WASHINGTON COUNTY
SAFETY OFFICER

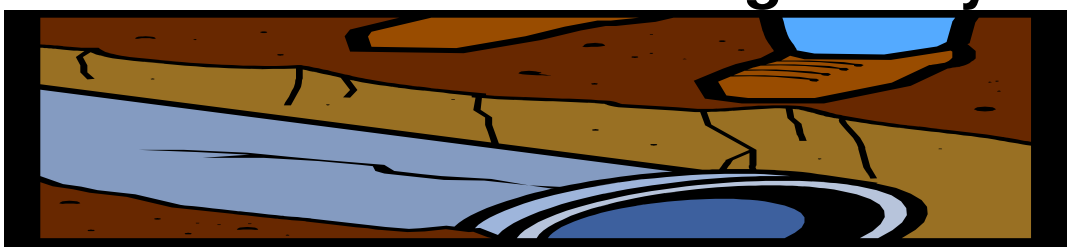
Philip E. Spiezio
Safety Officer

WASHINGTON COUNTY MUNICIPAL CENTER
383 BROADWAY, FORT EDWARD, NEW YORK 12828
TELEPHONE: (518) 746-2188 FAX: (518) 746-2137
E-Mail – pspiezio@co.washington.ny.us

The Safety "PINS"

Date: April, 2017

Excavation - Trenching Safety



Trench collapses cause dozens of fatalities and hundreds of injuries each year.

Trenches 5 feet deep or greater require that a protective system be used.

Trenches 20 feet deep or greater require that a registered professional engineer design the protective system.

Keep heavy equipment and excavation spoils at least 2 feet away from the trench edge.

Provide stairways, ladders, ramps, or other safe means of access in all trenches 4 feet or deeper every 25'. Consider this for shallower trenches as well!!

Protective Systems:

Sloping protects workers by cutting back the trench wall at an angle inclined away from the excavation.
Shoring protects workers by installing aluminum, hydraulic or other types of supports to prevent soil movement.
Shielding protects workers by using trench boxes or other types of supports to prevent soil cave-ins.

Competent Person:

OSHA standards require that a competent person inspect the trench daily and as conditions change.

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Four Types of Soil: (Quick Overview)

Stable Rock – natural solid material that remains intact

Type A – **Not previously disturbed** cohesive soil with an unconfined compressive strength greater than or equal to 1.5 tsf

Type B - unconfined compressive strength > .5 tsf < 1.5 tsf - angular gravel, silt, silt loam, sandy loam and, in some cases, silty clayloam and sandy clay loam.

Type C – unconfined compressive strength ≤ .5 tsf - Granular soils including gravel, sand, and loamy sand, soil from which water is freely seeping

(4) ***Configurations***. Configurations of sloping and benching systems shall be in accordance with Figure B-1.

TABLE B-1
MAXIMUM ALLOWABLE SLOPES

SOIL OR ROCK TYPE	MAXIMUM ALLOWABLE SLOPES (H:V)(1) FOR EXCAVATIONS LESS THAN 20 FEET DEEP(3)
STABLE ROCK	VERTICAL (90º)
TYPE A (2)	3/4:1 (53º)
TYPE B	1:1 (45º)
TYPE C	1 ½:1 (34º)

Footnote (1) Numbers shown in parentheses next to maximum allowable slopes are angles expressed in degrees from the horizontal. Angles have been rounded off.

Footnote (2) A short-term maximum allowable slope of 1/2H:1V (63º) is allowed in excavations in Type A soil that are 12 feet (3.67 m) or less in depth. Short-term maximum allowable slopes for excavations greater than 12 feet (3.67 m) in depth shall be 3/4H:1V (53º).

Footnote (3) Sloping or benching for excavations greater than 20 feet deep shall be designed by a registered professional engineer.

Never Enter An Unprotected Trench!!!

Call 811 Before You Dig!!!

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Excavation - Trenching Safety

Date: ___/___/___

Sign In Sheet:

Name:	**Signature:**