

# In the United States Court of Federal Claims

No. 98-326C  
(Filed July 30, 2001)

<p>*****</p> <p><b>BALDI BROS. CONSTRUCTORS,</b></p> <p>Plaintiff,</p> <p>v.</p> <p><b>THE UNITED STATES,</b></p> <p>Defendant.</p> <p>*****</p>	<p>*</p> <p>*</p> <p>*</p> <p>Contracts; Contract Disputes Act, 41 U.S.C. ' ' 601-613 (1994 &amp; Supp. V 1999); differing site conditions; assessment of equitable adjustment; total cost method; reasonableness of bid.</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p>
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William J. Braun, San Diego, CA, for plaintiff.

Michael F. Kiely, Washington, DC, with whom was Acting Assistant Attorney General Stuart E. Schiffer, for defendant.

## OPINION

MILLER, Judge.

This case is before the court after trial on damages generated by a differing site condition. Plaintiff's claim hinges on the reasonableness of its bid, which is the starting point for the damages claimed.

## **FACTS**

On May 17, 1995, the United States Department of the Navy (the ANavy@) awarded Contract No. N62470-95-C-5035 1/ to Baldi Brothers Constructors (Aplaintiff@), a small, family-owned corporation of five principals who are brothers or first cousins, based in Beaumont, California. The contract called for construction of a Multi-Purpose Training Range Project 2/ at the United States Marine Corps Base, Camp Lejeune, North Carolina. Among the range features plaintiff was responsible for constructing were a new multi-purpose M-1 Tank training facility, a control tower, an operation/storage building, field service heads, Armor Moving Target Carrier (AMTC) 3/ emplacements and shelters,

Stationary Infantry Targets (SITs), 4/ and Stationary Armor Targets (SATs), 5/ defilade positions, 6/ and associated on- and off-site improvements.

As 99% of plaintiff's work is federal-contract based, plaintiff was encouraged to bid on the project, which had been previously bid without an award, by Vernon Petty, a Design Engineer, with the Huntsville Division of the Army Corps of Engineers. Plaintiff had worked on several other projects with the Huntsville Division, which designed the Camp Lejeune project.

Before deciding to bid on the project, Salvatore Pasquale (APat@) J. Baldi, a partner and plaintiff's Operations Manager, and Michael (AMike@) V. Baldi, plaintiff's General Manager, visited the site in Jacksonville, North Carolina. 7/ In preparing its bid, plaintiff relied mainly on the plans and the contract documents. Pat Baldi testified that he has been working on estimating dirt projects since [he] was 16 years old, and that he was responsible for the earthwork estimates for the Camp Lejeune bid. Considerations included in the earthwork estimate were type of soil, grade of the project site, amount of dirt to be cut and filled, and distance between the areas to be cut and filled. The boring logs accompanying the bid documents represented the soils underlying the site as well-graded silty/sand, which is suitable for excavation using conventional earthmoving equipment. The topographic map showed the project site as very flat. According to the project plans, the north and south tank trails to be constructed ran parallel to each other with connections only at one end. The tank trails required cutting of dirt, while the targets required fill soil. Because neither the contract documents nor the plans revealed indications about federally protected wetlands or prohibited areas, plaintiff assumed that its equipment could utilize the shortest route between the service road and target construction sites. Based on the information available to Pat Baldi from the contract specifications and his visit to the general area, he created an earthwork estimate assuming that the dirt would be suitable for cutting and filling on-site and that the earthmoving equipment could move rapidly through the area.

Initially, the contract was to be completed within 550 calendar days, *i.e.*, by November 18, 1996, for a total amount of \$5,629,000.00. However, through unilateral and bilateral contract modifications, the contract duration was increased by 97 calendar days to 647 calendar days, ultimately extending the deadline to February 28, 1997. 8/ At plaintiff's request, beginning with Modification No. P00014, the Navy included the following language in each of the contract's definitized modifications:

This modification provides full compensation for the cost of the changed work and an appropriate adjustment of the contract completion date for the changed work. However, the Contractor may request additional compensation for other work and further time extensions which, in the future, may be justified as the indirect result of this modification. The

Contractor agrees that it will immediately notify the Officer in Charge of Construction in writing as soon as it is recognized that other contract work is effected [sic] as the result of the changed work covered by this modification. The contractor acknowledges that failure to provide such notice will result in prejudice to the Government and agrees that the Government shall not be responsible for any costs or time extensions based on events 10 days prior to such notice.

Plaintiff substantially completed all contract work by January 29, 1997.

The contract modifications were necessary, in no small part, because the contract failed to identify the project site as a federally protected wetlands. On July 13, 1995, at the partnering meeting between plaintiff and the Navy, plaintiff first learned from Mr. Petty that some wetland issues needed to be addressed. The Navy instructed plaintiff not to remove the trees from the wetlands, nor to drag through the wetlands the trees removed from the areas to be cut and filled. <sup>9/</sup> Gradually, plaintiff came to appreciate the full meaning of the wetlands designation: Plaintiff could not operate heavy equipment within the wetlands or outside the limits of the tank trail, service road, and access road areas as originally planned. In November 1995 the Navy provided plaintiff with a wetlands designation map, which depicted approximately 80% of the site as untouchable wetlands areas.

During the course of construction, plaintiff encountered various subsurface conditions that it did not expect, including saturated peat marsh, super-saturated clays, subsurface water, and other unsuitable soil types. These soils were not the conditions shown on the boring logs incorporated into the contract. At a November 8, 1995 meeting, plaintiff informed the Navy that it believed the soil conditions constituted a compensable differing site condition. Plaintiff duly notified the Navy by letter of November 9, 1995. Nonetheless, throughout the remainder of the contract duration the Navy refused to recognize plaintiff's differing site conditions claim.

The unexpected soil conditions required plaintiff to modify its sequence of work, which plaintiff claims increased the costs of construction. Plaintiff had intended to employ conventional earthmoving scrapers to perform the cut/fill work. Specifically, scrapers would be used for the excavation and embankment work in a single cut-to-fill operation, but due to the nature of the soil, plaintiff was unable to use scrapers for the earthmoving work. <sup>10/</sup> Plaintiff then sought permission to de-mobilize its earthmoving scrapers. The Navy would not allow plaintiff to de-mobilize this equipment until January 29, 1996. <sup>11/</sup> Plaintiff removed its scrapers from the site on February 9, 1996. Consequently, from October 19, 1995, through January 29, 1996, the scrapers stood by unable to be put to work.

On October 30, 1995, the Navy directed plaintiff to provide more site de-watering,

to stockpile and dry out unsuitable soil materials, and to provide additional trenching and drainage improvements. On December 13, 1995, the Navy directed plaintiff to stockpile the existing soils, rather than use them for construction of the tank trail, service, and access roads. Due to the wetlands designation, plaintiff was unable to stockpile materials in locations other than the tank trail and service and access roads.

On December 14, 1995, the Navy ordered plaintiff to stop work until the issue involving the tank trail design was resolved. Work ultimately was suspended until January 7, 1996. In the meantime, on December 19, 1995, the Navy directed plaintiff to modify the tank trail design for a 1,500-linear-foot test section and, by unilateral modification, authorized the sum of \$42,000.00 for construction of this modified design. Plaintiff commenced the modified tank trail work on January 8, 1996, but thereafter suspended performance of the work on January 15, 1996, citing inadequate funding.

On February 7, 1996, the Navy further modified the tank trail design due to the soil conditions. Plaintiff did not start this work immediately because it lacked the authorized direction to proceed and authorization for funding. Plaintiff submitted Cost Proposal (ACP) No. 5 to the Navy on February 20, 1996, seeking \$1,664,152.73 for the direct costs associated with this changed scope of work, as well as \$324,453.00 for the anticipated delay costs.

On February 29, 1996, the Navy instructed plaintiff to prepare its CP No. 5 in a particular format to be used as part of project site modification negotiations with the Navy during the week of March 4, 1996. During negotiations the Navy presented different equipment production rates and estimates, as well as different earthwork quantities than those used by plaintiff in calculating costs. <sup>12/</sup> At the conclusion of these negotiations, the Navy offered plaintiff a zero-dollar trade to implement the tank trail design changes, which plaintiff rejected.

On March 25, 1996, the Navy again modified the tank trail design. Plaintiff submitted CP No. 6R on March 26, 1996, seeking compensation totaling \$166,592.00 for delays associated with changes to the tank trail design and soil conditions. Plaintiff proceeded with the modified tank trail work, but then suspended its work on or about March 28, 1996, due to lack of authorized funding.

On April 3, 1996, the Navy offered plaintiff a best and final offer to perform the modified tank trail work for \$320,241.00, which plaintiff rejected. On April 9, 1996, the Navy issued Definitized Modification No. 10 in the amount of \$220,241.00 for the tank trail work changes. Plaintiff refused to sign this modification, which would have waived its rights to additional compensation. Thereafter, the Navy issued Unilateral Modification No. 10 for the modified tank trail work, not to exceed \$322,041.00. On April 15, 1996, the Navy directed plaintiff to proceed with all remaining work on the

contract under protest and to pursue any increased costs of performance associated with the tank trail work under the Contract Disputes Act, 41 U.S.C. ' ' 601-13 (1994 & Supp. V 1999) (the ACDA@).

On April 18, 1996, plaintiff encountered unworkable soil conditions between Stations 70+00 and 82+00 and notified the Navy that it was unable to proceed with the service road work in that area. Plaintiff was required to suspend the tank trail and service road work between those two stations and relocate to alternate areas of work. On May 7, 1996, plaintiff notified the Navy that it had encountered unworkable soil conditions, preventing its ability to make progress on the north and south trail work. Tank trail work was suspended until conditions improved. Ultimately, in areas where plaintiff found severe soil conditions, the Navy directed it first to suspend work and then to place a double mat of geogrid and extra ABC rock 13/ in order to stabilize the soil conditions.

Plaintiff completed all tank trails, service, and access road work by October 24, 1996. The Navy conducted the final inspection on February 27, 1997, and took beneficial occupancy of the project site by April 22, 1997. Via letters dated July 16 and 31, plaintiff made written claims for equitable adjustment to the contract in the amount of \$1,528,537.00 for the aforementioned differing site conditions, constructive changes, directed changes, compensable delays, disruptions, and suspensions of work. The claims were certified properly, as required by the CDA, and on March 3, 1998, the contracting officer issued a final decision denying any entitlement to additional compensation.

## DISCUSSION

### 1. Differing site conditions

A major factor in bidding on a construction contract, especially one involving earthwork, is the condition of the site to be worked on. Site conditions that are different from those presented by the Government, or presumed by a contractor, can result in dramatically increased costs. Pursuant to 48 C.F.R. (AFAR@) ' 52.236-2 (1984), which is incorporated into the parties= contract, Type I differing site conditions are defined as A subsurface or latent physical conditions at the site which differ materially from those indicated in th[e] contract.@14/ See also Randa/Madison Joint Venture III v. Dahlberg, 239 F.3d 1264, 1269 (Fed. Cir. 2001); Caldera v. J.S. Alberici Constr. Co., Inc., 153 F.3d 1381, 1382 (Fed. Cir. 1998).

In order to succeed on a claim for differing site conditions, the contractor must A promptly . . . give a written notice to the Contracting Officer@ of the differing conditions before the conditions are disturbed. FAR ' 52.236-2. Plaintiff Ais charged with notice of the information appearing@ in contract documents, such as field logs, boring samples, and topographical maps. Flippin Materials Co. v. United States, 160 Ct. Cl. 357, 363, 312 F.2d 408, 412 (1963). Conversely, A the Government is liable for damage attributable to

misstatements of fact (in a contract or specifications) which are representations made to the contractor.@ Flippin, 312 F.2d at 413; see also Hollerbach v. United States, 233 U.S. 165 (1914); United States v. Spearin, 248 U.S. 132 (1918); Railroad Waterproofing Corp. v United States, 133 Ct. Cl. 911, 137 F. Supp. 713 (1956). Where the Government has provided misleading information to a contractor, the Government is not relieved from liability by general contractual provisions requiring the bidder to investigate the site or satisfy himself of conditions, or stating that the United States does not guarantee the statements of fact in the specifications, etc.@ Flippin, 312 F.2d at 413.

In the case at bar, plaintiff alleged that the saturated peat marsh and super-saturated clays at Camp Lejeune constituted Type I differing site conditions. The designation of a large portion of the site as federally protected wetlands, coupled with photographs that dramatically portray the extent of the designation, establish that the construction site was largely wetlands, which was not ascertainable from the contract specifications or other information provided by the contract bid documents, or a site inspection. Thus, defendant wisely chose to stipulate to the differing site condition.

## 2. Damages

It is well-settled law that the Government must answer in damages where it has thus mislead one of its contractors.@ Railroad Waterproofing, 133 Ct. Cl. at 915, 137 F. Supp at 715; see also United States v. Atlantic Dredging Co., 253 U.S. 1 (1920). Plaintiff claims entitlement to an equitable adjustment due to the differing site conditions for the following: 1) increased direct costs of performance; 2) overhead for both the extended field office and home office and equipment stand-by expense as costs of delay; and 3) additional costs incurred by its subcontractor Brey Electric.

### 1) Total-cost method

Due to the massive and continuous changes to the earthwork activities on this [p]roject, it was not possible for [plaintiff] to discretely track the actual increased costs of performance incurred . . . .@Pl.'s Br. filed Apr. 12, 2001, at 9. Plaintiff so explains and thereupon invokes the total cost method of calculating damages, or in the alternative, the modified total cost method. The total cost method of damages, which provides the difference between the contract price and the actual costs, necessarily assumes that the original bid was an accurate reflection of a reasonable cost, and that all costs in excess of that had to be attributable to the differing site condition.@ Servidone Constr. Corp. v. United States, 19 Cl. Ct. 346, 384 (1990), aff'd, 931 F.2d 860, 863 (Fed. Cir. 1991). Trial courts are advised to use this method with caution because bidding inaccuracies can create an unrealistically low estimate of the contractor's costs, and performance inefficiencies can increase the costs incurred. Id., 931 F.2d at 861-62.

In order to substantiate damages under the total cost method, plaintiff must establish: 1) the impracticality of proving actual losses directly; 2) the reasonableness of its bid; 3) the reasonableness of its actual costs; and 4) lack of responsibility for the added costs. Servidone, 931 F.2d at 861; WRB Corp. v. United States, 183 Ct. Cl. 409, 426 (1968). The modified total cost method allows the court to adjust a claim when a contractor's initial bid is found unreasonable by substituting a reasonable bid amount into the calculations. However, both types of total cost claims, modified or not, similar to the Ajury verdict method,<sup>15/</sup> are not favored and should only be resorted to when actual costs cannot be determined.<sup>16/</sup> Dawco Constr., Inc. v. United States, 930 F.2d 872, 881 n.3 (Fed. Cir. 1991).

The designation of a large portion of the construction site as wetlands was the equivalent of the 800-pound gorilla landing on plaintiff's plans for performing the contract. Plaintiff's testimony, largely from Pat Baldi and Debbie J. Saunders, plaintiff's Project Manager who had worked with plaintiff for over 20 years, diminished neither by defendant's cross-examination nor the Navy's unimpressive fact witnesses, detailed how the changed requirements impacted plaintiff's planned operations.

Plaintiff handily satisfies two of the four requirements: the impracticability of proving actual losses directly and plaintiff's lack of responsibility for the added costs. Before plaintiff even began its construction work on the site, it received information requiring it to change its planned operations. The Navy neither timely nor adequately responded to plaintiff's requests for information and direction concerning the soil conditions. Due to the changed site conditions, from the beginning of the project: Work was frequently halted, re-designed, re-designed again when the re-design failed, re-started in a different direction, and re-done (in the instance of a collapsing road); in addition, land required re-drainage, roads were constructed deeper and with more fill material than originally called for, and multiple large vehicles became stuck in the muck and blue goo, as Pat Baldi phrased the conditions, including the off-road dump trucks that plaintiff had rented on the Navy's recommendation.<sup>17/</sup> In short, due to the snowball effect of the wetlands on the project plans, it would be easier for plaintiff to identify the items of contract performance that proceeded as planned, rather than the difference in costs between all aspects of the original plan and the work that the deviations occasioned.

With respect to plaintiff's responsibility for any of the additional costs that it incurred, the evidence shows that the wetlands affected the entire project site and that the conditions were exacerbated by natural causes, such as heavy rain. Plaintiff maintains that the delays and increased costs from rain do not preclude compensation for the differing site conditions. The general rule is that the risk of severe weather in a particular region is not shifted to the Government via the Differing Site Conditions clause. Hardeman-Monier-Hutcherson, A Joint Venture, 68-2 BCA & 7,220 (delays to pier construction caused by rough seas did not constitute changed condition). However, when

severe weather interacting with an undisclosed property of the construction site delays construction, the Government has been held responsible. D.H. Dave & Gerben Contracting Co., 1962 BCA & 3,493 (excessive rainfall in interaction with drainage area rendering specified performance impossible held changed condition).

## 2) Increased cost of performance and the reasonableness of plaintiff's bid

Plaintiff claims \$819,997.00 in increased performance costs due to the differing site condition. 18/ Ms. Saunders is responsible for preparing most bids and testified regarding her preparation of the Camp Lejeune bid. After Pat and Mike Baldi returned from their Camp Lejeune pre-bid area visit and decided that plaintiff would bid on the project, Ms. Saunders sat down with the Estimators<sup>@</sup>19/ to decide how long they felt the project would take to complete. Ms. Saunders then bid the General conditions<sup>@</sup> based on the projected completion time, which was 15 months, or 65 weeks, or 458 days. 20/ She prepared the bid using the Lotus spreadsheet program to compile information submitted by various personnel. At trial Ms. Saunders discussed the spreadsheet with the appropriate formulas for time- dependent costs. Project staffing was based on a 65-week project duration, but certain costs were measured by months, weeks, or days. 21/ Home office overhead, profit, and bond then were spread among the various line items according to a pro rata formula, whereby a certain percentage of a line item total was derived and added back into the line item. 22/ Plaintiff's final bid was \$5,629,000.00, the lowest bid that the Navy received.

The most contentious portion of the bid is line item code 2220, General Excavation, [sic] And Backfill,<sup>@</sup> which deals with earthwork. Pat Baldi, referring to handwritten worksheets, testified at length as to his methodology in preparing the earthwork estimate. Relying on the contract drawings, the boring logs, and the topography of the site, he determined that scrapers would be the appropriate equipment to use in cutting and filling of dirt. Based on the contract drawings, Pat Baldi determined that dirt cut from one area of the project could be transported on site and used as fill in another portion of the project, as nothing in the specifications stated that fill dirt must come from an outside source.

Once Pat Baldi determined what earthmoving equipment would be necessary for the dirt work, he began calculating the daily costs for the equipment and labor, 23/ the amount of dirt that could be moved in one day, and the cost per cubic yard (ACY<sup>@</sup>). Plaintiff planned to ship its equipment from California to North Carolina via train, a one-month trip each way, and, thus, according to Pat Baldi, the rates used in calculating the equipment costs were excessive<sup>@</sup> to make up for the standby travel time.

The computer-generated worksheet entitled General Excavation, [sic] And Backfill<sup>@</sup> shows, at line 2.01, 106,995 CY of bulk cut at a rate of \$1.17 per CY, 24/



yielding a cost estimate of \$125,184.15 for all the cut and fill work. <sup>25/</sup> For the daily production rate, Pat Baldi calculated the volume of the cuts and fills, and the distances between them, from which he derived the average amount of cubic yardage and average distance between the cuts and fills. The length of the project from the last target to the tower is approximately 1.9 miles, or 10,000 feet, and the average distance between cuts and fills is 2,000 feet. Pat Baldi then consulted the Caterpillar Performance Handbook (the Handbook<sup>@</sup>) to obtain a production rate for the scrapers over a distance of 2,000 linear feet, which he determined to be 500 CY per hour. Thus, for four scrapers running for eight hours, the production would be 16,000 banked cubic yards (BCY<sup>@</sup>). <sup>26/</sup> However, before calculating the cost per cubic yard, Pat Baldi applied a safety factor<sup>@</sup> of 25% to the 16,000 BCY to account for production inefficiencies, which reduced the amount of BCY the scrapers could produce in one day to 12,000. The cost per day subtotal (\$13,731.70) divided by the daily production rate (12,000 BCY) yielded a production cost of \$1.14 per BCY. After discussing his calculated daily production costs with his uncle, Pat Baldi adjusted the cost per day to \$1.17 to be safe.<sup>@</sup> The topsoil stripping work production rate, line 2.04 on the same worksheet, was determined through a separate calculation process similar to the one for cut and fill work, but utilizing less labor and equipment.

Plaintiff entered into evidence relevant pages of the Handbook enabling Pat Baldi to illustrate the precision involved in determining a production rate for a 637D scraper. The Handbook provides a Distance vs. Production<sup>@</sup> chart to determine a scraper's production rate over a certain distance. The chart is relatively straightforward, with Distance One Way<sup>@</sup> as the x-axis, Bank Volume/[Hour]<sup>@</sup> as the y-axis, and three production curves with negative slopes that start high on the y-axis at a distance of 200 feet, and curve down in a non-linear manner as they follow the x-axis. In other words, the curves show that the production rate per hour decreases the further the distance traveled.

To use the chart, one simply finds the distance traveled on the x-axis (2,000 feet in this case) and then draws an imaginary line up until it intersects with one of three curves. The three curves represent production rates at different efficiencies for the machines: 2%, 6%, and 10%. <sup>27/</sup> The lower the percentage, the higher the efficiency. A separate table in the Handbook provides guidance for selecting the proper efficiency curve.

Pat Baldi earnestly testified that a production rate of 12,000 CY per day with a 2000-foot haul distance had been achieved in the past and that he had in fact achieved over 26,000 [cubic] yards a day with . . . five scrapers,<sup>@</sup> because plaintiff grooms its work surfaces meticulously. Although Pat Baldi has been working in this business since he was old enough to pick up a shovel,<sup>@</sup> and has been doing earthwork estimates since he was 16, his daily production rates for Camp Lejeune were optimistic, to say the least. Pat Baldi chose the 2% curve in determining the per machine production rate of 500 BCY.

The Handbook describes the following conditions as warranting the 2% curve: AA hard, smooth, stabilized surfaced roadway without penetration under load, watered, maintained. @ While hindsight shows that the conditions at Camp Lejeune were a far cry from those warranting a 2% resistance rating, looking at plaintiff's bid prospectively satisfies the court that earnestness does not make up plaintiff's naivete in using such a low resistance rate having never before worked in that region of the country. Indeed, the photographic evidence confirms what Pat and Mike Baldi should have observed as general conditions in the area.

The Navy, when performing its own estimate of the bid, used the 10% curve, which the Handbook states is for A[l]oose sand or gravel.@ However, the Navy had inside information about the true state of the project site that plaintiff lacked. The court finds that it would have been reasonable for plaintiff to determine the per-machine production rate using the 6% curve, especially since Pat Baldi had traveled to Camp Lejeune and had been unable to gain access to the actual project site. In such circumstances it would be wise for the contractor, based on his experience, to consider the reasons why access is unattainable and bid more conservatively. Using the 6% curve, the per machine production rate is 420 CY per hour, which increases the AGeneral Excavation and Backfilling@subtotal to \$221,750.69 before adding overhead, profit, and bond. 28/

Adding overhead, profit and bond to \$221,750.69, at the same ratio that \$189,444.15 was adjusted to \$245,456.00, gives a revised AGeneral Excavation and Backfilling@ bid of \$287,314.42. The difference between the two earthwork bids, \$41,858.00, is subtracted from plaintiff's differing site condition claim of \$819,997.00. Thus, plaintiff is entitled to \$778,139.00 in differing site condition damages.

### 3) Delay costs and plaintiff's critical path

Plaintiff claims entitlement to \$236,030.00, which represents the cost for 191 days of delay for both field and home office overhead. Plaintiff also claims 111 standby days for its scraper spread amounting to \$253,497.63, and \$24,194.40 for additional earthmoving equipment standby costs. Combined both items, plus profit and bond, total \$296,561.00.

After plaintiff was awarded the contract, Ms. Saunders began preparing the schedule of prices and the project schedule. 29/ For the latter she used the bid documents and relied on discussions with the project superintendent and the estimator on their plan of action. She then input the information into the Primavera program, which calculated a project end date. The program gave a completion date four months earlier than the original end date. Ms. Saunders was concerned about submitting a schedule with such an early completion date, 30/ so she Awent back into the program and made some logic changes, added some durations to items, and also took the erosion control and made that

the same duration as the original contract days, so we could push the schedule out to show a completion date on the actual completion date on [sic] the contract.<sup>31/</sup>

As a result of Ms. Saunders' tinkering with the logic of the schedule and extending erosion control, as well as the duration of other activities, the approved project schedule does not accurately portray the critical path of the project. Plaintiff presented Craig Alan Sorensen, an expert in the area of schedule analysis, delays, and delay-related damages, to rehabilitate, as it were, plaintiff's critical path in order to establish the compensable delays caused by the differing site condition.<sup>32/</sup> Mr. Sorensen opined that the contract completion was delayed 212 calendar days past plaintiff's adjusted baseline schedule and that plaintiff is entitled to 191 days of compensable delay due to Navy-directed design changes, changed conditions, Navy-directed work stoppages, and the differing site conditions, with damages amounting to \$1,366,986.<sup>33/</sup>

Mr. Sorensen arrived at his conclusion, not surprisingly, by finding that plaintiff had ~~over~~inflated the overall project schedule.<sup>34/</sup> By looking at ~~Activity~~ 14-4000, Buildings Complete ~~and the chain link that follows thereafter~~ of the schedule plaintiff submitted, he found that plaintiff intended to complete the project by the end of May 1996, and that, after May 1996, only a handful of electrical activities and erosion control drive the schedule. Mr. Sorensen tested his hypothesis by first reading the daily reports to see ~~could~~ it be the case that the underground electrical was a critical path activity? Could it be the case that the erosion control was a critical path activity that could possibly cause this contract to take the entire 18 months?<sup>35/</sup> The daily reports confirmed that the project as it was built did not support the ~~as-planned~~ logic, so it cannot be the case that those are controlling, critical path items.<sup>36/</sup>

Mr. Sorensen further tested his hypothesis by ~~creating~~ a computer model or adjusting the baseline schedule<sup>37/</sup> based on the as-built condition. In his revised computer model, Mr. Sorensen changed the erosion control activity that was being used to ~~push~~ out the job,<sup>38/</sup> added holidays that had been omitted, and adjusted other nuances (for example, he attributed to plaintiff ~~a~~ data input mistake<sup>39/</sup>),<sup>40/</sup> but he did not vary the duration of any of the other activities. From this adjusted model, ~~after taking into account the erosion control, inflated duration, and other inconsistencies in the schedule,~~ he concluded that the earliest plaintiff could have finished was July 30, 1996. It is this date that Mr. Sorensen adopted to measure the project delay that occurred during the course of the contract.

While the court acknowledges Mr. Sorensen's colorful and clear presentation detailing plaintiff's critical path, Mr. Sorensen's finding of 191 compensable delay days cannot be accepted. Plaintiff bound itself to a contract, which, after modification, compelled plaintiff to work on the project for 647 calendar days. To allow plaintiff compensable delay days during periods that it was contractually required to remain

available for the project would be similar to allowing plaintiff to benefit from its unreasonably low bid. Regardless of plaintiff's confidence that it would have completed its work well ahead of the contract completion date, the Government should not be liable when plaintiff's predictions are untested. In this case the derailment of the plan of execution occurred from day one. The court finds neither credible documentary nor testimonial evidence to support plaintiff's ambitious schedule. Thus, plaintiff, if it is entitled to any damages for compensable delays, is entitled to no more than 97 compensable delay days.

Moreover, the analysis and testimony of the Government's witnesses, Jerry L. Thibodeau and Jeffrey B. Kozek, experts in construction claim analysis and forensic construction claims analysis, respectively, undercut plaintiff's fact witnesses, as well as Mr. Sorensen's expert testimony regarding delay damages. Mr. Thibodeau, a senior consultant, and Mr. Kozek, a principal, of Resolution Management Consultants, worked as a team to prepare a detailed analysis of plaintiff's claims. Mr. Thibodeau testified regarding the global analysis of plaintiff's claim, as well as the differing site conditions portion. Mr. Kozek was responsible for the extended cost of performance, extended home office and field office costs, standby costs, and other earthmoving costs.

Mr. Kozek opined that plaintiff's claims for field and home office overhead were almost entirely included in the differing site conditions claim, with the exception of roughly \$14,106.00 for home office overhead. He based his opinion on a study of Modification Nos. P00006, P00007, and P00008, as well as the daily reports. The modifications documented time extensions totaling 67 days that both plaintiff and the Navy agreed to, and the daily reports showed that while plaintiff's work was suspended in a particular area, it often shifted forces and worked on other parts of the project rather than stand idle. Thus, in reality, the number of days in which plaintiff was forced by the Navy to halt all work were much fewer than plaintiff claims. Finally, neither plaintiff's fact witnesses nor Mr. Sorensen were able to prove plaintiff's entitlement to the additional overhead.

Mr. Kozek also concluded that plaintiff is not entitled to scraper standby costs for 111 days, but 24 days. Specifically, according to Mr. Kozek, plaintiff is entitled to \$46,406.40 for scraper standby costs, 35/ but not costs for the standby of the additional earthmoving equipment. Mr. Kozek arrived at the 24-day standby period for the scrapers based on the difference between plaintiff's original project schedule, in which plaintiff had intended to keep its equipment on site through January 9, 1996, and the date on which the Navy gave plaintiff authorization to remove the equipment, which was January 29, 1996. Giving plaintiff a week to mobilize the equipment and make shipping arrangements, Mr. Kozek determined that plaintiff was forced to keep the scrapers on-site for 24 days more than what was budgeted in its \$245,456.00 General Excavation and Backfilling bid.

Regarding the remainder of plaintiff's equipment spread, Mr. Kozek reinforced the court's initial impression that plaintiff could not prove 240 hours of standby for every piece of remaining equipment. Mr. Kozek also pointed out that plaintiff used various pieces of the earthwork equipment on an ongoing basis beyond the date plaintiff had originally scheduled equipment removal. The court is persuaded by the Government's expert witnesses that plaintiff did not provide sufficient probative evidence to demonstrate that the large sum of delay damages were not taken into account in plaintiff's differing site conditions costs. As a result the court finds that the Government's figures for delay costs are supported by the record.

### CONCLUSION

Accordingly, based on the foregoing,

1. Plaintiff is entitled to \$778,139.00 in differing site conditions damages.
2. Plaintiff is entitled to \$14,106.00 in delay damages.
3. Plaintiff is entitled to \$46,406.40 in scraper standby costs.
4. The Clerk of the Court shall enter judgment for plaintiff in the amount of \$838,651.40, with interest from July 19, 1997, as provided by 41 U.S.C. ' 611.

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**Christine Odell Cook Miller**  
Judge

1/ The contract incorporated various provisions of the Federal Acquisition Regulation, including 48 C.F.R. (AFAR) ' 52.236-2 (1984), Differing Site Conditions; FAR ' 52.243-4 (1987), Changes; and FAR ' 52.212-12 (1987), Suspension of Work.

2/ A range is an area designated for target practice, which has a large safety zone so that when firing is downrange, no person or thing will be injured inadvertently.

3/ An AMTC is a moving target for a tank, consisting mainly of an impact berm and a retaining wall, which is mounted on tracks for motility. Retaining walls generally are made out of wooden H-beam piles and support the impact berm. Impact berms generally are made out of well-compacted fill dirt to prevent rounds of ammunition from penetrating the retaining wall.

4/ SITs are similar to AMTCs except that they are stationary and are not designed to

be fired on by a tankround, but, rather, they are made to be fired on by 50-caliber machine guns or light armored vehicles.

5/ SATs are similar to AMTCs, with retaining walls and a 25-foot-berm, but SATs are comprised of three walls and are stationary.

6/ Defilades are fixed firing positions for the tanks and are essentially elevated mounds of dirt with berms on three sides.

7/ Pat and Mike Baldi found the construction site inaccessible due to thick vegetation surrounding the site, thus performed an examination of the soil on the outskirts of the site, and did not actually examine the site prior to bidding.

8/ Modification No. P00007 extended the contract completion date 14 days; Modification No. P00010, 53 days; Modification No. P00019, 5 days; and Modification No. P00022, 30 days.

9/ Phillips & Jordan, plaintiff's clearing and grubbing subcontractor, already had mobilized to the project site. Upon learning of the Navy's directives, Debbie J. Saunders, plaintiff's Project Manager, immediately telephoned Phillips & Jordan to halt the pulling of any trees from areas not designated for cut and fill. Eventually, in order to ensure line of sight on the range, plaintiff had the trees in the wetlands areas cut at the base, leaving both the stump and the trunk of a tree where it fell.

10/ Plaintiff's scrapers are push-pull scrapers and work in tandem with drive engines both in the front and in the rear. Each engine has a can with a cutting edge that can be lowered hydraulically into the ground to collect dirt. When the first can is full, the

10/ (Cont'd from page 4.)

second can is lowered where the first can stopped cutting. Once the scraper cans are full, the engines work together and can travel up to 30 mph to a site requiring fill dirt. Scrapers fill dirt in tandem also, but with the second engine's tracks splitting the lead engine's tracks, which effectively compacts the dirt dropped from the lead engine's can.

11/ Based on plaintiff's initial project schedule, defendant asserts that plaintiff intended to have its equipment spread on the project site until January 9, 1996.

12/ On March 13, 1996, plaintiff specified to the Navy that the additional fill and rock at the project targets, due to the soil conditions, would not be a part of the current negotiation. The Navy agreed on March 18, 1996.

13/ According to Pat Baldi, geogrid looks like a fence but it's made out of high density polyethylene. It's made out of plastic. And it's just a two by two square fence that you roll out, and it helps bridge across these marshy conditions. According to Ms. Saunders, ABC stone is like an aggregate base.

14/ The FAR defines Type II differing site conditions as 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. FAR ' 52.236-2. Defendant stipulated to a Type I differing site condition.

15/ The jury verdict method requires the court to determine: 1) that clear proof of injury exists; 2) that there is no more reliable method for computing damages; and 3) that

the evidence is sufficient for a court to make a fair and reasonable approximation of the damages.@ Dawco Constr., Inc. v. United States, 930 F.2d 872, 880 (Fed. Cir. 1991).

16/ AClearly, the actual cost method is preferred because it provides the court, or contracting officer, with documented underlying expenses, ensuring that the final amount of the equitable adjustment will be just that B equitable B and not a windfall for either the government or the contractor.@ Dawco, 930 F.2d at 882.

17/ In a stroke of divine justice, the Resident Officer in Charge of Contract representative's vehicle also became stuck on site.

18/ Plaintiff had also claimed \$14,399.00 for the increased cost of performance of its subcontractor Brey Electric. However, plaintiff offered no evidence regarding Brey Electric at trial and the claim is not considered by the court.

19/ For example, Pat Baldi was responsible for estimating the amount of earthwork on the project.

20/ AGeneral conditions@ consist of field overhead, which includes the superintendent, temporary office, office supplies, temporary telephones, port-a-johns, dumpster, and other equipment that must be on-site to properly manage the project.

21/ For example, the time of Pat and Samuel Baldi was charged as a direct job cost, rather than overhead, because they were workers operating equipment.

22/ Although Ms. Saunders testified that the home office overhead mark-up was 6%; the profit mark-up, 6%; and the bond, 0.7%, the court could not replicate calculations of plaintiff's bid using those percentages.

23/ Plaintiff calculated the standby equipment costs by multiplying the daily rate for a particular machine by the number of pieces of equipment by eight hours a workday. The labor costs were calculated for seven operators and one grade checker, all at a rate of \$30.80 per hour at eight hours per day. The earthwork cost per day subtotal was \$13,731.20.

24/ ABulk cut@ is the term used for dirt removal beyond stripping -- for example, the drainage ditches on either side of the tank road.

25/ The parties also disagree about the number of cubic yards to be cut, filled, and stripped that Pat Baldi calculated. However, because the majority of the discrepancies between the Navy's estimate and plaintiff's estimate are due to the fact that the Navy knew a large amount of material had to be removed from the site as it was unsuitable for use, penalizing plaintiff would be unfair. The court is satisfied that plaintiff's estimates for cut, fill, and strip work were reasonable determinations based on the contract documents, plans, and specifications.

26/ A banked cubic yard is a cubic yard of undisturbed dirt.

27/ Factors that affect the efficiency of the machine are the surface driving conditions, such as type of road material and the grade.

28/ Using a per-machine production rate of 420 CY gives a bulk cut cost of production equaling \$145,513.20 and a stripping production cost of \$76,237.50.

29/ Ms. Saunders also secured the payment and performance bonds, issued subcontracts, and started assembling the quality control plan, the safety plan, and the environmental protection plan.

30/ Ms. Saunders explained that she felt compelled to change the project end date because in her experience with the Navy, [plaintiff] had never been allowed to submit a project schedule that showed an early completion date. . . . [The Navy] was always worried that we would claim, if we ran into a problem, a situation where there was [sic] change[d] conditions or some type of change order that would push us past our estimated completion date, that we would look to them for extended overheads, or delays, or something of that nature.®

31/ Erosion control is comprised of the set up and maintenance of silt fences to keep dirt on the construction site.

32/ It is worth noting the nature of Mr. Sorensen's business relationship with plaintiff previous to this trial. He first became acquainted with plaintiff while providing a seminar on critical path method scheduling, and has assisted plaintiff with the preparation of baseline schedules in compliance with a number of Navy contracts awarded to plaintiff.

33/ Defendant was correct that Mr. Sorensen's testimony about the delay damages was different than the report on which he was deposed. The court allowed the testimony with the understanding that any prejudice to defendant would affect the weight of Mr. Sorensen's testimony.

34/ Mr. Sorensen first testified that plaintiff added the logic wrong® in that, instead of going A, B, C, it had added the activities C, B, A. He later corrected himself stating that A [i]t's not faulty logic,®but rather the data Awas input into the computer in reverse order.®

35/ The scraper standby costs Mr. Kozek presented also included the cost of a large A dozer.® Mr. Kozek arrived at this damages figure by multiplying the Corps Region III daily rates of \$1,696.32 for scrapers and \$237.28 for the D9 dozer, for 24 days, totalling \$46,406.40.