COMMONWEALTH OF PENNSYLVANIA

CARMEN PALIOTTA CONTRACTING, INC.	:	BEFORE THE BOARD OF CLAIMS
	:	
VS.	:	
	:	
COMMONWEALTH OF PENNSYLVANIA,	:	
DEPARTMENT OF TRANSPORTATION	:	DOCKET NO. 3534

FINDINGS OF FACT

PARTIES

1. Plaintiff, Carmen Paliotta Contracting, Inc. ("CPCI") is a Pennsylvania corporation with its principal place of business located in South Park, PA. (Cmpl., para. 1)

2. Defendant, Commonwealth of Pennsylvania, Department of Transportation ("Department") is an agency of the Commonwealth located in Harrisburg, PA. (Ans., para. 2)

3. CPCI and the Department executed Contract Number 114083 dated February 16, 2001 (the "Contract") for a project involving the demolition of an existing bridge structure over the Mahoning River along Route 108 in Lawrence County, Pennsylvania and the construction of a new bridge, minor roadway approach work, drainage, guardrail construction and creation of a temporary access causeway (the "Project"). The cost of the Project was $2,592,120.86. (Ex. P-10)

4. Part of the Project involved construction of two new concrete bridge piers that required the installation of a temporary excavation support and protection system in the form of two cofferdams. (Ex. P-10, Special Provisions, Items 9203-0103 and 9204-0104)

5. Carmen Paliotta, president of CPCI, was primarily responsible for preparing the bid for the Project and dealing with contractual issues. He communicated daily with CPCI's site superintendent concerning the Project. Mr. Paliotta estimated that he has constructed between forty and fifty bridges in the past for the Department. (N.T. 12,15)

6. CPCI hired Sucevic, Piccolomini and Kuchar Engineering, Inc. ("SPK") as its engineering firm to design the cofferdams. Paul T. Sucevic, a partner of SPK, was the professional engineer who sealed the design. (Exs. P-13, P-16)

7. The Department contracted with Buchart-Horn, Inc. (“B-H’) on August 28, 1995 to be the engineering firm to perform engineering services (design, plans, specifications) and shop drawing review during the construction of the Project. (N.T. 346-349; Ex. P-47)

8. B-H contracted with GeoMechanics, Inc. to serve as the geotechincal engineer on the Project. GeoMechanics prepared the Geotechnical Engineering Report (GER) for Pre-Final and Final Design ("geotechnical report") for the Project in June 1999 and revised it in October 1999. (Ex. P-6; N.T. 348)

9. Russell Tribuzio was CPCI's site superintendent for the Project. He was present every day during the construction of the Project and was in charge of scheduling equipment, supplies, workers, surveyors and subcontractors. (N.T. 93-94) Mr. Tribuzio maintained a daily project diary during the Project. (Ex. P-2)

10. Christopher J. Payne, P.E. from the firm of McDonough Bolyard Peck in Fairfax, Virginia, was hired by the plaintiff and testified at trial as an expert witness about construction bid review, construction project performance review, schedule analysis and construction claim review. (N.T. 172-179; Ex. P-43)

11. Karl Jarek, C.P.A. from the firm of Alpern Rosenthal in Pittsburgh, Pennsylvania, was hired by the plaintiff and testified as an expert regarding the valuation of the damages CPCI alleges it incurred in completing the Project. (N.T. 247-251; Ex. P-44)

12. Walter Stefurak was employed by the Department in Engineering District 11-0 and was assigned to the Project as project manager. Mr. Stefurak was not an engineer. (N.T. 307)

13. Angelo Pampena was employed by the Department as the Assistant Construction Engineer for District 11-0. (N.T. 16)

14. William B. Kind, P.E., was employed by B-H as the Project Structural Engineer. (N.T.32)

15. The Department called no expert witnesses to testify. (Board Finding)

The Bid and Award of the Contract

16. In early 2000, the Department solicited bids for the first time for the Project. (N.T. 18) CPCI prepared and submitted a bid for the Project at that time, but Mr. Paliotta did not personally participate in preparing that bid. (N.T. 18) The Department rejected all bids submitted for the Project in July 2000 and rebid the project in December 2000. (N.T. 18)

17. Prior to the bid on the Project, the bidders were provided with certain documents including the project drawings (P-7), PennDOT Publication 408 Specifications (2000 Edition), and the Contract Documents (Agreement, Special Provisions, Bid Items, Bonds, etc.) for the Project (Ex. P-10), hereinafter referred to as the "Bid Documents". (N.T. 22)

18. Prior to CPCI's bid on December 2, 2000, Mr. Paliotta reviewed the Bid Documents and received quotes and information from subcontractors. (N.T. 18-19) He also conducted a site visit to view the old bridge and evaluate construction conditions. (N.T. 23)

19. Prior to making its bid, CPCI did not retain the services of a geotechnical engineer to investigate the subsurface conditions at the site. (N.T. 74)

20. The Department provided all bidders with information about the cofferdam design including the project drawings that depicted the cofferdam layout (Ex. P-7, sheet no. 15), the specifications and soil parameters in the Contract's special provisions, Items 9203-0103 and 9203-0104 (Ex. P-10, pp. 71-72; N.T. 27-28) and core boring information in the project drawings. (Ex. P-7, sheet nos. 31 and 32; N.T. 28)

21. Prior to preparing its bid, CPCI supplied copies of the relevant portions of the proposed contract (including Items 9203-0103 and 9203-0104 and the soil parameters), and the project drawings to SPK, the engineering firm it planned to retain if it was awarded the Project. (N.T. 28-29, 90; Exs. P-10, P-7, P-8)

22. Prior to calculating its bid, CPCI requested that SPK give CPCI direction regarding what type of cofferdam CPCI would need to construct, whether the CZ-114 sheet piling that CPCI already owned would work for the cofferdam, and whether a sheet pile cofferdam would work without a ring or bracing. (N.T. 29, 58-59, 74)

23. Based upon SPK's review of the Bid Documents and its pre-bid calculations, SPK informed CPCI that the CZ-114 sheet pile cofferdam using the sheet piling CPCI already owned would work for the Project, without the use of wales, struts or a concrete grade beam. (N.T. 29-30)

24. The actual design of the cofferdam was not done by SPK until after CPCI's bid was accepted. (N.T. 74)

25. CPCI intended to install the cofferdam at Pier 2 first and then after Pier 2 was constructed, the sheet piling would be pulled and reused to construct the cofferdam for Pier 1. (N.T. 287, 342)

26. In December 2000, CPCI submitted a bid of $2,592,120.86 to the Department for the Project. (Ex. P-10)

27. CPCI’s December 2000 bid included a bid of $25,000 for each cofferdam. (N.T. 25)

28. The Department issued the Notice of Award for the Project to CPCI on January 31, 2001. (N.T. 31; Ex. P-9)

Contract Provisions and Design of the Cofferdams

29. The Department issued a Notice to Proceed to CPCI on March 5, 2001. (N.T. 31)

30. The Contract provided that CPCI was to decide the “means and methods” of construction of the cofferdams. (N.T. 359; Ex. P-10)

31. Soon after receiving the Notice to Proceed, CPCI requested that SPK prepare the design of the cofferdam. SPK completed the plans and details for the cofferdam design on March 14, 2001. (N.T. 35; Ex. P-13)

32. SPK had the soil parameters and the soil boring information provided in the Bid Documents when it made the cofferdam design plans. (N.T. 73-75; 186; Ex. P-10)

33. The Contract directed CPCI to refer to certain AASHTO guidelines when designing the cofferdams, stating: "Design the temporary evacuation support and protection system in accordance with the AASHTO LRFD bridge design specification and design manual, part 4 metric specifications, current FHWA guidelines, and AASHTO guide spec." (Ex. P-10, CP004135; N.T. 236)

34. The AASHTO Guide Design Specification for temporary works provides that "for excavation of cohesive soils stability against basal heave shall be investigated using standard method or empirical charts given in NAVFAC DM-7 and other textbooks on soil mechanics. Critical conditions shall be evaluated by a licensed geotechnical engineer." (Ex. D-1E, sec. 4.4, p.23; N.T. 232) This excerpt of the AASHTO Guide Specification specifically applies to situations involving cohesive soils, and Mr. Payne, CPCI's expert engineer, testified that it is therefore inapplicable in the present case where the cofferdam problem resulted from cohesiveless soils. (N.T. 238)

35. Mr. Payne, CPCI's expert, testified that it was the Department's responsibility to identify the "critical conditions" referred to in the AASHTO Guide Design Specification (such as the soil liquefaction condition at the site). (N.T. 239-240)

36. Mr. Payne testified that certain other AASHTO Guide Design Specifications exist in addition to the one included in Exhibit D-1E (N.T. 236) This fact makes the Contract ambiguous as to which AASHTO publication contractors would be required to utilize. (N.T. 237)

37. B-H served as the Department's design engineer for the Project and was responsible for reviewing contractor submissions. (N.T. 32, 348; Ex. P-47, DOT 002301)

38. On March 19, 2001, CPCI submitted the SPK initial cofferdam plans and details to B-H for review, and on March 23, 2001, William Kind, a B-H project structural engineer, instructed CPCI to make corrections on the plans and details and resubmit them. (N.T. 32-33; Exs. P-12, P-13 and P-14)

39. On March 27, 2001, SPK revised the cofferdam plans and details in accordance with the comments by B-H and resubmitted them for approval. (N.T. 35; Exs. P-15 and P-16)

40, On April 3, 2001, B-H gave its approval of CPCI's revised cofferdam submittal and indicated that it believed the submittal complied with the contract requirements. Although B-H's letter stated that, "No responsibility is assumed for the correctness of the dimensions or the

details," the process of B-H reviewing the cofferdam design twice shows that it understood the cofferdam design and that it did not object. (Exs. P-16, P-18; N.T. 36-37, 193, 242)

41. The notes of the Progress Meeting held on April 26, 2001 confirm that CPCI's cofferdam submittal was approved by B-H. (N.T. 354)

42. CPCI's cofferdam design met the specifications of the Contract and was reasonable for the soil conditions stated in the special provisions of the contract and the Bid Documents. (Board Finding)

Construction of the Cofferdams

43. On May 3, 2001, CPCI closed the bridge to traffic and began demolition the following day. (Exs. P-2, P-3)

44. Under the terms of the Contract, CPCI was required to reopen the bridge to traffic within 119 days after closing it. The Contract further stated that if the contractor failed to complete all work to reopen the roadway within the 119 calendar days, the Department could deduct a disincentive charge in the form of liquidated damages of $4,000 per day. (N.T. 18, 50; Ex. P-10, para. 3b, p. 5 and Special Provision, p. 39, CP 004097)

45. CPCI was obligated to construct the cofferdams in accordance with the approved submittal, Exhibit P-16. (N.T. 315) CPCI used that approved submittal to construct the first cofferdam at Pier 2 of the bridge. (N.T. 105)

46. On May 10, CPCI drove the first test pile at Pier 2. (Exs. P-2, P-3)

47. The cofferdam worked as intended during the de-watering and excavation. (N.T. 194-195)

48. After CPCI excavated the cofferdam, it had its surveyor lay out the location of each bearing pile, and it prepared to drive the bearing piles. (N.T. 105-106)

49. CPCI constructed the initial cofferdam at Pier 2 in accordance with the design in the approved submittal, Exhibit P-16. (N.T. 193-194)

50. On June 11, 2001, CPCI began driving the bearing piles at Pier 2 (Exs. P-2, P-3; N.T. 310)

51. On June 12, 2001, when CPCI was driving the bearing piles for Pier 2, the ground heaved and the tops of the sheet piling tilted inward creating a dangerous condition at the cofferdam. (N.T. 108-111)

52. On June 12, 2001, CPCI first tried to temporarily support the cofferdam with an extra beam, but when the sheet piling continued to tilt, CPCI had to stop working. (N.T. 111; Ex. P-23)

53. On June 13, 2001, representatives of CPCI, the Department, B-H, GeoMechanics, and SPK held a special meeting at the Project site to develop a plan to fix the cofferdam problem. (N.T. 40-41)

54. At the June 13, 2001 meeting, a GeoMechanics representative stated that liquefaction was the probable cause of the problem CPCI experienced at the Pier 2 cofferdam. (N.T. 113)

55. Liquefaction is defined as the temporary loss of soil strength caused when particles of silt are displaced during the driving of bearing piles. After each time a bearing pile is hammered downward, resistance in the soil causes the pile to rebound upward. In addition to this resistance, the soil in the riverbed loses strength causing the sheet piles already in place to collapse unless they have extra support. (N.T. 195-196)

56. In the opinion of Mr. Payne, CPCI's expert, the liquefaction conditions were the cause of the problem CPCI experienced at the cofferdam. The Department did not contest Mr. Payne's conclusion. (N.T. 195-196; Board Finding)

57. At the June 13, 2001 meeting, Mr. Paliotta told the representatives of the Department that he believed CPCI was entitled to additional compensation and additional time as a result of the problems caused by the liquefaction conditions. (N.T. 42)

Redesign of Cofferdams

58. At CPCI's request, SPK redesigned the cofferdams by installing a bracing ring with a strut and a concrete slab on grade. (N.T. 113-114; Ex. P-27)

59. SPK prepared Revised Plans and Details dated June 21, 2001 that were approved by B-H on the same date. CPCI used those revised plans to successfully construct the cofferdams at Pier 2 and then at Pier 1. (N.T. 46; Exs. P-27, P-28, P-30)

60. In order to implement the Revised Plans and Details to fix the cofferdam problem, CPCI had to re-excavate the area, pour the concrete slab, have its surveyor re-establish every point for the bearing piles, and have a carpenter form block-outs for the bearing piles and also for the leads because the piles could not be driven through the concrete slab. (N.T. 115-117; Ex. P-27)

61. In order to implement the procedures set forth in the Revised Plans and Details to fix the cofferdam problem, CPCI welded every sheet to the supporting ring. This welding work was not part of the initial cofferdam design that used a template. (N.T. 118)

62. Mr. Payne testified that it would only be necessary for a bidder to consult a geotechnical engineer if it discovered circumstances that were not covered by the project specifications that were critical to the overall design. Additionally, Mr. Payne stated that if unusual circumstances existed, they should be called out in the contract documents. He testified

there was not anything unusual set forth in the Bid Documents that would have warned bidders about any special types of cofferdams that would be necessary for this Project. (N.T. 239)

63. The Department and B-H executed an Engineering Agreement in 1995 that provided that it was B-H's obligation to "coordinate with GeoMechanics to assure that any areas with adverse design/construction conditions would be identified and properly provided for early in the design process. These conditions include, but are not limited to, areas with high liquefaction..." (Ex. P- 47, Sec. 1G, para. 3; N.T. 348-349)

64. In 1999, at the request of B-H, GeoMechanics prepared a geotechnical report consisting of 66 pages plus 776 pages of appendices for the Project. (Ex. P-6)

65. The geotechnical report stated in its section on bearing piles for the bridge that "the driving process [for those piles] generates high pore water pressures in saturated cohesionless silts which temporarily reduces soil shear strength and, in turn, pile capacity." This meant that the soil in the riverbed could lose strength when CPCI drove the bearing piles. The Board refers to this situation in the riverbed as the "liquefaction problem" (N.T. 44-45, 204, 208-209; Ex. P-6 at pp. 57-58, Exs. P-35, P-36)

66. The information about shear soil strength or liquefaction was not part of, nor referred to, in the section of the geotechnical report regarding temporary excavations or cofferdam construction. (N.T. 210-211; Ex. P-6)

67. A document written by William Kind of B-H after the cofferdam failure noted that information about the liquefaction potential "...should have been provided by GeoMechanics [to bidders in the soil parameters of the Contract] when they gave soil shear strength values for shoring in spec. but was not." (Ex. P-36; N.T.204-205)

68. The geotechnical report did not link the loss of shear strength condition that arises during the bearing pile driving installation with the problems that such loss of shear strength could induce in the cofferdams. (N.T. 212; Ex. P-6)

69. The geotechnical report was not referred to in the Bid Documents nor was a copy ever supplied to bidders. The report was never made part of the Contract Documents. (N.T. 213; Ex. P-6)

70. In the opinion of plaintiff's expert, Mr. Payne, even if CPCI had seen the geotechnical report and referred to it when designing the cofferdam, CPCI might still have not designed a reinforced cofferdam because the report contained no reference to potential liquefaction in the section on temporary excavation and support systems. (N.T. 212)

71. The special provisions in the Bid Documents gave CPCI no warnings about quicksand or liquefaction conditions at the bridge site. (N.T. 201-202; Ex. P-10)

72. CPCI and the Department agree that there was no information in the Bid Documents or the Contract to warn CPCI about the liquefaction conditions. (N.T. 349)

73. The Department provided soil parameters in the special provisions in the Bid Documents that were accurate, but never indicated in that section or anywhere else that during the pile driving those soil parameters could change. The Department omitted this information (found in the geotechnical report in its possession) and failed to alert bidders to the liquefaction problem. (N.T. 240-241; Exs. P-6, P-8 and P-10)

74. Before the commencement of the construction of the cofferdam for Pier 2 on May 10, 2001, CPCI was not aware of GeoMechanics' role on this Project or of the existence of the geotechnical report. (N.T. 41, 44, 112; Exs. P-2, D-25)

75. B-H and GeoMechanics were both acting as agents of the Commonwealth on this Project. (N.T. 302)

76. The presentation of the soil parameters in the special provisions suggests they are complete and that CPCI could assume that installation of a cofferdam would encounter no liquefaction conditions. (N.T. 241; Ex. P-10; Board Finding)

77. The Department misled CPCI about the conditions it would encounter during pile driving by omitting information about liquefaction conditions from the soil parameters in the Contract's special provisions. (N.T. 240-241)

78. Because CPCI received no warnings regarding liquefaction in the Bid Documents or in the contract documents the liquefaction in the riverbed was a differing site condition and an unforeseen circumstance. (N.T. 207; Board Finding)

Cofferdam Delay

79. During the course of the Project CPCI prepared and submitted to the Department several CPM schedules to keep track of the progress of the construction. As CPCI fell behind schedule, it had to revise and update the schedules. (Ex. P-11. P-20, P-32 and P-39)

80. The first CPM schedule for the Project was dated March 10, 2001 (Ex. P-11).

81. The second CPM schedule for the Project was dated May 4, 2001. This schedule was revised after heavy rain flooded the construction site in April and caused delays. The date for closing the bridge was moved to May 3, 2001 and opening of the bridge was moved to August 29, 2001 (119 days). These were the closing and opening dates the Department used to compute delay at the end of the Project. (Ex. P-20)

82. The third CPM schedule for the Project was dated June 26, 2001. CPCI prepared this revised schedule after the delay caused by cofferdam failure on June 12, 2001. (Ex. P-32)

83. The fourth CPM schedule for the Project was dated September 17, 2001. CPCI prepared this revised schedule after it experienced still more delays due to the Department's design mistake computing the final elevation of the bridge. (Ex. P-39)

84. The May CPM schedule allotted three working days for pile driving at Pier 2. (Ex. P-20)

85. On June 11, 2001, CPCI started driving the H-piles at Pier 2. (Ex. P-20)

86. On June 12, 2001 CPCI encountered liquefaction conditions at Pier 2. As CPCI was driving one of the first piles, the ground began heaving. As the hammer drove the pile downward, the ground caused the pile to heave upward in a rebound effect. As CPCI continued to try to drive the piles, the sheet piles of the cofferdam started leaning inward and collapsing and CPCI had to stop work to avoid a dangerous condition. CPCI then waited for the cofferdam redesign to be finished and approved. (Ex. P-1, pp 7,8; Ex. P-2; N.T. 108-109)

87. On June 21, 2001, B-H approved the plans and details of the SPK cofferdam redesign and CPCI proceeded to rebuild the cofferdam. (Ex. P-30)

88. At Pier 2, CPCI experienced seven working days of delay and extra work from June 12, 2001 to June 20, 2001 (i.e. June 12, 13, 14, 15, 18, 19, and 20). During this period CPCI repaired the collapsed cofferdam sheet piles and waited for the approval of the cofferdam redesign. (N.T. 289; Ex. P-2; Board Findings)

89. At Pier 2, CPCI constructed the new, more complex cofferdam starting on June 21, 2001 and finished during the day shift on June 25, 2001. The daily log shows that during this period CPCI worked extra shifts on June 21 and on June 22 and did not work on Sunday, June 24. The Board finds that from June 21 to June 25 (counting each extra shift as an extra work day and omitting June 24), CPCI needed six extra working days to complete the redesigned cofferdam. (Ex. P-2; Board Findings)

90. On June 25, 2001 during the night shift, CPCI resumed driving the H-piles at Pier 2. Due to the liquefaction conditions in the river, CPCI had to take more time to drive the piles than originally planned. The piles had to be driven more slowly to minimize the rebound effect and the process had to be stopped periodically while the strut in the center of the new cofferdam design was moved so that other piles could be driven within the cofferdam. (Exs. P-2, P-27; N.T. 117-122)

91. On June 30, 2001, CPCI completed driving the H-piles for Pier 2. The Board finds that it took CPCI from June 25 on the night shift to June 30 to drive the piles and that CPCI worked an extra shift on June 28. Adding June 11, 2001 as the first day of driving piles, CPCI worked June 25 (night shift only), June 26, June 27, June 28 (two shifts), June 29 and June 30 for a total of eight work days spent driving H-piles at Pier 2. (Ex. P-2; Board Findings)

92. CPCI was scheduled to complete the pile driving at Pier 2 in three days. The Board finds that it took CPCI five extra days to complete driving the piles due to the liquefaction soil conditions. (Ex. P-20; Board Finding)

93. The Board computes the total delay attributable to the liquefaction problem at Pier 2 to be seven days (delay due to redesign and cofferdam repair), plus six days (for building the redesigned, more complex cofferdam), plus five days (the extra days for pile driving). This totals eighteen days of delay attributable to the liquefaction conditions CPCI encountered at Pier 2. (Board Finding)

94. At Pier 1, CPCI built the cofferdam after the Pier 2 cofferdam failed. The Board finds that at Pier 1 CPCI did not experience extra days of delay due to the redesign process. (Ex. P-2; Board Finding)

95. At Pier 1, CPCI had to complete the identical task of building a more complex, redesigned cofferdam as it had done at Pier 2. Accordingly, the Board relies on the computation of six extra days attributable to that task at Pier 2 and finds that six extra days are also attributable to building the same redesigned cofferdam at Pier 1. (N.T. 289; Board Finding)

96. At Pier 1, CPCI had to complete the identical task of driving the H-piles in liquefaction conditions as it had done at Pier 2. Accordingly, the Board relies on the computation of five extra days attributable to that task at Pier 2 and finds that five extra days are also attributable to driving the H-piles in liquefaction conditions at Pier 1. (N.T. 121-122, 218-219; Board Finding)

97. At Pier 1, the Board finds that CPCI needed six extra days for cofferdam construction and five extra days for driving the H-piles for a total of eleven days to complete the extra work caused by the liquefaction problem. (Board Finding)

98. Combining the extra days attributable to the liquefaction problem at Pier 2 and Pier 1, the Board adds eighteen days plus eleven days for a total of twenty-nine extra days that CPCI needed to complete the extra work caused by the liquefaction soil conditions. (Board Finding)

99. On June 13, CPCI first requested reimbursement of its extra costs and an extension of time to complete the Project. (N.T. 366)

100. Mr. Stefurak, the Department's project manager, testified he believed that CPCI did its best to complete the Project on time despite the problems encountered with the cofferdams. (N.T. 365)

101. The bridge construction was completed by CPCI and the bridge was reopened to traffic on October 3, 2001, thirty-five days late. (N.T. 363)

Other Construction Conditions that Impacted CPCI's Performance

a. Causeway Flooding

102. On April 6, 2001, heavy rains resulted in the flooding of the causeways that CPCI had constructed to access the work areas around the bridge. This flooding occurred before CPCI closed the bridge to traffic. (N.T. 215, 218; Ex. P-43)

103. Mr. Payne testified that he found that the April flooding impacted CPCI's work because CPCI had to clear the debris and wait for the flood waters to recede. His opinion was that this delay period was nine days. (N.T. 217-218; Ex. P-43)

104. The original construction schedule, dated March 10, 2001, listed April 24, 2001 as the date that CPCI was to close the bridge to traffic. (Ex. P-11) Because of the April flooding, CPCI did not actually close the bridge to traffic until May 3, 2001, nine days later than planned. (Ex. P-43; Ex. P-20)

105. The revised construction schedule dated May 4, 2001 changed the scheduled date for closing the bridge to May 3, 2001, and the revised opening date for the bridge to August 29, 2001. Both the March and May schedules allotted 119 days for the construction period. At the end of the Project, the Department used the May schedule's closing and opening dates to compute delay and liquidated damages, indicating that it never charged CPCI any delay days for the delay caused by April flooding of the causeways. (Exs. P-11, P-20; N.T. 141-142, 218; Board Finding)

b. Errors In the Deck Grade

106. CPCI discovered an omission from the project drawings whereby the Department's designer failed to account for the thickness of a bearing pad when it calculated the final elevation of the bridge. (N.T. 125-126, 128)

107. On August 1, 2001, CPCI sent survey data for final grades to SPK for review. (Ex. P-43)

108. On August 2, 2001, CPCI first questioned the Department about the design error in the bridge deck grades, and the Department determined that they were too high. CPCI asked for direction before proceeding with the deck pans. (N.T. 359-360; Ex. P-43)

109. On August 3, 2001, the Department called B-H to try to resolve the issue of the deck grade elevation discrepancy that was raised by CPCI. (N.T. 361)

110. Because of the error in grade elevation on the bridge plans, CPCI had to wait from August 2 to August 6, 2001 for redesign information from the Department and B-H. (N.T. 128-131, 219-220)

111. Mr. Stefurak testified that there were four days of delay of the Project attributable to the design error in the height of the bridge deck. (N.T. 314)

112. The Department acknowledged that CPCI could not use the bridge deck elevations that were in the plans as a result of the above-referenced design error. (N.T. 362)

113. On August 6, 2001, the Department gave directions and CPCI began working on the deck pans and implemented measures to reconfigure and customize the deck pans. Work on the deck pans and the deck reinforcing steel took three days longer than originally planned. (Ex. P-43; N.T. 220)

114. The Department's master diary entry from August 7, 2001 acknowledged that the deck grade elevation discrepancy was a design error and stated, "It appears that elevations at abutment 2 are not matching plans. Bearing elevations are right, but after adding bearings and girder dimensions, elevation is high approximately two inches. Reviewing this problem." (N.T. 361; Ex. P-3)

115. On August 24, 2001, CPCI began concrete placement for the bridge deck and completed the last placement on September 1, 2001. (Ex. P-43)

116. The bridge deck grade errors also created difficulties in the bridge approach slabs. On September 13, 2001, CPCI notified the Department of the problem and advised that it could not proceed with the approach work without further direction from the Department. (Ex. P-43; N.T.220)

117. On September 14, 2001, the Department directed CPCI to establish new grades and on the following day CPCI resumed work. (Ex. P-43)

118. CPCI had to expend additional time, work and resources in order to address the design error relating to the grade of the bridge deck, deck pans and approach slabs that it had not planned to incur. (N.T. 132-133)

119. CPCI experienced a delay of: four days from August 2 to August 6 awaiting instructions regarding reconfiguring and customizing the deck pans; a delay of three days to do the extra work to install the deck reinforcing steel and deck pans that was not originally scheduled; and a delay of one day from September 13 to September 14 awaiting directions regarding difficulties with the approach slabs for a total delay of eight days as a result of the error in the deck grade (N.T. 219-220; Ex. P-43; Board Finding)

120. CPCI experienced eight days of delay because of the Department's design error in the deck grade and its consequences. The Board finds that these eight extra days are attributable to the Department's design error in the plans provided to CPCI. (Board Finding)

c. Bridge Deck Grooving/Grinding

121. The contract provided that CPCI was to groove the bridge in a transverse manner (left to right across the deck) and the May CPM schedule allotted one day for this work. (N.T. 151, 314; Ex. P-10, p.31; Ex. P-20)

122. Because of the problem with the deck grades, the Department decided instead of transverse grooving, CPCI should proceed with longitudinal planing and surfacing of the bridge deck (down the length of the bridge). (N.T. 133-135)

123. Changing from grooving the bridge deck transversely to grinding the bridge deck longitudinally meant that instead of using a walk-behind machine as originally planned, CPCI had to rent and use different and heavier equipment. In order to use the heavy grinding equipment on the new bridge deck, CPCI had to wait seven days longer for the concrete to cure before driving the grinding equipment onto it. (N.T. 135, 318, 338-339)

124. On September 29, 2001, CPCI was finally able to begin the longitudinal grinding work. (N.T. 220-221; Ex. P-43)

125. On March 20, 2002, Mr. Stefurak signed an estimate listing $5,000 as the additional cost for longitudinal grinding of the bridge deck. (N.T. 318; Ex. P-4)

126. The Department paid CPCI its extra costs for the bridge deck grinding but did not give CPCI any extension of time for the extra work. (N.T. 151-152)

127. The Department instructed CPCI to grind the bridge deck longitudinally and this work was outside the scope of the Contract. The extra grinding work extended the completion of the Project by seven days. (N.T. 220, 135; Board Finding)

128. CPCI used seven extra days to complete the bridge grinding and those seven days shall be subtracted from the total thirty-five days of delay claimed by the Department and assessed as liquidated damages. (Board Finding)

d. Total Delay

129. On October 3, 2001, CPCI completed the work and reopened the bridge to traffic, thirty-five days later than the planned date of August 29, 2001. (N.T. 336, 366; Ex. P-20)

130. The Department rejected CPCI's requests for additional time and compensation on September 7, 2001, October 11, 2001 and January 18, 2002. (N.T. 42, 364; Exs. P-38, P-48)

131. The Department charged CPCI liquidated damages of $4,000 per day for the thirty-five days of delay for a total charge of $140,000.00. (N.T. 149)

132. Mr. Payne testified that the Department did not have a reasonable basis for withholding thirty-five days of liquidated damages for the delays in the Project. (N.T. 220-221)

133. Mr. Payne testified that the entire delay charged by the Department as liquidated damages was excusable because it was the result of the impact associated with the cofferdam failure and the plan grade errors at the bridge abutments and approach slabs. (N.T. 221)

134. Consistent with Mr. Payne's opinion, the Board finds that CPCI's entire thirty-five day delay was caused by the liquefaction problem, the plan grade errors at the bridge abutments and approach slabs, and the change from transverse grooving to longitudinal grinding of the bridge deck. (N.T. 220- 221; Board Finding)

135. The Board finds that twenty-nine days of delay in completing the Project was caused by the undisclosed and unforeseen liquefaction condition associated with building the cofferdams at Pier 1 and Pier 2, eight days of delay were caused by the Department's plan grade errors at the bridge abutments and approach slabs, and seven days of delay were caused by the Department's change order for bridge deck grinding work. (N.T. 221; Board Finding)

136. The total amount of delay days caused by the acts and omissions of the Department is forty-four days. This period exceeds the thirty-five days charged by the Department as liquidated damages. (Board Finding)

137. The Board finds that the One Hundred Forty Thousand Dollars ($140,000) withheld by the Department as liquidated damages is due to delay days caused by the Department. (N.T. 220-221; Board Finding)

Force Account Records

138. At the June 13, 2001 progress meeting, Mr. Paliotta told the Department that he would maintain force account records to make a daily record of the extra work that was done on the job. (N.T. 42- 43)

139. On June 19, 2001 a progress meeting was held and the meeting notes confirm that force account records would be kept for the extra cofferdam work. (N.T. 341; Ex. P-24)

140. Mr. Tribuzio prepared and maintained summary force account records and daily records for labor and equipment utilized on the Project to repair and construct the redesigned cofferdam. (N.T. 122; Exs. P-41, P-45)

141. Mr. Stefurak, the Department's project manager, reviewed the force account records on a daily basis and sometimes put his initials at the bottom of the pages. He testified that these initials did not indicate that he agreed to the information or certified that it was correct. (N.T. 122-123, 285-286,320; Ex. P-41)

142. Mr. Karl A. Jarek, CPA, testified on behalf of CPCI as an accounting expert on the issue of the extra costs incurred by CPCI relating to the cofferdam failure. (N.T. 247-282)

143. Mr. Jarek submitted an expert report summarizing his conclusions. In the report he divided the extra costs into four main categories: material, services by others, labor and

equipment. He utilized the force account records maintained by CPCI, relevant sections of the Blue Book, CPCI's certified payroll reports, invoices, information obtained from his inquiries of CPCI personnel and PennDOT Publication 408/2000 to verify the material costs, costs of services by others, labor costs and equipment costs incurred by CPCI. (Ex. P-44; N.T. 252)

144. In Appendix A to Exhibit P-44, Mr. Jarek listed the extra material costs relating to the redesign and reinstallation of the cofferdam. After review of the underlying invoices and testimony, the Board finds the following material costs were incurred by CPCI as extra costs attributable to the liquefaction problem:

CZ114	$20,897.50
Plywood	210.00
CZ114	7,670.75
Freight	500.00
AASHTO #57	499.39
AASHTO #57 Freight	173.40
1/8 Elec 50#	232.65
5/32 Elec 50#	240.00
Class HES concrete	4,392.00
Class HES concrete Saturday Premium	200.00
Class HES concrete	4,608.00
Class HES concrete Saturday Premium	200.00
Subtotal	39,823.69
6% Sales Tax	2,389.42
Subtotal	42,213.11
25% Overhead for Materials	10,553.28
TOTAL	$52,766.39

(Ex. P-44, App. A; N.T. 255)

145. The two invoices for CZ114 in the amounts of $20,897.50 and $7,670.75 for materials are extra costs for the additional sheet piles needed to construct the Pier 1 cofferdam. CPCI had to change its plan and work on both cofferdams simultaneously in order to minimize the delay caused by the liquefaction problem and thereby incurred these extra costs. (N.T. 323-324, 271; Ex. P-41)

146. Mr. Stefurak acknowledged that he was aware that CPCI originally intended to construct the cofferdam at Pier 2, build the pier inside the cofferdam, start the cofferdam at Pier 1, and then after Pier 2 was completed, CPCI would move to Pier 1 to complete the cofferdam, using the same sheet piling used at Pier 2. (N.T. 342)

147. Skyline Steel submitted three invoices for extra costs for materials: BH 00515 (invoice #019304), BH 00516 (invoice # 010479) and BH 00517 (invoice # 012049-R). These three invoices are each dated with the year 2000 and therefore are not part of the extra costs incurred after June 12, 2001 attributable to the liquefaction problem. (Ex. P-41; Board Finding)

148. Section 110 of Publication 408 provides that a contractor may recover a 25% markup on the extra costs for materials. (N.T. 256)

149. In Appendix A of his expert report, Mr. Jarek summarized the items of damage that CPCI contends it incurred relating to services by others in the redesign and reinstallation of the cofferdams. (Ex. P-44, App. A)

150. The Department contested the following CPCI invoices for services by others and the Board finds that for each invoice only the amounts stated below are extra costs attributable to the liquefaction problem:

a. SPK Consulting Engineers invoice for $3,404.50 is disallowed because it was for design services for the period prior to when the cofferdams were constructed. (Ex. P-41, App. A BH000501; N.T. 256) A second SPK Consulting Engineers invoice for $3,956.00 was introduced into evidence and was not challenged by the Department. (Ex. P-46, N.T. 257, 322) The Board finds the amount on the second invoice to be extra costs for cofferdam redesign services. (Ex. P-46)

b. Antonacci and Associates invoice for $3,839.00 lists work done from May 16 to June 11, 2001. The cofferdam failure occurred on June 12, 2001 so none of the amount of this invoice can be included in the services category because it was not for extra cofferdam expenses. (Ex. P-41, BH00502; N.T. 147-148, 268-270, 322)

c. Antonacci and Associates invoice for $2,160.00 lists services work done from June 23 to July 9, 2001. The Board has reviewed this invoice and finds only the amount of $617.50 is extra costs for resetting the cofferdam and driving piles. (Ex. P-41, p. BH00503; N.T. 147-148, 268-270, 322; Board Finding)

d. Two Glenn Trucking invoices are each dated June 18, 2001 and each list a charge of $368.78 for delivery services for “steel beams.” (additional sheet piles for the new cofferdams). These invoices total $737.56 and that amount is properly included in the services summary of extra costs. (Ex. P-41, p. BH00504 and BH00505; N.T. 323)

e. John Wahl Hauling invoice for $1,830.00 dated July 9, 2001 is for loading and delivering materials. CPCI concedes that only $396.00 of this invoice should be allowed because it relates to the extra costs. (Ex. 41. BH 00506; N.T. 271-272, 322)

f. The Viviano Trucking invoice for $941.25 received June 27, 2001 was for hauling services performed on June 23, 2001. Of this amount, only $210.00 should be included in the extra costs. (Ex. P-41, App. A; N.T. 323)

151. The Board finds the following items of damages relating to services by others were incurred by CPCI as a result of the liquefaction problem at the site and are extra costs incurred for work outside of the contract :

SPK Consulting Engineers	$ 3,956.00
Antonacci & Associates	617.50
Glenn Trucking, Inc.	737.56
John Wahl Hauling	396.00
Viviano Trucking	210.00
Subtotal	5,917.06
Additional 2% markup	118.30
TOTAL	$ 6,035.40

(Exs. P-44, App. A, P-46, P41; Finding of Fact 150; Board Finding)

152. Section 110 of Publication 408 provides that a contractor may recover a 2% markup on extra costs for services provided by others. (N.T. 256)

153. In Appendix B to his expert report, Mr. Jarek summarized the following extra labor costs relating to the redesign and reinstallation of the cofferdams between June 12, 2001 and July 6, 2001. The Board finds that these labor costs are extra costs attributable to the liquefaction problem:

Subtotal of labor (base pay, overtime pay and fringes)	$ 19,003.28
Base Rate ($14,175.70) x Insurance and tax percentage (56.83%)	8,056.05
Labor cost	27,059.33
40% overhead markup	10,823.73
TOTAL	$ 37,883.06

(Ex. P-44, App. B; N.T. 258-260; Board Finding)

154. Mr. Jarek verified the amounts for labor listed in Appendix B of his expert report by tracing the daily labor times to the certified payroll and the daily force account summary records. (N.T. 258-259; Exs. P-42, P-45, P-44)

155. Section 110 of Publication 408 provides that a contractor may recover a 40% overhead markup on extra labor costs. (N.T. 260)

156. Mr. Jarek used 56.83% for indirect labor costs including taxes and insurance based on CPCI's past experience. (N.T. 260)

157. In Appendix C of his expert report, Mr. Jarek summarized the following extra equipment costs relating to the redesign and reinstallation of the cofferdams. The Board finds these extra equipment costs are attributable to the liquefaction problem:

Crane (Linkbelt)	OT	$12,485.25
	ST	6,072.90
Welder (Miller)	OT	164.52
	ST	59.17
Self Priming Trash Pump	OT	1,293.29
	ST	503.27
Pile Hammer	OT	0.00
	ST	5,582.78
Crane (American)	OT	505.19
	ST	8,397.46
Light Plants	OT	1,630.25
	ST	843.64
Welder (Lincoln)	OT	141.52
	ST	80.45
Hydraulic Excavator	OT	240.52
	ST	79.36
Vibratory Pile Hammer	OT	.00
	ST	1,167.58
Subtotal		$ 39,247.15
5% overhead markup		1,962.36
TOTAL		$ 41,209.51

(Ex. P-44; N.T. 261; Board Finding)

158. The extra equipment costs that Mr. Jarek listed in Appendix C of his expert report were based upon his review of the daily force account records in Exhibit P-45. (N.T. 261; Exs. P-44, App C and P-45)

159. CPCI is entitled to a 5% overhead markup for equipment in accordance with Section 110 of Publication 408. (Ex. P-44)

160. The Board finds that CPCI sustained the following extra costs relating to the redesign and reinstallation of the cofferdams caused by the liquefaction conditions:

Material	$ 52,766
Services by Others	6,035
Labor	37,883
Equipment	41,210
TOTAL	$ 137,894

(N.T. 252-254; Ex. P-44; Findings of Fact 151, 153, 157)

161. The Board finds that CPCI incurred total damages of $277,894 ($140,000 for the liquidated damages withheld by the Department for delay not caused by CPCI and $137,894 for extra costs caused by the liquefaction problem). (Findings of Fact 137, 160; Board Finding)

162. Plaintiff made a claim for these damages against Defendant on April 25, 2002, when CPCI attended a Construction Review Committee meeting to present CPCI's claim for additional compensation and time extension. (Plaintiff's Compl. para. 4).

CONCLUSIONS OF LAW

1. The Board of Claims has exclusive jurisdiction to hear and determine this matter as a claim against the Commonwealth of Pennsylvania arising from a Contract Number 114083 (the "Contract") entered into with the Commonwealth. 72 P.S. §4651-4.

2. The Board of Claims has jurisdiction over the parties as well as the subject matter of the claim asserted by CPCI. 72 P.S. §4651-1, et seq.; Ex. P-10, para. 13.

3. Under the terms of its Contract with the Department, CPCI was obligated to design and build two cofferdams in accordance with the specifications provided in the Contract.

4. CPCI's original design of the cofferdams was reasonable and met the specifications set forth in the Contract.

5. The Contract contains no specific language that assigns risk or liability to either party for the consequences arising from unusual and unseen site conditions.

6. Liquefaction was an unusual subsurface condition in the silt of the riverbed that was not known by or disclosed to CPCI prior to June 12, 2001.

7. CPCI's original cofferdam design failed because of an unusual and unseen subsurface condition (i.e. liquefaction) that developed while CPCI was driving the H-piles, causing the cofferdam to collapse.

8. The Department's geotechnical engineer, GeoMechanics, Inc., disclosed the potential for liquefaction conditions in its geotechnical report on the site. This report was given to the Department and its engineer, B-H, but its existence was not known to CPCI.

9. Under its contract with the Department, B-H had an obligation to include information about the liquefaction conditions in the specifications given to all bidders.

10. CPCI had no actual or constructive knowledge of the geotechnical report or the information it contained about the potential for liquefaction conditions at the site.

11. GeoMechanics and B-H were agents of the Department and, as such, their knowledge of the liquefaction potential of the subsurface in the cofferdam area is attributed to the Department.

12. The Department had actual and/or constructive knowledge of the potential for liquefaction at the Project site.

13. Because it contained no statement about the potential for liquefaction, the soil parameters contained in the bid documents and in Contract's special provisions were incomplete and misleading to CPCI and other bidders.

14. The Department's failure to include certain material information about subsurface conditions in the Bid Documents was a misrepresentation because the omission misled CPCI about the subsurface conditions.

15, Mr. Paliotta of CPCI satisfied a requirement of the Contract by making a visit to the work site prior to bidding on the Project. The potential for liquefaction conditions was not visible during his site visit.

16. Prior to bidding on the Project, CPCI had no duty to conduct an examination or investigation of subsurface conditions under the riverbed.

17. Unstable, unusual and undisclosed subsurface soil conditions at the work site were not CPCI's responsibility because they could not be discovered by a site inspection.

18. CPCI had no legal obligation to request the geotechnical report because it was not part of the Bid Documents and CPCI had no notice that there were any unseen critical conditions at the work site.

19. Before bidding on the Project, CPCI had no legal duty to hire a geotechnical engineer to discover hidden subsurface conditions because CPCI had no notice of any critical conditions that needed to be investigated in the riverbed.

20. The Department failed to produce sufficient evidence to prove that the particular requirements of AASHTO Guide Specifications in Exhibit D-1E were referred to in the Contract or applicable to the soil conditions at the site.

21. CPCI had the burden of proving the facts necessary to establish the Department's liability for the delays and extra costs that it incurred at the Project. CPCI met this burden and the Department offered substantially no contrary evidence.

22. CPCI could not have reasonably anticipated encountering the liquefaction condition that caused the cofferdam failure at Pier 2 and required the redesign of the cofferdams.

23. The Department breached the Contract with CPCI by failing to include material information in the special provisions about soil liquefaction conditions and thereby causing CPCI to incur extra costs and delay.

24. The Department is liable to CPCI for damages for its misrepresentation claim for omitting material information about potential liquefaction conditions at the cofferdam sites.

25. CPCI is entitled to an award of damages for the extra costs it incurred in connection with the redesign, repair and installation of the cofferdams and the H-piles and an extension of time for the delays caused by the unexpected and undisclosed site condition.

26. The contract provided for liquidated damages in the amount of Four Thousand Dollars ($4,000) per day for each day the bridge was closed to traffic beyond the one hundred nineteen (119) day period allowed for construction.

27. The Department refused to grant CPCI any extension of time beyond the one hundred nineteen (119) days allowed under the Contract to complete the Project. The Department assessed One Hundred Forty Thousand Dollars ($140,000) for liquidated damages for thirty-five days of delay.

28. CPCI was entitled to an extension of time of twenty-nine (29) days in order to complete the construction of the redesigned cofferdams and driving of the bearing piles at Pier 1 and Pier 2 in the liquefaction conditions. This was extra work outside the Contract.

29. The Board denies CPCI's claim for nine (9) days of excused delay for the flooding of the causeways that occurred in early April, 2001. Since CPCI was never charged for any delay days in April, it is not entitled to any extension of time or any reimbursement of liquidated damages for the flooding that occurred in April.

30. CPCI is entitled to an extension of time of eight (8) days attributable to corrective work that CPCI had to perform because of design errors made by the Department and its designers regarding the deck grades at the bridge abutments and approach slabs. Due to these design errors, the Department required CPCI to perform this extra work outside of the Contract.

31. CPCI is entitled to an extension of time of seven (7) days attributable to extra work and delay CPCI incurred in order to complete the longitudinal grinding of the surface of the bridge deck. The Contract called for transverse grooving of the deck but the Department changed this requirement and ordered CPCI to do this extra work that was outside the scope of the Contract.

32. The Department was not entitled to assess liquidated damages against CPCI for any of the thirty-five (35) days of delay because that entire thirty-five day delay period was caused by acts and omissions of the Department.

33. CPCI is entitled to a rebate of One Hundred Forty Thousand Dollars ($140,000) that the Department withheld as liquidated damages for the delay on the Project.

34. The Department is liable for the extra costs CPCI incurred because of the liquefaction problem.

35 The Board finds that the Department is liable to CPCI for a total of One Hundred Thirty-Seven Thousand Eight Hundred Ninety-Four Dollars ($137,894) of extra costs attributable to the liquefaction problem.

36. The Board finds that the Department is liable to CPCI for damages of $140,000 plus $137,894 or a total of $277,894.

37. The Department is also liable to CPCI for pre-judgment interest of $54,633, calculated at the rate of six percent (6%) per annum on $277,894, the total amount of damages, from April 25, 2002 until August 3, 2005, the date of this Order.

38. CPCI is entitled to post-judgment interest of six percent (6%) per annum on the total judgment award of $332,527, until paid in full.

OPINION

The issues in this case arise from a contract between the plaintiff, Carmen Paliotta Contracting, Inc. ("CPCI"), and the Commonwealth of Pennsylvania, Department of Transportation ("Department") for the construction of a bridge over the Mahoning River along Route 108 in Lawrence County, Pennsylvania (the "Project"). As the successful bidder on the Project, CPCI demolished the old bridge and erected a new one according to the plans and specifications supplied by the Department. As part of the Project, CPCI had to design and build two cofferdams in the river prior to constructing two new concrete bridge piers. Subsurface conditions in the river made CPCI's initial design of the cofferdams inadequate, and CPCI had to redo the design thereby incurring delays, extra work and extra costs.

The Project was delayed thirty-five days for which the Department assessed CPCI $140,000 in liquidated damages. The questions presented to the Board center on CPCI's claim

that the Department is liable to CPCI for reimbursement of the liquidated damages and for the extra costs associated with the cofferdams' redesign and reconstruction and several other problems that arose near the end of the Project.

The facts describing the events preceding and during construction of the bridge, piers and cofferdams are generally not in dispute. Although the Department vigorously disputed CPCI's claims throughout the pre-trial process and identified numerous witnesses in its pretrial filings, the Department called only one fact witness at trial and presented no expert testimony to contradict or dispute the opinions of CPCI's two expert witnesses, Mr. Payne and Mr. Jarek. Mr. Stefurak, the Department's lone fact witness was not an engineer and only gave testimony covering certain aspects of CPCI's damage calculations and non-compliance with schedule milestones. He gave no testimony concerning the cause of the cofferdam problem or whether the liquefaction potential was known or able to be known by the Department or CPCI. The Department presented no testimony to contradict CPCI's evidence that the Department failed to disclose the unique soil conditions on this Project to the bidders, no testimony to dispute the adequacy of CPCI's bid for the Project and no testimony to refute that the original design of the cofferdam complied in all respects with the contract requirements. The Department's failure to present evidence to contest these liability fact issues is significant because the Board must deem them decided in CPCI's favor.

The facts underlying the damage calculations in the case are a somewhat different story. Although it called no expert witness to testify about damages, the Department did contest some specific damage amounts claimed by CPCI through the testimony of Mr. Stefurak and the cross-examination of CPCI's witnesses. The damage section at the end of this opinion will parse through the damage evidence presented by both parties to compute the final damage award.

Procedural History

CPCI filed its complaint with the Board on August 14, 2002 alleging breach of contract and negligent misrepresentation against the Department and seeking damages in excess of Three Hundred Forty Thousand Dollars ($340,000). On September 25, 2002, the Department filed preliminary objections that were denied by the Board on November 14, 2002. The Department filed an answer and new matter on January 10, 2003 and CPCI filed its reply to new matter on February 14, 2003. The parties commenced discovery. On November 18, 2003, the Department filed a petition for an extension of time to join an additional defendant, but the Board denied the petition on January 28, 2004. On January 7, 2005, CPCI filed a motion to amend its complaint. The Board denied that motion orally on January 11, 2005 (N.T. 7-8) and also denied a renewal of that motion on January 12, 2005 (N.T. 305-306).

The Board held a hearing of this matter on January 11 and 12, 2005, and heard testimony from five witnesses. The parties filed their post-hearing briefs on March 25, 2005.

Liability Issues

In December 2000, CPCI submitted a bid of $2,592,120.86 to the Department for the replacement of the bridge over the Mahoning River. The Project began with the construction of a temporary causeway followed by the demolition of the existing bridge structure, the construction of a new bridge, and some work on the roadway (the approaches, drainage, and guardrails). For the new bridge, CPCI had to construct two new concrete bridge piers that required excavation and the installation of temporary protection systems, in the form of two cofferdams in the river.

During the bidding process, the Department provided certain documents containing information about the Project to all bidders ("Bid Documents"). The Bid Documents included

the project drawings, Department Publication 408/2000 Specifications, special provisions and the proposed contract for the Project. The project drawings depicted the cofferdam layout and Items 9203-0103 and 9203-0104 in the special provisions of the proposed contract provided additional information regarding the cofferdam soil parameters. CPCI received these documents from the Department and relied upon them in preparing its bid. After viewing the site location for the Project and reviewing the Bid Documents, CPCI decided that a simple sheet-pile cofferdam was the appropriate temporary excavation support and protection system to construct the piers for the Project. Because CPCI already owned most of the materials necessary for a simple sheet-pile cofferdam, CPCI's bid included a lump sum of $25,000 for each of the two cofferdams. The Department issued a notice of award to CPCI on January 31, 2001 for the Project, and CPCI and the Department subsequently executed a contract ("Contract") (Ex. P-10).

CPCI retained the services of Sucevic, Piccolomini & Kuchar Engineering, Inc. ("SPK") to design and prepare plans for the construction of the cofferdams. On March 19, 2001, CPCI submitted the cofferdam design and plans to Buchart-Horn, Inc. (“B-H”), the Department's design engineer, for approval as required by the Contract. B-H returned the submittal and requested additional information and calculations from SPK, who then prepared a revised submittal and sent it to B-H on March 27, 2001. Both submittals provided the details for the construction of simple sheet pile cofferdams at Pier 1 and Pier 2. The cofferdam design did not include bracing or wales and neither B-H nor the Department raised any objection or requested that the cofferdam design include additional support. B-H approved CPCI's second submittal on April 3, 2001.

Neither CPCI nor SPK received notice that the sheet pile cofferdam design without additional bracing would be insufficient for installation of the bridge piers at the Project. Based

on the evidence presented at the hearing, the Board concludes that CPCI reasonably relied on the information provided in the Bid Documents to develop its bid price, and that CPCI reasonably relied on the information provided in the Contract documents to design the original cofferdams for Piers 1 and 2.

On May 3, 2001, CPCI closed the old bridge to traffic and began demolition the following day. Under the terms of the Contract, CPCI had 119 days to complete the construction starting with the closing date of the bridge and ending with the opening of the new roadway on August 29, 2001.

On May 10, 2001, CPCI installed the first test pile at Pier 2. Under the construction schedule, CPCI was to begin to build the first cofferdam at Pier 2 and after that was underway start on Pier 1. CPCI did not have enough sheet piling on hand to construct both cofferdams at the same time. On May 24, 2001, CPCI began the cofferdam installation at Pier 2 and completed the installation of the sheet piles there on June 5, 2001. CPCI excavated and dewatered the Pier 2 cofferdam without any problems.

On June 11, 2001, CPCI began to drive steel H-Piles (the large steel "H" beams for the bridge pier foundation support) into the soil at Pier 2. Under the May CPM schedule, three days were allotted for driving these piles. On June 12, 2001, after CPCI resumed driving the H-piles, the liquefaction soil conditions appeared in the riverbed causing the cofferdam sheet piles to misalign and the top of the sheet piles to deflect inward. CPCI had to stop the H-pile installation because the collapsing cofferdam posed a dangerous condition to the workers.

Representatives of CPCI, the Department and their engineers met on June 13, 2001 to discuss the cofferdam failure, and the parties agreed that CPCI would propose a new design solution for the Department's review and approval. SPK prepared revised plans and details that

incorporated wales, a strut and a concrete slab at the base of the excavation to provide additional structural support to prevent the sheet pile cofferdam from deflecting during the H-pile driving. While CPCI waited for the new design, it did some work to repair the damaged cofferdam but could not proceed further. On June 21, 2001, B-H approved the re-done plans and details, and CPCI then proceeded to construct the redesigned cofferdam at Pier 2. On June 25, 2001, during the night shift, CPCI was able to again start driving the H-piles. It finished the pile driving on June 30, 2001. At Pier 1, CPCI built the same redesigned cofferdam and finished driving the H-piles there on July 10, 2001.

At the hearing, CPCI showed there was no information presented in the Bid Documents that would have led CPCI during the pre-bid period to consider the potential for soil liquefaction and therefore to include wales, struts and a seal slab in its initial cofferdam design. Not only did the Department and its engineer make no mention to CPCI of the potential for soil liquefaction or for added cofferdam stiffness when the design submittals were reviewed, CPCI also had no indication during its sheet pile installation of the adverse soil conditions. All evidence presented at the hearing supported CPCI's contention that the soil conditions it encountered were unanticipated, unusual and not possible to detect by any pre-bid visual inspection of the site. They also differed from the site conditions portrayed in the special provisions of the Contract.

The factual core of CPCI's liability case against the Department is found in the soil parameters provided to all bidders in the Contract's special provisions. These soil parameters were accurate for the conditions encountered at the beginning of the cofferdam installation, but they were devoid of information about the liquefaction conditions that could arise at the site after the H-pile driving began. Liquefaction is an unusual condition that cannot be detected by visual inspection wherein soil, when agitated, loses its structural integrity and stability. The Department

had, through its design engineer, B-H, engaged the geotechnical engineering firm of GeoMechanics, Inc. in 1999 to prepare a geotechnical report for the site. That report included a statement that warned of the potential for liquefaction conditions. The Department did not include this information in any documents it provided to bidders. Although the Department provided soil parameters and the core boring information to the bidders, its omission of the geotechnical engineer's finding that the soil parameters could change during pile driving operations made those parameters incomplete and misleading in a material way.

The new cofferdam design required CPCI to purchase additional materials, procure different equipment for the revised cofferdam installation and use more time and labor to complete each cofferdam. As CPCI fell behind the construction schedule and began incurring substantial, additional expenses for the redesigned cofferdams, CPCI notified the Department on July 9, 2001 and on several other occasions of its requests for an extension of the contract time and for additional compensation for its extra expenses. The Department denied these requests on September 7, 2001 and January 18, 2002. The new bridge was opened to traffic on October 3, 2001, thirty-five days late, and the Department assessed $140,000 of liquidated damages for the delay.

Unexpected Site Conditions

CPCI pled causes of action for breach of contract and misrepresentation based upon the Department's failure to disclose unseen and unexpected conditions and failing to reimburse CPCI for the extra costs and delays incurred when it encountered those conditions. CPCI claims those delays and extra costs were for work outside the contract that it was required to do to complete the Project. The Department responded that the risk of encountering unusual and

unseen conditions at the job site was CPCI's risk under the clear terms of the contract, and CPCI must bear all liability for the consequences.

The Department argues that the contract provided that CPCI had the obligation to produce an adequate cofferdam design and finish all work on the bridge within 119 days or face a "disincentive charge", i.e. liquidated damages. (Ex. P-10, para. 3b, p. 5) Also, the Contract's special provisions state that the "temporary excavation support and protection system will be selected by the Contractor." (Ex. P-10, p. 72) The Department argues these provisions allow no excuse for any construction delay and put the responsibility of selecting the cofferdam means and methods entirely on CPCI.

The Department also makes a warranty argument. Citing language from United States v. Spearin, 248 U.S. 132, 39 S.Ct. 59, 63 L.Ed. 166 (1918), it notes that, "A party who furnishes plans and specifications warrants their sufficiency for the purpose in view." However, the Department presented no expert and elicited no testimony to demonstrate that CPCI's cofferdam design did not meet the specifications of the Contract and thus were "insufficient." The only testimony in the record on this point was from CPCI's expert who testified that CPCI's initial design met all the specifications of the Contract and was sufficient for the soil conditions as they were portrayed in the Contract. He further testified that the party that furnished the specifications that were insufficient to successfully build the cofferdams was the Department, who gave bidders incomplete and misleading soil parameter information about the site.

Finally, the Department states that in the Contract CPCI "covenants and warrants" that it examined the work site to ascertain what conditions were present. (Ex. P-10, para. 5) Again, all the evidence at the hearing showed that CPCI completely met this contractual obligation. As required, Mr. Paliotta viewed the bridge site before bidding, and CPCI's expert testified that such

a site visit could not have told any contractor whether or not there was any potential for liquefaction conditions in the riverbed.

The Board finds that the Contract contained no specific provision assigning liability to either party for unusual and unseen site conditions. Looking at legal precedents, the Board notes that the doctrine applicable to cases involving unexpected and unseen conditions is set forth by the Pennsylvania Supreme Court in Acchione and Canuso, Inc. v. Commonwealth, Department of Transportation, 461 A.2d 765 (Pa. 1983). Citing Pa. Turnpike Commission v. Smith, 350 Pa. 355, 39 A.2d 139 (1944), the Court in Acchione listed the "critical factors" to be reviewed in determining whether a contractor can recover:

> (1) Whether a positive representation of specifications or conditions relative to the work is made by the governmental agency letting the contract or its engineer.
>
> (2) Whether the representation goes to a material specification in the contract.
>
> (3) Whether the contractor, either by time or cost constraints, has no reasonable means of making an independent investigation of the conditions or representations.
>
> (4) Whether these representations later prove to be false and or misleading either due to actual misrepresentation on the part of the agency or its engineer or, by what amounts a misrepresentation through either gross mistake or arbitrary action on the part of the agency or its engineer.
>
> (5) Whether, as a result of this misrepresentation, the contractor suffered financial harm due to his reliance on the misrepresentation in the bidding and performance of the contract." Id at 768.

Applying these criteria to the instant case, the Board finds that the Department made positive representations regarding conditions at the site in the soil parameters and core borings included in the Bid Documents. These were material representations, but for some reason the Department's geotechnical engineer's findings that the soil conditions could change during pile

driving operations and liquefaction could occur were not included. The correct and complete soil strength information was uniquely within the purview of the Department and its agents. In formulating its bid, CPCI and its engineer relied on the Department's specifications and had no reason to believe that they were misleading or that all available information had not been provided. Since the listed factors are met, CPCI can recover its damages.

Several cases after Acchione also support the Board's finding that the Department is responsible for the unexpected and unseen conditions CPCI encountered. In I. A. Const. Corp. v. Department of Transportation, 591 A.2d 1146 (Pa. Cmwlth. 1991), the issue was whether a contractor was responsible for extra costs in locating underground utility lines during a bridge reconstruction project. The Court held that the Department was responsible because the contractor had conducted a reasonable inspection of the site but without doing pre-bid excavation it had no way to know that some utility lines were present. The Court found that the contractor had reasonably relied on a drawing made by the Department that had failed to show the lines. While the Department argued that the drawing was not a "misrepresentation" because it did not show the lines, the Court found that it was customary for such a drawing to show existing utility lines and not including them was misleading to the contractor and a misrepresentation under the test in Acchione.

Another case close to the case at bar is P. DiMarco & Company, Inc. v. Commonwealth, Department of Transportation, 1997 WL 836687, Docket No. 1772 (Pa. Bd. Claims 1997), *affirmed as modified* by the Commonwealth Court at 711 A.2d 1088 (Pa. Cmwlth. 1998) where the Board decided a similar claim concerning unexpected subsurface conditions. The contractor encountered unforeseen "soft spots" in the soil under the roadway during construction. DiMarco, 711 A.2d at 1090. There was no indication in the bid documents that soft or unstable

areas were likely to be encountered on the project. 1997 WL 836687 at *7. Although DiMarco was not aware of the soft spots when it submitted its bid, the Department refused to compensate DiMarco for the additional expense incurred as a result of the condition. DiMarco, 711 A.2d at 1090. The Department contended that the unstable subsurface conditions were DiMarco's responsibility under a contract term whereby DiMarco "warranted" that it examined the site and was fully aware of the character of the subsurface materials. Id.

The Board and the Commonwealth Court rejected the Department's argument and decided the Department should bear the risk of the unexpected conditions. After considering what knowledge could reasonably be obtained by the contractor, the Board held that the contractor had no duty to conduct an examination or investigation of the subsurface conditions prior to entering the contract. 1997 WL 836687 at *20. The Commonwealth Court supported the Board's conclusion that pre-bid testing by DiMarco for subsurface "soft spots" would have been unreasonable, and that the warranty words of the contract could not be used to deny DiMarco reimbursement of its extra costs. DiMarco, 711 A.2d 1091. See also, Thomas M. Durkin & Sons, Inc. v. Department of Transportation, 742 A.2d 233 (Pa. Cmwlth. 1999) (holding that where the government makes a positive representation about unseen site conditions that is relied upon by the contractor to its detriment, the contractor can recover the resulting costs.)

Applying Acchione, I.A. Construction and DiMarco, the Board finds that the liquefaction condition was an unusual, unseen condition and was not discoverable by any site visit. The Department had actual or at least constructive knowledge of the potential for liquefaction because it was in its own geotechnical engineer's report. The Department did not share the information with bidders. Because the Department provided soil parameters for the site that

omitted the liquefaction information, those parameters were inaccurate and misleading. Since CPCI's design met the specifications of the Contract but failed because of undisclosed soil conditions at the site, the Department is liable for the extra costs and delays incurred.

The Department relies on two other arguments to attempt to shift responsibility for the unforeseen liquefaction condition on to CPCI. (Def. Brief at pp.14-15) First, the Department contends that CPCI should have requested a copy of the geotechnical report and reviewed it prior to bidding on the Project. The Department argues that the report was available for review and that it made no effort to withhold it from any bidders. The Department cites no case law that supports its contention regarding CPCI's legal obligation to specifically request any reports beyond those provided in the Bid Documents. The Board also found no cases imposing such an obligation on a contractor. More importantly, the evidence at the hearing was that CPCI had no copy of the report and did not know the report even existed. B-H had commissioned the report in 1999 to assist in the design of the Project, and no evidence was provided stating that the report was ever offered to CPCI or that any procedures were set up for CPCI to get a copy. The Department presented no support for this argument, and the Board rejects it.

By raising the argument that CPCI should have requested the geotechnical report, the Department basically admits that the report contained important information that would have helped CPCI to alter its cofferdam design. The Department's only witness admitted that nothing in the Bid Documents alerted bidders to the liquefaction potential or the geotechnical report. CPCI's expert agreed that the only reference to liquefaction was in the geotechnical report and he further noted that the reference was in the section concerning the pile driving, not temporary shoring. This fact is significant because it illustrates that even the Department's geotechnical

consultant did not link the risk of loss of soil shear strength to the performance of temporary shoring (cofferdam) on the Project.

The Department's engineer, B-H, signed an Engineering Agreement with the Department in 1995 (Exhibit P-47) that provided: "B-H will also coordinate with GeoMechanics to assure that any areas with adverse design/construction conditions are identified and properly provided for early in the design process. These conditions include, but are not limited to areas with high liquefaction…" (Ex. P-47, Sec. 1G, para. 3). The Department clearly made it the responsibility of its engineer, B-H, to make sure that information developed by GeoMechanics regarding liquefaction conditions was included in the soil parameters in the design specifications. B-H did not do so. B-H and the Department had the geotechnical report both prior to the bidding and during the time it was reviewing CPCI's cofferdam design submittal and never advised CPCI to add bracing to its cofferdam design. To the extent that the Department and its consultants did not comprehend the risk of soil liquefaction at the Project, it would be patently unreasonable and unfair to expect CPCI to appreciate that risk pre-bid without the same information.

Second, the Department contends that CPCI had a contractual obligation to hire its own geotechnical engineer to investigate the subsurface conditions prior to submitting its bid. This argument is not based on any language found in the Contract. For this argument, the Department relies on a line found in the AASHTO Design Specifications in Exhibit D-1E, Section 4.4. That section provides that "for excavation of cohesive soils, stability against basal heave shall be investigated using standard methods or empirical charts given in NAVFAC DM-7 and other textbooks on soil mechanics. Critical conditions shall be evaluated by a licensed geotechnical engineer." (Ex. D-1E, Sec. 4.4, p.23) (Emphasis added.)

The Department's argument is not persuasive for legal and practical reasons. The courts in DiMarco and I.A. Construction established the principle that it is unreasonable to expect a contractor such as CPCI to perform its own pre-bid subsurface investigation. The words in this AASHTO specification only impose such an investigation requirement in the event there are "critical conditions" which were not defined in the hearing record by any testimony presented by the Department. CPCI's expert, Mr. Payne, was the only witness who addressed this question, and he testified that the Department was responsible for identifying the critical conditions such as the soil liquefaction condition experienced at the Project. He said he would reasonably expect that a contractor would consult a geotechnical engineer only in the event that the contractor discovered circumstances that were not covered by project specifications and that were critical to the overall design. He testified that if unusual circumstances existed, they should be called out in the contract documents, but in this case there was nothing particularly unusual about the type of cofferdams that would be necessary for this Project that bidders should have expected from their site visit or from reviewing the soil parameters in the Contract.

The Department's argument also relies upon an AASHTO specification that is not clearly identified in the Contract and which Defendant has not established as applicable to this Project. There are various AASHTO Guide Specifications other than the specification marked by the Department as Exhibit D-1E. Mr. Payne testified that the Contract is ambiguous as to which AASHTO publication contractors should utilize. He further pointed out that the excerpt of the AASHTO publication introduced as Exhibit D-1E specifically states it applies in situations involving cohesive soils, and thus is inapplicable in the present case where the cofferdam problem resulted from cohesionless soils.

The failure of the Department to identify the liquefaction conditions in the Bid Documents and the Contract provisions caused CPCI to utilize incomplete information concerning the soil characteristics at the site to calculate its bid and prepare the cofferdam plans and details. It installed a cofferdam that met the Contract specifications, but was inadequately designed for the conditions ultimately experienced at the site. CPCI reasonably relied on the Department's representations contained in the Bid Documents and incurred the damages set forth in this opinion.

Damages

The liquefaction problem caused CPCI a delay in completing both cofferdams. Also, near the end of the Project, several other events outside of CPCI's control caused more delay in completing the Project. The Department refused to grant CPCI any extensions of time and assessed liquidated damages of $140,000 ($4,000 per day for thirty-five days). The Board has analyzed each of CPCI's damage claims to determine if any of the days of delay are excusable because they were used for work CPCI was required to perform outside the parameters of the Contract.

a. Delay Due to the Liquefaction Problem

The Pier 2 cofferdam failure caused delays while CPCI waited for design decisions and performed additional tasks necessitated by the liquefaction conditions. CPCI had to go back to SPK for a new, reinforced design and then re-submit those plans and details to B-H for approval. More materials had to be purchased for the cofferdams and delivered to the site. Then the cofferdam for Pier 2 had to be reconstructed in accordance with the revised design parameters. Because the cofferdam redesign put CPCI behind schedule, CPCI added some second shifts of workers to minimize the construction delay. Finally, CPCI had to be careful in resuming its pile

driving operations to accommodate the unstable soil conditions. A document was admitted into evidence that indicated that in July 2001 a Department supervisor, Mr. Pampena, acknowledged that CPCI should be granted a thirty-day extension of time. (Ex. P-37). The Department, however, ultimately decided to give CPCI no extension at all.

In its post-trial brief, the Department argues that none of the delay should be excused but, if the Board accepts CPCI's position, then no more than thirteen days of delay were caused by the cofferdam failure. Mr. Payne, CPCI's expert, computed thirty-three days of delay due to the cofferdam failure. After analyzing the arguments on both sides, the Board makes its own computation and finds that a total of twenty-nine days of delay are excusable due to the liquefaction problem.

The Board's calculation regarding the cofferdam delay is based on several facts. First, CPCI had the contractual obligation to install two cofferdams and is only entitled to the time it took for the "extra work" necessitated by the liquefaction problem, not all the time it took for cofferdam construction. To calculate this, the Board isolated the "extra work" periods and took into account the amount of time allotted for each task in the CPM schedule. In making all of its delay calculations, the Board utilized CPCI's daily log, added the night shifts as extra work days and excluded the weekend days when no work was done. The Board looked at each pier separately because the delay periods encountered were somewhat different.

At Pier 2, CPCI built the original sheet pile cofferdam without incident. Since the problem began when CPCI was driving the H-piles, the Board begins its computations on this date, June 11, 2001. The pile driving was not completed at Pier 2 until June 30, 2001, and that entire period was filled with interruptions and additional work caused by the liquefaction conditions. The June 11 to June 30 time period encompassed all the extra work and delay that

CPCI incurred at Pier 2. A close examination of this period reveals three distinct segments of the delay, and the Board computes the amount of days in each segment.

At Pier 2, the Board finds that the first time segment from June 12, 2001 to June 20, 2001 encompassed the period when CPCI had to stop work, wait for the cofferdam to be re-designed and repair the damaged cofferdam that collapsed. This first segment encompassed seven working days. Next, from June 21 to June 25, 2001, CPCI constructed the new, more complex cofferdam; this segment covered six working days. During the last segment, CPCI was pile driving. This segment began on June 11, was interrupted by the liquefaction, resumed during the night shift of June 25, and then concluded on June 30 for a total of eight working days. The liquefaction problem added extra pile driving work to the Project because CPCI had to take more time to drive the piles to minimize the heaving and the rebound effect in the soil. Also, the pile driving had to be periodically stopped so the center strut in the redesigned cofferdam could be moved to make room to drive the various H-piles. To separate H-pile driving under the contract from the H-pile driving that was extra work, the Board deducted the three days originally scheduled for pile driving in the CPM schedule (Ex. P-20) from the eight days it took to actually complete the task and concluded that five extra working days were required to drive the H-piles. Adding the three segments (7, 6, and 5 days) together, the Board finds that CPCI is entitled to eighteen days of excusable delay at Pier 2 caused by the liquefaction problem.

Turning to Pier 1, the Board finds some circumstances are different than at Pier 2 and some are the same. Pier 1 was started after Pier 2, and CPCI did not experience any delay period at Pier 1 waiting for the new design to be approved. However, CPCI did have to build the more complex cofferdam at Pier 1 and also had to use more time and equipment to drive the H-piles in the liquefaction conditions. The Board finds that, as at Pier 2, CPCI is entitled to an extra six

days in order to build the re-designed cofferdam and an extra five days to drive the H-piles. The total excused delay at Pier 1 is eleven days.

Summarizing the findings regarding delay caused by the liquefaction problem, the Board concludes that eighteen days of delay at Pier 2 and eleven days of delay at Pier 1 should be added together and the result is twenty-nine days of excusable delay.

b. Three Other Delay Claims

CPCI argues that three other problems not the fault of CPCI also caused delays on the Project and that these delays should not have been assessed against CPCI. CPCI argues these delays were caused by the flooding of the construction area during early April, 2001, by a Department design error in the height of the bridge deck, and by a Department change in the method of finishing the bridge deck. CPCI contends that each of these problems was not the responsibility of CPCI and that liquidated damages should not have been assessed for these days. The Board will address each claim separately.

First, CPCI claims nine days of delay on the Project were due to causeway flooding, a condition beyond its control. It introduced evidence that on April 6, 2001, heavy rains fell on the construction area, and access to some work areas around the bridge had to be closed off. CPCI argues that it had to spend this time period clearing debris and waiting for the flood waters to recede. Work in the bridge area could not fully resume until April 13, 2001. The original construction schedule (Ex. P-11, dated March 11, 2001) showed that the bridge was scheduled to be closed on April 24, 2001 and to reopen on August 20, 2001 (119 day period). The bridge actually closed on May 3, 2001, nine days late.

The Board does not find this nine day delay can be excused or reimbursed to CPCI because the evidence shows that the Department never charged CPCI any liquidated damages for

this delay. CPCI revised its first CPM schedule dated March 11, 2001 (Ex. P-11) and the new construction schedule is dated May 4, 2001 (Ex. P-20). The May schedule shows that the date for the bridge's closure had been changed from April 24, 2001 to May 3, 2001, and the reopening date had been extended from August 20, 2001 to August 29, 2001 (again a total of 119 days allowed). When the Department assessed liquidated damages for CPCI's delay in completing the Project, those damages were computed from the scheduled August 29, 2001, opening date for the bridge to October 3, 2001, when the bridge actually opened. The Department never charged CPCI for any of the delay it experienced as a result of causeway flooding in April, 2001. Therefore, the Board denies this portion of CPCI's claim.

Second, CPCI claims that an error in the design of the bridge deck grades caused delays in the Project, and that the Department improperly charged CPCI liquidated damages for that delay. The testimony of both Mr. Tribuzio and Mr. Stefurak confirmed that on August 2, 2001, the parties first noticed that there was an error of about three inches in the bridge deck grade. The Department's designer had failed to account for the thickness of a bearing pad in calculating the final elevation of the bridge. The Department consulted B-H, and on August 6, 2001, the Department's engineer gave CPCI directions regarding how to proceed. At that point, CPCI resumed work. In addition to the four days of delay CPCI experienced while awaiting the Department's directions, CPCI needed three extra days to install the deck reinforcing steel and deck pans beyond the period scheduled. CPCI also experienced another day of delay while the Department resolved a related problem regarding the approach slabs. The total delay attributable to the Department's design error with respect to the finish grade of the deck was eight days. These days should not have been charged to CPCI as liquidated damages.

Third, although the Contract called for CPCI to finish the deck surface by grooving it horizontally, the revisions CPCI had to make to the vertical alignment of the bridge caused the Department instead to direct CPCI to grind the deck surface longitudinally. CPCI had originally planned to place transverse grooves on the deck using a walk-behind machine. The longitudinal grinding was a much more time consuming process and required additional heavy equipment.

The Department paid CPCI an extra $5,000 for the cost of grinding the bridge deck, and that extra cost is not part of CPCI's claim. CPCI does ask for seven extra days of excused delay for the work. CPCI introduced evidence that the grinding required heavy equipment, and that CPCI had to wait seven extra days while the concrete on the bridge deck cured sufficiently so that the heavy grinding machinery could drive on it. CPCI waited those extra seven days until September 29, 2001, when it received the Department's approval to proceed to take the equipment on to the bridge. CPCI quickly completed all the work and opened the bridge to traffic on October 3, 2001. The Board finds that seven days of delay prior to September 29, 2001, were attributable to the Department's change order to grind the deck surface and are not properly chargeable to CPCI.

c. Total Delay Days and Liquidated Damages

The Department charged CPCI thirty-five days of delay and withheld liquidated damages at the rate of $4,000 per day for a total penalty of $140,000. After reviewing all the evidence, the Board finds that CPCI is entitled to have that thirty-five days of the delay excused and receive a rebate of $140,000.

The total number of days of delay to be excused was actually in excess of the thirty- five days charged. The total is found by adding the twenty-nine days for the cofferdam problem, plus zero days for the flooding problem, plus eight days for correction of the error in the deck grade

and seven days for the longitudinal deck grinding. These days total forty-four days. Thus, CPCI was not responsible under the Contract or under applicable law for any liquidated damages. The Board finds that CPCI should receive a rebate of $140,000 from the Department.

d. Extra Costs

A contractor who performs work and incurs costs beyond the scope of its contract is entitled to additional compensation. Commonwealth, Department of Transportation v. Gramar Const. Co., 71 Pa. Cmwlth 481, 454 A.2d 1205 (1983); Commonwealth, Department of Transportation v. Paoli Const. Co., 35 Pa. Cmwlth. 390, 386 A.2d 173 (1978). CPCI demonstrated that additional work was necessary to redesign and install the cofferdams and H-piles in the liquefaction conditions, and that the Department is liable for the extra costs.

The findings of fact preceding this opinion set forth the specific extra costs that CPCI incurred relating to four categories: materials, services by others, labor and equipment. Based on the testimony and the documents admitted at the hearing, the Board finds that CPCI is entitled to $52,766 for extra costs for materials; $6,035 for extra costs for services by others; and $37,883 for extra costs for labor and $41,210 for extra costs for equipment due to the liquefaction problem. The Board finds that CPCI is entitled to total damages for extra costs in the amount of $137,894.

e. Interest

Plaintiff is entitled to receive pre-judgment interest at the 6% per annum legal rate on the total damage award found due on its claim from the date the claim was filed with the contracting officer until judgment. 72 Pa. C.S.A. §1751; See also, Department of Transportation v. Anjo Construction Co., 666 A.2d 753, 760 (Pa. Cmwlth. 1995). On April 25, 2002, CPCI attended a Construction Claim Review Committee meeting to present CPCI's claim for additional

compensation and time extension. (Plaintiff's Compl. para. 4). This is the earliest date at which it has been established that Plaintiff submitted its claim to the contracting officer of the agency. This is the date from which pre-judgment interest begins to accrue on Plaintiff's claim. Utilizing 1196 days (April 25, 2002 to August 3, 2005) multiplied by a daily interest accrual of $45.68 ($277,894 x .06 ÷ 365) the Board calculates the pre-judgment interest due (to the nearest dollar) to be $54,633.

The Board finds that the $137,894 of damages for extra costs shall be added to the $140,000 for the refund of liquidated damages for total damages of $277,894. Pre-judgment interest of $54,633 is then added to this amount for a total judgment award to Plaintiff of $332,527. CPCI is further entitled to post-judgment interest of six percent (6%) per annum on the total judgment of $332,527 from the date of judgment until paid in full. 42 Pa.C.S.A. §8101; See also, Ralph Myers Contracting Corp. v. Commonwealth, Department of Transportation, 496 Pa. 197, 436 A.2d 612 (1981).

ORDER

AND NOW, this 3rd day of August, 2005, **IT IS ORDERED** and **DECREED** that judgment be entered in favor of Plaintiff, Carmen Paliotta Contracting, Inc., and against Defendant, Commonwealth of Pennsylvania, Department of Transportation, in the sum of Three Hundred Thirty-Two Thousand Five Hundred and Twenty-Seven Dollars ($332,527), composed of $140,000 for liquidated damage rebate; $137,894 for extra costs and $54,633 in pre-judgment interest. Additionally, Plaintiff is awarded post-judgment interest on the total judgment award at the rate of six percent (6%) per year until paid in full.

IT IS FURTHER ORDERED that each party will bear its own costs and attorneys' fees.

BOARD OF CLAIMS

OPINION SIGNED

_____
Jeffrey F. Smith
Chief Administrative Judge

_____
Ronald L. Soder, P.E.
Engineer Member

_____
John R. McCarty
Citizen Member