

CLASSIFIED EXCAVATION

Consider the specific site and project requirements when defining excavation

Clear definitions allow all parties the most practical application of the project documents to build the project as economically as possible. This guideline applies to projects where earthwork and/or foundation activities are required. Without input from a qualified geotechnical engineer, the geotechnical report may not completely predict the material being encountered because of the limited number and sample size.

- Types of excavation generally include trenching, mass excavation, piers, excavation for foundations and other subsurface construction.
- Each project should have a geotechnical report performed by a qualified geotechnical engineer. The geotechnical report should be provided as a reference and should classify excavation materials.
- The type of materials to be excavated is generally defined by geological and geotechnical classification. Excavation may also include man-made materials. Man-made materials are usually described as obstructions, not as rock. If unknown, these should be treated as Latent Conditions.
- Excavation classifications for payment purposes are often based on the type of equipment used to complete the excavation or on the material being excavated. Contract documents should clearly define each type of excavation generally based upon the means necessary for removal.
- Estimated quantities and classifications of materials to be excavated should be established and identified by the Owner, Design Professional, and/or Geotechnical Engineer during the design phase and included in the contract documents.
- Unit prices should be requested to adjust the final costs of each excavation classification based on field-measured quantities. Separate unit prices should be requested for different materials and conditions including but not limited to mass excavation, rock excavation, removal of obstructions if applicable, and trench excavation classifications.
- The Owner should disclose available information regarding previous construction on the site, uses, and contamination that may be encountered. The contract documents should also identify the procedures to address contamination if encountered including protecting workers and the public, containing and disposing of contamination, and notifying applicable regulatory agencies.
- Groundwater can also be a significant factor in completing excavations. The geotechnical report should discuss groundwater encountered during the investigation and its potential impacts on construction. The design and construction team should assess appropriate methods of managing groundwater during design and construction.

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American Institute of Architects, St. Louis Chapter
American Council of Engineering Companies of Missouri
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Greater St. Louis Chapter, Construction Specifications Institute
St. Louis Chapter of International Facilities Management Association

- During construction, the Geotechnical Engineer/Inspector, Owner's Representative, and Contractor should agree on a daily basis as to types and quantities of excavation classifications.

REFERENCES:

Metropolitan St. Louis Sewer District Standards for Construction

OSHA 29 CFR 1926.650, Subpart P "Excavations"

American Concrete Institute (ACI) 336.1-01 "*Specification for the Construction of Drilled Piers*"

Appropriate MasterFormat Sections in Division 30 of Contract Documents

Guideline for "*Unit Prices for Variable Quantities*"

Missouri Standard Specification for Highway Construction

Illinois Standard Specifications for Road and Bridge Construction

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