: Type A Soil - no soil is a Type A if the soil is fissured, subject to vibration, previously disturbed, layered dipping into the excavation on a slope of 4H:1V.

Soil Classification System

___Type "A" Soil

___Type "B" Soil

___Type "C" Soil

For selection of the appropriate protective system, use the flow chart in Appendix F of the Standard.

___Sloping or Benching (Appendix B) Specify Angle _____

___Timber Shoring (Appendix C)

___Aluminum Hydraulic Shoring (Appendix D)

Signature of Competent Person And Date

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Excavation Checklist

Daily Excavation Log

Project: _____ Weather: _____

Protective System(s): Trench Shield (Box) Wood Shoring Sloping other
Measurements of Trench: Depth _____ Length _____ Width _____
Purpose of Trench: Drainage Sewer Gas Water Other _____: _____

Was a Visual Soil Test Made? Yes No
If yes, what type? _____

Was a Manual Soil Test Made? Yes No If yes, what type? _____

Type of Soil? _____ Strength of Soil _____

Surface Encumbrances Present? Yes No
If yes, what type? _____

Water Conditions: Wet Dry Submerged Surface Water

Potentially Hazardous Atmospheres Exist? Yes No
(If yes, follow the company Confined Space Procedures)

Is Trenching or Excavation Exposed to Vehicular Traffic (exhaust)? Yes No
(If yes, follow the company Confined Space Procedures)

Are Employees Exposed to Public Vehicular Traffic? Yes No
(If yes, warning vests are required)

Are Other Utilities Protected? Yes No
(Water, gas, sewer, or other structures)

Are Sewer or Natural Gas Lines Exposed? Yes No
(If yes, follow the company Confined Space Procedures)

Are ladders within 25' of all workers? Yes No
Do ladders extend 3' above the top edge of the excavation? Yes No

Is excavated material stored a minimum of 2' from the edge of the excavation?
Did Employees Receive Training in Trenching and Excavation?
Yes No

Date and Time of Last Periodic Inspection: _____

Comments and/or
Notes: _____

Signature of Competent Person and Date