Kansas City Specialty Seminar 2017

Geotechnical Site Characterization
SUBSURFACE CONDITIONS

- Minimizing the Risk of Unexpected Subsurface Conditions Claims when preparing Contract Provisions, Geotechnical Reports and other Information Provided to Contractors
SUBSURFACE CONDITION CLAIMS

- Allocation of Risk
  - Construction Contract Documents
    - Additional Information
  - A/E Contract
  - Geotechnical Engineering Agreement
SUBSURFACE INFORMATION

- Prior site information
- Geotechnical Report
  - Boring logs
GEOTECHNICAL REPORTS

- Purpose of Geotechnical Report
  - Planning
  - Design
  - Construction
CONSULTING AGREEMENT

- Party Retaining Geotechnical Engineer
- Responsibility For Determination of Number of Borings
- Responsibility For Location of Borings
- Determination of Whether To Dig Additional Test Pits
  - Type of Project
  - Site Limitations
  - Scope of Engagement
RELIANCE UPON INFORMATION

- EJCDC C-700 § 5.03(B)
- *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, *but such reports and drawings are not Contract Documents.*
RELIANCE UPON INFORMATION

- EJCDC C-700 § 5.03(B)
- If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor.
RELIENCE ON GEOTECHNICAL INFO

- EJCDC C-700 § 5.03(B)
- Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to: other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
RELIANCE ON GEOTECHNICAL INFO

- **Technical Data**—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
RELIANCE ON GEOTECHNICAL INFO

- EJCDC C-700 § 5.03(B)
- the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
RELIENCE ON GEOTECHNICAL INFO

- EJCDC C-700 § 5.03(B)
- any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.
GEOTECHNICAL AGREEMENT

- EJCDC E-530 § 1.01(B)

- Depending on field conditions encountered and subsurface conditions discovered, Geotechnical Engineer may modify the specified number and location of borings, the number and type of field and laboratory tests, and other similar items, as deemed necessary by Geotechnical Engineer in the exercise of due care...
SUBSURFACE CONDITION CLAIMS

- Soil Conditions
- Underground Facilities
SUBSURFACE CONDITION CLAIMS

- *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
DIFFERING SITE CONDITION PROVISIONS

- EJCDC C-700 § 5.04(A) Recognizes a Contractor’s right to a contract adjustment when the subsurface condition:
  - is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
  - is of such a nature as to require a change in the Drawings or Specifications; or
  - differs materially from that shown or indicated in the Contract Documents; or
  - is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;
NOTICE REQUIREMENTS

- Provisions requiring timely notice after the Contractor encounters and Differing Subsurface Condition
- Provisions requiring that the notice of the Differing Subsurface Condition be in writing
DESIGN-BUILD CONSIDERATIONS

(1) Design-Builder’s right-to-rely on information provided by the Owner during the proposal period.

(2) Entitlement to change on unforeseen site conditions.

(3) Risk associated with existing and unidentified utilities.
INDUSTRY CONTRACT FORMS

DBIA©
Document No. 525

STANDARD FORM OF AGREEMENT
BETWEEN
OWNER AND
DESIGN-BUILDER
RIGHT TO RELY (DBIA)

If Owner’s Project Criteria contain design specifications: (a) Design-Builder shall be entitled to reasonably rely on the accuracy of the information represented in such design specifications and their compatibility with other information set forth in Owner’s Project Criteria, including any performance specifications; and (b) Design-Builder shall be entitled to an adjustment in the Contract Price and/or Contract Time(s) to the extent Design-Builder’s cost and/or time of performance have been adversely impacted by such inaccurate design specification.
INDUSTRY CONTRACT FORMS

DBIA©

Document No. 540

STANDARD FORM OF AGREEMENT BETWEEN DESIGN-BUILDER AND DESIGN CONSULTANT
RIGHT TO RELY (DBIA)

Design Consultant is entitled to rely upon such items to the same extent Design-Builder is entitled to rely upon such items in the Design-Build Agreement: …

- Geotechnical studies describing subsurface conditions, and other surveys describing other latent or concealed physical conditions at the Site; …
UTILITIES (MODOT)

...Contractor **shall be responsible for the cost of** Relocations of underground Utilities located within the ROW whether or not they are identified by the Commission with reasonable accuracy if any one or more of the following applies:

1. A **surface inspection** of the area would have shown the existence or the likelihood of existence of such Utility (or portion thereof) in the correct location and/or size, as applicable, by reason of above-ground facilities such as buildings, meters or junction boxes or identifying markers; ...
UTILITIES (MODOT)

Partial Inaccuracies: If only a portion of an existing underground Utility located within the ROW shown on the ROW Plans to be Relocated by the Contractor is not indicated at all in the information included in Book 5 or is not indicated with “reasonable accuracy” therein, then a Change Order shall be allowed only for the resulting increased costs of that portion of the Utility Work to be furnished or performed by the Contractor.
Differing Site Conditions (MODOT)

Contractor shall bear the burden of proving that a Differing Site Condition exists & that it could not reasonably have worked around the Differing Site Condition so as to avoid additional cost. Each request for a Change Order relating to a Differing Site Condition shall be accompanied by a statement signed by a qualified professional setting forth all relevant assumptions made by the Contractor with respect to the condition of the Site, justifying the basis for such assumptions, explaining exactly how the existing conditions are eligible for a Change Order under the terms of this Book 1, and stating the efforts undertaken by the Contractor to find alternative design or construction solutions to eliminate or minimize the problem and the associated costs.
PRE-EXISTING CONDITIONS (MODOT) - I

The Contractor has, prior to submitting its Proposal,…reviewed the boring logs provided by the Commission in Book 4, inspected and examined the Site and surrounding locations, and undertaken other appropriate activities sufficient to familiarize itself with surface conditions and subsurface conditions affecting the Project, to the extent the Contractor deemed necessary or advisable for submittal of a Proposal. As a result of such review, inspection, examination and other activities, the Contractor is familiar with and accepts the physical requirements of the Work…
PRE-EXISTING CONDITIONS (MODOT) - II

...Contractor acknowledges and agrees that changes in conditions at the Site may occur after the Proposal Due Date, and that the Contractor shall not be entitled to any Change Order in connection therewith except as specifically permitted ... Before commencing any Work on a particular aspect of the Project, the Contractor shall verify all governing dimensions and conditions at the Site ... The Contractor shall be responsible for ensuring that the Design Documents and Construction Documents accurately depict all governing and adjoining dimensions and conditions.
BORING INFORMATION (FLORIDA DOT)

...The Department does not guarantee the details pertaining to borings, as shown on the plans, to be more than a general indication of the materials likely to be found adjacent to holes bored at the site of the work, approximately at the locations indicated. The Bidder shall examine boring data, where available, and make their own interpretation of the subsoil investigations and other preliminary data, and shall base their bid solely on their own opinion of the conditions likely to be encountered...
FAILURE TO TRANSFER RISK

- In June 2000, after the contractor completed the site grading for the street construction, the City determined that additional stabilization of the subgrade material was necessary to pass inspection and the application of fly ash was required.
FAILURE TO TRANSFER RISK

- Upon being notified that fly ash was required, the Contractor stopped work and the Contractor’s vice-president in charge of the subdivision project, contacted the project engineer, advising of the fly ash requirement.
FAILURE TO TRANSFER RISK

- The focus of this issue is whether the Contractor or Developer bore the risk and the cost of the City's decision to require fly ash stabilization. The plans put out for bid by the Developer included a statement that the project was governed by the City’s Technical Specifications. The contract executed by the parties stated that the Contractor would construct the streets "in accordance with the approved plans." The dilemma, or unknown, in this case is whether the City would in fact require fly ash. The City specifications do not require fly ash in all cases.
FAILURE TO TRANSFER RISK

- We agree with the trial court's conclusion that fly ash stabilization work was not part of the original contract and the Contractor was entitled to additional payment for the work. There are three critical and distinguishing facts to support this determination:
- (1) the absence of a request to include potential fly ash stabilization work in the bid package;
- (2) the contract does not contain a line item where the parties agreed fly ash would be included; and
- (3) the negotiations on the costs of the fly ash work, indicating it was viewed by the parties as an additional item. Under the facts of this case, the fly ash stabilization work is not properly considered a "subsidiary" item to the contract.
TRANSFER OF RISK

- The instructions to bidders, which were incorporated into the contract, contained several sections that are important for the purposes of the present motion. Section A.7, entitled "LOCAL CONDITIONS," stated that "each bidder shall visit the site of the work and thoroughly inform himself relative to construction hazards and procedure, labor, and all other conditions and factors, local and otherwise, which would affect the prosecution and completion of the work and the cost thereof...."
TRANSFER OF RISK

- The instructions to bidders, which were incorporated into the contract, contained several sections that are important for the purposes of the present motion. Section A.7, entitled "LOCAL CONDITIONS," stated that "each bidder shall visit the site of the work and thoroughly inform himself relative to construction hazards and procedure, labor, and all other conditions and factors, local and otherwise, which would affect the prosecution and completion of the work and the cost thereof...."
TRANSFER OF RISK

- This section further stated: It must be understood and agreed that all such factors have been properly investigated and considered in the preparation of every proposal submitted, as there will be no subsequent financial adjustment, to any contract awarded thereunder, which is based on the lack of such prior information or its effect on the cost of the work.
TRANSFER OF RISK

- Section A.8, entitled "SUBSURFACE CONDITIONS," stated that "the determination of the character of subsurface materials which will be encountered shall be each bidder's responsibility." This section further stated that test borings and laboratory and field tests had been performed for the purposes of the project design. This information was made available to bidders. Section A.8 stated, however, that "logs of test borings may not be indicative of all subsurface conditions that may be encountered."
TRANSFER OF RISK

- Section SC.16 placed the risk of loss resulting from natural causes on the contractor. This section stated: All loss or damage arising out of the nature of the work, or from the action of the elements, or from floods or overflows, or from ground water, or from any unusual obstruction or difficulty, or any other natural or existing circumstance either known or unforeseen which may be encountered in the prosecution of the work, shall be sustained and borne by the Contractor at his own cost and expense.
TRANSFER OF RISK

- Section 2B.11.3 placed on the contractor the burden of taking whatever steps were necessary to ensure that the soil used in the construction of the dam was at uniform moisture content. Also, section 2C.14.4 placed on the contractor the burden of ensuring that each layer of soil was "sprinkled, wetted, or dried as required to provide a uniform distribution of moisture within the specified range of moisture content after which the layer shall be compacted to the required density...."
TRANSFER OF RISK

- Section 2C.15.4 stated that "if the fill material in burrow areas or other excavations contains an excess of moisture prior to excavation, the Contractor will be required to excavate the drainage channels or perform such work as may be necessary to reduce the moisture content of the material." Finally, section D.27 provided for the method by which the contractor could recover increased compensation for "extra work" or changes to the work required under the contract.
TRANSFER OF RISK

- During the excavation of the borrow areas, plaintiff encountered ground water at higher elevations than indicated in the geotechnical data provided by Owner. Also, plaintiff found the soil in designated burrow areas to contain greater moisture than expected. This caused the Contractor to expend more resources for excavation and foundation work than it anticipated when it bid on the project. The Contractor was required to obtain material from areas outside of the burrow areas. Also, the Contractor had to alter its method of excavating and constructing the foundation of the dam.
TRANSFER OF RISK

- During the course of construction, the Contractor submitted a claim to the Owner requesting additional compensation in the amount of $1,991,992.84 because of the additional and increased costs associated with the excessive moisture in the soil. The Owner refused the Contractor’s request for additional compensation. On February 10, 1987, The Contractor initiated this present lawsuit. Defendant now moves for partial summary judgment on plaintiff's claim for additional compensation in the amount of $1,991,992.84.
TRANSFER OF RISK

- The terms of the contract placed the risk of unforeseen subsurface conditions or soil conditions on the Contractor. The instructions to bidders stated that each bidder was responsible for determining the character of subsurface materials. See section A.8 of the contract. Also, a special condition of the contract provided that any loss due to unusual obstruction or difficulty or natural or existing circumstances would be sustained and borne by the contractor. See section SC.16. Furthermore, the terms of the contract indicate that the Contractor would bear the burden of taking all necessary steps to ensure that the moisture content of the soil used was appropriate.
TRANSFER OF RISK

- The contract contained no express statement regarding the presence or absence of moisture in the subsurface material. However, the Owner did provide the Contractor with the data compiled by the Owner’s agent, which tested and analyzed subsurface conditions. The contract, however, did not state that this data was all the information needed by bidders or that the data was correct.
TRANSFER OF RISK

- In fact, the contract instructed bidders to visit the construction site to ascertain the conditions of the site. See sections A.7 and A.8 ("The determination of character of subsurface materials which will be encountered shall be each bidder's responsibility.").
TRANSFER OF RISK

- Also, the terms of the contract place the risk of excessive moisture in the soil on the contractor. See sections SC.16, 2B.11.3, and 2C.14.4.
TRANSFER OF RISK

- Finally, the contract expressly stated that the "logs of test borings may not be indicative of all subsurface conditions that may be encountered."
For Further Information Please Feel Free To Contact The Presenters:

- **Justin L Weisberg, P.E.***
  Partner
  K&L Gates LLP
  70 West Madison
  Suite 3100
  Chicago, Illinois 60602-4207
  Phone: 312 807-4253
  Fax: 312 827-8000
  
  - [Justin.weisberg@klgates.com](mailto:Justin.weisberg@klgates.com)

- **R. Brian Johnson, P.E.**
  Senior Attorney, Contracting Group Leader
  Associate Vice President
  Enterprise Operations
  **Office** (816) 527-2270
  **Mobile** (954) 662-4397

- **HNTB CORPORATION**
  715 Kirk Drive, Kansas City, MO 64105 | [www.hntb.com](http://www.hntb.com)

*Illinois and Florida