

REGIONAL DISPUTE REVIEW BOARD RECOMMENDATION

November 12, 2011

Mr. Shannon Mobley
Project Manager
Florida Department of Transportation
District 2 - Jacksonville Construction
2198 Edison Avenue
Jacksonville, FL 32204

Mr. Glen Ballard
Project Manager
Superior Construction Company
7072 Business Park Boulevard
Jacksonville, Florida 32256-2749

RE: SR 200 from Stratton Road to Griffin Road **Contract E2N36**
FIN: 210687-3-52-01

Subject: Hearing Dated Oct. 26, 2011
Regional Disputes Review Board Recommendation
Issue: Differing Site Condition concerning the depths of muck removal and
surcharge consolidation of subsurface clay

Dear Sirs,

Superior Construction Company (SCC) and the Florida Department of Transportation (FDOT) requested a Dispute Review Board hearing of a dispute. The hearing was held on October 26, 2011 at the FDOT Urban Office in Jacksonville, Florida. The parties furnished the Board position papers and Rebuttals for review prior to the hearing. The Disputes Review Board was requested only to consider the question of entitlement. In accordance with your request the following recommendation is offered.

Background

The SR 200 Stratton to Griffin Road project is a design/build project located in Nassau County consisting of the replacement of 6.1 miles of 2 lane rural roadway with 3.85 miles of 4 lane rural roadway and 2.25 miles of urban roadway. Included in the project are three bridge structures and four bisecting box culverts. The project was bid under ARRA 2009 funding with a fast track bid schedule of 31 days from short list to proposal submittal.

Two related issues were brought to the DRB. The first issue involves the contractor's request for additional compensation relating to the depth of muck removal. The second issue involves the contractor's request for additional compensation relating to surcharge utilization to obtain consolidation of compressible clays. Both issues are limited to a section of the roadway between station 329+00 and station 360+00. It should be noted that this section of the roadway also included a bridge replacement at Boggy Creek at approximately stations 347 to 350.

Issue: Whether there is Entitlement for additional compensation relating to the depth of muck removal and utilization of surcharge for subsurface clay consolidation

Contractor Position

The following is a summary of the Contractor's position based upon written materials submitted to the Board and upon the hearing presentation. The complete position is available in the Contractor's Position Paper and Rebuttal Statement.

Contractor Key Points

- There were exceptional circumstances presented on this project in that potential bidders were presented with 100% plans with only 31 days to bid the project and a geotechnical report in addendum 10 days later.
- Reliance upon the information contained in the provided 100% plans and geotechnical report was required because the time allowed for pre-bid investigation did not permit a complete geotechnical investigation.
- Superior's **pre-bid** site inspection of the existing roadway and proposed construction areas found that the site appeared consistent with the subsoil information in the 100% plans and geotechnical report;
- Superior's **post-award** geotechnical investigation found the area in question (Station 329+00 to Station 360+00) had a far greater quantity of superficial muck, unsuitable soils and compressible clays than what was originally thought to be present.
- The additional subsoil excavation and surcharge operation impacted the project with 393 days of additional work. These impacts included, but were not limited to, 95,968 CY of fill material, 72,770 CY of subsoil excavation, and 48,000 CY of surcharge overburden.
- Superior performed reasonable pre-bid and post award investigation of the existing subsoil site conditions that met and exceeded the required specification for geotechnical investigation.
- Superior's technical proposal reflected the amount of work necessary to address the subsoil conditions that were reflected in the information provided by the FDOT in the 100% plans, and pre-bid site investigation performed in the manner and time allowed by FDOT.
- The RFP and project specifications make provision for the possibility of a differing site condition and outline how a contractor is to be compensated if a differing site condition is found on the project.
- But for the "Design/Build" designation of the project, FDOT would have compensated Superior for the necessary, but unforeseen, extra work.

Contractor Position Summary

The 100% plans and geotechnical information provided by FDOT in the RFP included detailed cross-sections, area and volume calculations, auger borings, SPT borings and muck probes of the subsoil conditions. These plans detailed an average subsoil excavation depth of 1 foot, with isolated sections up to 10 feet deep only adjacent to Boggy Creek and limited clay areas between Stations 329+00 and 369+00. In the limited time period provided, and in compliance with the RFP requirements, the D/B team of Superior, ARCADIS, and Universal performed a considerable amount of work in the 31 days from short listing to bid submittal. The RFP geotechnical report was verified to the extent possible through the utilization of muck probes, hand auger work, site inspection and survey. It was not possible due to the limited time constraints, high water conditions, heavily wooded areas, and environmental permit conditions, to perform machine driven auger borings. The result of the pre-bid investigation confirmed that the geotechnical information provided in the RFP was a reasonable representation of actual site conditions and the D/B team relied heavily upon the geotechnical information provided by FDOT in the preparation of its proposal.

After award of the contract by FDOT, Superior's post award supplemental investigation required Sixty (60) days to complete and consisted of Forty-Eight (48) SPT Borings 10 to 40 feet deep, Twenty-One (21) Auger borings 5 feet deep and One hundred-Twenty Eight (128) muck probes.

The results of this supplemental investigation seemed to confirm that the majority of the project was in reasonable conformity with the RFP supplied geotechnical report with the exception of 3,100 foot long by 100 foot wide area at Boggy Creek. Within those 3,100 feet, it was found that a significant amount of additional subsoil excavation and a surcharge operation would be required to bring the underlying soils into conformity with the FDOT specifications.

SCC's final geotechnical investigation found the actual site conditions to require an average of 10 feet of subsoil excavation throughout the entire area and 30 feet of underlying compressible clays to be surcharged. The subsoil excavation is **900%** greater than that detailed by the FDOT in the RFP and the surcharging of the compressible clays was neither shown nor detailed in the FDOT project specifications.

The area in question was found post-bid due to the supplemental geotechnical investigation performed by Universal Engineering Sciences as required by the RFP. The removal of the muck and subsequent surcharging was not necessitated by Superior's proposed design or construction means and methods. All of the material in question represents a latent subsurface condition, while the difference in quantity is a significant change to the character of work required in this area as determined by the amount of time, and quantity of materials and work effort required to complete it. Superior could not have expected the vast difference in quantity of muck removal or the surcharge from the information available pre-bid. As such, this issue is clearly a differing site condition.

*The Design/Build Firm shall perform a subsurface investigation, analysis and design for all aspects of the project in accordance with Department standards, policies, and procedures. **Existing subsurface information may be used.** Supplemental subsurface investigation and testing will be required to ensure all aspects of the project are covered.*

There are several components to this statement that define the actions of the D/B Firm pre-bid and post-award.

- The first sentence defines what information the Superior is required to generate on their own. Per the FDOT Plans Preparation Manual Volume 2, Superior would, at a maximum, have a preliminary soils report submitted with their Phase II (60%) plans. In Superior's case the information within the Nodarse 2/25/2000 report combined with the field verification of conditions comprised the preliminary geotechnical report and was utilized to develop the Technical Proposal.
- The second sentence is self-explanatory; the information provided by the FDOT is reliable and accurate information and may be used as a basis for its technical proposal.
- The third sentence defines the fact that Superior will need to perform additional geotechnical investigation to support their design efforts and fill in any missing information within the RFP geotechnical report. The critical point of this last sentence is that this work is not required to be completed until the submittal of Phase III (90%). There is not adequate time to perform this work during the technical proposal phase and FDOT only requires the information to be submitted with the later plans, post-award.

Superior's technical proposal reflected the expected subsoil removal within the 3100 feet that is in question based upon its pre-bid site investigation, proposed embankment heights, and interpretation of the geotechnical report provided in the RFP. The subsoil removal and embankment heights proposed in the Superior technical proposal were similar in volume to those detailed in the RFP 100% plans.

The FDOT may contend that the subsoil report provided two weeks after the short listing, in Addendum 6, required both subsoil excavation and surcharging in a manner consistent with the actual field conditions and should have been included in Superior's technical proposal. However a careful review of the Nodarse 2/25/2000 report reveals that the report states that the surcharge operation is only required if subsoil excavation is not to be performed and that the subsoil excavation depth is only minimal as detailed in the FDOT plans and Superior's technical proposal.

The subsoil report references de-mucking or removal in three locations within the report. The first is on Page 10 in discussion of the soils between Stations 321+00 to 360+00. The second is Page 11, and the third is in the third paragraph of Page 11. These locations are discussed individually below.

Page 10:

Due to soft compressible soils (muck and clay) encountered from Station 100+00 to 110+00 and from Station 176+50 to 181+00 and embankment fill heights, substantial settlement is anticipated in this areas. In order to minimize long term settlement in these areas, complete removal of the organic soils or use of a surcharge program is recommended.

The first stations correspond to Station. 321+00 to 360+00 within the project, the other stations are not within the project limits. This portion of the report discusses the superficial de-mucking depths of .1 to .46 meters that are tabulated on Page 8 of the report. These de-mucking depths are found both in the FDOT's 100% plans and Superior's technical proposal. The reference to de-mucking is not at issue in this dispute but the depth of required de-mucking is.

The second location in which the subsoil report references the option of de-mucking or removal is Page 11, second paragraph. In this location the report discusses de-mucking to a depth of 4 meters or use of a surcharge program.

Due to the anticipated settlements, complete de-mucking to an approximate depth of 4 meters or use of a surcharge program would be required.

This paragraph is limited in discussion to the consolidation test taken at Station 349+26 (106+45 in the report). This location is 3 meters from the end of the Boggy Creek Bridge and is shown to be a small isolated pocket of material. This area was shown in both FDOT's 100% plans and SCC's technical proposal as an area that would be de-mucked. This reference is likewise not at issue in this dispute.

The last location in which the subsoil report addresses surcharge is Page 11 third paragraph. In this paragraph the report addresses the use of a surcharge program **without** the removal of the compressible organic materials. It should be noted that while this is an option that neither the FDOT in their 100% plans nor Superior considered as a viable option it also only refers to the consolidation of the .1 to .46 meters of organic materials. This option does not refer to the surcharging of deep underlying compressible clay materials and nothing in the referenced report revealed the actual conditions encountered by Superior during construction of the project.

On page 2 of 54 of the RFP, FDOT made the following representation to the shortlisted Design/Build firms:

The Department, under separate contract, has produced (100%) roadway and bridge plans for this segment of SR200 (A1A). The 100% plans are included in Volume II of this RFP and are supplied to the Design/Build Firm for information purposes. The 100% plans utilize metric units. The Design/Build Firm is referred to said plans as a means of communicating intended and possible design solutions that meet established

environmental commitments, permit requirements (where permits exist), and are contained within the Department's existing right of way.

This statement communicates to a contractor who reviews the supplied plans in the preparation of its technical and price proposals that the 100% Plans have previously been subjected to a rigorous design review process and are considered final by FDOT and the designer.

Additionally, during the hearing presentation, SCC questioned the validity of the Nodarse boring data. SCC contended that for the roadway section in question, the area adjacent to the existing roadway was heavily vegetated and that SCC could not obtain borings until they had cleared the area. The suggestion was that the Nodarse borings were in fact not taken at the reported offset locations.

FDOT Position

The following summary of the FDOT's position is based upon written materials submitted to the Board and upon the hearing presentation. The complete position is available in the FDOT's Position Paper and Rebuttal Statement.

FDOT Key Points

- The Design-Build Firm is specifically cautioned in the RFP concerning reliance on information provided in the RFP.

§III. Threshold Requirements, J. Department's Responsibilities- (see page A-3 of the RFP Appendix)

"Proposers shall examine the Contract Documents and the site of the proposed work carefully before submitting a proposal..., as to the character, quality, and quantities of work to be performed and materials to be furnished ...

The Department does not guarantee the details pertaining to borings, as shown on any documents supplied by the Department, 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. Proposers shall examine boring data, where available, and make their own interpretation of the subsoil investigations and other preliminary data, and shall base his bid on his own opinion of the conditions likely to be encountered. The submission of a proposal is prima facie evidence that the Proposer has made an examination as described in this provision."

§V. Project Requirements and Provisions for Work, G. Verification of Existing Conditions- (see page A-5 of the RFP Appendix) *"The Design, Build Firm shall be responsible for ... research of all existing Department records and other information ... by execution of the contract, the Design/Build Firm specifically acknowledges and agrees that the Design/Build Firm is contracting and being*

compensated for performing adequate investigations ... and that any information is being provided merely to assist the Design/Build Firm in completing adequate site investigations ... no additional compensation will be paid ..."

Appendix- B, §2-4 Examination of Contract Documents and Site of Work- (see p. A-7, A-8 of the RFP Appendix) *"Examine the Contract Documents and the site of the proposed work carefully ...as to the character, quality and quantities of work to be performed and the materials to be furnished and as to the requirements of the contract documents... submission of a proposal is prima facie evidence that the bidder has made an examination as described in this Article.*

Appendix – B, §4-1 Intent of Contract – (see p. A-9 of the RFP Appendix) *"The intent of the Contract is to provide for the ... completion ... of the work ... furnish all engineering ... the terms and conditions ... are fixed price ... lump sum bid for completing the scope of work detailed in the Contract."*

Appendix – B, §7-1 laws to be Observed §7-1.1 General - (see p. A-10 of the RFP Appendix) *"Become familiar with and comply with all ... State ... laws ... and regulations that control the action or operation of those engaged or employed in the work..."*

Included in the above laws and regulations are those pertaining to an engineer adopting as his own the work of another engineer (Department of Business and Professional Regulation Chapter 61G15-27.001). The procedure requires that when a successor engineer uses or reuses an original professional engineer's work, the successor professional engineer will (see p. A-II of Appendix) *"take full responsibility for the drawings as though they were the successor professional engineer's original product.*

- The conditions found at the site are not material different from those indicated in the geotechnical report furnish in the RFP.

The geotechnical reports (Nodarse & Associates, Inc.), provided as Addendum #6 to be included in Volume II for informational purposes, were Signed and Sealed documents, which provided cautionary statements instructing intended users as to how the information was gathered and utilized or not utilized : (See p. A-12 to A-15 of Appendix) {Note: All measurements including Stationing are metric. Sta. 100+80 to 105+80 (in meters) equates to Sta. 330+71to 347+11(in feet)

Nodarse's report dated Apr. 17, 2002 (Revised)"..c/ay soils along the State Road 200 alignment consist of clays that become "quick" when disturbed or remolded. Such soils tend to become quick or behave like a liquid when disturbed....Since the clay soils may behave like a soil without much shear strength (i.e. muck), alternative backfilling procedures are

recommended...recommend that all materials used in or affected by this alternative construction (subsoil excavation quantity, geogrid, special select backfill material, etc.) be increased by a certain percentage (i.e.25 percent}..."

(See p. A-21, A-19,A-23,A-25,A-26 of Appendix) Nodarse's Soil Survey report dated Feb. 25, 2000 "(Page 6} *Manual muck probes were performed along the west approach to Boggy Creek from Station 100+80 to Station 105+80 (Sta. 330+71 to Sta. 347+11 feet). The muck probe results are shown on Figures 36 and 37 and the cross sections in the construction plans. The superficial muck depths ranged from 0.15 to 0.46 meters (0.49 to 1.5 feet).*" Page 4 describes "*The manual muck probe procedure consisted of pushing a slender metal rod into the superficial soil and evaluating the relative resistance of the soil to this manual penetration...However, manual muck probes cannot detect peat or muck layers which exist beneath layers of sand or dense soils which cannot be penetrated. The probes can also penetrate to some extent in loose granular soils which may exist beneath the peat or muck layers. These limitations can at times lead to some overestimation or underestimation of peat or muck thicknesses..Also, it is not recommended to use this muck probe data for earthwork quantity estimations...*" Page 8 - Station From- To 100+90- 105+80 (Station 331+04 to 347+11) "*Superficial de-mucking depths are anticipated to range from 0.1 to 0.46 meters (0.3 to 1.5 feet). The SPT boring results indicate that buried organic soils are also present adjacent to Boggy Creek... De-mucking depths on the order of 3 to 4 meters (9.8 to 13.1 feet) should be anticipated in these areas...*" Page 10 & 11 "*Due to soft compressible soils (muck, clay) encountered from Station 100+00 to 110+00 (Sta. 328+08 to 360+89 feet) ...embankment fill heights, substantial settlement is anticipated in these areas. In order to minimize long term settlement in these areas, complete removal of the organic soils or use of a surcharge program is recommended....Due to the anticipated settlements, complete de-mucking to an approximate depth of 4 meters (13.1 feet) or use of a surcharge program would be required....Over excavation of unsuitable materials and backfilling with granular soils should be performed... Another option would be to leave the compressible organic soils in place and use carefully staged embankment construction and a 1.5 to 3.0 meter (4.9 to 9.8 feet) surcharge embankment to reduce long term settlement concerns. The surcharge embankment would remain in place until the amount and rate of settlement was sufficient for construction of the roadway subgrade, base and pavement. The anticipated settlement should occur over a period of 3 to 6 months after placement of the surcharge... a surcharge program is desired additional field exploration should be performed to better characterize the superficial organic soils and assist in design of a surcharge program for this project.*

- SCC specifically has confirmed in their proposal their site investigation and knowledge of existing conditions at the site.

"Our roadway design team has carefully evaluated the Phase IV design information prepared by Connelly & Wicker Inc., reviewed all information on the existing roadway and performed site reviews in conjunction with our preliminary design efforts for the SR 200 project."

"We have reviewed existing data in order to identify key geotechnical aspects of the project. Based upon our local experience in the vicinity of the project limits and our review of the previously performed geotechnical work, we have identified the following potential geotechnical issues for this project: shallow deposits of highly plastic clays buried and superficial deposits of highly organic soils, shallow groundwater conditions wetland drawdown and limestone bedrock. Due to the presence of shallow plastic clays along the project limits and the history of previous problems encountered during construction along SR 200 with these soils we will determine construction strategies to prevent excessive long-term settlement of both the new and existing roadways. We will also further delineate the limits of A-8 organic soils to ensure that settlement of the embankments will not be an issue..."

FDOT Position Summary

The Geotechnical report provided with the RFP identified the location of the organic soils and provided precautionary information as to the depth and location of the material. Additionally, the report informed the user of the report that the method used for the subsurface investigation was manual muck probes and cautioned that the information should not be used for earthwork calculations. The geotechnical information provided by the RFP only advised the contractor as to the type of soils that would be likely be encountered in the area of the Boggy Creek bridge. The report did not provide the exact limits and depth of the unsuitable material, only that the material would likely be encountered. The RFP did not dictate the means and methods of the prospective bidders for removal and replacement of the unsuitable materials. The RFP only advised the bidders that the materials existed and provided two recommendations for the removal and replacement of the unsuitable material. The D/B firms were not bound by the RFP recommendation and were to base their design on their own engineering analysis and provide a design for the project which best suited their intended means and methods for construction of the project.

The unsuitable soils, which would likely be encountered in the Boggy Creek area were identified prior to submission of bid proposal and therefore a known condition. The RFP, although not containing exact limits of the material, did contain sufficient

preliminary information which would have allowed a reasonable estimate of the earthwork quantity for bidding purposes.

The Design/Build firm did not encounter a "differing site condition"; therefore, there is no entitlement.

Disputes Review Board Findings

1. The project RFP provisions clearly assigned responsibility for pre-bid site investigation, including subsurface conditions, to the design-build firm.¹
2. The project RFP provisions clearly caution the design-build firm concerning reliance on the geotechnical report and the design documents provided with the RFP.²
3. The design-build contract contains a differing site condition clause that provides the contract provision with regard to a differing site condition.³

Disputes Review Board Analysis

Clearly the contract contains a valid Differing Site Condition provision. The issue before the DRB is whether or not the conditions encountered by SCC qualify as a differing site condition. The design-build firm is cautioned in the RFP and in the Nodarse geotechnical report concerning reliance on the report. The FDOT warns in the RFP that the boring data is “*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.*” Nevertheless, furnishing soil boring logs under the seal of a professional engineer that were not taken at the locations reported, may contribute to the substantiation of a differing site condition. This specific concern was addressed by the DRB in its technical review of the data.

The DRB found the Nodarse geotechnical report to be significantly incomplete in the roadway section addressed in this hearing. Borings data was not reported for right offsets at station positions 102+50, 103, 103+50, 104, 104+50, 105, a distance of 350 meters (1148 ft). Apparently, much of the anticipated muck depth information was taken from muck probes, which Nodarse clearly advises are not reliable. A review of the boring log data provided by Nodarse and by Universal does not substantiate the suggestion that the Nodarse boring locations were a misrepresentation.

The Nodarse boring logs indicate the presence of compressible clays and the use of surcharge is suggested in the Nodarse report.

The design-build RFP and Contract require the design-build firm to critically review engineering data and reports furnished with the RFP. That review is to be made as a designer, a professional engineer. A reasonable engineering review of the Nodarse geotechnical report indicates that uncertainties remain as to the exact subsurface conditions in the roadway section in question. The relatively short proposal preparation time is not relevant to this issue. The design-build firm is aware of the limitations imposed on proposal preparation by the limited time. It is the design-build firm’s responsibility to assess risk, and decide whether or not to participate, developing their proposal accordingly.

¹ RFP Paragraph G Verification of Existing Conditions

² RFP Paragraph J Department’s Responsibility

³ Specification section 4-3.7 Differing Site Condition

Summary of Key Considerations

- According to specification section 4-3.7 a differing site condition must be either (1) subsurface or latent physical conditions differing materially from those indicated in the Contract, or (2) unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract.
- The contractor was cautioned both in the RFP provisions and in the Nodarse report concerning reliance on the geotechnical information and more specifically the de-mucking depths.
- Additionally, the RFP provisions assign responsibility for subsurface site investigation to the Design-Build firm.
- The de-mucking depths do not differ materially from those indicated in the Contract, and they are not an unknown physical condition of an unusual nature differing materially from those ordinarily encountered
- The presence of compressible clays does not differ materially from that indicated in the Contract, and is not an unknown physical condition of an unusual nature differing materially from those ordinarily encountered

Disputes Review Board Recommendation

Given the facts and contract provisions, the DRB did not find the muck depth condition and the utilization of surcharge to be a differing site condition. The DRB's recommendation is that Superior Construction Company is not entitled to additional compensation for the muck removal issue and the surcharge issue presented to the Disputes Review Board in this hearing.

The Board appreciates the cooperation of all parties and the information presented for review in order to make this recommendation. Please remember that a Board's recommendation requires acceptance or rejection within 15 days. Failure to respond to the DRB and other parties within the time frame constitutes an acceptance by both parties.

The Disputes Review Board is unanimous in its presentation of these recommendations for the issue.

I certify that I have participated in all meetings and discussions regarding the issues and concur with the findings and recommendation.

Respectfully submitted,
Disputes Review Board

Ralph Ellis Jr. – Chairman
Jimmy Lairscey – Member
Jim Gant - Member

Signed for all with the concurrence of all members.

Ralph D. Ellis, Jr.

Ralph D. Ellis, Jr.
Chairman