

SECTION 01526

TRENCH SAFETY SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Trench safety system for the construction of trench excavations.
- B. Trench safety system for structural excavations which fall under provisions of State and Federal trench safety laws.

1.02 UNIT PRICES

- A. Measurement for trench safety systems used on trench excavations is on a linear foot basis, when listed as a separate unit price within the bid proposal, measured along the centerline of the trench, including manholes and other line structures. If no trench safety unit price is listed within the bid proposal, any trench safety required for the work will be considered incidental to the work performed. No separate measurement will be made of shoring systems used by the Contractor for protection unless identified as Special Shoring on the Drawings. Shoring, other than Special shoring, will be included in the trench safety system measurements.
- B. Measurement for Special Shoring system installations shown on the Drawings and included in the bid schedule for trench excavations, is on a square foot basis, or lump sum basis, as specified in the bid proposal.
- C. No payment will be made for trench safety systems for structural excavations under this section. Include payment for trench safety system in applicable structure installation sections.

1.03 DEFINITIONS

- A. A trench is defined as a narrow excavation (in relation to its depth) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet.
- B. The trench safety system requirements apply to larger open excavations if the erection of structures or other installations limits the space between the excavation slope and the installation to dimensions equivalent to a trench as defined.
- C. Competent Person is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous,

or dangerous to employees, and who has authorization to take prompt corrective measure to eliminate them.

- D. Trench Safety Systems include both Protective Systems and Shoring Systems but are not limited to sloping, sheeting, trench boxes or trench shields, slide rail systems, sheet piling, cribbing, bracing, shoring, dewatering or diversion of water to provide adequate drainage.
1. Protective Systems: A method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of an adjacent structure.
 2. Shoring System: A structure that supports the sides of an excavation and which is designed to prevent cave-ins, or to prevent movements of the ground affecting adjacent installations or improvements.
 3. Special Shoring: A shoring system meeting Special Shoring Requirements for locations identified on the Drawings.

1.04 SUBMITTALS

- A. Submittals shall conform to requirements of sections and provisions of these specifications.
- B. 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, and in accordance with any Special Shoring requirements at locations shown on the Drawings.
- C. Have construction and shop drawings for trench safety systems sealed as required by OSHA by a licensed Professional Engineer retained and paid by the Contractor.
- D. Review of the safety program by the Owner Representative will only be in regard to compliance with the Contract Documents and will not constitute approval by the Owner or the Owner Representative nor relieve Contractor of obligations under State and Federal trench safety laws.

1.05 REGULATORY REQUIREMENTS

- A. Install and maintain trench safety systems in accordance with the provision of Excavations, Trenching, and Shoring, Federal Occupation Safety and Health Administration (OSHA) Standards, 29CFR, Part 1926, Subpart P, as amended, including Final Rule, published in the Federal Register Vol. 54, No. 209 on Tuesday, October 31, 1989 and subsequent updates. The sections that are incorporated into

these specifications by reference include Sections 1926-650 through 1926-652 and additional sections that may be adopted subsequent to the adoption of this specification.

- B. The Contractor can locate a copy of the OSHA standards included in "Subpart P - Excavations" from the Federal Register Vol. 54, No. 209 is available upon request to Contractors bidding on Owner's projects. The Owner assumes no responsibility for the accuracy of the reproduction. The Contractor is responsible for obtaining a copy of this section of the Federal Register.
- C. The Contractor must comply with any legislation that has been enacted by the Texas Legislature with regard to Trench Safety Systems, is hereby incorporated, by reference, into these specifications. Refer to Texas Health and Safety Code Ann., §756.021 (Vernon 1991).
- D. Reference materials, if developed for a specific project, will be issued with the Bid Documents, including the following:
 - 1. Geotechnical information obtained for use in design of the trench safety system.
 - 2. Special Shoring Requirements, if applicable.

1.06 INDEMNIFICATION

- A. Contractor shall indemnify and hold harmless the Owner, its employees, and agents, from any and all damages, costs (including, without limitation, legal fees, court costs, and the cost of investigation), judgments or claims by anyone for injury or death of persons resulting from the collapse or failure of trenches constructed under this Contract.
- B. Contractor acknowledges and agrees that this indemnity provision provides indemnity for the Owner in case the Owner is negligent either by act or omission in providing for trench safety, including, but not limited to safety program and design reviews, inspections, failures to issue stop work orders, and the hiring of the Contractor.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install and maintain trench safety systems in accordance with provisions of OSHA 29CFR.

- B. Install specially designed trench safety systems shall be installed in accordance with the Contractor's trench excavation safety program for the locations and conditions identified in the program. Install Special Shoring at the locations shown on the Drawings.
- C. Obtain verification from a competent person, as identified in the Contractor's trench excavation safety program, that trench boxes and other pre-manufactured systems are certified for the actual installation conditions.

3.02 INSPECTION

- A. Conduct daily inspections by Contractor or Contractor's independently retained consultant, of the trench safety systems to ensure that the installed systems and operations meet OSHA 29CFR and other personnel protection regulations requirements.
- B. If evidence of possible cave-ins or slides is apparent, Contractor shall immediately stop work in the trench and move personnel to safe locations until necessary precautions have been taken to safeguard personnel.
- C. Contractor shall maintain a permanent record of daily inspections. Upon request, the Contractor shall supply to Owner a copy of these records.

3.03 FIELD QUALITY CONTROL

- A. Verify specific applicability of the selected or specially designed trench safety systems to each field condition encountered on the project.

END OF SECTION