

San Antonio Water System Standard Specifications for Construction

ITEM NO. 550

Trench Excavation Safety Protection

550.1 DESCRIPTION: This item shall govern the trench excavation safety protection required for the construction of all trench excavation protection systems to be utilized in the project and including all additional excavation and backfill necessitated by the protection system.

550.2 REFERENCED STANDARDS: Reference standards cited in this Specification Item No. 550 refer to the current reference standard published at the time of the latest revision

1. San Antonio Water System (SAWS):
 - a. Specifications for Water and Sanitary Sewer Construction
 - b. SAWS Materials Specifications
2. City Of San Antonio (COSA) Standard Specifications for Construction
3. Texas Commission of Environmental Quality (TCEQ)
 - a. Chapter 217 Design Criteria for Domestic Wastewater Systems
 - b. Chapter 213 Edwards Aquifer
 - c. Chapter 290; Subchapter D – Rules and Regulations for Public Drinking Water
4. Occupational Safety and Health Administration (OSHA).
 - a. Federal Regulations, 29 CFR, Part 1926, Standards – Safety and Health Regulations for Construction – Subpart P Excavation,

550.3 SUBMITTALS: Contractor shall submit manufacturer's product data, instructions recommendations, shop drawings, and certifications. All submittals shall be in accordance with Engineer's requirements and submittals shall be approved prior to delivery.

1. Submit a safety program specifically for the construction of trench excavation. Design the trench safety program to be in accordance with OSHA 29CFR standards governing the presence and activities of individuals working in and around trench excavations.
2. Construction and shop drawings containing deviations from OSHA standards or special designs shall be sealed by a Professional Engineer Licensed in the State of Texas retained and paid by Contractor.
3. Review of the safety program by Engineer will only be in regard to compliance with specification and will not constitute approval by Engineer nor relieve Contractor of obligations under State and Federal trench safety laws.
4. Submit certification that trench safety system will not be subjected to loads exceeding those which the system was designed to withstand according to the available construction and geotechnical information.
5. An excavation plan submittal signed and sealed by a Texas licensed professional engineer shall be submitted for review and acceptance by the SAWS' Representative, if applicable, prior to the delivery of materials and commencing

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any portion of proposed construction activities where the planned excavation is 20 feet or greater.

550.4 CONSTRUCTION: Trench excavation safety protection shall be accomplished as required by the latest provision of Part 1926, Subpart P – Excavations, Trenching, and Shoring of the OSHA Standards and Interpretations, or the most approved equal provision.

1. A trench shall be defined as a narrow excavation made below the surface of the ground or pavement. In general, the depth is greater than the width, but the width of a trench is not greater than 15 feet.
2. If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet or less (measure at the bottom of the excavation), the excavation is also considered to be a trench.
3. In addition, "Trench Excavation Protection" will not be limited to these applications, but may be used whenever deemed expedient and proper to ensuing work.

550.5 MEASUREMENT: Trench Excavation Safety Protection shall be measured by the linear foot along the centerline of any OSHA defined trench that may be entered by personnel and is not greater than 15 feet wide, including manholes and other structures.

550.6 PAYMENT: Payment for Trench Excavation Safety Protection, measured as described above, shall be made at the unit price bid per linear foot of Trench Excavation Safety Protection regardless of the depth of the trench.

1. Payment shall include all components of the Trench Excavation Safety Protection System which can include, but not be limited to, sloping, sheeting, trench boxes or trench shields, sheet piling, cribbing, bracing, shoring, dewatering or temporary diversion and proper recapture and transportation of water to provide adequate drainage.
2. Payment shall also include the additional excavation and backfill required, any jacking, jack removal, and removal of the trench supports after completion.
3. Payment of all work prescribed under this item shall be full compensation for all additional excavation and backfill associated with the item; for any retention by Contractor of structural design/geotechnical/safety/equipment consultant; for furnishing, placing and removing all shoring, sheeting, or bracing; for dewatering or temporary diversion and proper recapture and transportation of water; for all jacking and jack removal; and for all other labor, material, tools, equipment and incidentals necessary to complete this portion of the work.

- End of Specification -