ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeals of --	)	
	)	
Tetra Tech Facilities Construction, LLC	)	ASBCA Nos. 58568, 58845
	)	
Under Contract No. W912K6-09-C-0002	)	

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OPINION BY ADMINISTRATIVE JUDGE O'SULLIVAN

Tetra Tech Facilities Construction, LLC (hereinafter Tetra Tech or appellant) appeals from a contracting officer's (CO's) final decision denying its certified claim for an equitable adjustment due to differing site conditions encountered in constructing an addition and alterations to the Army Aviation Support Facility at Aberdeen Proving Ground, Maryland. Only entitlement is at issue. We have jurisdiction under the Contract Disputes Act, 41 U.S.C. §§ 7101-7109. We decide entitlement in favor of Tetra Tech.

FINDINGS OF FACT

Solicitation and Contract Award

1. Solicitation No. W912K6-09-R-0001 was issued by the United States Army Property and Fiscal Office (USPFO) on 31 March 2009.[1] It called for the design and construction of an addition and alteration to the Maryland Army Aviation Support Facility (AASF), Weide Army Airfield, Edgewood Area, Aberdeen Proving Ground (APG), Maryland. (R4, tab 3) The procurement was structured as a two phase "design-build" process under FAR Part 36.3 (*id.* at 4). As described in the solicitation:

[1] A number of acronyms used and defined in this decision are collected in an Acronym Glossary appended to the decision for the reader's convenience.

> This process requires potential contractors to submit their past performance, basic technical approach and capability information initially for review and consideration by the Government. Following the review, evaluation, and rating of these proposals, the Government intends to select three, but no less than two and not to exceed five, of the highest rated contractors to receive the technical requirements package and to participate in the Phase Two process of this solicitation.

In Phase Two, the selected offerors would be given the opportunity to submit technical and cost proposals and compete for contract award. (*Id.* at 3, 4) Tetra Tech was selected for Phase Two and was awarded Contract No. W912K6-09-C-0002 (the contract) in a total amount of $22,564,852 on 23 September 2009 (R4, tab 1; app. supp. R4, tab 72). The contract work consisted of renovation of an existing 11,500 square foot (SF) facility; excavation and construction of a 19,769 SF addition complete with loading dock, storage area, access road, and building access apron; expansion of the hangar for an additional 33,455 SF heated and 32,755 SF unheated hangar space; and additional hardscape consisting of aircraft parking pads, taxiways, and a transit pad (app. supp. R4, tab 74 at 7).

2. The contract as awarded consisted of "(a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary." (R4, tab 1 at 2) The contract included the FAR 52.236-2, DIFFERING SITE CONDITIONS (APR 1984) clause, which provides:

> (a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract; or (2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.
>
> (b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease 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 under this clause and the contract modified in writing accordingly.
>
> (c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed,

unless the Contractor has given the written notice required; *provided,* that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

(*Id.* at 16) In addition, the General Conditions of the contract included the following provisions:

3.04 SITE INVESTIGATION: The Design-Builder acknowledges that the Design-Build Team has investigated and satisfied [sic] as to the conditions affecting the work; including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides or similar physical conditions at the site, the conformation and conditions of the ground, [and] the character of equipment and facilities needed preliminary to and during prosecution of the work. ***The Design-Build Team further acknowledges that it has satisfied itself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government and/or available from the using agency. Any failure by the Design-Build Team to acquaint itself with the available information will not relieve it of responsibility for estimating properly the difficulty or cost of successfully performing the work....***

3.05 CONDITIONS AFFECTING THE WORK: The Contractor/Design-Build Team shall be responsible for having taken steps reasonably necessary to ascertain the nature and location of the work and the general and local conditions, which can affect the work or the cost thereof. Any failure by the Contractor/Design-Build Team to do so will not relieve him from responsibility for successfully performing the work without additional expense to the Government.

(App. supp. R4, tab 74 at 111-12)

3. Appendix A to the Procedural Manual for Professional Services (which was Section III of the Phase Two solicitation) required the successful bidder to arrange for a

subsurface exploration and evaluation and analyze the information relative to the site and subsurface conditions "as they pertain to project requirements." Further:

> [T]he data and analysis shall be adequate, correct and complete for the intended purposes of planning, design, quantity and cost estimating, and determining the construction feasibility of the project.
>
> **NOTE: The subsurface data provided by the government to support the RFP is general in nature and is not intended to be an adequate representation of the entire site. The Design-Builder must insure adequate subsurface information to determine the construction feasibility of the project.**

(App. supp. R4, tab 74 at 275)

4. Pursuant to the contract, Tetra Tech was responsible to come up with a design for the project that would have to be approved by the government before the actual construction work could begin. Tetra Tech was required to submit designs to the government for review and approval at various stages of completion of the design documents. Only after the 100% design documents were approved would the government issue a notice to proceed (NTP). (Tr. 1/49-50)

Contract Indications Regarding Site Conditions

5. Included with the Phase Two solicitation as Attachment B was a document entitled "Geotechnical Engineering Exploration and Analysis" dated 11 February 2009 and prepared by Giles Engineering Associates, Inc. for the Maryland Military Department[2] (Giles Report) (R4, tab 74 at 488-523). The Giles Report was included in the solicitation documents to provide the bidders with geotechnical information about the project site to allow them to develop proposals (*id.* at 111, 491). The Executive Summary of the report summarized its findings as follows:

> Six geotechnical test borings were performed at the subject site to evaluate subsurface conditions. Topsoil consisting of silty clay and sandy clay with trace organic matter was at the surface at the test borings. The topsoil was measured to be

[2] The Maryland Military Department, otherwise known as the Maryland Army National Guard (MDARNG), leased the property where the work was to be done from the Department of the Army and was the intended end user of the facility (tr. 2/120-21; app. supp. R4, tab 193). USPFO is part of the MDARNG (tr. 2/120-21).

between about 4 and 8 inches thick. The native soil below the topsoil generally consisted of firm silty sand and stiff to very stiff silty clay and sandy clay. It is estimated that the water table was about 7 to 11 feet below-ground at the test borings with perched water at about 1½ feet below-ground when the [exploration] was conducted.

The proposed building will be a two-story structure. It is assumed to be a masonry structure that will not have a basement or other below-ground spaces. Based on the assumed first floor elevation...a spread footing foundation designed for a 3,000 pound per square foot (psf) maximum, net, allowable soil bearing capacity is recommended for the proposed building.

(*Id.* at 491)

6. Giles reported Material Conditions in Section 6 of its report. The topsoil was characterized as consisting of silty clay and sandy clay with trace organic matter in layers 4 to 8 inches deep. Below that:

> The native soil below the topsoil at Test Boring No. 1 generally consisted of firm silty fine sand to at least the 16 foot test boring termination depth. The native soil at Test Boring No. 2 generally consisted of stiff silty clay to at least the 21 foot test boring termination depth. The native soil at the remaining test borings generally consisted of stiff to very stiff silty clay and sandy clay and firm clayey sand, silty sand, and sandy silt to at least the 16 and 21-foot test boring termination depths.

(App. supp. R4, tab 74 at 494) Giles also addressed groundwater:

> **7.0 GROUNDWATER CONDITIONS**
>
> It is estimated that the water table was about 7 to 11 feet below-ground at the test borings with perched water at about 1½ feet below-ground....Groundwater conditions will fluctuate and groundwater may become perched above the water table.
>
> The estimated water table depth is only an approximation based on the colors and water content of the retained soil samples, and water levels that were encountered at the test borings. The

> actual water table depth may be higher or lower than estimated. If a more precise depth estimate is needed, groundwater observation wells are recommended to be installed and monitored at the site.

(*Id.* at 495)

7. The Giles Report was the only source of information provided by the government about subsurface conditions on which bidders could base their proposals (tr. 4/31-32). While a site visit was conducted prior to bid, Tetra Tech and the other bidders were limited to visual observations–no invasive investigation was allowed (tr. 1/52, 298-99).

8. The significance of the Giles Report's characterization of the soils at the project site was addressed by several witnesses. Mr. Robert Allison, Tetra Tech's design manager, testified that after looking at the report and the boring logs and the description of the soils as firm or stiff, he had no concerns about the project from a design perspective (tr. 1/290). Nor was he concerned about either the amount of water or its elevation. Mr. Richard Lipscomb, appellant's senior project manager, testified: "He [Giles] described the soils as being firm, stiff soils that we could work off of and build off of, that there was nothing out there that would indicate that we had to remove soils or replace soils due to unsuitable conditions." (Tr. 1/43) Dr. Christopher Meehan, appellant's expert geotechnical engineering witness[3], reviewed the Giles Report and had the following observations:

> A The soils encountered on the project site were quite variable in nature. There was sand, silt and clay in extensive proportion and sand particles are larger, silt is smaller, clay is

[3] Dr. Meehan holds a tenured Associate Professor position in the Department of Civil and Environmental Engineering at the University of Delaware. He has both a Masters and a Ph.D. degree in civil engineering from Virginia Tech with a specialty focus in geotechnical engineering. He engages in teaching, research, and community service focused on geotechnical engineering, which includes participation in a number of professional organizations at the national level, organizing conferences and serving in an editorial capacity for publication of conference proceedings; and doing technical review of journal papers and conference articles. (Tr. 3/7-10) He has published numerous articles on topics including the behavior and porosity of saturated soils, ground improvement technologies, and compaction control (tr. 3/12). He also has extensive work experience doing construction quality assurance, inspection of soils, soil sampling and classification, ground water assessments, and inspection of site conditions (tr. 3/13-14). He was not present at the site during construction and was not involved with the project in any way while it was ongoing.

smaller than that so you have kind of a trend in gradation. There [were] many classifications of what we call intermediate classifications for example a silty clay is a clay that has a significant percentage of silt mixed in with it. Sometimes it's mixed uniformly, sometimes it is kind of present in layers. So you saw significant stratigraphy in layering of the site, a lot of variability in grain size and a lot of general variability in properties. In terms of the actual consistency of the materials they were described as stiff quite frequently, sometimes you would see dents were medium or firm there were a few instances where things fell outside of that range but the predominant description of the in situ condition of the soils was something like medium to stiff.

....

Q Did you see a lot of soft soil in these borings sir?
A No I did not.
Q Now why when you say we like medium, stiff, firm, why do you like that?
A Generally it exhibits good engineering behavior[–] the soils tend to be stronger, they tend to be less compressible and so when we put load on them they are less likely to fail, they are less likely to move [and] they have good engineering characteristics.

(Tr. 3/17-18)

9. The government's expert, Mr. Ethan Weikel,[4] testified to the contrary, that the Giles Report put Tetra Tech on notice that it would encounter soils at or near saturation.[5] Mr. Weikel testified that the boring log for Giles Boring No. 2, which characterized the soil

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[4] Mr. Weikel holds a bachelor's degree in Science and Geology from the College of William and Mary and is a hydrogeologist for the U.S. Army Corps of Engineers (tr. 5/7). He has worked on eight projects at APG over the past several years (*id.*). He is not a geotechnical engineer and cannot offer a geotechnical engineering opinion (tr. 5/23). He is qualified to opine on evaluation of subsurface conditions but not on design or construction recommendations (tr. 5/27-28, 30-31). Mr. Weikel based his opinions primarily on the raw boring data in the Giles and Haley & Aldrich reports and did not review the daily project records (tr. 5/170). He was not present at the site during construction and was not involved with the project in any way while it was ongoing.

[5] The government did not call a witness from Giles Engineering to testify regarding its geotechnical report.

as a silty clay, showed "a water content in the high single digits to upper teens" which "begets material that is near saturation." (Tr. 5/38-39) The Board notes that the log for Giles Boring No. 2 recorded moisture contents from 7% to 14%, the latter being 15 feet down, and characterized the soils as "damp" or "moist," not saturated. No water was encountered during drilling, which was terminated at 16 feet down. (Supp. R4, tab 70 at 529)

10. With respect to Giles Boring No. 3, which was terminated at 21 feet down, Mr. Weikel testified that the log showed water content of 12% to 13%, and stated that water content "in the mid-teens to upper teens," "for dense silts and clays," means "you hit the saturation limit for that material" (tr. 5/39-40). The Board notes that the log for Giles Boring No. 3 characterized the soils, in descending order, as sandy clay, clayey fine sand, silty fine sand, silty clay, silty fine sand, and silty clay. It did not characterize the soils as "dense" or as saturated. Each soil layer was characterized as moist or damp, except for the silty fine sand layer encountered at approximately the same level at which water was encountered—14.5 feet down—which was characterized as "wet." (Supp. R4, tab 70 at 530)

11. For Giles Boring No. 4, terminated at 21 feet down, Mr. Weikel testified that water content in the "mid-teens" for dense silty clay "indicates a material that's near saturation" (tr. 5/42). The Board notes that the log for Giles Boring No. 4 encountered water at 9 feet down. The water content of the bottom-most layer of silty clay was recorded as 15% at 15 feet down and 13% at 20 feet down, and this layer was characterized as "wet." No water content was recorded for the sandy layer above it starting at 8.5 feet down, but it was characterized as "moist to wet." Above 8.5 feet the soil was characterized as "moist." (Supp. R4, tab 70 at 531) The log did not label the soils as "dense."

12. For Giles Boring No. 5, terminated at 21 feet down, Mr. Weikel testified that percent water content in the mid- to upper teens "for dense clays" indicates those materials are at or near saturation (tr. 5/44). The Board notes that the log for Giles Boring No. 5 showed perched water at 1.2 feet down, but no water was encountered thereafter down to the 21 foot termination depth.[6] The water content of the soil ranged from 10% at 5 feet down to 17% at 10 feet down and thereafter, to 21 feet down, was between 14% and 16%. No water content was recorded for the top sandy layers, only for the silty clay beginning at about four feet down, which the log characterized as "moist" and did not characterize as "dense." (Supp. R4, tab 70 at 532)

13. Mr. Weikel did not address Giles Boring Nos. 1 or 6. Water content was not recorded for these borings (supp. R4, tab 70 at 528, 533). The log for Boring No. 1 (terminated at 16 feet down) shows that water was encountered at 11 feet down and

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[6] According to appellant's expert, Dr. Meehan, perched water is water that is trapped, generally above the water table, by an impermeable layer such as rock or clay (tr. 3/27). It is usually considered to be a temporary or transient condition (*id.*), although it can remain in a location for some time (tr. 3/27-28).

describes the soils as "moist" above four feet and "moist to wet" below four feet (*id.* at 528). The log for Boring No. 6 (terminated at 16 feet down) shows no water was encountered and the soils are described as "moist" all the way down to the termination depth (*id.* at 533).

14. Mr. Weikel testified that saturation levels directly correspond to the "liquid limit" – the point at which soils begin to act like a liquid and are not compactable (tr. 5/40) – but the weight of the evidence is to the contrary. Dr. Meehan testified that saturation does not equate to liquid limit. Liquid limit must be determined by a specialized laboratory test:

> A ...So saturation is defined as the volume of water to the volume of voids. So 100 percent saturation, a completely saturated soil, all of the...void space is filled with water. So when you say saturation, I'm assuming you're talking about 100 percent saturation, not the degree of saturation.
>
> Q Yes
>
> A So, yes, and then liquid limit is...a standardized test that we do to kind of measure that property that you describe [where soil begins to act more like a liquid than a solid].
>
> ....
>
> Q Was it Atterberg?
> A Yes, Atterberg limits test.
> Q Okay.
> A Yes, there's a specific laboratory test that's run.

(Tr. 3/76) Haley & Aldrich, Inc., Tetra Tech's geotechnical engineering firm, reported the results of its subsurface investigation in a report dated 4 March 2010. Its report included the results of the Atterberg limits tests it conducted on the project soils.[7] The liquid limits ranged from 18% for a sample of sandy silt to 51% for a sample of clay soil. Sixteen of 19 sample results yielded a liquid limit of 22% or above. (App. supp. R4, tab 57 at 264)

15. The soils water content recorded by the Giles Report ranged from 7% to 17%. The highest value of 17% is recorded in the log for Boring No. 5 at 10 feet down. Above 10 feet, the highest percentage recorded is 13%. (Supp. R4, tab 70 at 528-533) The March 2010 Haley & Aldrich report determined that optimum moisture contents for compaction were between 8.7% and 12.2% (app. supp. R4, tab 57 at 259-61). Haley & Aldrich later characterized the data in the Giles Report regarding soil moisture content: "[I]n-situ moisture contents typically ranged between 8 and 15 percent, which is very close to the optimum moisture content required for successful compaction" (app. supp. R4, tab 103 at 2).

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[7] Neither Giles Engineering nor Mr. Weikel conducted Atterberg limits testing.

16. Mr. Weikel also testified regarding the boring logs contained in the Haley & Aldrich report and the water contents indicated therein (tr. 5/44-78). Mr. Weikel in his expert report cited the data from Haley & Aldrich Boring No. 8, where groundwater was encountered at one foot below ground level, and performed a series of calculations assuming that groundwater was at the same level for the entire new building excavation. Based on that assumption, he concluded that Tetra Tech should have known that it would be excavating 8 feet into groundwater and would need to remove nearly 300,000 gallons of water from the excavation (app. supp. R4, tab 312 at 8). Mr. Weikel relied on this calculation and the Haley & Aldrich recommendation to design for groundwater at 1 foot below the surface to opine that Tetra Tech should have planned to institute a site-wide dewatering system 6 to 8 months in advance of attempting excavation *(id.)*. However, Mr. Shelton of Haley & Aldrich testified to the fact that their boring results were affected by the melting of a significant layer of snow that had fallen in late December, causing surface water to infiltrate directly into the boring holes and causing higher water levels in some cases than would be expected in stabilized conditions (tr. 3/212-13). Mr. Shelton also testified that Haley & Aldrich recommended that Tetra Tech assume groundwater at one foot below ground level only for the design of certain elements that "could be impacted if the water levels were as high as what we saw from a snowstorm or a large rainstorm such as the underslab drainage system. But from a construction standpoint we knew that water wasn't one foot below the ground." (Tr. 3/218) Rather, he stated that Tetra Tech would have to excavate down 10 to 15 feet to encounter the water table (*id.*).

17. The Board finds that the Giles Report did not warn of soils "at or near saturation" nor of soils that were at or near their liquid limit, such that bidders would reasonably expect soil instability. Rather, the Giles boring logs and geotechnical evaluation thereof told bidders on the project to expect (and thus the contract indicated) medium to stiff constructible soils with close to ideal moisture content for compaction. The record discloses no other reason Tetra Tech should have anticipated anything but medium to stiff constructible soils at the site.

Tetra Tech's Geotechnical Investigation and Modification No. 3 to the Contract

18. Pursuant to the contract's requirement to conduct a thorough subsurface exploration and evaluation (finding 3), Haley & Aldrich conducted an evaluation of the site's subsurface soil and groundwater conditions and developed recommendations for the design and construction of the structure's foundations. Haley & Aldrich performed their investigation from 24 December 2009 to 7 January 2010 and issued their report on 4 March 2010. (R4, tab 8) Prior to the issuance of their report, they advised Tetra Tech that soil borings taken underneath the footprint of the hangar addition indicated the need for a deep foundation system rather than the shallow spread footing foundation system recommended in the Giles Report. Their concern, briefly stated, was that building the addition to the existing hangar on a spread footing system would result in too much settlement *vis-a-vis* the existing building, causing the two to be unacceptably out of alignment. Tetra Tech passed this information on to the USPFO CO on 9 February 2010, attaching a draft version of the

Haley & Aldrich report and noting that Tetra Tech would need more information before they could design the deep foundation system. (Supp. R4, tab 77)

19. The final report submitted by Haley & Aldrich on 4 March 2010 made the following recommendation with respect to the foundation for the hangar addition:

> The geotechnical report included in the RFP for the project [the Giles Report] indicated that a shallow spread footing foundation system designed using a bearing pressure of 3,000 psf would be suitable for support of the structure.... The results of our evaluation indicate that the [recommended foundation] will result in total settlements on the order of 3 in. to 4 in.... Through our discussions with the design team, we have learned that the anticipated settlements are not within tolerable limits for the structure and supporting infrastructure. Furthermore, it is our understanding that the proposed hangar will abut the existing hangar, which is supported on a deep foundation system. In order to maintain similar performance characteristics, the foundation system of the proposed hangar should perform similarly to the foundation system that supports the existing hangar. Consequently, we recommend that the hangar be supported on a deep foundation system consisting of auger-cast piles.

(R4, tab 8 at 15)

20. On 23 April 2010, the USPFO contracting specialist requested that Tetra Tech provide the government with pricing for the change from a spread footing foundation system to a deep foundation system using 12-in. diameter cast-auger piles (app. supp. R4, tab 80). On 7 May 2010, the government issued Modification No. P00001 to the contract, suspending work "on the Structural Design due to differing conditions between the RFP's soil report by Giles dated February 11, 2009 and TTFC's soil report by Haley & Aldrich dated 4 March 2010" (R4, tab 9). The suspension of work on the structural design was lifted, effective 15 July 2010, by Modification No. P00002 (Mod 2), issued on 23 July 2010. Mod 2 stated that the government had decided to adopt Tetra Tech's recommendation for a deep foundation system for the hangar addition and that funding for the deep foundation footings would be provided under a separate contract modification. (R4, tab 10 at 3)

21. Bilateral Modification No. P00003 (Mod 3) to the contract adding $1,271,963 in funding to the contract for the deep foundation system and extending the contract period of performance from 6 November 2012 to 5 January 2013 was signed by the USPFO CO on 30 September 2010. Mod 3 stated that "Verbal approval" for the contractor to proceed with related design work had been given 20 August 2010. (R4, tab 11 at 2) Tetra Tech completed the deep foundation design in September of 2010 (tr. 1/69).

Subsurface Saturated Soils South of Column Line 9 and Leaking Fire Hydrant

22. Meanwhile, on 21 September 2010, the government issued the NTP for construction to begin (app. supp. R4, tab 92). The first construction work performed by Tetra Tech involved sediment and erosion control, to include excavation of retention (or detention) ponds to a depth of approximately 10 feet, as well as installation of silt fences and excavation of channels to direct surface water runoff into the retention ponds (tr. 2/69, 70-71).[8] The soils encountered during this operation were stiff, constructible soils as described in the Giles Report, and no water was encountered (tr. 1/76, 258, 2/70). The sediment and erosion control measures put in place by Tetra Tech worked effectively to control surface water from precipitation and protect exposed subgrades (tr. 2/97). After completing the earthwork and receiving a discharge permit for stormwater from the MDE on 30 November 2010 (R4, tab 230), Tetra Tech began site excavation for the new building on 1 December 2010.[9]

23. Excavation work started on the north side of the project site next to the wall of the existing building and progressed south (tr. 1/77). Earth was excavated in two-foot layers to facilitate sweeping for unexploded ordnance, since the detection equipment being used during the sweep could only penetrate two feet deep (tr. 1/79). The area north of Column Line 9[10] was excavated without any issues down to one foot above subgrade (subgrade for the building addition was six to eight feet below original grade) in the first half of December 2010 (tr. 2/74, app. supp. R4, tab 75, vol. 2 at 10 of 36). On or about 16 December, however, as Tetra Tech continued its excavation south of Column Line 9, it encountered saturated, unstable soil conditions. As described by Mr. Lipscomb: "the further south we progressed the worse the soil conditions got. When they cut the first couple layers down at the south end it was fine. But then as we got deeper it got worse.... And then it got to the point where they actually couldn't even continue." (Tr. 2/75-76) At the progress meeting held on 22 December 2010, Tetra Tech notified the government of the possible differing site condition (R4, tab 13).

24. On 24 January 2011, Tetra Tech wrote CO Hall[11] enclosing a Haley & Aldrich report on the recently encountered soil conditions (R4, tab 14). The enclosed report states in pertinent part:

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[8] Tetra Tech's Stormwater Pollution Prevention Plan (SWPPP) was submitted to the Maryland Department of the Environment (MDE) in July 2010 (app. supp. R4, tab 218) and was approved by the MDE on 13 September 2010 (*id.*, tab 222).

[9] The parties in their briefing appear to agree on this date but they do not provide, and the Board has been unable to find, record citations for it.

[10] Rule 4, tab 293 is a map of the project site delineating the areas of the site requiring soils remediation. It was prepared by Mr. Lipscomb as part of the REA documentation (tr. 1/40). Mr. Lipscomb testified to the location of Column Line 9 on this map (tr. 1/77).

[11] Mr. Ed Hall succeeded Ms. Rita Carter as CO on the contract in October 2010.

> [I]t is our opinion that the currently exposed soils are exhibiting pumping behavior that exceeds acceptable limits to be considered as a suitable subgrade. Furthermore, we do not anticipate that the subgrade soils, in their current state, can be compacted to meet specification requirements due to excess moisture that is trapped within the cohesive soils that underlie the site. As such, some form of subgrade stabilization will be required.

(*Id.* at 2).[12] Options for subgrade stabilization suggested in the report included geogrid stabilization and cement/lime stabilization, depending on the severity of conditions (*id.* at 3-4).

25. The 24 January 2011 Haley & Aldrich report also discussed the differing moisture contents reported in the February 2009 Giles Report and in the Haley & Aldrich report of March 2010:

> 1. The geotechnical report included in the RFP that was prepared by Giles Engineering Associates (Giles) contained laboratory test data indicating that in-situ moisture contents typically ranged between 8 and 15 percent, which is very close to the optimum moisture content required for successful compaction.
>
> 2. During the subsurface investigation program that was executed by Haley & Aldrich between 24 December 2009 and 7 January 2010, a significant snowstorm occurred that delayed the investigation by approximately two weeks. By the time work resumed, temperatures were above freezing and the snow began to melt, causing the subsurface soils to become saturated.
>
> 3. When comparing the natural moisture content of samples tested by Haley & Aldrich to the natural moisture content of the samples tested by Giles, our moisture contents were significantly higher. However, the difference was attributed to saturation caused by the melting snow. As such, moisture contents indicated in the Giles geotechnical report appeared to be more representative of what to expect when excavation activities began and the subgrade soils were exposed.

[12] "Pumping" is a form of soil instability characterized by wave-like behavior when heavy equipment moves across saturated soil (R4, tab 14 at 2 n.1).

(R4, tab 14 at 3) Haley & Aldrich continued by noting that since the Giles data indicated moisture contents would be near the optimum required for compaction, no subgrade stabilization measures had been originally recommended (*id.*). Moreover, while the cause of the soupy soils was not yet known at this time, it was unlikely to be weather-related:

> Precipitation data for October, November, and December 2010 indicate that the average precipitation level was approximately 30% below the monthly average; furthermore, there have not been any significant precipitation events leading up to or during the current earthwork operations. Taking this into consideration, it is highly unlikely that the current subgrade conditions are seasonal or have been influenced by recent weather patterns.

(*Id.*)

26. Not having received a response from CO Hall, Tetra Tech followed up its 24 January 2011 letter with another letter, dated 5 February 2011, in which it informed the CO that in order to mitigate the impact on the project schedule, it was incurring costs as a result of the saturated soils south of Column Line 9 (R4, tab 15). Specifically, it had started construction of two stabilized stone access roads necessary to allow the auger cast pile and concrete subcontractors to continue with their work, and had also undercut, at the direction of the geo tech soil engineer, several areas underneath the grade beams between Column Lines 1-8 due to poor soil conditions (*id.*). Neither the temporary access roads nor the soils remediation were contemplated or priced in Tetra Tech's proposal, the contract, or Mod 3 (tr. 1/93).

27. On 7 February 2011, Tetra Tech informed CO Hall that it had discovered a leaking fire hydrant near the site of the new building, which had necessitated pumping the surrounding area to remove excess moisture from the soil before proceeding with the work (R4, tab 16). It suggested a meeting with USPFO to discuss the options and any information or documentation needed by the government (*id.*). The hydrant discovered to be leaking was scheduled to be removed during the project, and initially there was some uncertainty over who was responsible for its maintenance. After discovering the saturated soils surrounding the hydrant Tetra Tech dug a pit to start capturing the excess water from the surrounding area. (App. supp. R4, tab 240) It then began pumping the water out in order to be able to proceed with construction (R4, tab 16).

28. On 11 February 2011, Ms. Julianne Hitch, also a CO with the USPFO, sent out a request for a "formal briefing" on the differing site conditions, to be held on 18 February 2011 (R4, tab 17). Government representatives in attendance were to

include CFMO, POZ Environmental, APG DPW, USPFO, and contracting.[13] At the meeting, which Ms. Hitch attended but Mr. Hall did not, Tetra Tech discussed the leaking infrastructure it was encountering[14] and explained the remediation options that were available (tr. 1/116-17). The government requested that Tetra Tech submit a cost proposal for dealing with the issues thus far encountered (tr. 1/119).

29. Tetra Tech submitted its cost proposal informally at the progress meeting on 23 February 2011 and formally by letter dated 25 February 2011 (R4, tab 19). The proposal, for a total of $624,559 (direct costs and normal mark-up only), covered excavation and replacement of unsuitable soils in the areas identified to date. Tetra Tech noted that: "Given the poor soil conditions, south of column line 9, and since time is of the essences [sic] with critical path activities (auger cast piles, concrete pile caps and grade beams) we will begin replacement of this unsuitable fill beginning Tuesday, March 1, 2011." (*Id.* at 1) On 4 March 2011, Tetra Tech followed up with a letter to CO Hall pointing out that as of the date of the letter, no official response or direction had been provided by the CO concerning how the contractor should proceed to deal with the poor soil conditions south of Column Line 9 and that, therefore, Tetra Tech had no choice but to move forward using its best judgment in order to mitigate the resulting delays and impacts (R4, tab 20). This letter informed CO Hall that approximately 24 inches to 36 inches of undercut, with infill of number 3 stone, placement of a biaxial geogrid fabric, and CR-6 stone, would be necessary to provide a proper subgrade. The letter further informed the CO that the work had commenced 3 March 2011. (*Id.*)

30. On 8 March 2011, CO Hall responded to Tetra Tech's 24 January 2011 letter and 25 February cost proposal (R4, tab 21). His letter states, in pertinent part:

> This letter from the Federal government is response to your TTFC Letter Number: S-075 dated January 24, 2011 and S-089 dated Feb 25, 2011....
>
> ....
>
> The Maryland National Guard and the P & C Office is hereby denying that "Any Differing Site Conditions" exist according to the above reference letters, and is refusing that an "Equitable Adjustment" does exist....

---

[13] APG DPW is the Aberdeen Proving Ground Department of Public Works (tr. 3/123). POZ Environmental was the government's quality assurance contractor (tr. 2/278). CFMO stands for Construction Facilities Maintenance Officer, the staff function of the MDARNG responsible for building and maintaining its infrastructure (tr. 2/275).

[14] Leaking infrastructure by this point included not only the fire hydrant but perforated storm drains (*see* finding 48 *et seq.*).

> The above letters stands [sic] on discovery of these conditions of the Haley & Aldrich report of March 4, 2010 for site visits on 10 December 2010 and also on the Haley & Aldrich report page One section 3. Report prepared by Giles Engineering. The P & C contract Office submits that the Contracting Officer, per FAR [52.]236-2, was not notified "Promptly" in written notice of Tetra Tech's intention to submit evidence of Different Site Conditions existed.
>
> The Haley & Aldrich report continues with the Subgrade Stabilization Recommendation that "A dewatering Plan" be in place by Tetra Tech. No "Dewatering" plan was implemented to date of the January 24, 2011 S-075 letter.
>
> ....
>
> In closing as the Supervisor Contract Specialist (SCS) on this AASF Design Build Project the government is denying "Any Different Site Conditions" exist. The failure to follow the simple directions in the RFP page 180 and the very late notification that "Different Site Conditions" might exist coupled with Tetra Tech's refusal to "Dewater" when their own report suggested it are some of the reasons why the Federal Government does not recognize TTFC Letter Number S-075 dated January 24, 2011 and S-089 dated Feb 25, 2011 that "Different Site Conditions" exist.

(*Id.* at 1-2)

31. Tetra Tech responded on 29 March 2011 with a letter (S-102) containing a comprehensive timeline of meetings and correspondence constituting notice to the government of the differing site conditions, starting shortly after their discovery (R4, tab 25). It also addressed the CO's statements regarding dewatering, pointing out that the Haley & Aldrich report refers to temporary dewatering during excavation such as by means of sump pump, and not to dewatering as a means of permanent enhancement of the subgrade (*id.* at 3-4, *see also* R4, tab 8 at 24). COL Tracy, the head of the USPFO, and CO Hitch both testified at trial that CO Hall's assertions of lack of timely notice were false (tr. 2/172-73, 269). On 8 April 2011, Tetra Tech followed up (S-107) to report to CO Hall on the remediation measures it was taking and costs incurred to date. Again, it requested that the government direct it to stop if it disagreed with the actions being undertaken. (R4, tab 27)

32. On 23 March 2011, Tetra Tech notified CO Hall (S-096) that upon excavation to subgrade elevation along the west side of the building, it had discovered poor soil

conditions similar to what had been encountered south of Column Line 9 (R4, tab 23). The conditions would render it unsafe to move equipment into the area for exterior facade work and placement of the asphalt base and pavement for the access road (*id.*). Mud mats were brought in and ultimately the area was undercut to about 24 inches down and backfilled with suitable material (app. supp. R4, tab 75, vol. 2 at 27 of 36).

33. On 25 March 2011, Mr. Lipscomb of Tetra Tech received an email from COL Tracy responding to Mr. Lipscomb's earlier expression of concern over the government's rejection of Tetra Tech's cost proposal for remediation. In the email, COL Tracy informed Mr. Lipscomb that the "Government team" had reviewed the request and had determined that "site conditions have not changed." (App. supp. R4, tab 258) Thereafter, on 11 April 2011, CO Hall responded by email to Tetra Tech's 8 April 2011 letter, stating: "Attached is the government's letter dated March 8, 2011. This letter denies that different site conditions exist. The area in Tetra Tech's letter S.107 is the same area denied as different site conditions." (R4, tab 29) CO Hall never responded to Tetra Tech's detailed 29 March 2011 rebuttal to his 8 March 2011 letter (tr. 1/145).

34. On 25 March 2011, Tetra Tech followed up on the leaking fire hydrant with a letter (S-100) to CO Hall informing him that although the water line was turned off after the leak was discovered, it appeared that the leak had saturated the ground under the existing concrete and asphalt pavement as well as adjacent grassy areas, all of which would need to be removed and replaced to provide a proper base for the concrete apron. Because Tetra Tech had received no response to its original letter of 7 February 2011, it proposed to begin the undercutting, followed by stone infill, no later than 4 April 2011 in order to meet the contract schedule. The letter noted that the cost for this work was included in Tetra Tech's 25 February cost proposal, which had been rejected, and requested that the government notify Tetra Tech immediately if it did not want it to proceed with the work. (R4, tab 24)

35. The location of the fire hydrant leak corresponds to the water found in Giles Boring No. 5 which was interpreted as "perched" water (finding 12). Mr. Matt Conologue, general superintendent for Tetra Tech at the project site until mid-August of 2011 (app. supp. R4, tab 329 at 18, 22), testified that if Tetra Tech encountered natural perched water in the course of its excavations it could be isolated and pumped off into a retention pond, allowing construction activity to continue (*id.* at 51). However, as construction activities reached the fire hydrant, it was apparent that there was surface water and the surrounding area was being continually saturated by the leaking hydrant (*id.* at 59). Once the water was turned off, the hydrant was removed, and the water main leading to it was capped, the leaking ceased and the "amount of water in the excavation [was] reduced considerably" (*id.* at 60).

36. There appeared to be a belief among some of the government witnesses that the fire hydrant was damaged by Tetra Tech or one of its subcontractors (*see, e.g.*, tr. 3/131). It was unclear whether this damage was supposed to have occurred by jackhammering or by running into it with heavy equipment. However, Mr. Lipscomb

testified on cross-examination that personnel on site informed them that the hydrant had been leaking for some time (tr. 1/245). Mr. Lipscomb also testified that no one from the government ever suggested to him while the project was going on that Tetra Tech caused the fire hydrant leak (tr. 1/278). No government witness with personal knowledge of the matter testified. Nor has the government directed our attention to any other evidence that would suggest the fire hydrant leak was caused by damage occurring during construction. Based on a preponderance of the evidence, including the Giles Report of perched water at Boring No. 5 in 2009, we find that the fire hydrant leak was not caused by Tetra Tech and that it was ongoing since at least 2009. While government solicitation documents did disclose perched water at Giles Boring No. 5, the leaking fire hydrant was not disclosed to Tetra Tech or any of the bidders on this project (tr. 1/308). Therefore, they would have had no way of knowing that the "perched" water was being continuously refreshed by a leak thereby causing the surrounding soil to be permanently saturated.

37. On 18 April 2011, Tetra Tech notified CO Hall that it had encountered unsuitable conditions as it excavated into a slope at the southwest corner of the site (S-117). The initial description was of an unstable subgrade, with the slope falling in some areas, and visible seepage at the base of the slope, apparently flowing up from the subgrade, with flow on the order of 2-5 gallons a minute. A diagram and photos of rusty looking water coming up from the subgrade were attached. Tetra Tech requested a meeting to discuss this latest condition and requested direction. (R4, tab 33)

38. On 23 April 2011, DPW representatives informed Mr. Conologue of Tetra Tech that there was a leaking water valve just outside the limits of disturbance (LOD) on the "Southwest boundary" of the project site and that it "had been leaking for years" (app. supp. R4, tab 57 at 97, tab 321 at 68). On 27 April 2011, Tetra Tech advised CO Hall by email that it had located a leaking water valve just outside the LOD, and stated that it was investigating the relationship of the leaking valve to the unsuitable soil conditions being experienced south of Column Line 9 (R4, tab 34). Two days later, on 29 April 2011, it followed up with a letter to the CO (S-130) containing additional information:

> This newly identified (new to Tetra Tech) leak discovered on the East and West elevations outside the building footprint adds to the concerns Tetra Tech has regarding the differing site conditions encountered at the sub-grade level South of column line 9. Below is a brief description of the identification of this leaking water valve.
>
> During water valve installation being performed on 23 April 2011, it was brought to Tetra Tech's attention by DPW that a leaking water valve exists just outside our LOD in the Southwest boundary of the project. During this conversation

> with DPW, DPW advised Tetra Tech that this valve had been leaking for years.
>
> Upon discovery of this condition, we asked Haley & Aldrich and our civil design team to revisit the site to further investigate this condition to determine what impact this condition has on ongoing and future work. At this time, we do not know the full impact of this differing site condition and will provide further documentation as it becomes available.

(R4, tab 35) The same morning, CO Hall responded by email: "Outside the contractors LOD, thus No Standing exists with P & C at the USPFO" (R4, tab 36). On 2 May 2011, Tetra Tech responded (S-132):

> We are in receipt of your email dated April 29, 2011 and we request that you, as Contracting Officer for this project, engage with DPW to have the leaking water valve/pipe either replaced or shut off to prevent further soil damage within the LOD of this project.
>
> The leaking valve/pipe is a major contributor to the saturated soils on site and to date over $330,000 has been spent in the replacement of poor soil conditions south of column line 9. It is therefore imperative that these water leaks be eliminated in order not to cause any further damage and/or delays to the project.

(R4, tab 37) On 4 May 2011, CO Hall responded via email: "This once again has No Standing with P & C at USPFO. The area is outside Tetra Tech's LOD. No Standing means NO Standing." (R4, tab 38)

39. The correspondence continued with Tetra Tech's letter response of 9 May 2011 (S-133) (R4, tab 39). Tetra Tech indicated that it understood the CO's position to be that the leak was not USPFO's problem or concern, but that it (Tetra Tech) must disagree. It attached reports from its two civil engineering consultants, Timmons Group and Urban Engineering, and its geotechnical engineering consultant, Haley & Aldrich, and summarized the conclusions of the reports:

> [I]t appears that the water line in the vicinity of the south west corner outside of our property line has been leaking for a substantial period of time. This leakage has been confirmed verbally by DPW. All three Engineering firms agree that from their observations the leaking water is artificially

> elevating the groundwater table around the site and is traveling northwest, either through the aggregate / sand backfill of the water main or in a sandy layer of dirt. As the water enters the site it is currently discharging out of the cut slope making the slope difficult to stabilize and impacting the construction activities in this area.

(*Id.* at 1) Tetra Tech concluded its response by stating that no further work would be done in the area until the leak had been eliminated and clear direction received from USPFO on how it was to proceed. It requested a meeting with USPFO and the client to discuss options for proceeding and any information or documentation USPFO required to support the claim of differing site conditions. (*Id.* at 2)

40. Urban Engineers observed the following:

> Upon walking the site within the LOD and outside the LOD, and analyzing previous data and photographs from other pre-construction or survey site visits, it is my opinion that the existing water main or existing valves are leaking water and the water that is leaking is then traveling along the aggregate/sand backfill of the water main to the southwest excavation slope where the hydrostatic pressure of the water is then causing the slope to fail and washout daily.

(R4, tab 57 at 112) Urban Engineers' conclusion was based on the following factors summarized from their report:

> 1. At the western most PVC pipe near the baseball field, water originating from below ground was overflowing the top of the pipe due to hydrostatic pressure. The normal groundwater level at that location is several feet below grade, yet surface water at this location has been present for a long time. The ground surface was generally dry in other areas.
>
> 2. The location of the standing surface water to the west of the LOD and the southwest corner of the project lines up with the east-west water main. There are three distinct areas along the water main alignment where standing water was seen and has occurred for a long time, based on the differences between the vegetation in those areas vs. the surrounding turf.
>
> 3. Visual inspection of the excavation slope indicated that the water was coming from behind the excavation slope and hydrostatic pressure was building up due to the flow of water.

> If the source were groundwater, it would rise up and hydrostatic pressure on either side of the slope would be balanced.
>
> 4. DPW has previously indicated that the existing water main pipes leak in the vicinity of the project. A leaky pipe or valve could add up to thousands of gallons daily into the surrounding soils. The water will travel along a path of least resistance along the aggregate or backfill materials near the valves and pipes, to the surface or to a location where the pressure is less, such as the southwest corner of the project where excavation was occurring.

(*Id.* at 112-13) The Timmons Group agreed with the above observations and conclusions, and recommended that the water main be repaired; otherwise, the water would continue to discharge through the cut slope, making it difficult to stabilize and adversely affecting construction on the site (*id.* at 114-15). Haley & Aldrich also visited the site and concluded:

> [I]t is probable that a water line to the southwest of the construction activities is leaking, which has contributed to artificially elevated/perched groundwater in the southwest corner of the site. Given the artificially elevated groundwater levels relative to the proposed site grading, the construction of the slope does not appear to be feasible under the requirements of the current construction drawings and specifications. Slope drainage options, such as underdrains and chimney drains are likely required to construct the slope if the groundwater level is not lowered.

(*Id.* at 116)

41. Tetra Tech's Mr. Allison testified that it made sense that the leaking valve, even located at some distance from the project boundary, caused the soupy subgrade soils south of Column Line 9. He noted that the leaking valve was at a higher elevation and the water line ran directly toward the project site, so that the water from the leak would naturally run downhill and travel through the pipe bed, which normally consists of a trench filled with stone and/or gravel that water can travel freely through. (Tr. 1/338-41) Mr. Allison also testified that he reviewed the solicitation and there was no mention of the leaking valve (tr. 1/341).

42. At the 12 May 2011 progress meeting, Tetra Tech brought up the subject of the leaking water in the southwest corner of the project. Present at the meeting was COL Charles Schulze of MDARNG. COL Schulze contacted DPW the same

morning and asked for their help in locating and fixing the water leak. (App. supp. R4, tab 270) The leak was fixed by noon on 13 May 2011 (app. supp. R4, tabs 271-73).[15] Mr. Richard Bandy[16] testified that he personally fixed it (tr. 3/179). As a result, the area south of Column Line 9 began drying out toward the end of May and Tetra Tech was able to resume work in early June (tr. 1/187). However, additional areas requiring undercut and backfill continued to be encountered. On 26 August 2011, Tetra Tech notified CO that it had discovered unsuitable soils during excavation to subgrade along the west parking lot (S-168) (R4, tab 50). The condition required undercutting of approximately one foot and backfilling with stone in an area of roughly 4,800 square feet (*id.*). Tetra Tech advised it would be filing a claim for the extra work (*id.*).

43. Citing the testimony of Mr. Bandy, the government argues that the water in the saturated, unsuitable soils that Tetra Tech encountered did not come from leaking infrastructure. The government's proposed finding of fact (PFF) 120 states:

> Mr. Bandy testified under oath that he personally and repeatedly tested the water that appellant alleged was coming from leaking infrastructure contemporaneous with [sic] appellant's claims of encountering problems. Mr. Bandy tested the water appellant claimed was leaking from underground infrastructure for chlorine, fluoride, and its pH value. His tests found no presence of chlorine or fluoride in the water. The pH values came back so low that Mr. Bandy concluded that the water he tested was not drinking water.

(Tr. 3/134-35; gov't br. at 27) Contrary to the government's proposed "fact," Mr. Bandy, who was responsible for the maintenance of the underground water utilities at the project site, testified that from September of 2009 to June of 2012, he was called out to the site five or six different times (tr. 3/128). Only one of these times involved testing water at a suspected leak location, although there were multiple tests at that one location (tr. 3/133-34).

44. Mr. Bandy testified that he was called for some water that was coming out of a bank, somewhere close to SL 096 (west side of new building addition north of Column Line 9 (tr. 3/132; R4, tab 293). He also testified that the testing occurred toward the end of construction (tr. 3/134). He tested the water half a dozen times but it did not contain chlorine or fluoride, and had too low a pH to have come from site water utilities (tr. 3/139-40). Upon further questioning, it became apparent that Mr. Bandy's water test

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[15] Although he was copied on the 13 May 2011 emails (app. supp. R4, tabs 271-73) reporting that the leak had been fixed, the CO responded on 16 May to a related request for information from Tetra Tech with this reiteration: "Once again this issue has No Standing with contracting" (R4, tab 40).

[16] Mr. Bandy at the time was the Chief of the Buildings and Structures Branch of the Operations and Maintenance Division of DPW at Aberdeen (tr. 3/125).

was conducted in a different location and more than a year after Tetra Tech reported and remediated the unsuitable soil conditions caused by the leaking valve and the leaking fire hydrant:

> Q Okay. So you're say [sic] that further east of the berm area, the water was clear. Is that your recollection?
>
> A Where I took my samples, we were getting clear water. I could not sample rusty water like this.[17] I mean, how was I, I couldn't, it's not going to turn purple when it has chlorine in it. It's already red.
>
> Q Okay. So you agree with the water coming, that's being depicted at 309.13 and 309.14, is in fact rusty water.
>
> A According to these pictures, yes, ma'am.
>
> Q Okay. And can you --
>
> A But now I don't know where that water came from. I mean --
>
> Q That water that was coming off the berm depicted in 309.13 and 309.14 was never tested. Is that your testimony?
>
> A I could not test that rusty, red water. I have no way to do that.

(Tr. 3/189-90)

> JUDGE O'SULLIVAN: Okay. I have a couple of questions, Mr. Bandy.
>
> THE WITNESS: Yes, ma'am.
>
> JUDGE O'SULLIVAN: The water test that you conducted in the area of SL 096, which is obscured up there right now but we --
>
> THE WITNESS: Yes.
>
> JUDGE O'SULLIVAN: Yes. So tell me again when it was you conducted those tests.
>
> THE WITNESS: I believe it was sometime towards the end of the construction, when they were installing that roadway. I think the hangar portion of that was pretty much done.
>
> JUDGE O'SULLIVAN: All right.

---

[17] The rusty water is depicted in the photos that accompanied Tetra Tech's initial 18 April 2011 notification to CO Hall (finding 37; R4, tab 309).

THE WITNESS: It was towards the end of the construction period. But what the exact timeframe was, I'm not 100 percent sure.

JUDGE O'SULLIVAN: Okay. Can you approximate a time period?

THE WITNESS: I would say it was probably the spring of 2012 maybe.

JUDGE O'SULLIVAN: Okay. April, May 2012.

THE WITNESS: Yes.

JUDGE O'SULLIVAN: Maybe.

THE WITNESS: Somewhere in there.

(Tr. 3/200-01) It is thus clear from Mr. Bandy's own testimony that contrary to the government's assertion, Mr. Bandy did not test water from any of the leaking infrastructure that is at issue in this appeal.

45. The government also offered its expert, Mr. Weikel, for the proposition that a water leak did not cause the unstable subgrade at the southwest corner of the project. Mr. Weikel opined that his observation of the area in question in 2014 indicated that the slope was not saturated and to his knowledge no repair work had been completed, therefore the water encountered could not have been from a leak (app. supp. R4, tab 312, ¶¶ 44, 52). On cross-examination it became apparent that the government had not informed him that the leak had been repaired on 13 May 2011 (tr. 5/111-13).

46. Dr. Meehan, appellant's expert witness, testified that in his opinion the bad soil conditions Tetra Tech encountered at the project site were caused by water from numerous instances of leaking infrastructure (tr. 3/53).

47. Based on a preponderance of the evidence, the Board concludes that the saturated and unstable subgrade soils Tetra Tech encountered in the southwest corner of the project were caused by water from leaking infrastructure which was not disclosed to Tetra Tech or any of the bidders by the government in the solicitation documents.

Perforated Storm Drainage Pipes

48. One of the issues discussed at the 18 February 2011 meeting, in addition to the soils south of Column Line 9 and the leaking fire hydrant, was a perforated storm drain going from the southeast corner of the airfield to the northeast, running underneath the proposed concrete apron and taxiway. Mr. Conologue, Tetra Tech's project superintendent, testified that he discovered the first perforated pipe when, during excavation in the area, the soils could not pass a proof roll test and were determined to be unsuitable. As part of his investigation of the cause of the soil saturation, he opened the grate and visually inspected the pipe with a flashlight. (Supp. R4, tab 329 at 71-72) After digging test pits that confirmed the pipe was indeed perforated, he notified CO Hall

of that fact by email on 10 February 2011. Color photos of the pipes were attached to the email. (App. supp. R4, tabs 243, 309.15-17)[18] The same day, after CO Hall inquired whether there were holes in the pipe or just bad rust, POZ Environmental, the government's quality assurance (QA) contractor, reported to CO Hall:

> Ed, I just looked down the pipe from the inlet by the asphalt, fligh[t] area. The pipe runs north under the asphalt and south to the pond. North under the asphalt is a coorigated [sic] pipe with concrete on the inside of the pipe to make it smooth with no perforation as far as I could see. South from the inlet to the pond is a [corrugated] pipe that is perforated, on top of being in poor shape and rusted, as far down as I could see. There are holes drilled throught [sic] the pipe to the south of the asphalt with no concrete in the pipe.

(App. supp. R4, tab 243)

49. On 23 February 2011, Tetra Tech sent the CO a follow-up letter on the subject (S-086), to which it attached a draft letter from Urban Engineers explaining why the perforated pipe was a concern (R4, tab 18). Rather than carrying storm water away from the site, the perforated pipe was contributing to the saturation of the site, a particularly bad idea underneath the to-be-constructed concrete apron and taxiway where, even if Tetra Tech were able to stabilize the subbase to allow for airfield pavement construction, the continued saturation would shorten the lifespan of the subbase and adversely affect the pavement above (*id.* at 2-3). The engineers recommended replacing the pipe within the limits of work with solid piping lined with polyethylene as well as undercutting the existing unsuitable subgrade and replacing it with suitable materials (*id.*).

50. Shortly thereafter, during excavation on 29 March 2011 to install a structure atop another existing 21" storm drainage pipe, the pipe was discovered to be perforated and discharging water beginning adjacent to the east wall of the existing hangar building and running east underneath the area where the new concrete apron was to be constructed. Tetra Tech notified the CO of its discovery in a letter dated 31 March 2011 (S-104). (R4, tab 26) This was the second storm drainage pipe discovered to be perforated and, as before, Tetra Tech recommended that the pipe not be left in place. Tetra Tech noted that at the time it submitted its cost proposal, it believed the leaking fire hydrant caused the poor soils in the area, but it was apparent that the storm drain, which collected runoff from the flight line's concrete and asphalt surfaces, was discharging storm water into the subgrade and was contributing to the poor soils. It planned to begin remediation along the east side of the hangar beginning the week of 4 April 2011 and requested prompt direction

[18] The photos depict an old, rusted, large diameter corrugated metal pipe with a solid top and a bottom that had holes drilled in it to allow stormwater to infiltrate subsurface soils beneath the pipe (app. supp. R4, tab 309 at 15-17; tr. 1/73).

on how to handle the perforated pipe. (*Id.*) On 8 April 2011, Tetra Tech wrote the CO again to inform him that upon further inspection the pipe was found to contain trapped sediment material which could adversely affect the site permit from the MDE (S-110) (R4, tab 28). It requested that the CO investigate along with DPW Environmental and APG (*id.*).

51. On 11 April 2011, despite having received confirmation of the existence of perforated pipe in response to his own inquiry from POZ, the government's QA firm, CO Hall responded to Tetra Tech's letter regarding the second perforated pipe with the following email:

> Am returning letter s.110. The government Does Not have a perforated pipe. The government has Storm pipe down at the Weide Airfield but there does not exist a perforated pipe.
>
> If Tetra Tech is submitted [sic] a letter please need to clarify what you are submitting the letter for. Believe it was many Years ago that a Storm pipe was installed at the Airfield and that Storm pipe installed was never perforated. The Storm pipe installed was installed with weep holes to gather ground water.

(R4, tab 30)

52. On 7 June 2011, Tetra Tech followed up on its 23 February 2011 notification to CO Hall regarding the first discovered perforated pipe (S-146) (R4, tab 41). In its letter, Tetra Tech noted it had received no direction from the CO to stop its remediation work since that time, and updated the CO on the remediation work it was performing to stabilize the subgrade under the to-be-constructed east concrete mooring pad and asphalt taxiway. Based on testing by Haley & Aldrich, it was determined that soil cementing rather than undercutting followed by geogrid fabric could be used to achieve a satisfactory degree of stabilization at a lesser cost. (*Id.*) Therefore, Tetra Tech informed CO Hall that it would be proceeding accordingly and that the estimated additional direct cost would be $85,000 (*id.*). On the next day, Tetra Tech sent the CO a list of priority items awaiting direction from the CO to be discussed at the next progress meeting. At the top of the list was the perforated pipe at the east concrete mooring pad and asphalt taxiway. Tetra Tech noted that it needed a "working plan with Schedule from USPFO" and a "stop work order for work above and surrounding the drainage pipe to be replaced." (R4, tab 42) The next morning Tetra Tech received the following email from CO Hall: "Mr. Lipscomp, [sic] As Contracting has stated couple times previously there exists No Perforated Pipe Thus the item mentioned On the list Will Not be Entertained" (R4, tab 43).

53. On 20 June 2011, Tetra Tech notified CO Hall that an adjacent area under the east concrete apron next to the east side of the building would be stabilized with soil

cement at an additional direct cost of approximately $29,000 (S-149) (R4, tab 44). To this notice, CO Hall responded via email:

> Mr. Lipscomp, [sic]
>
> The government has denied that different site conditions exist. This was cited in previous letters to Tetra tech Facilities Construction.
> Therefore any cost that Tetra Tech states will be the burden of Tetra Tech Facilities Construction.
>
> The government reserves the right to examine the Fraudulent Claims Section in the FAR.

(R4, tab 45) Tetra Tech viewed this communication as a threat (tr. 1/193). Mr. Lipscomb responded the same morning:

> Ed, TTFC's letters are issued to document and notify USPFO of current events concerning differing site conditions we have encountered. We believe we are entitled to be compensated for these conditions under the contract. We therefore want to make sure USPFO has the same information in a timely manner that we have in order to verify and examine these conditions.

(R4, tab 46) To this, CO Hall responded, also the same morning: "Rick, This has been denied. Thus the contract officer will pursue the Fraudulent Claim process which may have or will have Financial impact on Tetra Tech Facilities Construction." (R4, tab 47) Tetra Tech viewed this as another threat, but did not stop giving notice to the government (tr. 1/196).

54. Effective 8 July 2011, CO Hitch issued Modification No. P00008 (Mod 8), providing a priced contract line item number for replacement of the perforated storm drain discovered and reported in February 2011 (R4, tab 49). Only the portion of the perforated drain that would run under the concrete and asphalt runway to be constructed by Tetra Tech was replaced. As COL Tracy explained, "if we did not replace that pipe prior to it being paved and then a pad put over it, if it had to be replaced in the future, we'd have to tear all that up and it would cost us a lot of money." (Tr. 2/272-73) The remaining perforated drain piping was not replaced (tr. 1/200).

55. On 22 September 2011 Tetra Tech discovered yet more saturated subgrade soils when excavating for the north mooring pad and notified CO Hall by letter dated 26 September 2011 (S-178) (R4, tab 52). Its engineers (Haley & Aldrich) deemed the subgrade unsuitable to support a concrete pad and recommended undercutting, installation of geogrid fabric, and replacement with stone (*id.*). By this time, Tetra Tech

had paved over approximately 10,000 square yards (about two acres) of what had theretofore had been open field, resulting in increased runoff into perforated storm drain that had not been replaced, and which ran directly underneath the location of the north mooring pad (tr. 1/201). Tetra Tech sent a follow-up letter (S-195) on 30 November 2011, reporting that it had performed the undercuts in the north mooring pad area from 15-19 November 2011 (R4, tab 54). Mr. Lipscomb testified that the area was stabilized after the undercutting, but there was a period of rain that destabilized the area again, requiring more undercutting before a suitable subgrade material could be installed. The issues in this area were caused by the perforated drain pipe that allowed water from runoff to saturate the area below grade and destabilize the subgrade soils. (Tr. 1/202-03)

56. The perforated pipes were shown on the site utility plan (1974 drawings included in the solicitation package) as storm drains with no indication that they were perforated (app. supp. R4, tab 192; supp. R4, tab 329 at 69). Mr. Lipscomb testified that Tetra Tech would not have included the existing storm drains in its SWPPP if it had known they were perforated (tr. 1/71-74). Mr. Conologue, upon viewing a document depicting a storm drain, would assume absent indications to the contrary that the pipe, being for water transfer, was a solid pipe (supp. R4, tab 329 at 71). Dr. Meehan testified that a geotechnical engineer would assume that stormwater drains on a drawing were solid, absent an indication to the contrary (tr. 3/113-14). Drawings expressly indicating that the storm drains in question are perforated, dated 8 October 1941, were first produced by the government in discovery in this appeal (app. supp. R4, tab 190).

57. Although one section of the perforated storm drain first reported in February of 2011 was replaced after Mod 8 issued in July 2011, it had in the meantime continued to saturate the subgrade underlying the new concrete and asphalt (Far East Mooring Pad and Asphalt Pavement) to be constructed by Tetra Tech, and the remaining perforated sections continued to saturate the subgrade in other areas, including the North Transient Pad, all of which required remediation either by undercut and backfill, or in less severely affected areas, by means of soil cementing. The areas remediated are designated SL 146, SL 155, SL 178, and SL 195 on the site map (app. supp. R4, tab 293). The remediation methods employed are described in Tetra Tech letters S-146 (R4, tab 41), S-155 (R4, tab 48), S-178 (R4, tab 52), and S-195 (R4, tab 54).

58. The second-discovered perforated storm drain, which was not replaced, contributed to the saturated conditions encountered along the east side of the hangar, designated as SL 149 and SL 146 on the site map (app. supp. R4, tab 293), the remediation measures employed in this area consisted primarily of soil cementing, as described in Tetra Tech letters S-149 (R4, tab 44), and S-146 (R4, tab 41).

Should Tetra Tech Have Expected Shallow Groundwater Due to a High Water Table or Other Natural Causes?

The government's defenses against Tetra Tech's claim depend primarily on establishing that Tetra Tech encountered, and should have expected to encounter, shallow groundwater whatever the cause might be. We have already found that the Giles Report did not warn of saturated soil, but told bidders they could expect stiff constructible soils with close to optimum moisture content for compaction (finding 17). However, since the government argues that Tetra Tech encountered shallow groundwater due to a high natural water table or adverse weather, we make findings with regard to these contentions below.

Natural Water Table

59. The Giles Report estimated water table depth at 7-11 feet below ground (finding 5). The boring logs indicate that water was encountered 11 feet down at Boring No. 1, no water was encountered at Boring No. 2 (terminated at 16 feet), water was encountered 14.5 feet down at Boring No. 3, water was encountered 9.5 feet down at Boring No. 4, perched water at 1.2 feet down was encountered at Boring No. 5,[19] and no water was encountered at Boring No. 6 (terminated at 15 feet). Thus, the Giles Report estimate of the location of the water table was a rather conservative projection from its boring results. (R4, tabs 2, 74 at 503-08; tr. 3/34)

60. Haley & Aldrich agreed with Giles Engineering regarding the likely depth of the water table at the site. Mr. Derrick Shelton, P.E., the geotechnical engineer who oversaw Haley & Aldrich's geotechnical investigation, testified:

> [I] knew that from a construction standpoint, for them to encounter that true water table, they'd have to excavate their excavations would have to be in the 10 to 15 foot range, and we weren't expecting any excavations that deep –
>
> ....
>
> Q Okay. Now had you believed that the water table was one foot below ground, what type of construction recommendations would you have made, sir? Would they have been different than what you recommended in your report?
>
> A They would be significantly different. For water, if the true water table was that shallow, we'd have to reevaluate

[19] Boring No. 5 was in close proximity to the location of the leaking fire hydrant discovered by Tetra Tech (gov't PFF ¶ 13; R4, tab 2 at 502, tab 70 at 527).

the foundation system that we put in. We'd have to reevaluate how they would actually perform all the excavations throughout the site. And that wasn't the case. In our report we put some specific recommendations in there to cover how they excavated. And we clearly said that you might encounter some water in your deeper excavation that you could control with limited specifics, small sumps. Especially for utilities because utilities are usually the deeper of the excavations onsite. So if it was a true high groundwater table, we would have had to reevaluate our entire report.

(Tr. 3/218-19)

61. Appellant's expert Dr. Meehan testified that, as opposed to perched water, the natural water table is a continuous level of water at some elevation (tr. 3/25). If one were to dig down into the water table itself, water would fill the hole up to the level of the water table (tr. 3/26). Soils at the level of the water table cannot be described as "stiff" (tr. 3/30). "Groundwater" is an inclusive term used to describe water in the ground, whether it is beneath or above the elevation of the water table (tr. 3/28).

62. Appellant's witnesses testified that the problems with saturated soils encountered south of Column Line 9 could not have been caused by cutting into the water table because, after digging underneath the saturated soil, they found firm, stable, suitable subsurface soil. Mr. Joseph Gray, Tetra Tech's quality control manager on the project, testified:

Q Okay. Now what was your view as to whether or not you cut into the water table?

A I did not think we hit the water table.

Q I would like for you to explain to the Court, sir, why it was your belief that you all had not hit the water table.

A The water table, in my past experience, is usually pretty uniform and consistent in elevation. When we put wells into the ground, we put numerous wells at a site, and then we go and measure the elevations. And they would, the differences in the elevations would be in hundredths of a foot, tenths of a foot at the most. We weren't hitting the water or any kind of moist soil at the north end. Then we go a little bit to the other end and now it's moist soil. So if it's down at the south end, it should be up at the north end.

Q Okay. Now when you're, if you're excavating based on your experience, and you cut into a water table, what happens?

A The water, the excavation would fill with water, either slowly or fastly, depending on the nature of the aquifer.

Q Okay. Now did that happen here?

A No.

Q And based on your experience, if you cut out, let's say you hit the water table. And you cut out two to three feet undercut, do you reach dry soil?

A No.

Q Why not?

A The water table's going to continue to come into the excavation.

....

Q And were you, did Tetra Tech actually undercut in some areas?

A We undercut in a lot of areas, yes.

Q Okay. So when you undercut and you took that bad soil away, what would be below it?

A Well the way that we had to construct, we had to undercut down to a firm soil that was suitable and then come up from there. If we were in a water table situation we never would have hit firm soil. Not in the water table anyway.

Q Right. Now would you, did you all encounter dry or drier or firm or stiff soils below that undercutting?

A Yes. In the south end of the site, we were able to dig through the soil that was unsuitable and get down to dry soil that was suitable. And that's what we brought our stone up off of.

Q Okay. Is that consistent with having hit a water table, sir?

A No, it's not.

(Tr. 2/77-80) Tetra Tech's design manager, Mr. Allison, testified similarly:

Q Based upon what you saw, based upon your experience, what is your view, as to whether or not Tetra Tech had cut into the water table, sir?

A We did not believe it was the water table. We didn't think we were anywhere close to the water table.

Q And what is the -- why do you [say] that? Explain to the Court, why you think you all never hit the water table.

A Because the water would still be trying to achieve its natural level, despite the excavation that went on, and you don't see that there.

There were many holes we drilled out there that didn't find water at all. Many of the Giles holes didn't even find water.

Q Okay, now, Mr. Lipscomb testified about the possible soils remediation methods. One was cementing. One was doing an undercut of going in and cutting out two, three, five feet, whatever it was of those bad soils, and that's what was done.

What kind of remediation methods would have been required, had Tetra Tech actually cut into the water table?

A I don't know that you could have just remediated it on the spot. You would have had to change your whole process.

Q Okay.

A But that was truly permanent water table.

Q Will soil cementing resolve cutting into a water table?

A No.

Q Will cutting out the soil and just putting in new soil remediate cutting into a water table, sir?

A No.

(Tr. 1/296-98) Haley & Aldrich's Mr. Shelton agreed:

And what I recommended to Tetra Tech is, let's dig some small test pits. Let's see how deep this problem is. Does it extend 15 feet down or is this an isolated area? And that's exactly what we did. And we realized it's the soft, saturated zones typically were 24-inch, 36-inches thick. And you remove the soupy material, the soft material, and there was nice, firm ground beneath it. And coincidentally we wrote recommendations on how to treat the soil. And that's what the recommendation said, excavate 24 inches, maybe a little bit deeper depending on how, what depth you find firm soil.

Q But if Tetra Tech had hit the water table and then undercut 2 feet, would that solve the problem of having hit the water table?

A No. I mean, if you had hit the water table and you excavated 2 feet, you'd have standing water in the bottom of the excavation. And that's no[t] what we had.

> Q Okay. Now there have been some assertions in this proceeding, this litigation, I believe by the government's expert that what Tetra Tech should have done, based upon the soil borings is they should have known and they should have implemented a site-wide dewatering plan for 6 to 8 months to basically permanently lower the water table. What is your view of that option, sir?
>
> A That sounds like an option that you would perform if the water table were truly one foot down, or very close to the ground surface. Our site didn't have that, and it would have not necessarily addressed the problem which we had was isolated zones of soil at a particular depth that were just soft and saturated.

(Tr. 3/222-24) Dr. Meehan concurred that the natural water table did not cause the soil conditions encountered by Tetra Tech:

> [Y]ou know if you look at the field evidence they excavate out the muck and they don't see any ground water seeping in. I talked about my bathtub example. If they take out that soil the water is going to seep in and return to its natural elevation. After they mucked out these holes okay, at the bottom elevation things are firm and stable and that is what they are basing their you know ground improvement options off of from that point. There is no evidence of water coming in there. There is no evidence of that ground water table returning to its natural elevation seeping in and I think that is, in addition to kind of the boring logs, that is a strong example of field evidence where you look and you see and it's not happening. That is a very strong piece of evidence.

(Tr. 3/44)

63. The government's expert witness, Mr. Weikel, stated that the water table "could be" as high as one foot down based on the boring logs (tr. 5/134), but also conceded that Tetra Tech did not encounter the natural water table when it excavated the retention ponds (approximately 10 feet down) or when it began excavating for the new addition (tr. 5/125-26). The government did not present any credible evidence that the soupy, unsuitable soils encountered by Tetra Tech during excavation were a result of cutting into the natural water table.

64. The Board finds that (1) given the information supplied by the government in the Giles Report, Tetra Tech had no reason to anticipate that it would encounter the natural water

table during excavation on the project; and (2) the soupy soils it encountered and remediated during construction did not in fact result from cutting into the water table.

Adverse Weather

65. CO Hitch testified that it was her view that the Haley & Aldrich report had warned that the contractor might encounter unsuitable soils such as it encountered south of Column Line 9 "if we had bad weather." She further stated that at the time Tetra Tech began excavation "we were into bad weather because they didn't get their permit in a timely manner in order to start excavation in September. They ended up starting in December." (Tr. 2/224) This appears to be at least part of her reasoning for denying Tetra Tech's differing site conditions claim (tr. 2/223-24). The government also makes this assertion in its brief, but cites to the Giles Report warning that "it might be necessary to remove or stabilize the upper 6 to 12 inches (or more) of soil due to adverse weather, which commonly occurs during late fall, winter, and early spring. At least some over-excavation and/or stabilization of unstable soil should be expected if construction is during or after adverse weather." (Gov't br. at 36) (citing R4, tab 70 at 523) The government asserts, without citation to the record: "Appellant was largely responsible for starting excavations late because it did not get the required dig permit from the Maryland Department of the Environment" (gov't br. at 36 n.4).

66. The record does not support the government's assertion. Following extended review (Tetra Tech first notified the government of the issue on 9 February 2010), Tetra Tech's proposal to change from a spread-footer to a deep foundation system for the building addition was finally approved and Mod 3 was issued on 30 September 2010 (finding 21). The government issued the NTP for construction to begin on 21 September 2010 (finding 22). Tetra Tech had submitted its SWPPP to the MDE in July 2010 and received approval on 13 September 2010 (*id.* n.7). Thus, when the NTP issued, Tetra Tech was ready to and did immediately begin site excavation for sediment and erosion control, to include retention ponds, silt fences, and channels to direct runoff into the retention ponds (finding 22). After this work was completed, Tetra Tech received a discharge permit from the MDE on 30 November 2010 and began site excavation on 1 December 2010 (*id.*). However, despite a belief among the government witnesses that there had been a delay in construction caused by Tetra Tech's failure to timely file its Notice of Intent (NOI)[20] (tr. 4/41) (Mr. Schweizer, for instance, testified to "our understanding" that Tetra Tech had not timely applied for the NOI (tr. 4/42)), no government witness appeared to have personal knowledge of the matter and the government has not cited to any other evidence that Tetra Tech could have begun site excavation any earlier than it did. Mr. Lipscomb, on the other hand, had personal knowledge and testified it was not true that excavation for the building had begun and then was stopped because of the lack of a permit (tr. 1/229). He stated there may have

[20] The Notice of Intent must be filed with the MDE to start the process of approving a discharge permit (app. supp. R4, tab 218, Appendix A at 2).

been a "slight delay" between finishing the erosion control activities and receipt of the permit from the MDE (tr. 1/230).

67. In arguing that Tetra Tech encountered "adverse weather" affecting its excavation activities, the government refers to this Giles Report warning:

> Site soil is moisture sensitive and will become unstable when exposed to adverse weather such as rain, snow, and freezing temperatures. Therefore, it might be necessary to remove or stabilize the upper 6 to 12 inches (or more) of soil due to adverse weather, which commonly occurs during late fall, winter, and early spring. At least some over-excavation and/or stabilization of unstable soil should be expected if construction is during or after adverse weather.

(Gov't br. at 46 (citing R4, tab 70 at 523)) The government argues that by "adverse weather" the Giles Report is not referring to large amounts of precipitation, but rather to any combination of snow, ice, and freezing temperatures common in late fall, winter, and early spring (*id.*). It then cites pictures in the Rule 4 file that show that the site experienced some snow and ice during the December 2010 excavations (gov't br. at 47, PFF ¶ 135). From this, the government concludes that Tetra Tech was warned by the Giles Report that it could experience the same adverse weather conditions that actually occurred (*id.* at 46-47).

68. We do not accept the government's premise because it is not well grounded in the record. First, the Giles Report warns about the possibility of having to excavate primarily the top 6 to 12 inches of soil due to adverse weather (although not ruling out it might be necessary to go somewhat deeper) (R4, tab 70 at 523). This warning did not extend to the subgrade, as far down as six to eight feet, which is where Tetra Tech encountered the unsuitable, soupy soils (finding 23; tr. 1/218, 260). Second, the government has offered no evidence that its claimed "adverse weather" had any causal connection to the unsuitable soils encountered at subgrade. The evidence is that the precipitation that occurred in December 2010 was "sparse" and had no effect whatsoever on excavation activities. (Tr. 2/32-37) Indeed, as Haley & Aldrich noted in their January 2011 letter, the precipitation level for October, November, and December of 2010 was approximately 30% below the normal monthly average, and there were no significant precipitation events leading up to the December excavation operations that encountered soupy soils (finding 25).

69. We find it unnecessary to determine an exact definition of "adverse weather" for purposes of this appeal. We find that the unsuitable subgrade soils encountered by Tetra Tech were not caused by weather of any sort and were not otherwise reasonably foreseeable based on the information contained in the Giles Report.

The Unsuitable Soils Requiring Remediation Were Caused by Undisclosed Leaking Infrastructure at the Project Site

70. Dr. Meehan testified that in his opinion the predominant cause of the unsuitable subgrade soil conditions Tetra Tech encountered at the project site was the "significant and numerous sources of leaking infrastructure" which were not revealed in either the Giles or the Haley & Aldrich geotechnical reports (tr. 3/53-54). This conclusion was based primarily on (1) the proximity of the saturated soils to the leaking water source and/or the existence of a natural path for the water to follow from the source of the leak to the saturated soils; and (2) the lack of any other plausible explanation for the condition of the soils (tr. 3/44-47, 54-58). In his view, the soil conditions encountered by Tetra Tech that required remediation were materially different from the conditions reflected in the Giles Report (tr. 3/117).

71. The Board finds that the unsuitable saturated subgrade soils that Tetra Tech encountered and remediated at the project site were caused primarily by the undisclosed leaking infrastructure at the project site, including the (1) leaking valve/water main outside the LOD in the southwest corner of the project, (2) the two perforated storm drains, and (3) the leaking fire hydrant. We find that any secondary, natural sources that may have contributed water were insignificant in comparison.

Tetra Tech Completes the Contract

72. The contract completion date, as extended by Mod 3, was 5 January 2013 (finding 21). CO Hitch stated that the contract work was complete in May of 2012, except for some change order work (tr. 2/108). COL Tracy testified that Tetra Tech completed the project early under difficult circumstances (tr. 2/300).

The Request for Equitable Adjustment, Claim, and Final Decision

73. On 1 June 2012, Tetra Tech submitted its request for equitable adjustment (REA) to the successor CO, Ms. Hitch.[21] Tetra Tech requested a total of $1,202,417 for the extra cost of soil remediation due to Type 1 differing site conditions. (R4, tab 58 at 6 of 36) The enumerated differing site conditions included the leaking fire hydrant, the leaking water valves, perforated pipe running under the new construction area that had been identified as solid pipe in the drawings incorporated in the RFP, and perforated pipe adjacent to the construction that had been identified as solid (*id.* at 3 of 36). The enumerated cost elements were:

[21] Mr. Hall was removed as CO by the USPFO, COL Tracy, toward the end of May 2012 (tr. 2/302-03).

WORK PERFORMED	DIRECT COST	OVERHEAD, PROFIT, BOND	TOTAL
Remove unsuitable soil and backfill with stone	$587,017.76	$115,157.29	$702,175.05
Soil Cement	$229,322.56	$44,987.00	$274,309.56
Mud Mat for access road stabilization	$14,374.32	$2,819.86	$17,194.18
Geotechnical consulting services	$79,103.60	$15,518.03	$94,621.63
Miscellaneous services	$15,614.47	$3,063.14	$18,677.61
REA preparation costs to 5/14/12	$26,755.12	$36,871.02	$63,626.14
REA preparation cost estimated to complete	$13,377.56	$18,435.51	$31,813.07
TOTAL	$965,565.39	$236,851.84	$1,202,417.23

(*Id.* at 6 of 36)

74. CO Hitch apparently rejected Tetra Tech's REA on the basis of Mod 3, the contract modification that authorized and funded the change from a spread footer to a deep pile foundation for the building addition (tr. 2/183). On 5 September 2012, Tetra Tech resubmitted its REA as a claim (R4, tab 62). CO Hitch issued a final decision denying the claim on 28 November 2012 (R4, tab 63). The contracting officer's final decision (COFD) provides the following rationale:

> The subject claim has been reviewed and denied. The claim indicates that subsurface conditions encountered during construction excavations by Tetra Tech differed from conditions identified in the report by Tetra Tech's geotechnical firm, Haley & Aldrich.
>
> In reference to the Haley & Aldrich geotechnical investigations, the report was submitted and resulted in the issuance of Request for Proposal (RFP) #11 for Deep Foundation due to Differing Site Conditions. The resulting modification P00003 was signed by both parties on 30 September 2010.

The report provided by Haley & Aldrich is not the responsibility of the Government; therefore, the claim is unsubstantiated.

(*Id.* at 1)

75. CO Hitch testified at trial and answered questions regarding the reasoning underlying her COFD. Some representative excerpts follow:

Q Now I want to make sure I understand something right, and I might have misunderstood you. But when the government rejected Tetra Tech's REA and claim, it was based on Modification 3. Correct?

A Yes, sir.

Q And a modification is a change to the contract, isn't it?

A Yes, sir.

Q And so the government didn't say there was no differing site condition. What the government said is that differing site conditions was covered by Modification 3. Correct?

A There is another paragraph that talks about, on that modification, that is required by FAR.

Q We're talking about Modification 3.

A Mm-hmm.

Q We're talking about --

A (simultaneous speaking) that's on all modifications.

Q We're talking about the waiver language. Correct?

A The claim of the, I forget, I'd have to look at the mod, one of the mods to show you. It's a paragraph that, I think it's like paragraph 4. It's in all the modifications that we do.

....

Q But in any event, I want to back up. I'm talking about when you issued the denial of Tetra Tech's claim.

A Okay.

Q Okay? At that time you based it upon Modification 3, a change to the contract that had already been executed. Correct?

A Yes, sir.

Q You did not dispute that there was a differing site condition. What you said is, that condition was covered by Modification 3. Correct?

A Modification 3 covered those site conditions to determine the deep foundation.

Q Right. But I may not be making myself clear.

A Okay.

Q But the point was that those conditions that led to the claim were part of Modification 3 of the contract. Correct?

A Based on the Haley & Aldrich report, yes.

....

Q ...And it appears when I'm hearing this, the dispute's not whether it's a differing site condition. The dispute is that we've already paid for it under Modification 3.

A Dispute is we didn't find it as a differing site condition.

Q Excuse me?

A I believe the dispute is we didn't find it as a differing site condition.

Q That's not what your denial of the claim says, though, is it?

A That was the determination of Modification 3, is all site conditions at that point in time. So it has not differed from Modification 3.

(Tr. 2/206-09)

JUDGE O'SULLIVAN: All right. So to conclude, your understanding is that the Haley & Aldrich report, in so far as it addressed the likelihood of settlement in the soil, was that the part that was relevant to the deep foundation issue?

THE WITNESS: The soil conditions of that report, yes.

JUDGE O'SULLIVAN: And those would be the soil conditions where the addition was going into the building.

THE WITNESS: Correct.

JUDGE O'SULLIVAN: Correct? Okay. And that would have been, do you remember approximately, no, that's okay. We don't need to ask you that. All right. So what in your mind is the connection between the Haley & Aldrich report as it relates to the deep foundation and Mod 3, which was signed on 30 September 2010, and the soil conditions that Tetra Tech encountered when it started to excavate in December of 2010?

THE WITNESS: My understanding is the Haley & Aldrich report identified the soil conditions based on the testings that they had done and the different sites that they had taken. Okay? This was a team effort. And based on that discussions, okay? We had agreed that we had issued Modification 3. And then when the claim came in, there was, the site, the soil conditions were stated and what could happen in the Haley & Aldrich report. So it was no different than what was occurring. In other words, Haley & Aldrich had said these situations can occur and, therefore, it had not changed since Haley & Aldrich had issued their report. They identified conditions that could occur.

JUDGE O'SULLIVAN: Did the Haley & Aldrich report identify the existence of unsuitable soils?

THE WITNESS: I don't know exactly whether it did or not. It said that in certain conditions the soils could become unsuitable. It did identify that.

JUDGE O'SULLIVAN: So it identified a possibility.

THE WITNESS: Yes.

JUDGE O'SULLIVAN: Which at that point had not occurred.

THE WITNESS: Not at that time.

....

JUDGE O'SULLIVAN: So when in December 2010 Tetra Tech ran into unsuitable soils as they were excavating, how could that have given rise to the proposal for adjustment that led to Mod 3?

THE WITNESS: We looked at it as though the Haley & Aldrich report had told them that they may run into those conditions if we had bad weather. And we were into bad weather because they didn't get their permit in a timely manner in order to start excavation in September. They ended up starting in December.

(Tr. 2/220-24)

This Appeal

76. Tetra Tech filed its notice of appeal from the COFD on 22 February 2013 and its appeal was docketed as ASBCA No. 58568 by the Board on 25 February 2013. Subsequently, the Board raised a question regarding the validity of the certification of Tetra Tech's claim. The parties agreed to a stay of proceedings to allow Tetra Tech to

properly certify its claim and resubmit it to the CO. (Bd. corr., agreed mot. to stay dtd. 28 May 2013) The Board subsequently docketed appellant's appeal from the CO's decision on the re-certified claim as ASBCA No. 58845 on 23 August 2013. The two appeals were then consolidated.

DECISION

Tetra Tech claims entitlement to an equitable adjustment to compensate it for the additional cost it incurred in remediating soils saturated by leaking infrastructure which, it asserts, constituted a differing site condition under FAR 52.236-2(a)(1) and (2) (both Type I and Type II). Tetra Tech also claims that the government's actions in this case amounted to a breach of warranty, breach of its obligation to disclose information known to it (leaking infrastructure, perforated storm drains) that was relevant to subsurface conditions at the site, and breach of the implied duty of good faith and fair dealing.

The government contends that Tetra Tech has not established either a Type 1 or Type 2 differing site condition existed because it should have known before it bid, from the raw boring data contained in the Giles Report, that the site was saturated by groundwater at very shallow depths. Having known that, the government continues, Tetra Tech should have engaged in extensive dewatering before beginning excavation, and it cannot recover for expense that it incurred because it failed to do so. The government also disputes Tetra Tech's breach of warranty, superior knowledge, and breach of implied duty arguments.

The elements of a Type I differing site condition, which FAR 52.236-2(a)(1) defines as "subsurface or latent physical conditions at the site which differ materially from those indicated in this contract," are: (1) the condition indicated in the contract differs materially from those encountered during performance; (2) the conditions actually encountered were reasonably unforeseeable based on all information available to the contractor at the time of bidding; (3) the contractor reasonably relied upon its interpretation of the contract and contract-related documents; and (4) the contractor was damaged as a result of the material variation between expected and encountered conditions. *Optimum Services, Inc.*, ASBCA No. 58755, 15-1 BCA ¶ 35,939 at 175,653-54 (citing *Stuyvesant Dredging Co. v. United States*, 834 F.2d 1576, 1581 (Fed. Cir. 1987); and *Comtrol, Inc. v. United States*, 294 F.3d 1357, 1362 (Fed. Cir. 2002)). A contractor must prove these elements by a preponderance of the evidence. *Id.*

In this appeal it is undisputed that the contractor actually encountered a large volume of saturated, unsuitable soils during excavation of the project site. It is also undisputed that the only information on subsurface conditions that the government made available to Tetra Tech and the other bidders before bidding was the Giles Report, which was Appendix B to the Phase 2 solicitation and was incorporated into the contract upon award (findings 2, 5). The parties disagree on what the Giles Report indicated about the soils at the site.

The Contract Indicated that Soils at the Site Were Suitable for Construction

The Board has found that the Giles Report told bidders on the project to expect medium to stiff constructible soils with close to optimum moisture for compaction (finding 17). This finding is based on not only the characterization of the soils by the government's geotechnical engineers (Giles) but also on the data contained in the boring logs themselves (findings 5-16).

Giles conducted six test borings in all. No water was encountered during drilling at Boring Nos. 2 (terminated at 16 feet down) and 6 (also terminated at 16 feet down) (findings 9, 13). Water was encountered at 9 feet down at Boring No. 4, 11 feet down at Boring No. 1, and 14.5 feet down at Boring No. 3 (findings 10, 11, 13). Perched water was encountered 1.2 feet down at Boring No. 5, but thereafter no water was encountered down to the 21-foot termination depth (finding 12). Based on this data, Giles conservatively estimated the natural water table to be approximately 7 to 11 feet below ground at the test borings (finding 6; tr. 3/34).

The water content of the soil samples recorded in the Giles boring logs ranged from 7 to 17%. Above 10 feet, where most construction activities would take place, the water content did not exceed 13%. The government's expert, Mr. Weikel, testified that water content "in the high single digits to upper teens" for a silty clay, "in the mid-teens to upper teens" for "dense silts and clays," and "in the mid-teens" for dense silty clay, indicate that those materials are at or near saturation (findings 9-12).[22] However, his assertions appear to be directly contradicted by the Haley & Aldrich geotechnical report which determined that the optimum moisture contents for compaction at the site were between 8.7% and 12.2%, very close to the actual moisture contents recorded by Giles above 10 feet. (Finding 15)

Mr. Weikel also stated that the Giles Report described "soft, saturated unstable soils" or "soils with high moisture content well above optimum and near the liquid limit" (app. supp. R4, tab 314 at 2). At trial he testified that saturation levels directly correspond to the liquid limit, which is the point at which soils begin to act like a liquid and are not compactable (finding 14). However, that testimony was contradicted by Dr. Meehan, who testified that saturation does not equate to liquid limit and that the latter can only be reliably determined by a laboratory test called the Atterberg limits test (*id.*). Haley & Aldrich did perform the Atterberg limits test on the samples from their test borings, and reported that the liquid limits for the project soils ranged from 18% for sandy silt to 51% for clay soil (*id.*). None of the Giles test borings reported soil moisture content at these levels, nor did Giles describe any soil it sampled as soft, saturated, or unstable.

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[22] Mr. Weikel did not cite to any authoritative source, either in his expert report or in his testimony, for his statements equating percentage water content in the high single digits or mid or upper teens with saturated soil.

Both geotechnical engineers (Dr. Meehan and Mr. Shelton) testified that the Giles Report in its entirety, including the raw data in the boring logs, described generally stiff, constructible soils with only occasional isolated anomalies such as the perched water at Boring No. 5. Mr. Shelton of Haley & Aldrich testified that he was surprised when he was called out to the site and observed the saturated soils that Tetra Tech began to encounter during excavation, because "I did not see anything in our soil borings or the Giles report that would lead me to believe that those soils would be that soft and saturated, as what I observed when I visited the site." (Tr. 3/221-22) Dr. Meehan testified that the soils in the Giles Report were "described as stiff quite frequently, sometimes you would see dents were medium or firm there were a few instances where things fell outside of that range but the predominant description of the in situ condition of the soils was something like medium to stiff" (finding 8). There was not a lot of soft soil in the Giles borings (*id.*), nor did the report or the boring data indicate saturated soils (tr. 3/24-25). Dr. Meehan also observed that the Giles and Haley & Aldrich reports were generally consistent and made similar recommendations with respect to constructibility issues, with the major difference between the two being the foundation recommendations for the building addition (tr. 3/24).

We think it necessary to also address the Haley & Aldrich report here briefly since CO Hitch appeared to testify that Tetra Tech's claim was denied because the conditions encountered by Tetra Tech during excavation were conditions that had already been identified in the Haley & Aldrich report (and therefore were not differing site conditions):

> And then when the claim came in, there was, the site, the soil conditions were stated and what could happen in the Haley & Aldrich report. So it was no different than what was occurring. In other words, Haley & Aldrich had said these situations can occur and, therefore, it had not changed since Haley & Aldrich had issued their report. They identified conditions that could occur.

(Finding 75) CO Hitch appeared to believe that the soil conditions indicated in the Haley & Aldrich report that led to the recommendation for a deep foundation were the same as, or related to, the soil conditions Tetra Tech encountered at subgrade that required remediation:

> Q But the point was that those conditions that led to the claim were part of Modification 3 of the contract. Correct?
>
> A Based on the Haley & Aldrich report, yes.
>
> ....

Q And it appears when I'm hearing this, the dispute's not whether it's a differing site condition. The dispute is that we've already paid for it under Modification 3.

A Dispute is we didn't find it as a differing site condition.

Q Excuse me?

A I believe the dispute is we didn't find it as a differing site condition.

Q That's not what your denial of the claim says, though, is it?

A That was the determination of Modification 3, is all site conditions at that point in time. So it has not differed from Modification 3.

(*Id.*)

As we see it, there are arguably two components to this position. The first is that the subgrade conditions requiring remediation were not differing site conditions because they were identified by the Haley & Aldrich report. Both geotechnical engineers who testified, one of whom was the author of the Haley & Aldrich report, emphatically refuted this notion. But *even if it were true,* it would not defeat a claim for differing site conditions because the issue is whether the conditions encountered differed materially from the *conditions indicated in the contract and upon which the contractor based its bid*, not from conditions discovered after contract award. The second component is that Mod 3 foreclosed any additional compensation to Tetra Tech for conditions discovered in December 2010 because those conditions were the same or similar to the soil conditions that formed the basis for the modification. But, as Mr. Shelton testified, the Haley & Aldrich recommendation for a deep foundation, which was accepted by Mod 3, was based on its analysis of the settlement characteristics of the soils at depths of 20 to 30 feet below ground, and had nothing to do with the saturated soils closer to the surface that were discovered during excavation (tr. 3/230-31). We conclude for these reasons that neither the Haley & Aldrich report, nor Mod 3, foreclose Tetra Tech's claim.

During Excavation Tetra Tech Encountered a Large Quantity of Saturated Unsuitable Soils Requiring Remediation

What conditions were actually encountered by the contractor is a question of fact. *Arundel Corp. v. United States*, 515 F.2d 1116, 1123 (Ct. Cl. 1975). Tetra Tech presented testimony from several witnesses and documentary evidence of soft, saturated, "soupy" soils in several discrete areas encountered during excavation that required undercutting and backfill or soil cementing in order to be able to proceed with the work (findings 23-27, 32, 34-35, 38-42, 48-50, 52-53, 55). There is also ample evidence in the record of leaking infrastructure either in close proximity to the problem soil or situated so as to facilitate the transport of substantial quantities of water continuously to areas where

saturated soils were encountered (*id.*, findings 70-71). Tetra Tech timely notified the government of these conditions and afforded the government the opportunity to investigate (findings 23-27, 32, 34-35, 38-42, 48-50, 52-53, 55). The government does not dispute the actual conditions encountered by Tetra Tech, the timeliness of the notifications, or the necessity of the remediation measures employed.

The Conditions Indicated in the Contract Differed Materially from Those Actually Encountered

The government's defense relies on the proposition that the soft, soupy, saturated soils encountered by Tetra Tech during excavation for the project did not materially differ from the conditions disclosed by means of the Giles Report prior to bidding. Thus, the government's geologist, Mr. Weikel, testified at length that the test borings in the Giles Report depicted soils at or near saturation and very near, if not at, their liquid limit (findings 9-12, 14). Mr. Weikel in his expert report relied on the data from Haley & Aldrich Boring No. 8 and the Haley & Aldrich recommendation to design for groundwater at one-foot below the surface to assume that the site had a very high natural water table (one-foot below ground level) and opined that Tetra Tech should have planned to institute a site-wide dewatering system well in advance of attempting excavation (finding 16). The government does not contest that Tetra Tech encountered leaking infrastructure but argues either that its effects were disclosed in the Giles Report or that its contribution to conditions at the site was insignificant compared to the totality of groundwater present from other sources.

The government's arguments are not supported by the preponderance of the evidence. We have found as fact that the Giles Report told bidders to expect medium to stiff constructible soils with close to ideal moisture content for compaction and warned neither of saturated soupy soils nor leaking infrastructure (finding 17). We have also found as fact that the saturated unsuitable soils were not caused by a high natural water table or by precipitation, but by the undisclosed leaking infrastructure (findings 46-47, 57-58, 64, 68-69). Tetra Tech has carried its burden of proving that the conditions it actually encountered differed materially from the conditions indicated in the contract.

The Actual Subsurface Conditions Were Not Reasonably Foreseeable

The contract contained a provision in General Conditions (3.04, Site Investigation) obligating the contractor to satisfy itself as to the "character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government and/or available from the using agency" (finding 2). A companion clause, 3.05, Conditions Affecting the Work, required the contractor to "ascertain the nature and location of the work and the general and local conditions, which can affect the work or the cost thereof" (*id.*).

Tetra Tech conducted a site visit along with other bidders during which the bidders were limited to visual observation–no invasive investigation was allowed. Tetra Tech did not observe anything during the site visit that would have led it to question the characterization of subsurface conditions contained in the Giles Report. (Finding 7) Nor does the government argue that it could have or should have. Rather, the government argues that the conditions actually encountered at the site were reasonably foreseeable based on the contents of the Giles Report, with three variations: (1) the "very moist" soil conditions Tetra Tech encountered were as reported by Giles, which characterized the soil as "moist" or "moist to wet" (gov't br. at 45); (2) the Giles Report warned against the effects of adverse weather which Tetra Tech encountered when it excavated in December of 2010 (*id.* at 46-47); and/or (3) the Giles Report data warned of soil at or near the liquid limit, "dangerously close to saturation" so that a reasonable contractor would expect soil instability (*id.* at 48). We have already found that (1) the saturated unsuitable soils encountered by Tetra Tech differed materially from the medium to stiff constructible soils described in the Giles Report; (2) the saturated soils requiring remediation were not caused by weather but by leaking infrastructure that was not disclosed to the bidders, including Tetra Tech; and (3) the moisture contents reported in the Giles Report did not equate to saturated or unstable soil but to constructible soils with close to optimum moisture content for compaction.

The government also argues that Tetra Tech withheld a key piece of information by not informing the government that the Haley & Aldrich report boring results were affected by a major snowstorm (of which certainly all government personnel on site were well aware) until it ran into the saturated soils (gov't br. at 48-49). The relevance of this line of argument to the foreseeability issue is not clear to us, but in any event we do not find the assertion that Tetra Tech "withheld" key information to be supported by the record. Finally, the government asserts that the soil conditions encountered by Tetra Tech were "entirely foreseeable" given the site's close proximity to the Chesapeake Bay and the fact that excavation commenced in the winter (*id.* at 49). This assertion is not further explained or supported except by the statement that the boring logs contained in the two geotechnical reports showed the presence of "high groundwater." The government has not established any connection between either proximity to the Chesapeake Bay, or the season, and the saturated subgrade conditions at the site. Therefore, we do not further address this assertion. Tetra Tech has proven by a preponderance of the evidence that the conditions it encountered at the project site were not reasonably foreseeable.

Tetra Tech Reasonably Relied on the Contract Indications of Subsurface Conditions

To prevail on a differing site conditions claim, the contractor must have reasonably relied on the contract representations as to subsurface conditions. *H.B. Mac, Inc. v. United States*, 153 F.3d 1338, 1345 (Fed. Cir. 1998); *Optimum Services*, 15-1 BCA ¶ 35,939 at 175,657. Reliance is unreasonable when a contractor has independent reason to know a representation may not be accurate. *International*

Technology Corp. v. Winter, 523 F.3d 1341, 1352 (Fed. Cir. 2008); *Optimum Services*, 15-1 BCA ¶ 35,939 at 175,657. The fact that representations as to subsurface conditions are labeled as "for information only" or that the contract contains a requirement that the contractor perform further subsurface investigation after award does not deprive a contractor of the right to rely on the government's pre-contract representations. *Metcalf Constr. Co. v. United States,* 742 F.3d 984, 995-96 (Fed. Cir. 2014).

The government concedes that all Tetra Tech had when preparing its proposal was the Giles Report (gov't br. at 39). However, it argues that Tetra Tech had the opportunity to "adjust its proposal" on the basis of the more detailed Haley & Aldrich report which the contract required it to obtain for purposes of "planning, design, quantity and cost estimating, and determining the construction feasibility of the project" (gov't br. at 39-40). The government does not explain how it thinks Tetra Tech could have "adjusted its proposal" after contract award based on the Haley & Aldrich report, given Haley & Aldrich's conclusion that its boring data was skewed by snowmelt from a significant snowfall and the Giles data was more representative of the normal site conditions. Nor can this argument be squared with the government's rejection of the REA that Tetra Tech submitted after it discovered the unsuitable subgrade soils. Ultimately, the government's argument in this regard devolves into a repetition of the propositions, which we have already rejected, that both the Giles and Haley & Aldrich reports warned of soils "at or near saturation," and that Tetra Tech's December 2010 excavation activities were affected by adverse weather (gov't br. at 40-43). The government also observes that Tetra Tech lacked any prior experience working at Aberdeen Edgewood, but fails to demonstrate the relevance of that fact to the issues before us.

We find that Tetra Tech has established by a preponderance of the evidence that it reasonably relied on the contract indications that the soils at the site were medium to stiff constructible soils.

Tetra Tech Suffered Injury as a Result of the Differing Site Conditions

Tetra Tech has shown by a preponderance of the evidence that the need to remediate unsuitable soils caused it unanticipated expense to undercut, remove the bad soils and backfill with suitable fill material in the most severely affected areas, to soil cement in other areas, to construct temporary access roads, and to incur other unanticipated expenses including additional geotechnical consulting fees, and the costs of REA preparation (findings 26, 29, 31-32, 34, 52-53, 55, 57-58, 70).

The government argues that Tetra Tech incurred the extra expense of soil remediation not as the result of differing site conditions, but as a result of its failure to heed the alleged warnings in the geotechnical reports and conduct comprehensive dewatering prior to commencing construction (gov't br. at 50-53). Further, it states that a "reasonably prudent contractor lacking experience working at Aberdeen Edgewood should have planned for more systematic dewatering to be safe and to account for any

additional soil moisture in this specific geographic area" (*id.* at 51). No evidence of record is cited to support this last statement. Indeed, there is no evidence in the record that anyone actually involved in the project, government or contractor, ever opined to Tetra Tech that systematic dewatering was called for prior to excavation.[23]

The government's expert, Mr. Weikel, did opine that a site-wide dewatering plan should have been instituted six to eight months prior to commencing construction (tr. 5/101, 107). However, Mr. Shelton of Haley & Aldrich testified that site-wide dewatering would make sense only if the water table was very close to the ground surface, which was not the case at the project site, and would not necessarily address the conditions that Tetra Tech encountered, which were "isolated zones of soil at a particular depth that were just soft and saturated" (finding 62).

We find that Tetra Tech has proved by a preponderance of the evidence that it was injured by the differing site conditions. It is entitled to recover its additional costs of performance caused by the Type I differing site conditions.

Alternate Grounds for Recovery

Tetra Tech advances alternate grounds for recovery: Type II differing site conditions, breach of warranty of specifications, breach of contract by reason of failure to disclose leaking infrastructure, and breach of implied duty of good faith and fair dealing. Tetra Tech does not seek additional amounts under any of these alternate theories. (App. br. at 155-65) Having found Tetra Tech entitled to its increased costs of performance due to Type I differing site conditions, we do not address its alternate theories of recovery.

[23] The sole exception could be CO Hall, who in his correspondence rejecting Tetra Tech's REA alleged both that there had not been timely notification of the differing site conditions and that Tetra Tech had not instituted a dewatering plan in accordance with the Haley & Aldrich recommendation (finding 30). Tetra Tech in response pointed out that the recommendation was for temporary dewatering during excavation as needed, which was done, not dewatering as a means of permanently enhancing the subgrade (finding 31).

CONCLUSION

The appeal is sustained and is hereby remanded to the parties for determination of the quantum of adjustment.

Dated: 15 November 2016

LYNDA T. O'SULLIVAN
Administrative Judge
Armed Services Board
of Contract Appeals

I concur

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

I concur

RICHARD SHACKLEFORD
Administrative Judge
Vice Chairman
Armed Services Board
of Contract Appeals

–Attachment

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA Nos. 58568, 58845, Appeals of Tetra Tech Facilities Construction, LLC, rendered in conformance with the Board's Charter.

Dated:

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

ACRONYM GLOSSARY

APG—Aberdeen Proving Ground

CFMO—Construction Facilities Maintenance Officer

DPW—Department of Public Works

LOD—limits of disturbance

MDRANG—Maryland Army National Guard/Maryland Military Department

MDE—Maryland Department of the Environment

QA—quality assurance

SWPPP—Stormwater Pollution Prevention Plan

USPFO—U.S. Property and Fiscal Officer