

Excavation Checklist

Project: _____ Weather: _____ Date: _____
 Measurements of Trench: Depth: _____ Length: _____ Width: _____
 Soil Type: ___ See attached "Soils Analysis Checklist"
 Type of Protective System Used: _____

Yes	No	N/A	Remarks
			Trenches and Excavations 5 feet or over sloped, benched, shored or shielded.
			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.
			Ladders provided on trenches 4 feet or more in depth.
			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.
			Employees prohibited to work in trenches that has water unless water is being properly controlled and approved by a registered engineer.
			Warning system established and utilized when mobile equipment is operating near the edge of an excavation.

Utilities

Yes	No	N/A	Remarks
			Utility companies contacted and/or utilities located.
			Underground installations protected, supported, or removed when the excavation is open.

Means of Access or Egress

Yes	No	N/A	Remarks
			Lateral travel distance to a means of egress does not exceed 25', for excavations 4' or more in depth.
			Ladders, when used, must extend 3' above the edge of the trench and be secured.

			Structural ramps used by employees must be designed by a Competent Person.
			Structural ramps used for equipment must be designed by a licensed Professional Engineer (PE).
			Ramps must be constructed of materials of uniform thickness, securely cleated together on the bottom, and have a non-slip surface.
			Employees protected from cave-ins while entering, working in, or exiting excavation.

Wet Conditions

Yes	No	N/A	Remarks
			Precautions taken to protect employees from accumulation of water.
			Water removal equipment monitored by a Competent Person.
			Surface water controlled or diverted.
			Inspection made after each rainstorm.

Hazardous Atmospheres

Yes	No	N/A	Remarks
			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.
			Oxygen content is between 19.5% and 23.5%. Ventilation provided to prevent flammable gas from building up to 10% of the lower explosive limit of the gas.
			Testing conducted to ensure that atmosphere remains safe.
			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

Yes	No	N/A	Remarks
			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.
			The backfill process must progress with the removal of the support system.

			Employee prohibited from remaining in a Trench Box when being moved vertically.
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Soil Analysis Visual Test

Particle Type: Fine Grained (cohesive) ___ Coarse Grained (sand or gravel) ___
 Water Conditions: Wet ___ Dry ___ Submerged ___ Surface Water Present ___

Yes	No	N/A	Remarks
			Previously Disturbed Soils?
			Underground Utilities Protected?
			Layered Soils?
			Layered Soil Dipping Into Excavation?
			Excavation Exposed to Vibration?
			Surface Encumbrances Present? If yes what type?
			Evidence of Cracking or Spalling Observed?
			Potentially Hazardous Atmosphere Exist? If yes identify condition or source
			Confined Space Procedures initiated? If no why not?

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.

___ 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.

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

___ 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

Date