

ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeal of --)
)
CCI, Inc.) ASBCA No. 57316
)
Under Contract No. W917BK-08-C-0059)

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OPINION BY ADMINISTRATIVE JUDGE SCOTT

CCI, Inc. appealed under the Contract Disputes Act (CDA), 41 U.S.C. §§ 7101-7109, from the contracting officer's (CO's) denial of its differing site conditions claim, then in the amount of \$35,125,036, under its contract with the U.S. Army Corps of Engineers (Corps), Gulf Region South District (GRS), for a pier and seawall project in Iraq. The Board held a 15-day hearing, in Anchorage, Alaska, and Falls Church, Virginia. We heard entitlement and quantum but because we deny the appeal we do not decide quantum and therefore do not make quantum findings.

FINDINGS OF FACT

1. On 25 April 2008 GRS issued a request for proposals (RFP) for a negotiated design/build contract under the Foreign Military Sales (FMS) program. The Iraqi Navy was the FMS customer. The RFP sought seawall design and construction; a design to minimize dredging; and construction of an "L-shaped" pier ("Pier 1"), with an option for a "T-shaped" pier ("Pier 2") (north of an existing Pier 3) at Umm Qasr, Iraq. The contractor was responsible for project design and was to submit required design documentation at 35%, 99%, and 100% phases. (R4, tab 103 at 1 of 87, at Scope of Work (SOW) at 96-97, 101-03 of 113, tab 103 at 5 of 89; tr. 8/80)

2. The RFP contained the FAR 52.236-27, SITE VISIT (CONSTRUCTION) (FEB 1995) clause under which offerors are urged and expected to inspect the work site (R4, tab 103 at 71 of 89).

3. The RFP included the FAR 52.236-2, DIFFERING SITE CONDITIONS (APR 1984) clause, which states, concerning a “Type I” differing site condition, at issue:

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the [CO] of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract....

(b) The [CO] shall investigate the site conditions promptly after receiving the notice. If [they] do materially so differ and cause an increase...in the Contractor’s cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made....

(R4, tab 103 at 84 of 89)

4. The RFP also contained the FAR 52.236-3, SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984) clause which provides that the contractor acknowledges that it has satisfied itself as to the conditions that can affect the work, including tide uncertainties; ground conditions; and surface and subsurface conditions reasonably ascertainable from a site inspection, the government’s exploratory work, and the contract. The clause disclaims government responsibility for the contractor’s failure to do so or for its conclusions. (R4, tab 103 at 84-85 of 89)

5. The RFP stated that the “Contractor/Designer shall research all existing conditions” at the naval base and waterway (R4, tab 103, SOW at 96 of 113).

6. RFP § 4.1, “**GEOTECHNICAL**,” provided:

4.1.1 Site Specific Information

Site specific geotechnical information necessary to design and construct the pile foundations, sea wall and other geotechnical related items contained in this project shall be the Contractor’s responsibility. The Contractor shall determine all necessary geotechnical conditions by appropriate field and laboratory investigations and supporting calculations....

Additional explorations may be required to adequately determine the subsurface conditions if the soil is highly variable; unusual conditions are expected and/or to determine...other geotechnical related requirements....

4.1.2 Existing Geotechnical Information

A geotechnical study of the project site containing 3 borings has been provided in Appendix C. *This exploration's logs and geotechnical report by others are "for information only".*

4.1.3 Geotechnical Report

The Contractor shall produce a detailed geotechnical report.... Information in the report shall include, but not be limited to: existing geotechnical (e.g., surface and subsurface) conditions....

....

4.1.6 Design Certification

The Contractor shall certify in writing that the design of the project has been developed consistent with the site-specific geotechnical conditions. The certification shall be stamped by the geotechnical engineer or geotechnical firm and shall be submitted with the final design.

(R4, tab 103, SOW at 99-100 of 113) (Emphasis added)

7. The referenced Appendix C, "Report on Site Investigation for Dock at Um Qasir Port at Basrah Governorate," dated May 2007, was prepared by Iraq's Andrea Engineering Tests Laboratory for a different contractor "to explore the subsoil conditions of the proposed site to facilitate the foundation design for...new docks & related structures at Um Qasir Port" (R4, tab 103, app'x C at 1) (Andrea report or AR). The report addressed a field investigation that included three boreholes (BH), an in-situ Standard Penetration Test (SPT) and other tests. It contained BH locations and logs; field test results; and a summary of laboratory test results. The SPT measured soil consistency at several depths. It was performed in all types of soil, especially in "sandy clayey layers" (AR at 3). The AR included American Society for Testing and Materials (ASTM) tests: visual classification; natural moisture content and unit weight; specific gravity; grain size

distribution; liquid and plastic limits; shear tests, including unconfirmed and triaxial compression and direct shear; and consolidation compressibility; plus various chemical analyses on soil. (AR at 1-12 and appendices)

8. The AR stated at § IV, “DESCRIPTION OF SUBSOIL STRATA”:

The subsoil strata consist mainly of a very soft, soft to medium gray to dark gray sandy silty clay layer with black traces of organic matter and white shiny traces of soluble salts, overlying medium, dense to very dense layer of gray fine, medium to coarse grained silty sand, with little gravel.

The water table was encountered, as observed at the time of investigation between (0.0-1.0), below the existing ground level (NGL), at [BH] nos 2 & 3, which were in the ebb and tide zone. While at [BH] no. (1), which was the more distance from the sea, was between (1.0-1.5)m....

The fluctuation of water table with the seasons could be observed (rising during spring). The zone immediately above water table is greatly affected as far as strength and compressibility are concerned. As moisture increased the strength decreased and compressibility increased.

(AR at 4) (Emphasis added)

9. The AR stated at § VI, “DISCUSSION OF RESULTS”:

The site subsoil consists mainly from two layers, the first layer of very soft, soft to medium gray sandy silty clay with amount of soluble salts and organic matter overlying on a layer of medium, dense to very dense gray silty sand.... [T]he majority of the first top soil is classified as...silt-sand-clay mixtures.

The water table was encountered...between (0.0-1.0) meter below the existing ground level.... Furthermore, the site was within the ebb and tide zone of the sea.

The saturated soil condition below the water table makes the problem of settlement significant as consolidation is

a process of graduated decrease of the water content from saturated soil under constant load.

....

A laboratory vane shear equipment...is used to obtain the undrained shear strength, this method was used *due to high disturbance in all samplers that extruded from shelby tubes of the soft clayey layer, also it was found that this soil exudes between the fingers when squeezed in the fist so this could [be] described as very soft to soft sandy clayey soil.*

The values of undrained shear strength were found to be approximately in the range of about (10 to 25) kPa [kilopascals] for soft soil at depth from (0 to 14)m.

In the case of the construction on soft soil, three options are available to ensure that there will not be significant problems during the design life of the structure[:]

- i. Replacement of the soft soil.*
- ii. Using pile foundation, and*
- iii. Stabilization or improvement of soft soil.*

Organic matter with presence of salts may be found in the soil in many forms. The increase in those contents of the soil may cause some alteration in engineering properties of the soil.

The presence of organic matter may cause significant changes in the properties of the soil. The effects on fine grained soils may be more obvious, such alteration could be noticed through color and odor of the clay and...suitable remedy without exceeding the proper bound of the safety may be required. Investigation of the site area has produced evidence of some kind of collapse due to the reaction between fundamental compounds of the soil (sandy clayey layer) with organic matter....

(AR at 8-9) (Emphasis added) Regarding the kPas, Corps Manual 1110-1-1804-*Geotechnical Investigations*, cited by the Corps and by CCI's fact and expert witness

Mike Hartley (below), describes values less than 25 kPa as “Very soft” and from 25 to 50 kPa as “Soft” (R4, tab 2 at 15, tab 97 at 13).

10. The AR contained three BH logs. BH No. 1 was inland from where the crane pad at issue was to be constructed and the parties have discounted it. BH No. 2 was very near the pad site. (AR, app’x A, app’x B at 1, 2; exs. A-234 at 6, G-24; tr. 2/168-69, 6/33) Its log described the top 7m of material as “[v]ery soft to soft gray to dark gray silty CLAY with black spots and/or pocket of organic matter and shiny traces of soluble salts”; from 7 to 12.5m as “[s]oft to medium gray silty CLAY with some silty sand pocket & shiny spots of soluble salts”; and from 12.5 to 18m as “[d]ense to very dense gray coarse grained clayey silty SAND with some coarse gravel & cobbles” (AR, app’x B at 2) (emphasis added).

11. The BH No. 3 log described the upper 7m as “[v]ery soft to soft gray to dark gray silty CLAY with rusty brown pocket of fine sand & black traces of organic matter & shiny spots of soluble salts”; from 7 to 16.5m as “[s]oft dark gray silty CLAY with white shiny traces of soluble salts & yellowish brown line of fine sand”; from 16.5 to 17.5m as “[v]ery dense coarse grained gravelly SAND with some cobbles and boulders”; and from 17.5 to 24m as “[l]oose to medium gray to dark gray medium grained silty SAND with shiny traces of soluble salts” (AR, app’x B at 3) (emphasis added).

12. The RFP noted the site was on an estuarine outflow of the Tigris-Euphrates delta system, with current flow predominantly tidal and maximum velocities near four knots during spring tide ebb flow. It addressed sedimentation:

The closest waterfront development to this site is the commercial port of Umm Qasr located immediately “upstream”. The infrastructure is based upon a continuous dredged quay along the west bank of Khawar Abd Allah....

Satellite photos substantiate local reports that Khawr Abd Allah is *heavily laden with fine sediments*. Although actual situation [sic] rates experienced within the commercial port are not known,...*the marine railway located between the commercial port and the proposed Navy Base is reported to have already silted in.* [Emphasis added]

(R4, tab 105 at 1, see tab 106; tr. 2/29-30, 120) The project was largely in an intertidal zone, between low tide and high tide, with some of it beyond the low tide line (tr. 6/29).

13. Iraqi contractor Sada Al-Raneen (SAR) brought the RFP to PolyEarth Construction International, LLC (PCI), for which SAR had been a subcontractor in 2005

on a Basra airport project with which Lee Nunn was involved. Mr. Nunn and Samuel Pelant had formed PCI. Mr. Pelant, a project manager, was not an engineer. Mr. Nunn was a registered civil and nuclear engineer. He was with the Corps for 23 years prior to retiring. He had many major engineering jobs at the Corps and in the private sector. His work had included several projects in the Middle East. (Ex. G-26, part 1 at 39, part 2 at 184; tr. 2/138-151, 212; *see* R4, tab 111 at 4)

14. Mr. Nunn consulted with Dennis Nottingham, then a principal in Peratrovich Nottingham, a marine engineering firm also known as PND Engineers (PND), and gave him the RFP. Prior to his retirement in August 2009, Mr. Nottingham, who held a masters degree, apparently in the geotechnical area, had 50 years' experience as a professional engineer. He held a patent on an "open cell" process that was attractive to Mr. Nunn for pier construction. (Tr. 2/6-8, 77, 104-05, 151-52)

15. Mr. Nottingham confirmed that the project was immediately downstream of the old port but asserted that, due to dredging, the old port was trapping all sediment. If any remained, a gentle curve in the river formed an outside bend, causing scouring that would sweep it away from the project. (Ex. G-2; tr. 2/119-20, 127-31) He interpreted a United States Agency for International Development (USAID) report included in the RFP (below) to mean that sediment deposits were on the inside bends (ex. G-2; tr. 2/41-42, 119-20, 127-31). That is where he "expected the weak soils to be" (tr. 2/42). Mr. Nottingham's scouring views are supported in part by Dr. Michael Briggs, a research hydraulic engineer at the Corps' Engineer Research and Development Center (ERDC). He prepared a Navigation Design Review, dated 6 January 2009, post contract award, of a revised CCI submittal, noting that the new piers were on the outside of a slight concave bend in the river, so shoaling should not be a problem. Scour and erosion from riverine currents were more likely. He stated that the "bottom" should be considered "soft." He did not do a geotechnical design review or analysis relative to soils. (Ex. A-15 at 174826)

16. CCI's proposal eliminated a dredging item to be priced on the ground that, by pushing the pier further into the channel, greater scouring would occur and the flow of water would keep sedimentation down (tr. 2/153, 8/64; *see also* R4, tab 112 at 3-4). However, Mr. Nunn knew that a dredging contractor was on site; that "[t]hey were spending millions of dollars dredging the naval port" and "the other piers were already clogged with siltation" (tr. 2/153).

17. In Mr. Nottingham's experience it is the contractor's choice how to proceed with open cell dock construction. It has been done with barges, including when very soft soils are present, and with combination marine and land-based operations. Most open cell projects with which he had been involved had been built from the land. If it is possible to get a good purchase and the ground is substantial enough to hold the equipment, a land-based approach is normally lower cost. According to Mr. Nunn, PCI considered

only land-based construction and saw nothing contrary to that approach. (Ex. G-27 at 11-12; tr. 2/25-27, 84-85, 154) He acknowledged that open cell work was often done from barges, but stated that, if it were possible to do it from the land, “the economics demand that” (tr. 2/155). Mr. Nottingham’s involvement with the geotechnical aspects of project design appears to have been limited. CCI did not request a ground investigation or hire a geotechnical professional to evaluate its landside crane pad construction efforts until after slope instability occurred (below).¹

18. Mr. Nunn consulted with Keith Burke, president of CCI, a subsidiary of Bristol Bay Native Corporation (BBNC), to see if CCI would be interested in the project. Mr. Burke, who was not an engineer, and Jim Hutton, eventually CCI’s project manager, attended a PND briefing, which demonstrated a land-based operation. CCI had very little experience in marine construction and had never been involved in an open cell project, but it wanted to expand its government contracting work and thought it would be an opportunity to get its “foot in the door...in the [Middle East]” (ex. G-27 at 8). At the proposal stage Mr. Burke did not receive a copy of the RFP. (R4, tab 112 at 5, 17; tr. 1/50-52, 54-57, 74, 77, 105-07; ex. G-18 at 41, G-27 at 7, 9; see R4, tab 111 at 4) CCI did not do an estimate; PCI and PND did the pricing (tr. 1/147).

19. PCI and PND were responsible for project design and engineering. PCI was to run it with PND and SAR as its subcontractors. (Ex. G-27 at 16-17; tr. 1/57)

20. The Corps received about 10 proposals. All but CCI proposed “L&T” piers called for in the RFP. At PCI’s request, the RFP was amended to allow for alternative concepts, such as open cell. (Tr. 8/30-31, 34, 43-44)

21. The site visit was on 17 May 2008. CCI, PCI and PND did not attend. A SAR engineer attended. SAR did not have nearshore marine construction experience. The on-site supervisor from Weston Solutions (Weston), which was performing other work at Umm Qsar, attended. Commander Raymond Deck, an engineer, conducted the visit by bus and walking. The tide was high. Low tide photos were in RFP Amendment No. 2, but the low tide areas were covered with water during the visit and attendees could not then have walked on them. The visit lasted about 90 minutes but there was no deadline; the attendees determined the time spent. They took photographs and posed written questions, which Commander Deck gave to the Corps so the questions and answers would be provided to all offerors. During the visit the contractors were told about the need to dredge an area between what was then perceived to be the L&T pier area and the shoreline, because there was so much silt vessels would not be able to moor. That day, SAR’s engineer reported to Mr. Pelant². He forwarded photos, questions he

¹ For efficiency, we often refer to “CCI,” even if other entities were involved.

² Unless otherwise noted, all cited communications were by email.

had posed and the answers. None of the questions pertained to geographic site conditions or CCI's planned method of dock construction. We have not been directed to any evidence that SAR evaluated ground conditions or the site's suitability for land-based construction. CCI did not attempt a site visit until after contract award. (R4, tab 104 at 3-4, 10, tab 151; ex. G-26, part 1 at 36-38, part 2 at 184-85, 190; tr. 2/155, 157, 229-30, 8/124-25, 129, 139-40, 143-45, 151, 168-70, 172-73, 181-85)

22. Prior to contract award Mr. Nottingham did most of the work on behalf of PND (tr. 2/97). He designed a one-page concept plan dated 8 May 2008 that was incorporated into CCI's proposal (R4, tab 112 following pg. 17, tab 150). CCI has not rebutted the Corps' assertion that the soil conditions and profile shown on his plan did not correspond to the AR data in the RFP (*see* R4, tab 103c, AR, app'x B-[BH] Logs, tab 150; gov't br. at 20, proposed finding (PF) 52, 229-31; gov't reply at 18). Mr. Nottingham also prepared a generic estimate, dated 21 May 2008, based upon a preliminary design, of the cost of building a similar open cell system, from the land, in the United States Gulf or South Coast region, because he had not previously worked in the Middle East (R4, tab 153 at 15868; tr. 2/50, 53, 73, 107-08, 137). Mr. Nottingham's concept plan and cost estimate do not discuss the AR or USAID report or detail means and methods of construction, such as the crane and crane pad at issue.

23. Mr. Nottingham read the AR and saw inconsistencies between descriptors by a geologist(s) that the soils were "very soft" and blow count data that indicated "not a bad soil" or a "pretty good soil" (tr. 2/61, 63). He placed more reliance upon the latter. He noted to CCI's proposal team that all of the borings were in one place, did not cover the large project, and they should seek more information. There was general information that could be used but not in any detail. (Tr. 2/35, 44-45, 63-64, 67)

24. On 22 May 2008 Weston posed several questions to MAJ Joseph Brands, the government's point of contact for project questions, including:

5) Geotechnical Conditions: Will the government be providing any bidding assumptions associated with the existing geotechnical conditions? For bidding purposes, should the contractor assume the three borings provided are representative of the entire site?

[Current SOW represents undue risk to the contractor based on the unknown conditions. A fair basis for bidding is required.]

(Ex. G-469)

25. RFP Amendment No. 2, effective 6 June 2008, included questions posed by potential offerors and answers (R4, tab 104 at 1-2). The following are pertinent:

Question 11: Soil investigation not enough we need more point of locations.

Answer 11: The best soil investigation data available to the government is provided in Appendix-C Geotechnical Investigation of the SOW [the AR]. The contractor should assume the data provided in Appendix C is representative of the project site.

(R4, tab 104 at 8)

Question 42: Geotechnical Conditions: Will the government be providing any bidding assumptions associated with the existing geotechnical conditions? For bidding purposes, should the contractor assume the three borings provided are representative of the entire site?

Answer 42: The contractor should assume the three borings provided are representative of the entire site for the purposes of developing a proposal. However, additional geotechnical information maybe [sic] required during the design phase of this project.

(*Id.* at 13) Amendment No. 2 also added an April 2003 report from Stevedoring Services of America, BERGER/ABAM Engineers, Inc. to USAID, called Draft Umm Qasr Port Assessment (USAID report). The amendment stated: “**DISCLAIMER:** *The report is provided for information only. The Government cannot guarantee the relevance, timeliness, or accuracy of these materials*” (R4, tab 104 at 2, tab 107) (emphasis added).

26. USAID report, § 3.1.5, “**Geology,**” noted that:

The streams are alluvial and the channels are apparently composed primarily of sand and silt. Clay may be present, but no clay balls were seen in the dredged material disposal areas. There is a thin film of sun-cracked silt or clay at some of the final settlement ponding areas. Boring information shows the materials encountered in the original “new” port excavation as

silty sand with small fine gravel and clay. Infill sediments since then may be of a finer, more silty nature.

(R4, tab 107 at 10)

27. USAID report, § 3.1.9, “**Shoaling Patterns and History**,” stated:

UMM Qasr Port is adjacent to an embayment [that] is the estuary for several small rivers that drain a wetland area north of the Port....

The channel downstream...follows the typical pattern of sediments deposited in bar formations on the insides of the bends. Additionally, as the inlet widens downstream and current velocities are reduced, cross channel bars are deposited that are shaped by upstream and downstream tidal currents into typical ebb-flood pairs.

The channel bends and the cross channel bars are areas where maintenance dredging will be focused. In the Port, deposition occurs along both sides in the “old” port, requiring maintenance dredging along the berths and along the opposite shore....

...Suspended sediments entering the [“new” port] cut on the incoming tide settle out in the quiet water primarily at the sides creating the need for maintenance dredging at the berths. The eastern side of the cut is shoaled extensively.... Recently constructed dikes should eliminate this shoaling source....

A spit grows from river channel sediments at the entrance of the “new” port cut. This spit requires regular maintenance dredging.

Nearly continuous maintenance dredging of the berths and approach channel from the Pilot Boat Station will be required to keep the Port viable. The existence of a large number of dredge vessels in various states of functionality appear [sic] to confirm that requirement.

(R4, tab 107 at 11)

28. USAID report § 3.2.8, “**Past Dredging and Disposal Practices**,” stated:

There are sizable upland dredged material disposal areas nearby, opposite both the “old” and “new” ports. A large estuary area behind Berths 13 to 16 has also been utilized as a cutter-suction dredge disposal site. Dike and spillway construction and maintenance do not appear to be a high priority, with some dredged materials finding their way back to the Port waters.

The British Military indicate that...some of the cutter-suction dredge materials were simply sidecast in the river channel opposite or downstream of the “old” port....

Hopper dredged disposal was reported to be just downstream of the work areas. There does not appear to have been any consistent effort to haul the dredged materials any distance to insure their non-return to the shoaling locations.

(R4, tab 107 at 13) The report also noted that there were dredged material disposal sites not far from the old and new ports (*id.*, § 3.2.9).

29. CCI alleges that the USAID report “explicitly indicates” that scouring would occur at the project site, eliminating all sediment and silt, regardless of any dredging practices (app. reply br. at 7). While acknowledging the scouring mentioned by Mr. Nottingham and Dr. Briggs (finding 20), we find that neither § 3.1.9 nor any other section of the USAID report suggests that all sediment and silt would be scoured from the site, regardless of dredging (R4, tab 107).

30. Mr. Nottingham responded affirmatively to questions posed by CCI’s counsel as to whether he and the “CCI team” had relied upon the RFP’s answers to questions 11 and 42 in developing “your proposal for Umm Qasr.” “Yes, that’s all we had. And we were instructed to do that. So that’s what we did.” (Tr. 2/45-46 (question 11)) “Yes. We had nothing else.” (Tr. 2/47 (question 42)) Mr. Nottingham looked at the three borings in helping to prepare the proposal (tr. 2/56) and relied upon blow counts as “the only really non-subjective information” (tr. 2/133). He relied upon the borings to determine whether the project could be built from the land (tr. 2/47), but acknowledged that the data was insufficient for that determination:

Q After receiving that answer [to question 42], did you determine whether or not the data provided in the three

bore logs was sufficient for the team to determine whether or not this project could be built from the land side?

A *It wasn't sufficient*, but it was what we had and using those borings, as representative of the whole site, we determined that *you could probably buil[d] it from the land side*. [Emphasis added]

(Tr. 2/48, *see also* tr. 2/67 (Based upon Mr. Nottingham's "preliminary analysis," using available data, apparently prior to receipt of the answers to questions 11 and 42, it "looked like" shore-side construction would be viable. There is no evidence that his analysis was memorialized in writing.))

31. Mr. Nunn testified credibly that, in the proposal planning meetings, the AR was not the basis of any of the project constructability discussions (tr. 2/213).

32. At the time of the project, PCI had never been awarded a federal contract and Mr. Nunn had not been involved as a contractor in an open cell construction project. PCI marketed foam insulation and other things. It was formed to seek work in the Middle East. Mr. Pelant, who had some small scale marine construction experience, did not have open cell experience. With PND, he put together the proposal's technical and management approach and the preliminary schedule. Mr. Nottingham was PND's main representative. Mr. Hartley, a PND principal, was not involved at the proposal stage and Mr. Nottingham did not consult him. (Tr. 2/210-12, 4/9, 16-17)

33. The parties agree that CCI submitted its alternative open cell pier proposal to the Corps on or about 23 June 2008 (app. br. at 16; gov't br. at 8, ¶ 13). Mr. Pelant prepared its narrative, with input from others at PCI, PND and CCI. He worked with Messrs. Jeff Mekinda and Hutton of CCI on the pricing. He described Mr. Mekinda as a tradesman and plumber and Mr. Hutton as an architect who had worked in business development. (Ex. G-26, part 1 at 32-33)

34. On 23 July 2008, the CO noted that CCI had not submitted a dredging cost. He also stated that its cost proposal was very high compared to the government's estimate and asked for a final revised one. (R4, tab 156 at 177701-02; tr. 8/93) On about 14 August 2008, CCI submitted a revised proposal (ex. A-4). Under "Schedule constraints specific to Engineering," it stated:

- a. Geotechnical and marine/bathymetric surveys. These are hard constraints as it is critical to identify exactly where the proposed port structure will be most advantageously located. The information from the surveys is critical and

drives the design as well as material quantities for procurement and civil works. *We feel that there is not enough information provided in the RFP and subsequent amendments to properly ascertain this information to the required degree of accuracy for quality design and engineering.* [Emphasis added]

(*Id.* at 8304)

35. CCI does not claim, and there is no evidence of record, that it performed any geological testing of the site prior to contract award. There is no written analysis of record by Mr. Nottingham, or anyone else from PND, CCI, or PCI, at the time CCI submitted its initial and amended proposals, of conditions that would allow land-based construction or any contemporaneous written expression of reliance by CCI upon the AR or USAID reports. CCI's proposals did not contain a defined construction plan concerning the earthworks and filling operations or any statement of assumed ground or soil conditions. They did not mention a crane pad or 280-ton crane, a plan to use a land-based crane to drive sheet pile, or any land-based construction approach. (Tr. 6/110-11, 13/179; *see ex. G-16* at 9, 22) However, CCI claims without rebuttal that an attached photograph depicted open cell dock construction from the land (app. reply br. at 6).

36. On about 20 August 2008 the Corps requested "Best and Final" offers. CCI responded on 26 August 2008. The Corps found that its open cell proposal was the most acceptable of the proposals. (R4, tab 160; tr. 1/150, 8/36, 39, 45-46)

37. Mr. Burke asked Robert Dyer, a well-known consultant well experienced in construction management, to perform a risk analysis of CCI's proposal (tr. 1/62-63, 143-44; ex. G-27 at 93). Mr. Dyer's 3 September 2008 analysis identified several areas of significant to severe risk, including that CCI had not done a project estimate or seen the base contract. There was very little estimating breakdown, with much of the material from Iraqi subcontractors. He acknowledged that CCI wanted its "foot in the door" in the Middle East but found profit, overhead, construction and design contingencies, and cash flow inadequacies in its proposal. General project site conditions were not discussed. He interpreted the proposal as carrying 5% profit, only about half of which would go to CCI, whereas major foreign and United States construction contractors in Iraq had 30 to 40% profit factors. While he had been told that the proposal included home office overhead, he found the amounts to be unacceptably low and inconsistent with its normal 13.5% rate. He noted that CCI had reduced its price by over \$7 million and opined that there could easily be a shortfall of over \$15,600,000. Citing the tight project schedule, with only 10 months for the base period and liquidated damages of \$2,700 per day, he suggested it could be a good decision to step away. (R4, tab 162 at 162753-57)

38. According to Mr. Burke, CCI's proposal did not include overhead and profit. According to him and Messrs. Nunn and Pelant, it expected further negotiations on those matters. (Ex. G-26, part 2 at 244-46; tr. 1/59, 2/161-62); *but see* R4, tab 173 (Hutton 16 September 2008 email to Burke ("we may be taking this project at a lower profit in anticipation of other work.")) On 7 September 2008 Mr. Pelant notified the CO that CCI expected to negotiate overhead and profit (ex. A-5 at 12688). On 9 September 2008 Mr. Pelant notified the project team and/or others that CCI would pose questions and concerns to the Corps because "we feel we can't successfully prosecute this project for the price with the amount of unknowns that still exist" (R4, tab 163 at 16296).

39. On 10 September 2008, the CO notified Mr. Pelant that PCI's \$38,462,386.58 offer for the base and option 1 periods had been accepted and attached her signed copy of the contract, which named PCI as the offeror (ex. A-6 at 12019-20, 12036).

40. Mr. Burke asked the CO about overhead and profit. The Corps does not deny that she said it was out of her control at that point, but there would be contract additions and change orders with higher overhead and profit rates. Mr. Burke felt that, under those circumstances, CCI would make money. The Corps never informed CCI that it was compelled to sign the contract; it elected to do so. (Tr. 1/59-60, 61-62, 156-57, 8/51)

41. The contract, awarded 10 September 2008, incorporated the above RFP provisions and contained clause SCR 4, RESPONSIBILITY OF THE CONTRACTOR FOR DESIGN—MAY 2002. It also included the government's exercise of its option for Pier 2, a floating pier. The contract completion date was 27 September 2009. (R4, tab 3 at 1-2, 6, 24, 102-05 of 114; tr. 2/79; *see* R4, tab 19 at 1; tr. 5/124)

42. On 16 September 2008 Mr. Nottingham sent to PCI's Paul Johnson (tr. 2/91, 149) a drawing of "immediate survey and bathymetry needs," stated that four soil borings were needed, and specified boring and sampling criteria (R4, tab 171 at 7774). The same day Mr. Johnson reported about a meeting with PND:

- The need to get IMMEDIATE efforts on the field work was emphasized over and over again. It was apparent that *due to a lack of data on soils*, bathymetry, etc. [sic] could really pose design delays....

....

- PND needs to get a copy of the contract between CCI/PCI and the Corps for the project – so that they

can clearly get an idea of the design considerations, etc.

- Lee discussed his desire to get spec requirements for the soils needed for the back-fill from PND. PND outlined their requirement for gradation and the threshold requirements for the first 70ft of the back-fill. It was initially felt that the previously dredged material should work.... PND stated that after the first 70ft,...could essentially use residual material found on site or other fill. The only gradation requirement was near the sheet pile.

....

- Need 2 150 ton cranes to install sheet pile....
Back-fill can actually be started prior to receipt of sheet piles and will serve as crane staging point rather than using barge based cranes to install sheet pile.

(R4, tab 174) (Italics added)

43. The Corps contends, based upon the foregoing and otherwise, that CCI shifted from a marine-based to a land-based construction method after contract award (*e.g.*, gov't br. at 36; *see* tr. 13/164). CCI counters that land-based construction was always contemplated (app. reply br. at 5). As noted, CCI's proposal did not directly address its construction method. Mr. Nunn testified credibly that, during the proposal stage, there was no consideration apart from land-based construction of the open cell system (finding 17; tr. 2/154-55). Mr. Hutton testified at his deposition that construction was intended to be by land-based crane (ex. G-27 at 12). We find that the weight of the evidence is that CCI intended to use a land-based construction method for its open cell system.

44. PCI and SAR apparently entered into a contract dated 10 October 2008 in connection with the project (R4, tab 177). At some point PCI terminated the contract due to SAR's alleged failure to perform (ex. G-26, part II at 207-09).

45. PND and PCI entered into an agreement for professional engineering services in connection with the project effective 10 October 2008. Prior to the Corps' contract award, PCI did not ask for, and PND did not perform, a constructability analysis or evaluate the equipment or materials the contractor would need. Mr. Nottingham did not prepare a formal slope stability analysis to determine if the beach could support a crane pad, but testified that the borings indicated it could. He did not calculate a factor of

safety (FOS) based upon a load on shore. He was not consulted about crane pad design and did not do any written analysis of the AR. (R4, tab 178; tr. 2/100-04, 240)

46. The pre-construction meeting occurred on 18 October 2008 (*see ex. A-13 at 19191*). CCI and PCI entered into an agreement dated 27 October 2008 concerning their teaming arrangement (R4, tab 180). The NTP apparently issued in late October or in November 2008 (*see gov't br. at 36, PF 100 (unrebutted as to NTP)*).

47. On 19 November 2008, Carl McNabb, a PND engineer (tr. 2/78, 194), wrote to Mr. Nunn that, for its pile schedule, PND was making several assumptions about the soil, one of the more significant being that the sand layer was at -11m. He noted that the AR's average SPT value from the clay layer in the soil logs was what PND would normally expect from stiff clays but the clay was described as very soft to soft. He asked about more soil borings and a hydrographic survey. (R4, tab 184 at 18918)

48. On 19 November 2008 Mr. Nunn inquired of GRS about core drilling by Weston that PCI had observed during site investigations. GRS referred him to the AR, stating that it had supported a preliminary design analysis by Weston in 2007 for an L&T pier system at the site. (Ex. A-98; tr. 8/81)

49. On 20 November 2008, Mr. McNabb informed Mr. Nunn that PND was on track for a sheet pile order:

[B]ased on assumptions anticipating the worst case in existing conditions. *This is due to the lack of soil data with consistent soil parameters* and firm vertical control. It's also due to the bathymetry based on a photo that lacks horizontal control.

(R4, tab 185 at 18925) (Emphasis added)

50. On 22 November 2008 Mr. McNabb informed Mr. Nunn that “[w]e’ve been pouring over the [AR]...from the start” (R4, tab 187 at 18405). Mr. McNabb noted boring issues, including that the sand layer location was not clear and “[t]he clay is described as ‘soft’; the blow counts indicate it’s stiff; while the lab results for the cohesion (c) varies drastically” (*id.*). He stated that more borings were needed and if reliable information could not be obtained “now,” confirmation during construction must be obtained (*id.*). Mr. McNabb’s reference to “from the start” is not clear. There is no deposition testimony of his of record and he did not testify at the hearing. The Corps contends without persuasive rebuttal, and William Gunderson, PND’s Designer of Record, testified at his deposition, that, apart from Mr. Nottingham, PND’s design team became involved in the project after contract award. PND did not analyze the contractor’s means and methods of construction. (Ex. A-214 at 12, ex. G-28 at 28, 30-32; gov’t br. at 36, PF 100)

51. On 23 November 2008 Mr. Pelant expressed concern about a design change reducing the cells to 39, 44% fewer than proposed, but increasing steel tonnage and cost to the client by about \$500,000 (R4, tab 188 at 172448). Mr. McNabb responded:

The tonnage is high because we don't have solid data on where the requisite sand layer is. During construction, if we're not deep enough and into the sand, we won't meet the req'd safety factors. Plus we don't really know what the cohesion of the clay is. It's probably quite high, which is good, but what if it's not?

(*Id.* at 172447)

52. On 24 November 2008 Mr. Pelant expressed concern to Mr. Nunn that the September completion date was causing them to rush and the designers to be overly conservative, at significant cost (R4, tab 188 at 172446). He responded:

The Corps knows we are tight on \$ and they are working with us.

We can still work two cranes side-by-side if we need to juice up production...The Corps will give us some schedule relief, if the boats are not coming until 2010, but I don't want more time. I want more Corps/FMS work. Early finish should get us just that.

(R4, tab 188 at 172446)

53. Mr. McNabb disagreed with Mr. Nunn's 24 November 2008 statement that one AR BH was "practically in our Start-Up zone of influence, so we should be very comfortable with the pile design and sheet lengths in this...area." Mr. McNabb referred to prior emails "regarding problems with existing bore logs." (R4, tab 189 at 18936)

54. On 26 November 2008 Mr. McNabb stated that AR problems included:

1. The cohesive properties of the clay vary widely in the report, from 12 to 34 kpa.... The average SPT...values in the clay layer range from 4 to 11,...normally expected from stiff or very stiff clays (c=50 kpa or larger). Meanwhile, the clay is described in the report as very soft to soft.

2. No surface elevations for each [BH] location were provided.

3. Normally, a larger number of [BHs] are provided, typically on a 200-ft. grid.

I haven't heard back from Andrea Test Laboratories about my inquiries on the report.

(R4, tab 189 at 18934)

55. Per Mr. Nottingham, PND sought more borings to verify its design. The existing ones showed "sand, a very hard layer...a very good foundation" (tr. 2/49), and it wanted to verify that, once it was offshore, it would encounter the same strata. However, it learned that it would take four months to obtain more borings and decided to evaluate the strata through the construction response when it drove the sheet piles. (*Id.*)

56. At the 35% design review on 17-18 December 2008, Mr. Gunderson stated that one reason the open cell concept was right for the project "is that you have difficult soil conditions here" and it was easily adaptable (R4, tab 114 at 2; ex. A-12; tr. 8/61-62).

57. Navy LT Daniel Gutierrez, a civil engineer, was the CO's Representative (COR) from just before the 35% design meeting until 5 June 2009. Mr. Nunn viewed him as the best COR he had worked with in his then 23 years' experience and subsequently. (Tr. 2/199, 8/66, 10/6, 7, 16, 67, 74)

58. PND's DESIGN CALCULATIONS report of January 2009 (R4, tab 116) stated that design soil profiles and properties were based on the AR and that:

Because of limited geotechnical information available for the site, some significant assumptions are made for the design of the seawall. Most notably, the elevation of the sand layer is assumed to be 11 m throughout the site....

....

Fill: The material for the fill/embankment layer has not been determined, but is expected to be granular....

Clay: The clay layer is overlain by the fill layer and consists of slightly overconsolidated clays and sandy clays. *The*

design soil properties are typical for very soft clays, although the blow counts in the logs indicate much stiffer soils...

Sand: The sand layer is overlain by the clay layer. The consistency of the soil, based on the blow counts, is dense to very dense...

....

It should be noted that there appears to be some inconsistencies in the [AR]. Also, none of the [BH] are within 100m of the proposed seawall face. Thus, the assumed elevations and soil properties based on the [AR] report may differ significantly from the actual site conditions.

(R4, tab 116 at 10-11) (Emphasis added) Design soil properties included in a table in PND's report show the cohesion of clay in its undrained state at 20 kPa, which corresponds to "Very soft" clays (R4, tab 2 at 15, tab 116 at 11).

59. On 1 January 2009 CCI had the Basra "University Lab" do BH drilling. "North" borings were attempted in the area of AR BH No. 2 but were not successful. "South" borings were taken about 10 to 12m past the visual toe of the rip rap slope. (R4, tab 192 at 62889; tr. 2/167-69; see ex. A-249) In January 2009 the laboratory submitted a soil investigation report to the "SAR Group" (Basra report) which stated that the purpose was to explore the site's subsoils for foundation design for the new port, and that two BH were drilled on the shore at locations selected by the SAR Group (R4, tab 21 at 4). The soil strata at the Basra report's BH Nos. 1 and 2 were reported to be as follows:

1. (BH1)

- i- The top soil layer which extends to a depth of 5.0m consists of fill material (subbase).
- ii- The next layer which extends to the end of boring consists of dense to very dense, red to brown, poorly graded and sometimes well graded sand.

2. (BH2)

- i- *The top soil layer which extends to a depth of 1.0m consists of fill material (subbase).*
- ii- *The next layer which extends to a depth of 15.0m consists of clayey silt with trace or a*

little of sand with low plasticity. The consistency of the upper part of this layer is soft clay (up to depth 12.5m) and then changed to stiff clay.

- iii- The bearing stratum which appears at a depth of 15.0m and extends to the end of boring consists of dense to very dense, red to brown, poorly graded and sometimes well graded sand.

(R4, tab 21 at 10) (Emphasis added) The distance of these apparently “south” BHs from those in the AR is unclear.

60. On 5 January 2009, Jim Bates, a professional engineer and PCI quality control (QC) manager (R4, tab 209; tr. 2/171), summarized the upper strata in the Basra report’s “south” BH for Messrs. McNabb and Nunn:

0-1m, access ramp fill

1.5-5m, grey *very soft silty clay with organic material*

6.5-10m, grey to black *very soft clayey silt to silty clay*

(R4, tab 192 at 62889) (Emphasis added) On 12 January 2009 he reiterated that the clay was described as “very soft” (R4, tab 196 at 23955).

61. On 12 January 2009 Hal Dreyer, president of PCI’s subcontractor Gunderboom, Inc., of Anchorage, Alaska, conveyed his concern to CCI’s Mr. Hutton that Mr. Nunn had underestimated the project work and time (R4, tab 197). Among other things, he noted that the river had “extreme sedimentation” (*id.* at 176333). Gunderboom was owned by several people, including Messrs. Dreyer, Gunderson and Nottingham. Mr. Dreyer had considerable experience successfully superintending significant open cell construction projects and Mr. Nottingham trusted his judgment. (Tr. 2/87-89; *see* R4, tab 383 at 161460). Although he tried, Mr. Dreyer was unable to visit the site due to administrative issues (tr. 1/78-79, 5/210, 9/60-61, 87). Gunderboom’s project superintendent, Dave Robinson, very experienced in open cell construction, sent daily reports, which Mr. Dreyer and Kevin Cassidy, Gunderboom’s experienced project manager, reviewed. Messrs. Robinson and Cassidy also communicated orally. Mr. Cassidy visited the site before construction and once after it started. (R4, tab 251 at 116143; tr. 9/44, 46, 103, 114, 117, 12/22)

62. PCI's time and materials subcontract with Gunderboom, to drive pile and build the open cell dock structure, was signed effective 20 January 2009. It did not include building the temporary crane pad and Gunderboom was not responsible for fill, except for managing placement of the fill that would go into the cells. At the time of subcontracting, Mr. Dreyer did not review the project solicitation or the AR. He had not been involved with CCI's proposal. (Tr. 9/19-20, 30, 42, 81; *see* R4, tab 383 at 161460)

63. Throughout the project Mr. Dreyer was highly critical of PCI, claiming, *inter alia*, that its personnel lacked experience and knowledge and did not appreciate or know how to work with the soil conditions, or understand the need for an engineered fill design (R4, tabs 197, 201 at 175506, tab 216 at 20660; tab 221 at 8204, tabs 232, 233 at 14427, tabs 234, 236 at 36835, tabs 237, 238 at 37316, tabs 239, 248, 250 at 35610, tab 251 at 116142, tab 272 at 20573-74, tab 370 at 162666, tabs 326, 383 at 161466; tr. 9/47, 50-52, 57-60, 62-63, 79). A few of his allegations are set forth below.

64. Shortly after the 99% design meeting on 10-12 February 2009, construction, late in starting, began (exs. A-19, -20, G-27 at 20).

65. An open cell schedule must include time for fill to consolidate, which depends upon its quality. At a 26 February 2009 contractor meeting, it was noted that, assuming cells could be completed in five days each, the project was about two months past the completion date; it would be necessary to run a double shift; and PCI's schedule did not have an item for "settlement," estimated to take about six weeks. The work plan under discussion did not include crane pad activities. (R4, tab 203 at 4891; tr. 3/54, 9/39)

66. Although it had contemplated using two 150-ton cranes (*see* findings 42, 52), Mr. Nunn concurred with the Corps that CCI's ultimate plan was to construct a crane pad above the tides, 75m into the water, pull a 280-ton crane on to it, and extend the crane's arm to open cell one. He acknowledged that PND was not consulted about any crane pad design prior to work on the beach and there were no design drawings or crane pad specifications at the time, other than a materials requirement. (Tr. 2/258-59)

67. On about 25 March 2009 PCI executed a work order for crane pad construction with subcontractor Ravsan Raheem of Basra. He was to provide Type C material for a crane pad 40m wide and 83m out, at an average depth of 4m. PCI was to provide the design layout. The subcontractor was to push Type C and/or stockpiled material over the top of the seawall; grade, water and compact it to 95%; grade the pad so the leading edge was 7m above mean lower low water (MLLW); place the fill in .3m lifts; and lay geotextile fabric to prevent fill loss. (R4, tab 208)

68. A 28 March 2009 checklist by QC manager Bates pertained to the work road and crane pad, which he called a non-definable work feature. Unclassified fill was to be

delivered when work started; the laydown pad would serve as material storage initially; the work road would be built from unclassified material with 7% minimum and 10% maximum fines; material was to be in 30cm lifts and compacted to 95%; water was to be added to get 95% compaction; final grade would be at 6.0 above MLLW; and CCI was setting up an on-site laboratory for sieve and compaction testing. (R4, tab 209)

69. On 29 March 2009 PCI began placing unclassified fill for its work road and crane pad. It had hired Iraqi subcontractor Noor Alahmed to provide the fill. Mr. Hartley described the pad as consisting of imported sand without geosynthetic reinforcement. (Ex. A-91 at 36364; *see* R4, tab 131 at 3/29-31/09, tabs 241, 253)

70. Starting on 30 March 2009 the work road and crane pad material suffered from “pumping” silts and weak clays, cracking, and sloughing (R4, tab 17 at B, tab 130, tr. 2/172-73, 182-83, 6/48; ex. S-72).

71. On 1 April 2009 QC Bates opined to Mr. Nunn and others:

As Samuel [Pelant] said, the underlying material is the problem and not the fill. Base[d] on the borings and my observations, the underlying silt/clay has near zero strength. At first we thought pumping silt was the problem. Now I believe liquefaction occurred due to the placement of fill (i.e., rapid loading) and vibratory compaction (i.e., earthquake). Most likely it was a combination of the two....

(R4, tab 212 at 62760)

The fill we are bringing in is good. Let me qualify that.... Yesterday (3/31) we received material that wasn't as good as the first two days and we dinged them on price. We also halted the delivery of this material by late morning.

We constructed the work road as you suggested by making sure the top of the fill was above the high tide line. That is when the problems started. The underlying silty clay/clayey silt [h]as very little strength (N=2 for this material in the south boring).³ By placing the fill load on this stuff, I believe we caused liquefaction to occur.... For me this was confirmed by observing the beach in front of the fill this morning at low tide. A classic liquefaction failure with blocks of material

³ “N” values are the number of blows needed to drive a special sampler 12" (tr. 6/34).

sloughing and flow of material in the lower portions of the beach. It looked like pictures of Earthquake Park from 1964.

...Keep in mind that the south boring had 12.5 m of this loon [poop] (old geotechnical term).

(R4, tab 212 at 62758-59)

72. The COR was on site shortly after lay down area and work road construction began. He saw that CCI was using a local borrow pit for fill, rather than an engineered fill. He described it as a very gritty, silty soil. (Tr. 10/41, 43-46) Prior to April 2009 CCI had not begun work on an engineered fill for the crane pad; into May 2009 it continued to import fill (R4, tab 132 at 4/2/09 *et seq.*, tab 134 at 5/2/09 *et seq.*; tr. 2/254). The parties agree that the supplier was terminated but CCI does not concede that it was due to the material's poor quality (gov't br. at 48, PF 134; app. reply br. at 24). On 7 April 2009 Mr. Gunderson inquired of Mr. Nunn:

As you have begun placement of the fill out to create a work pad, it would be an appropriate time to do another boring to get a profile of the sediments under the fill you are placing. We are assuming that you are using some fabric under the fill as you move offshore? I know that Hal [Dreyer] has requested an engineered fill where the crane is going to work from. Since we have not heard from PCI can we assume that you are working with your fill contractor on this?...

(R4, tab 218) Mr. Nunn asked Mr. Gunderson for an engineered fill design. On 12 April 2009 work road and crane pad activities were suspended to obtain it. (R4, tab 219 at 10672; app. supp. R4, tab S-2) Gunderboom had sought an engineered fill because it was concerned about the competency of the underlying material, the native soils, and safety regarding the 280-ton crane (tr. 9/45-46).

73. On 10 April 2009 a QC report sketch and photograph showed that, apparently beginning at a 6m elevation, there was “[c]atastrophic failure (liquefaction) of in-situ silts and clays with continual failure of fill from 25 to 50 meters” (R4, tab 223 at 19954).

74. On 17 April 2009 PCI issued a notice to proceed to Gunderboom. Mr. Dreyer stated that his need for appropriate fill to support a 280-ton crane that would be operating a vibratory hammer, equipment acquisition delays, and work crew composition issues would affect the schedule. (R4, tab 233 at 14427) On 21 April 2009 Mr. Gunderson stressed the need for a boring where the crane would sit before placing it. Mr. McNabb opined that the work pad had to be in place first. (R4, tab 247 at 4566)

75. After the slope failure at the end of March 2009, PND was asked to advise PCI. Mr. Hartley arrived in Iraq on 25 April 2009. As of that date CCI was attributing soil problems to dredge pond leakage and overflow and that the work area was disturbed by manmade activities. Mr. Hartley evaluated the soils available for fill for crane pad construction by visual classification using ASTM standards. He found sand with 5% silica and a small amount of gravel, not unusual for crane pad construction. Rip rap would have been better but it was unavailable. He did vane shear tests in the top soil surface and used rebar to see how soft the material was. He roughly assessed shear strengths for PND's Seattle office to make a soil stability analysis. The field values that he obtained were lower than the AR data. (R4, tab 24; tr. 4/18, 20, 42-43, 46-47)

76. On 27 April 2009 Gunderboom's project manager Cassidy referred to "the mess [PCI] made in the area where the crane [needs] to go" (R4, tab 251 at 116143). Mr. Dreyer worried that PCI might have "completely ruined the sub base material and rendered it useless, which was the concern from the outset" (*id.* at 116142).

77. On 30 April 2009 Mr. Nunn asked for a contract extension due, *inter alia*, to "changed conditions" in the work road location due to excess water and pore pressures from dredge spoils pits (R4, tab 25 at 1). On 3 May 2009 the contractor attributed a "small mud wave" to dredge pond seepage (app. supp. R4, tab S-3).

78. On 1 May 2009 Mr. Hartley wrote that he had recommended to PCI that it get BHs out by the cells as soon as possible and that "we really do no[t] know much about soil conditions in these areas" (R4, tab 259 at 14042).

79. On 3 May 2009 Mr. Hartley asked for a slope stability analysis under certain conditions, seeking an FOS of at least 1.1, preferably 1.3 with the crane loads, based upon industry standard for a minimum FOS. On 4 May 2009 Mr. McNabb supplied an analysis, showing a 0.99 FOS, indicating failure. (R4, tab 267; tr. 4/175, 178-79, 184-85)

80. On 7 May 2009 the COR wrote that CCI was behind schedule, stating:

The main portion of this delay has been caused by an unexpected field condition in placing their crane pad. There is evident soil instability at the 25m mark in the tidal zone that has impeded progress because the fill material begins to creep/slide into the river. The start of pile driving...has been postponed...because of the issues with the crane pad and also the pending delivery of the 280Ton Crane from Kuwait....

(Ex. A-38 at 23110) He stated that PND's geotechnical engineer (apparently Mr. Hartley) attributed instability to dredging, which increased the deposition of very loose silty material with low bearing capacity, and to increased pore water pressure from dredge ponds, which increased the effects of liquefaction when compacted or disturbed (*id.*).

81. The COR signed an interim satisfactory performance rating dated 7 May 2009 stating CCI was very cooperative and had effectively tackled "difficult problems in a challenging work environment" but was behind schedule. Its QC documentation and submittals were rated marginal. (R4, tab 30; tr. 10/129)

82. On 13 May 2009 Tim Fisher of PND circulated a crane pad drawing to PND and PCI for review (R4, tab 283). CCI has not rebutted the Corps' contention that this was PND's first design drawing of record of the crane pad.

83. On 13 May 2009 the COR issued an RFP to CCI under the contract's Changes clause for "Drainage of Dredge Spoils Ponds" (R4, tab 32). As Mr. Nunn described it, an Iraqi Ministry of Defense contractor, not on-site during SAR's visit, was dredging around Pier 3 by the time CCI arrived and dumping the spoils into dredge ponds which came to the edge of CCI's laydown area and overlapped nearly into the crane pad area. At one time water from an overfilled, breached, dredge pond came near the access road leading to the laydown area. CCI feared flooding. It saw sheet flow across the beach after the tide had gone down and little water "volcanoes" below the dikes. It concluded there was no other water source except the dredge pond pits and this 3m of water sitting above its project had adverse effects. (Tr. 2/197-98)

84. On 13 May 2009 the crane arrived in parts (supp. R4, tab S-3 at 5/14/09 QC report (QCR); *see* R4, tab 17 at 6). There was no stable crane pad in place at this time or later (tr. 10/91-92). Mr. Hartley left the project site on 15 May 2009 (tr. 4/51).

85. The COR prepared a price negotiation memorandum (PNM) dated 22 May 2009 about the alleged Pier 3 dredge spoils pond problem. The proposed change was to allow CCI to procure pumps to drain excess water from the ponds to relieve excess pore water pressure and permit compaction and stabilization of the Pier 1 fill material. (Ex. A-41) The PNM stated:

The crane pad for the construction of Open cell one appears to [rest] on top of a very fine layer of sandy-clay, which is transmitting a flow of water at a greater rate then [sic] other locations along the water front... This water is leading to an increase of instability of the shore line at 25m and causing the fill material to creep and slide into the river.

(Ex. A-41 at 52177) The proposed \$21,250.37 amount included overhead and profit at 19% and 17.5% (*id.* at 52178). CCI alleges, without contradiction, that these were the rates to which the Corps had agreed for its options 1 through 6 proposals (app. br. at 27).

86. At some point prior to 23 May 2009, CCI decided to construct six temporary shoring cells. In its request for equitable adjustment (REA) (below), CCI attributed the decision to a need to protect soils in the construction zone from continuing silt deposits from dredging. It stated that dredging and dredge pond seepage had left the soils weaker and more slippery than expected. (R4, tab 17 at 6) Mr. Nunn described dredges dumping in front of the project instead of south of the border where they were supposed to go, resulting in “loads and loads” of slime, but stated that the major problem was at the dense sand level and concerned efforts to try to stabilize the beach (tr. 2/276-77).

87. On 1 June 2009 CCI hired John Smithson, an experienced superintendent, with open cell and schedule experience, to be its on-site representative, but left PCI in charge of project management (ex. A-53; tr. 1/87-88, 5/107-08, 110-11, 114-15, 178).

88. Effective 1 June 2009, bilateral Modification (Mod.) No. P00006 issued, at the firm fixed-price of \$21,250.37, for the dredge pond work. It increased the contract price to \$44,923,615.70; kept the 27 September 2009 completion date; and included CCI’s release of the government “from any and all liability under this contract for further equitable adjustments attributable to changes resulting from this modification.” (R4, tab 9 at 2) The Corps has not raised any release defense in this appeal.

89. Full work on the crane pad began on 3 June 2009, but on 8 June a mud wave developed in the pad, sections of the pad slid into the water and the whole pad came apart (supp. R4, tab S-4).

90. On 30 May 2009 the COR had issued a letter of concern to CCI about schedule and on 10 June he sought a recovery plan. As of 13 June 2009, inability to build a crane pad was stopping work in the field. (Ex. A-49 at 11283; tr. 10/109-10) At some point in June 2009, COR Gutierrez left the project. Kenneth Bright, a supervisory civil engineer with the Corps, succeeded him. (*See* exs. A-48, -49)

91. The crane was moved onto the pad on about 14 June 2009. On about 21 June a large mud wave developed and there was a 75m failure in the fill. The fill created shelves separated by large tension cracks and the crane pad suffered displacement. Through 21 July 2009 CCI continued to encounter problems with sloughing clay, tension cracks, a mud wave and sheared geogrid. (R4, tab 17, ex. K at 1, ex. L at 1; supp. R4, tab S-4, 6/21/09 QCR at 1-2, tab S-5, 7/15/09 QCR at 1, 7/16/09 QCR *et seq.*)

92. In its REA, CCI claimed that another change to its original design caused by differing site conditions was the construction of “Circle Cell No. 1,” or the “Single Cell Crane Pad.” It was to sit behind and between two temporary shoring cells to protect and support the beach soils upon which the crane would rest. (R4, tab 17 at 10)

93. CCI continued into July 2009 to attribute crane pad failures to dredge ponds and the discharge and deposit of dredged materials—soft, loose, weak sediments (R4, tab 17, ex. P at 2; supp. R4, tab S-4, 6/24/09 QCR at 1; 6/25/09 QCR at 2; ex. A-65).

94. On 29 June 2009 Mr. Nunn opined to the COR that the dredge spoil dumping was a changed condition. He alleged that, while CCI was well aware of dredging in the waterway and, on a different project, he had been responsible for dredging the North Port, the material had not been dumped back into the waterway in front of the Iraqi Navy Port; the Corps should have alerted offerors of the dredge spoil issues during the solicitation phase; and CCI saw the conditions only after mobilization and 99% design completion, during pre-construction activities. (Ex. A-58 at 8867-68)

95. In June 2009, PCI and PND continued to exchange emails about the need for more BHs (*e.g.*, R4, tab 311 at 18628 (“plan for confirmation [BHs], reflecting the current access plans,” “there is only one old Andrea lab [BH] in the vicinity of our current work, and PND had taken exception to the reliability of that data”)).

96. On 3 July 2009 Mr. Nunn notified the COR of two alleged changed conditions, again pertaining to dredge spoil deposits and dredge pond seepage affecting the fill and crane pad (ex. A-64 at 22155).

97. Initially CCI was doing visual materials testing that was not certified or verified by an appropriate entity. Eventually it had Basra State University do on-site and off-site testing. CCI did not establish a Corps-approved on-site laboratory until late June, early July 2009, after COR Bright’s arrival. (Tr. 11/35, 43)

98. On 6 July 2009 CCI’s Mr. Smithson commented on a draft recovery plan:

[I]t reads that using “local material” is the reason the fill failed. I think we should make it clear that the reason was because of the water seepage from the dredge ponds and the dredge spoils sediment are the reason the fill failed. That way we are consistent with what we are saying in our REA’s.

(R4, tab 353 at 162633)

99. On 7 July 2009 National Laboratory began a site investigation for CCI. On 8 July PCI discontinued it due to alleged incompetence. (R4, tab 361 at 11877 (“National Lab was a joke”); supp. R4, tab S-5, 7/7-7/8/09 QCRs at 1).

100. On 9 July 2009 the area in front of the crane and parts of the access road dropped about 15cm with a massive mud wave forming in the temporary and circle cells. Cell movement was observed. (Supp. R4, tab S-5, 7/9/09 QCR at 1-2)

101. On 14 July 2009 CCI gave another notice of changed conditions pertaining to (1) high water levels from the Pier 3 contractor’s dredge ponds being over-filled and raising the water table on and adjacent to CCI’s work area, allowing water to flow around and under its work site, and (2) dumped dredge spoils resulting in unstable sediments being deposited onto CCI’s work area (ex. A-86 at 15239).

102. At least as of 14 July 2009 Mr. Smithson was highly critical of PCI’s project management (*see* R4, tab 370 at 162666).

103. The COR’s 16 July 2009 letter of concern sought a revised schedule, upon threat of an interim unsatisfactory evaluation, and a recovery plan (ex. A-82).

104. On 19 July 2009 Bradley West, president of West Construction Company, Inc. (West), issued a recovery plan based upon marine floating gear, including barges, to install the sheet pile. West had extensive experience in open cell construction using marine and land-based equipment. (Ex. A-87 at 36425-26) Most of Mr. West’s open cell projects were land-based and involved crane pad installation. None used geogrid, had an engineer review constructability, or had engineer drawings. However, he had never used a 280-ton crane. (Tr. 3/7-8, 82) In about August 2009, PCI and West entered into a cost-plus-fixed-fee subcontract (*see* ex. G-18 at 12; tr. 3/43, 75-76). On 20 July 2009 CCI submitted a recovery schedule, said to be required by changed conditions due to the dredge ponds and spoils. It proposed to use barge-mounted cranes to complete the open cell structure from the river. (Ex. A-87 at 36418-24)

105. On 22 July 2009 CCI submitted to the Corps Mr. Hartley’s 16 July 2009 report of conditions during his 25 April-15 May 2009 visit. He had not completed his evaluation and had asked CCI for more geotechnical work. (Ex. A-91; tr. 4/60) The report stated that dredging had raised water levels. Cell dikes appeared to consist of silty clay soils. He saw water impoundment in three dredge spoil containment cells that caused seepage into the underlying soil, including into the near shore mudflats, that would increase water content and decrease shear strength in the near shore area where fill placement had resulted in instability. Mr. Hartley opined that dredging also affected settlement and stability of the construction fill on the mudflats:

The dredging operation is less than 30 m from the north end of the project site. Attempts to obtain shear strength on the surface soils were unsuccessful (undrained shear strength of 0.0). A hand-dug hole of 0.5 m in depth was excavated to attempt additional vane shear strength testing. *Soils are so soft in this area that a laborer became stuck up to his knees when attempting to dig into the mudflats.* Once the hole was dug undrained shear strength measurements were obtained from vane shear testing and resulted in [low] shear strengths...*less than a third of the value[in the AR].* A 3 m rebar was also pushed into the ground at this location with little resistance. [Emphasis added]

(Ex. A-91 at 36367) He said that unconsolidated silts and clays with very low shear strength were distributed into the water and deposited in the construction area and that slope instability had occurred in the immediate vicinity of the dredge operations. He also reported PND's contemporaneous field shear strength assessment, which used data from the AR and Basra reports and his April 2009 shallow vane shear tests. PND concluded that the AR indicated an FOS of 3.25 at 1m fill depth, but PND found 0.94; at 3m, the comparison was 1.97 to 0.54; and at 5m, it was 1.68 to 0.41. Mr. Hartley stated that the contractor could place a very thin fill lift of about 0.5m but there was a small mud wave in front of fill operations and some tension cracks as fill thickness increased, confirmation that near-surface shear strengths were limited. (*Id.* at 36364, 36369)

106. On 23 July 2009 the COR approved CCI's recovery plan, noting that the government did not consider it to involve acceleration or differing or changed site conditions (ex. A-93 at 36392-93; *see* R4, tab 376).

107. Navy LT David Daigle (Lieutenant Commander by the hearing) became involved in the project about the end of July 2009. On 9 September 2009 he succeeded Mr. Bright as COR. (R4, tab 61; tr. 10/131, 133, 135, 137)

108. On 25 July 2009 PCI terminated Gunderboom for alleged default. Resulting litigation was settled. (*See* R4, tabs 379, 383; tr. 3/81, 5/211, 9/76-78, 88)

109. On 1 August 2009 Gunderboom's Mr. Dreyer asserted, *inter alia*, that project problems were due to PCI's failure to understand the soils issues:

Some four months into a six-month project the construction of the first Open CellTM still has not begun due to PCI's *inability to solve geotechnical problems, which were apparent to observers on day one. For example, ever since*

viewing the site photographs when we met to discuss this project in PND's offices in Seattle, Kevin and I have been concerned about the inter-tidal and offshore sediments. I am sure you will recall our extensive discussions about how unusual it was to see only the very top gun assembly from a Russian Navy Missile launcher vessel sticking out of the muck in the middle of the job site, meaning that there is an entire vessel in that soup....[Emphasis added]

...[O]n site we observed a hopper dredge operation, which may have been depositing fine silt at the project site for many years. This may have contributed to the geotechnical problems PCI has encountered. We are not privy to what precise geotechnical investigations may have been done prior to contracting to design and construct this project....

(R4, tab 383 at 161466)

110. In August 2009 the National Center for Construction Labs. & Researches, Basrah Construction Laboratory, apparently the "National Lab" CCI hired in July 2009, reported upon its investigation. The log of a boring taken at a location from which the 280-foot crane was visible shows 2m of fill on top and two layers of clay beneath the fill, with the first 9m described as "Very soft to soft gray lean to fat CLAY" and the second 2.5 m as "Hard brown lean CLAY." (R4, tab 382 at 16352; tr. 6/133-36, 138)

111. CCI submitted an REA in August 2009 for \$20,905,039.53 and an extension based upon changed or Type II differing site conditions and acceleration. It stated that PCI was familiar with the specific project region and that post-award information, including site re-inspection, had not altered PND's original opinion that beach soil conditions were stable enough to construct the open cells and use heavy equipment, including a 280-ton crane. The REA alleged that there was no indication that soils within the construction zone had extremely low shear strength; were subject to substantial silting from dredge spoils; and would make building a work road and crane pad commercially impracticable, if not impossible. It stated that CCI knew that tidal action affected the water table in the naval base's lower reaches, but alleged that, almost immediately, it had problems due to unexpected concentrations of silt and weak clays. It tried compaction, lifts, and smaller, lighter equipment, but the pad continued to slough and crack. It stated that some cells were to have been temporary enforcement of the crane pad embankment, but they had to be permanent, due to the changed conditions relating to the dredge spoil sediment and dredge pond seepage. (R4, tab 17 at 1-5, 21)

112. Bilateral Mod. No. P00007, effective 28 August 2009, extended the contract completion date to 1 March 2010; the price remained \$44,923,615.70. It stated that it was to facilitate authorizations and did not affect any REAs, claims or the construction completion date. (R4, tab 10)

113. In August to early October 2009, largely in Dubai, CCI and West engaged in equipment procurement efforts to implement the recovery plan (R4, tab 16 at 18, tab 48 at 1, 66, 67, 73, 74, 80, 81).

114. On 14 September 2009 the COR issued a fifth letter of concern and GRS issued an interim unsatisfactory performance evaluation. CCI disputed it but admitted it would not be able to meet its recovery schedule. (R4, tabs 68-71; ex.A-151 at 6114-15)

115. MAJ Gerald Himes held a master's degree in civil engineering but was not a geotechnical engineer. In late July-August 2009, LT Daigle became COR and Mr. Bright the alternate. By late August Lt. Daigle and MAJ Himes were doing the contract administration. MAJ Himes visited the site in August 2009 and saw what he described as CCI's construction method of pushing fill and whatever was underneath it into the water (*see also* tr. 10/46-47 (COR Gutierrez's description of fill dumping and pushing, or pulling sediment out into the shoreline)). When CCI submitted its REA, MAJ Himes coordinated the government's technical support, including from ERDC, which gave him a draft report on about 3 September 2009. (Ex. A-126 at 2727, ex. A-135 at 33499; tr. 9/131, 134-35, 137-38, 145-50, 162-63, 179, 200-01, 243-44, 11/62-63, 167)

116. In September 2009 former COR Gutierrez commented to GRS upon the REA. He denied a contention by CCI that he had stated that a change order was appropriate and alleged several reasons why it was not. He also stated that "[o]n numerous site visits it was confirmed that there was quite a[n] interesting phenomenon occurring at the 25m near shore line, this is undeniable" and that "the problem started and is tied to an unforeseen sight [sic] condition." (Ex. A-135 at 33494, 33496) He was adopting CCI's unforeseen site condition vocabulary but believed contemporaneously that its problems were tied to such a condition (tr. 10/122).

117. On 18 September 2009 ERDC issued its complete report (ERDC report) on the question of whether the Corps-furnished documents for proposals were sufficient to predict the crane pad construction difficulties (R4, tab 108 at 1). Referring to the AR and BH logs, ERDC stated that "[c]lays possessing a *soft to very soft* consistency pose a significant challenge to any design that requires them to carry any additional loads" (*id.* at 2). Addressing soil strength, ERDC concluded that the AR had not reported the results of unconsolidated undrained triaxial (UU) compression tests in the best manner, but it had noted that laboratory vane shear equipment had been used to obtain the undrained shear strength because of high disturbance in all samplers that extruded from Shelby tubes of

the soft clay layer. Also, the soil exuded between the fingers when squeezed, which could be described as very soft to soft sandy clayey soil, and the laboratory vane range was within the range for soils with soft to very soft consistency. ERDC interpreted the AR to mean that UU tests were to be discounted because of the high degree of disturbance and that the laboratory hand vane tester gave the most reliable results. It adopted the vane test data as the basis for undrained shear strengths in its stability analysis. The results of ERDC's crane pad slope stability analyses, based only upon the geotechnical information the Corps had made available to proposers, were that stability decreased with increasing fill height; the crane pad would be stable for a fill height of 1m, marginally stable for a fill height of 3m, and unstable for a fill height of 5m. ERDC stated that PND's 16 July 2009 slope stability analysis indicated that the crane pad would be stable for fill heights up to at least 5m, but noted that the strength of the clay layer in PND's analysis was determined from the UU laboratory tests taken from the highly disturbed samples that the AR had warned against using. (*Id.* at 2-6) ERDC concluded, *inter alia*, that the "very soft to soft" consistency of the foundation clays described in the AR should have served notice that dock construction and long-term performance were causes for concern; the high level of disturbance in the soil samples was a direct result of the very soft to soft clay consistency and caused significant uncertainty in determining shear strength for slope stability analysis; it was certain that the clay consistency was very soft to soft; and lack of information regarding which samples were tested in the lab vane tests or how many tests were performed increased uncertainty (*id.* at 6-7).

118. The CO denied CCI's REA on 30 September 2009, summarizing in part:

The conditions...were both known and what would typically be found in a sediment laden tidal estuary.... Soil borings indicated that the surface and subsurface soils at the site consisted of unconfined very soft sandy silty clayey mud. Whether it arrived as additional dredged material or as naturally occurring sedimentation; the fact that the soil was saturated silty mud was known or should have been known to an experienced marine contractor. The [AR]...put the contractor on notice that the soils at the project site were unstable and subject to soil movement under pressure....

(R4, tab 19 at 7) She noted that Mr. Hartley called the area a "mudflat" (*id.* at 8).

119. CCI and West had considerable difficulties procuring barges, cranes and some equipment (R4, tab 16 at 14, tabs 48, 51 at 1, tabs 52, 55, 56, 58, 64, 65 at 2, tab 77; ex. A-163 at 143973; tr. 1/93-95, 3/14-20, 63).

120. On 2 October 2009 Mr. West notified Mr. Burke and the COR of an alleged unanticipated need to install wick drains (R4, tab 80 at 1). Mr. West acknowledged that using wick drains to consolidate fill was common, although he had not used them in Alaska. He had a “gut feeling” they would be necessary (tr. 3/53). During his direct testimony Mr. Hartley, who was not involved in the original project design, stated that he had recommended that wick drains be installed for soil strengthening based upon his review of the AR and the unstable site conditions (tr. 4/65, 67-68).

121. Mr. Hartley returned to the site in October 2009 with more sophisticated vane shear equipment that would yield more accurate values. He left at the end of October. His investigation pertained to the crane pad and open cell design. (Tr. 4/60-64, 69) As of 8 October 2009 CCI was again rebuilding the crane pad. On 11 and 12 October 2009 Mr. Hartley performed field shear strength tests at low tide. (App. supp. R4, tab S-8 at 10/8/09 QCR at 2, 10/11, 10/12/09 QCRs at 1)

122. Barges, tugs and cranes arrived on about 18 October, and 1 and 13 November 2009 (*see* R4, tab 420 at 29370, 29371; app. supp. R4, tab S-8 at 10/18/09 QCR, tab S-9 at 11/1, 11/13, and 11/15/09 QCRs).

123. On 3 November 2009 GRS’ on site Iraqi engineer reported to the COR that there had been a “big subsidence shear failure (earth collapse)” between the north and south cells (ex. A-189 at 5899; tr. 10/156). The 3 November 2009 QCR reported that the “crack and settlement on the beach a day earlier turned into a significant slide of the beach” (app. supp. R4, tab S-9 at 11/3/09 QCR at 1).

124. On 5 November 2009 Mr. Smithson asserted changed conditions to the CO based upon “a catastrophic failure of the beach fill” (R4, tab 93 at 1). He disputed prior Corps contentions that fill rate, compaction, and moisture content had contributed to failures and alleged that the ERDC report had stated, based upon the AR, that a stable 3m fill could be placed, but CCI’s failed fill never reached 3m. He stated that the 2 November 2009 failure occurred when the fill was at about 2m. (Tr. 5/147-48)

125. On 18 November 2009 CCI asked the CO for financial relief and for about \$3M for steel and cargo costs to build north and south open cells on the basis that differing/changed conditions made it impossible to proceed with its original seawall design. She responded that her REA determination was unchanged. Although noting that CCI was over 57 days past the construction completion date, she agreed to a 2-week billing cycle and partial release and reduction of retainage. (R4, tabs 89, 90)

126. CCI hired John Snelgrove on 2 November 2009 to lead its project efforts when Mr. Smithson was unavailable. Messrs. Smithson, Snelgrove and PND were critical of PCI. (R4, tabs 416-17, 419; tr. 1/134-35; *see also* R4, tab 420 at 29369) (“PCI

has no clue about any of it as history has shown”.... “I agree with that, they obviously are not dirt movers, or contractors as far as that goes”). However, Mr. West thought PCI “had a good grip on the mechanics of running a construction job” (tr. 3/79).

127. Mr. Burke was asked to leave CCI because the project caused parent BBNC significant financial strain; he left in December 2009. That month CCI also terminated PCI’s contract and assumed West’s contract. (Tr. 1/50, 104, 3/77-78, 5/194-95)

128. It seems undisputed that CCI completed the project by an extended June 2010 due date. In April 2011 it was nominated by the Associated General Contractors of America for International Construction Project of the Year and won (tr. 3/38).

129. CCI submitted a certified CDA claim dated 8 February 2010 to the CO for \$35,125,036 and a contract extension to 30 June 2010 and asked that its interim performance rating be changed from unsatisfactory to satisfactory. The CO received the claim on 26 February 2010. (R4, tabs 2, 16) CCI incorporated its REA and added a Type I differing site conditions contention, to which it narrowed its claim at the hearing (R4, tab 16 at 1 n.1, 27-34; tr. 6/31). CCI claimed that it never received notice that the soils under the crane pad could not support the heavy equipment indispensable to driving sheet pile. Rather, the AR had indicated that the top 2m of soil was consistent with medium to stiff soils. Also, CCI had had limited site access prior to its proposal and no chance, or need, based upon the Corps’ representations, to conduct a detailed pre-proposal technical analysis. CCI contended that its post-award geotechnical analyses were not to confirm the AR’s findings and whether the top 3m of soil were stable enough to support heavy equipment, but to confirm the depths to which sheet pile must be driven. CCI contended that all claimed costs would have been avoided if the Corps had performed a timely, reasonable geotechnical investigation, rather than instructing potential contractors to rely upon an outdated, inaccurate AR. It asserted that, during design, PND had properly focused upon the location of the sheet piles rather than the access road. CCI stated that considerable attention was mistakenly focused upon dredge ponds as responsible for “causing weak soils to become even weaker” (R4, tab 16 at 6), but it still alleged that dredging was “the root cause” of the problems (*id.* at 24). In support of its claim, CCI relied upon Mr. Hartley’s 4 February 2010 expert report, below.

130. CCI’s claim and incorporated REA did not allege that the government had acted in bad faith or to deprive CCI of its contract value, and did not include operative facts that were in any respect tantamount to a bad faith claim. It also did not allege contract breach, although CCI averred in its complaint that its claim had so alleged (compl. ¶ 73).

131. A new CO was appointed in March-April 2010. By final decision of 9 July 2010 she denied CCI’s claim. On 6 August 2010 it timely appealed to the Board. CCI

ultimately increased its claim to \$40,064,759. (R4, tab 2; ex. A-232 at 1, ex. A-233 at 1, ex. A-259 at 16, ex. A-260 at 208, ex. G-18 at 3; tr. 5/157, 6/254)

Appellant's Expert Hartley's Direct Evidence

132. Mr. Hartley has a master's degree in geotechnical engineering and is a licensed civil engineer. He was admitted without objection as an expert in civil and geotechnical engineering. He is very familiar with open cell projects and, prior to the one at issue, had done geotechnical assessments for them. (Tr. 4/9, 13, 15-16) He prepared an expert report dated 4 February 2010 in response to the Corps' rejection of CCI's REA (ex. A-214 at 1). It reflects counsels' input and contains legal conclusions that we do not accept as expert evidence, as is true of any legal conclusions by other experts in this appeal. Mr. Hartley's report acknowledged that "[w]e have not discussed with the Contractor the interpretation procedures they used in the evaluation of construction means and methods for the project" (*id.* at 3). No reason is given for this omission. His report merely assumed, without attribution, that CCI relied upon the AR's subsurface information in submitting its proposal.

133. Among other things, Mr. Hartley opined that the AR contained conflicting information on soil strength and inaccurate data reporting, including discrepancies between soil consistency descriptions and blow counts. He stated that the reported data, interpreted logically, would lead a contractor to believe that a shore-based fill operation could be achieved with some containment from armor, cells, geotextile wraps, super sacks and other means. (Ex. A-214 at 3)

134. Mr. Hartley cited Corps guidelines for geotechnical reports and interpretation of field blow count data obtained in an SPT for the proposition that adjustments should be made to raw field blow counts to provide a normalized data set prior to determining soil consistency and properties. After applying such "corrections" to the AR blow counts, PND determined that the silty clay encountered from the surface to a depth of 6.5m in BH No. 2 was a medium silty clay rather than a very soft to soft silty clay and the silty clay from the surface to a depth of 3.5m in BH No. 3 was a stiff silty clay rather than a very soft to soft silty clay. The Basra report's BH No. 2 indicated that clayey silt ranged from very soft to stiff. Mr. Hartley reported that PND's October 2009 field vane shear testing yielded strength measurements that were, on average, half the value of the AR's laboratory vane shear strength tests. However, soil conditions, based upon split spoon blow counts, appeared to result in shear strengths 2 to 6 times higher than the AR's laboratory vane shear strengths and indicated that the shear strength was much higher than values in the ERDC report. Mr. Hartley denied that his description of the project area as a "mudflat" implied that it was obviously unstable and stated that PND had constructed many fill and armor rock projects on riverine and marine mudflats using shore-side construction techniques similar to those used by CCI. (Ex. A-214 at 5, 10, 13)

135. Mr. Hartley stated that unconsolidated silts and clays from dredging were deposited along the project, yielding very low shear strengths in the upper silt/clay formation. While the USAID report indicated that some dredge side casting had occurred near the Old Port, it had not given enough information to analyze quantities, locations, or site and construction impact. He concluded that it was hard to ascertain actual geological site conditions from the AR due to its conflicting statements, data reported, and lack of data that a prudent geological engineer would normally include. (Ex. A-214 at 13-16)

136. At the hearing Mr. Hartley opined that PND's recommendations for crane pad stabilization should have worked based upon the AR. Regardless of whether one used the AR's laboratory vane shears or the blow count calculated vane shears, they were substantially higher than field conditions. Shear strength was much lower than anything described in the AR. PCI did not follow all of PND's recommendations but, according to Mr. Hartley, even if it had, the crane pad would not have stabilized. (Tr. 4/40-41, 105)

137. Mr. Hartley first testified that, based upon the AR, wick drains might or might not have been called for in the original project design; either way was appropriate (tr. 4/68-69). He later testified that they were due to the differing site conditions and the need to change to marine-side construction (tr. 4/119-21).

138. In Mr. Hartley's opinion, field testing data typically provides a more accurate picture of soil conditions than lab testing data, because when a sample is transported there is a potential for disturbance and there is such a potential with very soft or soft soils when Shelby tubes used in laboratory vane shear testing are cut into sections. He noted:

[E]ven in the [AR] they indicated that they had problems taking the sample, extruding the sample out of the Shelby tube. *And that's because they were having issues with soft material.* [Emphasis added]

(Tr. 4/73)

139. When asked if descriptors were superior to or subordinate to blow counts in interpreting BH data, Mr. Hartley responded: "It's really another piece of information that's provided" (tr. 4/88). He added that there was a fairly large discrepancy in the AR data between the blow counts in the upper 7m of soil and the descriptors and, in that case, considering sample transportation and laboratory work, the blow counts would better describe soil consistency at the site (tr. 4/88-89).

140. Apparently using AR blow counts adjusted as he earlier described, Mr. Hartley concluded that the soil should have been stable enough to support a crane pad

and land-based construction. He opined that, based upon the ERDC report, and his own analysis, an unreinforced crane pad should have been stable at up to 3m of fill height. (Ex. A-214 at last pg.; tr. 4/89- 93, 96-98, 100, 105, 108)

Appellant's Expert Enamul Hoque's Direct Evidence

141. Enamul Hoque, president of Hoque & Associates, Inc. of Phoenix, Arizona, has a master's degree in civil engineering. He is a licensed civil engineer with extensive experience in geotechnical engineering, having completed thousands of geotechnical investigations, including of slope failures. He was admitted without objection as a civil engineering and geotechnical expert. (Ex. A-236; tr. 5/6-10) He supplied an expert report dated 3 September 2010 (ex. A-225).

142. Mr. Hoque did not read the entire RFP or the contract. He focused upon the AR and USAID reports and the answers to questions 11 and 42. He was not present during the crane pad failures but relied upon what CCI told him concerning pad composition, fill height and crane placement. Mr. Hoque arrived on site on 22 February 2010 and was there for several weeks. Most of his testing was outside the project so that it covered undisturbed areas. He opined that he could about replicate conditions at the time of failure because, based upon his observations and testing, there was a monotonous geology that did not change much--an upper soft soil and competent soil below. He performed dilatancy testing by holding soil in his hands in the field. It was falling through his fingers, meaning it was very soft and not as depicted in the AR blow counts in his opinion. (Ex. A-225 at 1; tr. 5/11-13, 18, 20, 30-31, 34-35, 60-61, 76, 83, 87-90)

143. Mr. Hoque stated that the moisture content at which a soil starts behaving as a liquid is the "liquid limit" (LL). If that content is at or above LL, the soil will behave like a viscous fluid. Regarding BH No. 2, the AR's "Summary of Test Results," at sample Nos. 1 and 3, reported the LL at 48% and 51%. Mr. Hoque found the moisture content in the field to be about 47% up to 70%, essentially liquid. He concluded that, if the AR's reported moisture content on those two samples were correct, then they had lost moisture during sampling, transportation and handling. He opined that the reported LLs and blow counts indicated that the soil should have supported minor construction and most of the equipment. He opined that the cohesion values under the "Summary of Test Results" for sample Nos. 2 and 4 indicated that the soil would support equipment under virtually all conditions, but cohesion tests in Phoenix yielded much smaller numbers. To him, the AR was, at best, confusing and did not represent actual soil conditions; strength values were totally different. (AR at next to last pg.; ex. A-225 at 2-3; tr. 5/37-42, 62, 76)

144. Mr. Hoque opined that the AR excluded vital silt data and that the silt was "abundantly available" at and/or below the surface throughout the site (ex. A-225 at 4).

145. In Mr. Hoque's opinion, geotechnical engineers would not make recommendations concerning geotechnical design parameters associated with crane pad construction and placement of a 280-ton crane on top of it, for a site with competent, stiff to hard soil. They would do so when there was soft saturated soil, even if there were a much smaller crane. Placement of a 6m high fill 100m into the shore would require a stiff to very stiff soil. (Tr. 5/81-83, 85)

146. Mr. Hoque would rely upon blow counts as the most reliable representation of site conditions and would rely more upon field testing than laboratory testing. In his opinion, based upon the AR's blow counts, there should not have been a failure where the crane pad was attempted. (Tr. 5/24-26)

147. Part of Mr. Hoque's work was field observation of surficial geologic site conditions using indicator tests described in the ASTM "Field Identification and Classification of Soils." Visual soils classification is a recognized and standardized technique. He acknowledged that his visual classification of the soils as elastic silt differed from his laboratory's classification of it as clay. Despite his testimony that he would rely more upon field testing, on cross-examination he stated that he deemed visual classification to be an indicator and laboratory classification to be more precise. In his opinion, while blow counts were the most reliable factor, visual and laboratory classifications should also be considered and visual classification should not be discounted. One should look at everything. (Ex. A-225 at 1; tr. 5/48-54, 100-01)

Appellant's Expert Tracy J. Lyman's Direct Evidence

148. Tracy J. Lyman, senior consultant at Brierley Associates in Denver, Colorado, submitted an expert report dated 3 January 2011 (ex. A-234; tr. 6/21). He held a master's of engineering degree, focusing upon rock and soil engineering, and had been a geotechnical engineer for 39 years. He held licenses as a professional engineer and geologist. (Tr. 6/5-7) Although the presiding judge sustained the government's objection to CCI's request to admit Mr. Lyman as an expert in design-build contracts and the evaluation of bid documents from a reasonable contractor's perspective, he was admitted without objection as an expert in geotechnical and soil engineering (tr. 6/12-14).

149. Mr. Lyman reported that the actual shear strength of the soil was about half of that expected based upon the AR and Basra reports. He stated that there might have been some variability across the Pier 1 area, with weaker soils at the crane access road location than at the site of the Basra report's boring 2. He described the ERDC report as concluding, using the AR's most conservative assumptions, that a 3m thick crane access roadway fill would be stable, but CCI's experience was starkly different and there was significantly lower strength in the subsurface soils at the roadway than what was anticipated based upon the AR and Basra reports. (Ex. A-234 at 8-10; tr. 6/53-56)

150. The Lyman report concluded that the dredging activities in close project proximity “most likely produced a thin veneer of highly saturated, unconsolidated, very weak soils at and seaward of the intertidal zone ‘ground surface’” and that those soils might have exacerbated crane access road instability (ex. A-234 at 8-9). The dredge spoils “exhibited ‘zero’ undrained shear strength” (*id.* at 10).

151. Mr. Lyman concentrated on AR BH Nos. 2 and 3, in the intertidal zone, because No. 1, up on the land, was not relevant. No. 2 was at the location of the temporary causeway to be constructed for the crane. In evaluating the BH data he looked primarily at SPT results, the “N” values. Blow counts are indicative of clay consistency, for which there is a rigorous industry description system. Blows from an SPT test of 0 up to 2 indicate very soft clay; 2 to 4, soft; 4 to 8, medium; 8 to 15, stiff; 15 to 30, very stiff and greater than 30, hard. He opined that the AR’s BH log descriptors, which were based upon visual classification, did not comport with the rigorous industry system and described softer material than the blow counts indicated. He did not agree with the AR’s characterization of the clay as very soft. (AR, app’x A, B; tr. 6/33-37, 39, 45, 70, 76)

152. Mr. Lyman found nothing in the Basra report to indicate that a contractor should change from land-based construction. He concluded that a blow count of 2 from Basra BH No. 2, at a depth of 9.5m “was anomalously low” when compared to blow counts from AR BH Nos. 2 and 3. (Ex. A-234 at 7; tr. 6/45-46, 86, 141-43)

153. Mr. Lyman considered an acceptable FOS for crane pad stability, once a human-operated crane were placed upon it and it was operating under a load, to range from 1.1 to 1.3. The ERDC report’s FOS for a 3m high crane pad was 1.07. Rounding that to 1.1, he opined that a contractor could consider placing a human-operated 280-ton crane onto a crane pad along a shoreline under the conditions the ERDC report described but should not go to any lower safety level. Also, he would look for ways to increase stability. (R4, tab 108 at 5, table 3; tr. 6/116-18, 120)

154. Mr. Lyman never visited the project site nor spoke to anyone who was on site when construction was initiated. He did not see any 2008 project design calculations on behalf of CCI. He did not find any design document related directly to the crane pad, but opined that, because it was temporary, a design was not required and would be unusual. (Tr. 6/68, 78-79, 81, 91, 104, 144, 147)

155. Mr. Lyman was not expert in dredging or sediment transportation but read the USAID report to indicate that, on the project side of the river, erosion would occur and, on the other side, sediment deposition would occur (tr. 6/68, 146).

156. Mr. Lyman confirmed that in its January 2009 report, pre-construction, PND described the clays' design soil properties as very soft and that CCI did, in fact, encounter very soft clays. He acknowledged that a reasonable contractor should consider all information in the AR. (Tr. 6/43, 71, 80-81)

Government's Expert Dr. James Apted's Direct Evidence

157. Dr. James Apted, employed by WS Atkins International Ltd. and based in England, is a civil engineer who has specialized in geotechnical engineering for about 35 years. He obtained a masters' degree in foundation engineering and a doctorate at the Imperial College of the University of London, concerning the effects of weathering on the properties of London clay. He is highly experienced in geotechnology and was admitted without objection as an expert in the area of geotechnical engineering. Following a site visit on 23-25 November 2011, Dr. Apted submitted his first expert report, dated December 2011. (Ex. G-16 at 1, 5, 19; tr. 13/16-46, 53)

158. During his visit Dr. Apted saw "a slightly sandy clayey beach," a strip of "more lumpy clay" and the main foreshore, which had a "surface of slippery silty clay (or mud) with a high degree of sheen" (ex. G-16 at 19). He considered that the foreshore's generally smooth and sheeny nature was as it would have been in 2008 and typical of CCI's work area. He walked across the slippery clay foreshore but progress was not possible within about 10m because he was getting bogged down into the soft surface. He used rebar to probe the upper 2-3m of the foreshore in 3 to 4 places around exposed areas south and north of the area built by CCI. He was able to push the probe fully into the surface with ease in most places. The river was brown and appeared to be laden with sediment. Very soft clay, possibly silty material, was readily apparent. (*Id.* at 19-21, 39; tr. 13/57-58, 65) It was "very easy" for him to determine that the undrained strength of the clay below the foreshore was very low (ex. G-16 at 21). Dr. Apted considered that the conditions he observed were not unexpected or atypical for the bottom end of a long river, tidal inlet area, or large flat delta, where there was an accumulation of soft sediments and geologically recent materials, as at Umm Qasr (tr. 13/66-67; *see* ex. G-16 at 24, ¶ 6.2.12).

159. Dr. Apted concluded, among other things that:

6.2.3 It appears clear that the soils in the upper 7 to 10[m] or so below the foreshore in the area of the new seawall consist of very soft to soft clay....

....

6.2.5 From [the AR and Basra] investigations it is considered that the undrained strength of the upper layer of clay

beneath the site would lie in the range of 10 kPa to 20 kPa, with the possibility of undrained strength values lower than this. The relatively high SPT N values reported by the [AR] are clearly an anomalous set of data indicating a higher undrained strength, but they are not supported by the descriptions on the [BH] logs, or the reported vane strengths in the [AR], or the...SPT N values for the University of Basra investigation. In addition Andrea Laboratories do not seem to rely on them.

6.2.6 [PND's] vane tests...gave values of undrained strength that are below the range of values indicated by Andrea and University of Basra.... [T]he results are not out of general character with the Andrea and Basra results, and all the results are commensurate with the descriptions used in the two reports for the upper stratum being a very soft clay.

(Ex. G-16 at 23)

160. Dr. Apted concluded, *inter alia*, that one reasonably could have foreseen from the AR that the stratum underlying the site along the foreshore was likely to be very soft or soft clay; it should have been clear that the AR was limited in extent and quality and there was a risk of more difficult conditions; and the USAID report conveyed the significant risk of accumulation of silt and clay from dredging (ex. G-16 at 23-24). Dr. Apted's overall strong impression from the AR was that one should expect "pretty weak", very soft, soft-to-medium clay (tr. 13/141).

161. Dr. Apted opined that Mr. Hartley's 16 July 2009 stability analysis, while applying a low undrained strength to the very near surface soils (upper 3m) in the area of the earthworks, had incorrectly used drained parameters for the remainder of the soft clay layer, which could seriously over estimate the strength of that layer and distort the stability analysis (ex. G-16 at 15, 25).

162. Dr. Apted opined that, regardless that the crane pad was temporary, it had to be designed appropriately; it was key. He opined that the earthworks' failure was consistent with the ground conditions that could have been expected and with the overloading of a layer of very soft clay (ex. G-16 at 26; tr. 13/176-77). He concluded:

6.2.2 While the actual undrained strength that could have been identified from the [AR] may not have been as low as allegedly found by the vane probing carried out on behalf of CCI, it was sufficiently low to highlight the risks of instability of constructing earthworks on the foreshore.

....

6.2.5 I consider that the instability that did occur may have occurred in any case because of the presence of very soft clay, even if the undrained strength was in the range of 10 to 20 kPa.

(Ex. G-16 at 28)

Mr. Hartley's Rebuttal Evidence

163. In rebuttal to Dr. Apted, Mr. Hartley prepared a "Slope Stability Analysis Summary" evaluating FOS'. An FOS of 1 or more represents stability; less than 1, instability. (Ex. A-249 at n.1, at 2, conclusion 3; tr. 4/26-27, 108, 123, 126-28) Based upon failure at 25m from the shoreline at no more than 2.5m of fill thickness, Mr. Hartley's data showed "conditions were much, much worse than what the [AR] was showing, even at the very most conservative value in the [AR]" (tr. 4/128-29).

Mr. Hoque's Rebuttal Evidence

164. Among other things, in his 27 January 2012 rebuttal report, Mr. Hoque asserted that there was no indication that Dr. Apted tried to evaluate the soil's index properties visually and classify it using standardized ASTM procedures (ex. A-241 at 2).

165. Mr. Hoque stated that the AR did not mention anything about the soft soil's effect on foundation performance or construction. He faulted it for not addressing backfill in a marine environment and its complexity, on-site geology, site characteristics or past usage that could affect design and construction. He stated that there was no reference to saturated very soft and viscous soils at the site in the documents he reviewed but such soil was "abundantly available at the surface and/or below the surface throughout the site" (ex. A-241 at 7). He concluded that near surface soils and their conditions at the site were materially different than reported in the AR and Apted report and that his own findings directly conflicted with the AR, especially in the identification of silt and its strength values. (*Id.* at 2, 5-7)

Dr. Apted's Expert Rebuttal and Supplementary Reports

166. Dr. Apted prepared an expert report dated February 2012, in rebuttal to Mr. Lyman's 3 January 2011 report, Mr. Hoque's 3 September 2010 report, and Mr. Hartley's expert evaluations (ex. G-19). Dr. Apted concluded, among other things, that there was enough information in the AR and USAID report:

2.2.9 ...[T]o highlight a significant risk of very soft ground occurring below the foreshore, to the extent that unconstrained construction of earthworks over the foreshore would have been at risk of failure and disruption.

(Ex. G-19 at 6) He opined that, using a range of FOS that could reasonably be expected when placing fill over the foreshore, the results clearly demonstrated that earthworks failure could be expected well short of the seawall construction area (*id.* at 14).

167. Dr. Apted prepared a supplemental report dated April 2012, after reviewing CCI depositions and exhibits and concluding that the fill used, except in the open cells, was general and not selected for its suitability to be placed in or near water (ex. G-23 at 1, 4-5, 10). Upon review of project information, including manner of fill placement, tide level, and some heavy rainfall, he concluded that, based upon his experience, it was more likely than not that a water table was established within the fill somewhere between the mid and high tide levels. His prior analyses had assumed, conservatively, that the fill was entirely dry. He concluded that, while not large, a water table within the fill would reduce the FOS by 5 to 10% and the likelihood of slope failure in light of CCI's method of operation was even more readily apparent than in his prior analysis. (*Id.* at 5-7, 9-10)

DISCUSSION

I. The Board Lacks Jurisdiction to Entertain Appellant's Bad Faith Contentions

CCI contends in briefing that the government acted in bad faith in denying its REA and in other respects and seeks its attorney fees and costs in pursuing its claim and appeal, in an unspecified amount.⁴ Although the government asserted that this was the first time

⁴ CCI cites *St. Paul Fire & Marine Ins. Co. v. United States*, 4 Cl. Ct. 762 (1984), for the proposition that it can recover attorney fees and costs due to the government's alleged bad faith actions. However, in that case, which involved an award of attorney fees and costs to the government due to the plaintiff's prosecution of its action in bad faith, the court confirmed that monetary awards can be imposed on the United States only when there has been an express waiver of sovereign

CCI had so contended, it responded to its allegations on the merits and did not move to dismiss them for lack of jurisdiction. However, it is incumbent upon the Board to assure that we have jurisdiction, even if the parties have not raised the issue. *See Bender v. Williamsport Area School District*, 475 U.S. 534, 541, 546-47 (1986). Accordingly, we gave the parties the opportunity to brief the jurisdictional question. The government asserts that CCI never submitted a claim to the CO that it acted in bad faith. CCI counters, *inter alia*, that it challenged the propriety of the government's conduct in its REA and claim and that its bad faith allegations are based upon the same operative facts that it has advanced since the inception of the case.

A contractor's submission of a proper CDA claim in writing to the CO for decision is one of the prerequisites to the Board's CDA jurisdiction. 41 U.S.C. § 7103; *Madison Lawrence, Inc.*, ASBCA No. 56551, 09-2 BCA ¶ 34,235 at 169,206. The Board does not have jurisdiction to consider a new claim raised for the first time in a party's pleadings. *American General Trading & Contracting, WLL*, ASBCA No. 56758, 12-1 BCA ¶ 34,905 at 171,639. As we recently summarized:

Whether a claim before the Board is new or essentially the same as that presented to the CO depends upon whether the claims derive from common or related operative facts. The assertion of a new legal theory of recovery, when based upon the same operative facts as the original claim, does not constitute a new claim. *Dawkins General Contractors & Supply, Inc.*, ASBCA No. 48535, 03-2 BCA ¶ 32,305 at 159,844. In determining a claim's scope, we are not limited to the claim document but can examine the totality of the circumstances. *Versar, Inc.*, ASBCA No. 56857, 10-1 BCA ¶ 34,437 at 169,957.

However, the contractor must submit a clear and unequivocal statement that gives the CO adequate notice of the basis and amount of the claim. *Contract Cleaning Maintenance, Inc. v. United States*, 811 F.2d 586, 592 (Fed. Cir. 1987).

Shaw Environmental, Inc., ASBCA No. 57237, 12-1 BCA ¶ 34,956 at 171,844.

immunity. *Id.* at 766. In Board appeals recovery of attorney fees and costs from the government is governed by the Equal Access to Justice Act, 5 U.S.C. § 504. *Rig Masters, Inc.*, ASBCA No. 52891, 01-2 BCA ¶ 31,468.

To overcome the presumption that government officials act in good faith, CCI must prove by clear and convincing evidence that a government official acted with specific intent to injure it. *Road and Highway Builders, LLC v. United States*, 702 F.3d 1365, 1368-69 (Fed. Cir. 2012); *Am-Pro Protective Agency v. United States*, 281 F.3d 1234, 1239-40 (Fed. Cir. 2002); *Bruce E. Zoeller*, ASBCA No. 56578, 13 BCA ¶ 35,353 at 173,518. The court of appeals recently discussed governmental breach of the duty of good faith and fair dealing in terms of acts or omissions that, while not expressly proscribed by the contract, are inconsistent with the contract's purpose and deprive the other party of the contemplated value. *Metcalf Construction Co. v. United States*, 2014 U.S. App. LEXIS 2515 at *14 (Fed. Cir. 2014). CCI's claim, including the incorporated REA, did not allege that the government had acted in bad faith in any respect, or had acted with specific intent to injure CCI or to deprive CCI of its contract value, and it did not include operative facts that were in any respect tantamount to a bad faith claim (finding 130).

In sum, we lack jurisdiction to entertain CCI's bad faith allegations because it did not submit such a claim to the CO for decision.⁵

II. Appellant's Motions to Exclude or Strike

CCI moved pre-hearing to exclude Dr. Apted's expert report and related testimony to the extent they contained legal conclusions and addressed American construction projects, Corps-administered projects, United States' construction contract requirements, or the FAR (app. mot. at 7). The Board reserved its ruling for the hearing, where CCI stated that Dr. Apted should not be allowed to testify about other than his technical interpretation of the AR. The government opposed the motion, citing Dr. Apted's broad experience and expertise in geotechnical engineering, and stated that he would not offer legal conclusions. (Tr. 13/6-8) The presiding judge denied CCI's motion, noting that its own expert reports could be interpreted to advance legal conclusions. The judge stated that she would evaluate all of the reports for their geotechnical information and would not rely upon them for any legal conclusions. (Tr. 13/9)

During Dr. Apted's testimony, CCI objected that some of the government's questions concerning fill placement were beyond the scope of his expert qualifications and reports. The government disagreed. The judge allowed the examination over CCI's objection, but instructed that the focus be upon soil conditions rather than construction

⁵ CCI addressed its interim performance rating only briefly at the hearing. It alleged in briefing that the government gave it "an improperly issued and facially unsupported interim performance evaluation" (app. br. at 57) but did not mention its request for a rating change or brief the jurisdictional and other issues involved. Accordingly, we deem the claim's rating change request to have been abandoned.

methods and stated that CCI could reserve its objection in post-hearing briefing if it so chose. (Tr. 13/223-27) In a footnote in its reply brief, in essence a motion to strike, CCI renewed its objection to Dr. Apted's testimony concerning its means and methods of construction on the grounds that it was outside his area of expertise, patently prejudicial, and raised to cloud the issues before the Board (reply br. at 41 n.3).

Regarding each expert's report and testimony, the Board has considered only evidence that is within the expert's accepted area of expertise, and not matters that are irrelevant to the differing site conditions claim at hand or in effect legal conclusions, which are not within an expert's province. *Lear Siegler Services, Inc.*, ASBCA No. 57264, 12-2 BCA ¶ 35,112 at 172,425.

Accordingly, CCI's motions to exclude and strike are denied except as reflected in the foregoing ruling.

III. Appellant Has Not Proved A Type I Differing Site Condition

Appellant must prove the following to establish a Type I differing site condition:

- (1) the contract contained positive indications of the conditions at the site;
- (2) it reasonably interpreted and relied upon the indicated site conditions;
- (3) the conditions encountered were materially different from those indicated;
- (4) the conditions encountered were reasonably unforeseeable based upon all the information available at the time of bidding; and
- (5) its injury was caused solely by the differing site condition.

Nova Group, Inc., ASBCA No. 55408, 10-2 BCA ¶ 34,533 at 170,321. For various iterations of these criteria, see *International Technology Corp. v. Winter*, 523 F.3d 1341, 1348-49 (Fed. Cir. 2008); *H.B. Mac, Inc. v. United States*, 153 F.3d 1338, 1345 (Fed. Cir. 1998); *Stuyvesant Dredging Co. v. United States*, 834 F.2d 1576, 1581 (Fed. Cir. 1987); *P.J. Maffei Building Wrecking Corp. v. United States*, 732 F.2d 913, 916 (Fed. Cir. 1984).

(1) The Contract Contained Some Indications of Site Conditions

CCI and its experts have faulted the 2007 Andrea and 2003 USAID reports contained in the contract's incorporated RFP for their lack of or limited site condition information (findings 23, 30, 42, 54, 58, 78, 135, 144, 165). Nonetheless, the RFP contained some indications of site conditions. While said to be "for information only" (finding 6), the AR described subsoils at the project site and included three BH logs, two of which are relevant (findings 8, 9, 10). Borings are the most significant indication of

subsurface conditions. *Nova Group*, 10-2 BCA ¶ 34,533 at 170,322, *accord Optimum Services, Inc.*, ASBCA No. 57575, 13 BCA ¶ 35,412 at 173.720. The “information only” disclaimer does not shift the risk to CCI that the information might prove to be inaccurate. *Metcalf Construction Co.*, 2014 U.S. App. LEXIS 2515 at *29. Moreover, in response to Question 11 posed by potential offerors, the government stated that the best soil investigation data available to it was in the AR and offerors should assume that its data was representative of the site. In response to Question 42, it stated that they should assume the three AR borings were representative of the entire site for the purposes of developing a proposal, but that additional geotechnical information might be required during project design. (Finding 25)

The RFP also had information about sedimentation near the site (finding 12). The USAID report, said to be “for information only” (finding 25), contained information about site geology, shoaling patterns, and dredging and disposal practices (findings 26-28).

(2)(a) Any Absolute Reliance upon the Andrea and USAID Reports
Would be Unreasonable

Any absolute reliance upon the AR and USAID reports would be unreasonable. This was a design/build contract. Regardless of the lack of weight of the disclaimers that the AR and USAID reports were for “information only,” the RFP and contract provided that site specific geotechnical information necessary to design and construct the project was the contractor’s responsibility (finding 6). Thus, CCI was on notice that it had some responsibility for ascertaining the geological conditions that would affect the project. However, CCI conducted only a minimal pre-proposal site visit with no follow-up pre-proposal investigations; it disregarded the warnings and advice of its consultant, Mr. Dyer, that, among other things, project site conditions had not been addressed and its proposal price was much too low; and it proceeded to enter into the contract because it wanted its “foot in the door” in the Middle East in order to secure other business (findings 15, 17, 18, 21, 35, 37, 38, 52).

(2)(b) CCI Has Not Proved that it Relied upon the Indicated Conditions

The Andrea report had supported a preliminary design analysis by Weston in 2007 for an L&T pier system. When the AR was included in the RFP, the RFP contemplated a traditional L&T pier construction, not CCI’s open cell design (*see* findings 20, 21, 48). Regardless of the AR’s suitability for a land-based open cell pier design, there is no persuasive evidence that CCI relied upon it or the USAID report in preparing its proposal. Prior to contract award Mr. Nottingham did most of the work on behalf of PND (finding 22). He testified that CCI relied upon the answers to Questions 11 and 42 because they were the only things available and it was instructed to do so (finding 30). In support of its

reliance contentions, CCI alleges that it was responsible, at Mr. Nottingham's request, for posing those questions (app. br. at 75; app. reply br. at 10). However, while the answers to Questions 11 and 42 indeed made statements concerning the AR's representation of site conditions, none of the questions posed on behalf of CCI pertained to geographic site conditions and at least Question 42 is attributable to Weston (findings 21, 24).

Mr. Nottingham testified that he looked at the AR's three borings in helping to prepare CCI's proposal and relied upon their blow counts, but then acknowledged that their data was insufficient to determine whether the project could be constructed from the land side. He saw inconsistencies between descriptors that the soils were very soft and blow count data that indicated "not a bad" or a "pretty good" soil (finding 23). He noted to CCI that the BH were in one location and advised that it seek more information, recognizing that the general information could not be used in any detail. He designed a one-page concept plan that was incorporated into CCI's proposal but CCI has not rebutted the Corps' assertion that the soil conditions and profile shown on his plan did not correspond to the AR data in the RFP. His concept plan, along with a generic cost estimate he made, did not discuss the AR or USAID report or detail any means or methods of construction, such as the crane and crane pad at issue. (Findings 22, 23, 30)

CCI has not directed us to any written statement or analysis by Mr. Nottingham, or anyone from PND, CCI, or PCI, at the time CCI submitted its proposals, of project site conditions that would allow land-based construction, or any contemporaneous written expression of reliance by CCI upon the AR or USAID reports. CCI's proposals did not contain a defined construction plan concerning the earthworks and filling operations or any statement of assumed ground or soil conditions. In fact, CCI did not perform any geological testing of the site prior to contract award and recognized that it lacked soils data. (Findings 35, 58)

Tellingly, for months, continuing through its REA, CCI blamed its pad failures upon dredging and dredge spoils ponds, not upon any alleged misplaced reliance upon the AR or USAID report (findings 75, 77, 80, 83, 86, 88, 93, 94, 96, 98, 101, 104, 105, 109, 111). In its claim CCI still alleged that dredging was "the root cause" of the project problems (finding 129). In his 4 February 2010 expert report, Mr. Hartley still raised dredging issues as contributing to the soil conditions encountered (finding 135).

Mr. Hartley, a PND principal, was not involved at the proposal stage and Mr. Nottingham did not consult him (finding 32). His 4 February 2010 expert report acknowledged that "[w]e have not discussed with the Contractor the interpretation procedures they used in the evaluation of construction means and methods for the project" (finding 132). No reason was given for this omission. His report merely assumed reliance without any stated basis for the assumption.

Significantly, PCI's principal, Mr. Nunn, testified credibly that, in the proposal planning meetings, the AR was not the basis of any of the project constructability discussions (finding 31).

For the foregoing reasons, CCI has not satisfied the reliance requirement necessary to support a Type I differing site conditions claim.

(2)(c) Even if CCI Relied upon Indicated Site Conditions, it Did Not Interpret them Reasonably

Assuming, *arguendo*, that CCI relied upon the AR and USAID reports at the proposal stage, it did not interpret the indicated site conditions reasonably. From our own review and the parties' expert evidence, there were many indications that soft, weak soil conditions could be encountered, as summarized in section (4) below.

Moreover, even CCI's experts found the AR to be inconsistent and incomplete. Mr. Hartley opined that it contained conflicting information on soil strength and that it was hard to ascertain actual geological site conditions from the AR due to the conflicts and lack of data that a prudent geological engineer would include. (Findings 133, 135, 139) Mr. Hoque found the AR to be confusing and opined that it did not contain information necessary for design and construction (findings 143, 165). Mr. Lyman noted that the BH logs described softer material than the blow counts indicated (finding 151).

Dr. Apted reported that the AR's relatively high SPT N values were anomalous and indicated a higher undrained soil strength, unsupported by the BH log descriptions or the AR's reported vane strengths. He concluded that it should have been clear that the AR was limited in extent and quality and there was a risk of more difficult conditions. (Findings 159, 160, 166)

Thus, the Andrea report was contradictory on its face and did not have necessary design and construction information.

(3) The Conditions Encountered were Not Materially Different from those Indicated

In addition to the repeated crane pad material failures, post-award conditions included: (1) Gunderboom's assessment of geotechnical problems apparent from the outset, including that a vessel was stuck in the muck in the middle of the job site, and dredging operations that might have deposited fine silt at the site for many years (finding 109); (2) the National Lab's boring showing 2m of fill and 9m under it of very soft to soft clay (finding 110); (3) the "mudflat" and dredging deposits observed by expert Hartley (findings 105, 135); (4) the post-award Basra BH 2 that indicated a clayey silt ranging from very soft to stiff (findings 59, 60, 134); (5) expert Hoque's observation of a

monotonous geology with an upper soft soil and competent soil below; his field testing by holding soil in his hands, which fell through his fingers, meaning it was very soft; and his observation that silt was abundant at and/or below the surface throughout the site (findings 142, 144); (6) PND's January 2009 pre-construction report's description of the clays' design soil properties as very soft and expert Lyman's acknowledgement that this is what was encountered (findings 58, 156); and (7) expert Apted's observations of a slippery, sheeny, silty clay surface or mud, in which he got bogged down, and his rebar testing, indicating very soft soil conditions, which were readily apparent, along with a brown river laden with sediment (finding 158).

Thus, site conditions were not materially different than indicated in the contract.

(4) The Conditions Encountered were Not Reasonably Unforeseeable Based upon All the Information Available at the Time of Proposals

The RFP stated that offerors were expected to inspect the work site. Under the design/build contract, CCI was responsible for ascertaining conditions that could affect the work, including tides, ground conditions, surface and subsurface conditions reasonably ascertainable from a site inspection, the government's exploratory work, and the contract. It was to research all existing conditions at the naval base and waterway. Site specific geotechnical information necessary to design and construct the project and geotechnical related items were CCI's responsibility and it was to determine the geotechnical conditions by field and laboratory investigations. (Findings 2, 4-6)

No one from CCI, PCI or PND attended the site visit. One SAR engineer attended. SAR did not have nearshore marine construction experience. We have not been directed to any evidence that the SAR engineer evaluated ground conditions or the suitability of the site for land-based construction. The site visit was at high tide, reducing its scope, but none of the questions the engineer posed pertained to geographic site conditions or CCI's method of dock construction. CCI did not request a ground investigation or hire a geotechnical professional to evaluate its landside crane pad construction efforts until after slope instability occurred. (Findings 17, 21)

The RFP noted that the project site was on the west bank of a river that was an estuarine outflow of the Tigris-Euphrates delta system. A commercial port was immediately upstream and the infrastructure was based on a continuous dredged quay along the west bank. The river was heavily laden with fine sediments and a marine railway between the commercial port and the naval base was reported to have already silted in. Mr. Nunn, who was familiar with the project area due to PCI's work on a Basra airport project, knew that a dredging contractor was on site, that millions of dollars were being spent dredging the naval port, and the other piers were already clogged with siltation. (Findings 12, 13, 16, 111) Indeed, CCI's expert Lyman concluded that

dredging activities in close project proximity “most likely produced a thin veneer of highly saturated, unconsolidated, very weak soils,” which might have exacerbated crane access road instability (finding 150).

The Andrea report described the subsoil strata as consisting “mainly of a very soft, soft to medium gray to dark gray sandy silty clay” layer with organic matter and soluble salts, which overlaid a medium, dense to very dense layer of gray fine, medium to coarse grained silty sand, with little gravel (finding 8). The majority of the first top soil was a silt-sand-clay mixture. The relevant BH Nos. 2 and 3 were in an ebb and tide zone. (Findings 8, 9) The water table fluctuated and the zone immediately above it was “greatly affected;” as moisture increased, strength decreased and compressibility increased (finding 8). “The saturated soil condition below the water table [made] the problem of settlement significant” (finding 9).

The AR stated that laboratory vane shear equipment was used to obtain the undrained shear strength of the samples due to high disturbance in all samplers that extruded from shelly tubes “of the soft clayey layer, also it was found that this soil exudes between the fingers when squeezed in the fist so this could [be] described as very soft to soft sandy clayey soil” (finding 9). The undrained shear strength values were associated with very soft to soft soils. The AR stated that organic matter with salts could be found in the soil in many forms, which could significantly alter its engineering properties, and that a site investigation had produced evidence of collapse due to the reaction between the fundamental soil compounds with organic matter. The AR noted that, for construction on soft soil, the contractor could alleviate problems by replacing the soft soil, using pile foundation or stabilizing or improving the soft soil. (*Id.*)

The AR’s log for BH No. 2, very near the pad site, described the top 7m of material as very soft to soft silty clay with possible organic matter and shiny traces of soluble salts. From 7 to 12.5m the material was soft to medium gray silty clay with some silty sand pockets and shiny soluble salts. Dense to very dense materials started at 12.5m. Similarly, the BH No. 3 log described the upper 7m as very soft to soft silty clay, with pockets of fine sand, traces of organic matter and shiny soluble salts, and from 7 to 16.5m as soft silty clay with shiny soluble salts and some fine sand. Very dense material started at 6.5m, becoming loose to medium grained silty sand, with soluble salts, at 17.5m. (Findings 10, 11)

CCI’s expert Hartley recognized that the AR indicated that there were problems with extruding a sample from the Shelby tube “because they were having issues with soft material” (finding 138). Its expert Hoque acknowledged that, even if blow counts gave the most reliable data, visual classification should not be discounted (finding 147).

The USAID report noted the presence of silty sand and, suspended sediments; shoaling; dredged materials sidecast into the river channel; and a requirement for maintenance dredging (findings 26-28).

The post-award ERDC report concluded that the “very soft to soft” consistency of the foundation clays described in the AR should have served notice that dock construction and long-term performance were causes for concern; the high level of disturbance in the soil samples was a direct result of the very soft to soft clay consistency and caused significant uncertainty in determining shear strength for slope stability analysis; it was certain that the clay consistency was very soft to soft; and lack of information regarding which samples were tested in the lab vane tests or how many tests were performed increased uncertainty (finding 117).

We are also persuaded by Dr. Apted’s expert opinion that it reasonably could have been foreseen from the AR that the stratum underlying the site along the foreshore was likely to be very soft or soft clay and that there was enough information in the AR and USAID report to highlight a significant risk of very soft ground occurring below the foreshore, such that unconstrained construction of earthworks over the foreshore was at risk of failure (findings 160, 166).

(5) CCI has Not Proved that its Claimed Injury was Caused Solely by the Claimed Differing Site Conditions

CCI advocated in the quantum portion of this appeal that it had segregated those of its alleged extra costs that were not attributable to its claimed differing site conditions from those that were. The Corps disagreed. Because we do not reach quantum, we only note that even if, *arguendo*, there were differing site conditions, there are several factors undermining CCI’s contention that its claimed costs were all attributable to them.

CCI claims that its proposal did not include profit or overhead (finding 38). Its consultant found profit, overhead, contingencies and cash flow deficiencies in its proposal which he assessed could easily result in a shortfall of over \$15,600,000 and create a severe risk to CCI. He reported that it did not do a project estimate or address project conditions. (Finding 37) PCI’s subcontractor Gunderboom believed it had underestimated the work and time necessary for the project and was highly critical of PCI’s performance throughout the project, including its alleged failure to understand soils issues (findings 63, 109). CCI’s Mr. Smithson was also highly critical of PCI’s project management (finding 102). CCI and West had considerable difficulties procuring barges, cranes and some equipment (finding 119). Moreover, CCI did not present required proof that all of its claimed differing site condition delays were to work on the critical path. *See Wilner v. United States*, 24 F.3d 1397, 1399 n.5, 1400-01 (Fed. Cir. 1994); *Fru-Con Construction Corp.*, ASBCA Nos. 53544, 53794, 05-1 BCA ¶ 32,936 at 163,159.

Therefore, CCI has not proved that its claimed injury was caused solely by the claimed differing site conditions.

DECISION


We deny CCI's appeal.

Dated: 14 March 2014



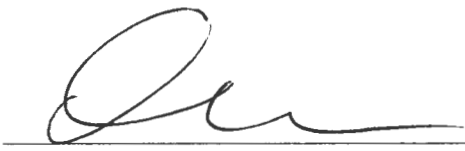
CHERYL L. SCOTT
Administrative Judge
Armed Services Board
of Contract Appeals

I concur



MARK N. STEMLER
Administrative Judge
Acting Chairman
Armed Services Board
of Contract Appeals

I concur



OWEN C. WILSON
Administrative Judge
Acting Vice Chairman
Armed Services Board
of Contract Appeals

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA No. 57316, Appeal of CCI, Inc., rendered in conformance with the Board's Charter.

Dated:

JEFFREY D. GARDIN
Recorder, Armed Services
Board of Contract Appeals