

COMMONWEALTH OF PENNSYLVANIA

SCHNABEL ASSOCIATES, INC. : BEFORE THE BOARD OF CLAIMS  
: VS. :  
: COMMONWEALTH OF PENNSYLVANIA, :  
DEPARTMENT OF GENERAL SERVICES :  
: AND :  
: COMMONWEALTH OF PENNSYLVANIA, :  
DEPARTMENT OF LABOR AND INDUSTRY, :  
BUREAU OF EMPLOYER TAX OPERATIONS :  
Intervenor : DOCKET NO. 1435

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**FINDINGS OF FACT**

THE PARTIES, SCOPE OF WORK AND OTHER  
PRELIMINARY MATTERS

1. The Claimant herein is Schnabel Associates, Inc., (hereinafter "Schnabel"), a Pennsylvania Corporation with its principal place of business located at 1375 Forty Foot Road, Kulpsville, Pennsylvania 19943. (Amended Complaint, Paragraph 1)

2. The Respondent is the Commonwealth of Pennsylvania, Department of General Services, (hereinafter "DGS"), an executive agency of the Commonwealth of Pennsylvania, with its principal place of business at 515 North Office Building, Harrisburg, Pennsylvania 17125. (Amended Complaint and Answer, Paragraph 2)

3. Intervenor is the Bureau of Employer Tax Operations, a bureau within the Department of Labor and Industry, (hereinafter "L & I") with its principal place of business at 915 Labor and Industry Building, Harrisburg, Pennsylvania 17120. (Petition to Intervene)

4. The subject of this Claim was DGS's Project 577-15 Phase II, Part B (hereinafter "the Project"), which was formally entitled "Additional Institutional Capacity Graterford State Correctional Institution, Graterford, Montgomery County, Pennsylvania". Graterford is a maximum security prison. (Amended Complaint and Answer, Paragraph 7)

5. On March 1, 1985, DGS awarded Schnabel a contract for the general construction portion of the Project and on March 11, 1985, DGS and Schnabel entered into a written agreement whereby Schnabel agreed to furnish all labor and material necessary for the general construction phase for the total sum of \$15,967,000.00. (N.T. 1270; Amended Complaint, Exhibit A; Amended Complaint and Answer, Paragraphs 8 and 9)

6. The Project was bid with multiple prime contractors and in addition to Schnabel, DGS awarded contracts to R. A. Picard, Inc. (mechanical, HVAC) (Rogers Mechanical ultimately replaced Picard as the HVAC contractor), A. T. Chadwick & Co., Inc. (plumbing), Willard, Inc. (electrical), and Security Elevator Co. The Project professional was a joint venture of Sanders & Thomas Engineers (hereinafter "S & T") and architects Hellmuth, Obata & Kassabaum, P.C. (hereinafter "HOK"). Haines & Kibblehouse (hereinafter "H & K") were the demolition and excavation subcontractors on the Graterford Project. (N.T. 383-384, 517, 765, 1368)

7. The contract documents, referenced in the Contract at paragraph 8.2, included the various plans, specifications, general conditions, supplemental general conditions, special requirements, bulletins and administrative procedures. (Amended Complaint and Answer, Paragraph 9; Exhibit A; Exhibits P/D1 - P/D4)

8. The design of the Project encompassed, inter alia, erection of temporary security fencing, minor demolition, excavating, backfilling and grading, construction of five (5) buildings (A through E), relocation of existing underground utilities and sealing of openings in existing buildings. The new construction encompassed approximately 181,000 square feet and the buildings were to serve as a new classification center housing approximately 352 inmates. (N.T. 119, 365; P/D-1, pg. 1A-A)

9. The five buildings (also described as "Areas" in the contract documents) which were constructed in the Project were:

- a) Building A, a two-story structure containing the intake and release center;
- b) Building B, a two-story structure containing the mental health facility;

- c) Building C, a two-story structure containing the administrative area, the dining and laundry facilities and the kitchen;
- d) Building D, a four-story cell housing area;
- e) Building E, a four-story cell housing area

Buildings D and E combined contained 418 total cells. The design required pour-in-place reinforced concrete slabs, columns and beams. The walls were concrete masonry units with brick facing on the exterior walls. Most exterior walls were security reinforced with security windows. (N.T. 365-370, 902; P/D-1, pg. 1A-2)

10. In order to maintain continuous maximum security the contract required Schnabel to seal up all existing building openings that occurred where new buildings abutted an existing structure, with some existing facilities being removed or relocated. The Contract also required the installation of temporary security fencing, which along with the aforementioned precautionary measures, had to be done before the major construction work could be initiated. (N.T. 455-460; P/D-1, pg. 1A-1; P-9)

11. The Project construction site had to be sealed off from the occupied prison and a temporary security fence was installed in order to accomplish this security measure. A 14-foot chain-link fence was required and installed above the roof parapets with posts anchored to the existing prison walls on the buildings. A 16-foot high chain-link fence was required for the balance of the enclosure, with the bottom 8 feet of the fence consisting of corrugated metal panels which acted as a "fraternization barrier". This fencing ran from the old loading platform area to tower number 21 located on the existing 40-foot high concrete security wall. (N.T. 364, 432, 460, 1362; Exhibits P/D-1 and P-9)

12. The plans designated an existing railroad entrance in the 40-foot high concrete security wall, located just north of guard tower 1, as the temporary construction entrance for the Project. All construction personnel for each contractor, and most material and equipment, accessed the site through this entrance; however, in order to maintain continuous security, the

contract prohibited the use of the railroad gate entrance until the security fence was completed. (N.T. 364, 369, 1280, 1322, 3351-3358, 3660; Exhibit P-3R) (emphasis added)

13. Until Schnabel had the temporary security fence completely erected, workmen and equipment had to use the existing vehicle sally port (secured corridor), under very tight security. Delays were experienced by the Project contractors because clearance was necessary in and out under the supervision of armed guards, only during certain periods of time. (N.T. 432-433, 694-695, 1280, 1384; Exhibit P-3R)

14. Anchor Fence Company of Central Pennsylvania (hereinafter "Anchor") was the initial site subcontractor hired by Schnabel to erect and remove the temporary fencing required by the Contract. The fence was to be completed by May 22, 1985, over a five-week period, according to the DGS Progress Schedule, or "Bar Charts", which were prepared by Schnabel. (N.T. 1291, 1362, 1364; Exhibit P-6)

15. Anchor began the erection of the Security fence April 29, 1985, and was still on site performing security fence work on June 20, 1985, approximately four weeks beyond the scheduled completion date of May 22, 1985. In an effort to expedite the completion of the security fence, Schnabel supplemented Anchor's work force, which averaged two men on site per day, through June 20, 1985. Schnabel back-charged Anchor \$19,888.00 for costs associated with supplementing Anchor's work crews, even though Schnabel did not believe the delay was entirely Anchor's fault. (N.T. 1365-1369, 1383-1392, 1396; Exhibits P-6, D-13, D-14, and D-15) (emphasis added)

16. Included in the Contract Specifications was Section 1A.6, "Sequence of Operations and Project Schedule", which contained a listing of key events and a suggested Project schedule. The suggested Project schedule, from month one to month thirty-six, showed continuous construction operations. (P/D-1, page 1A-1 to A1-8)

17. It was established that each prime contractor was required to prepare a Bar Chart depicting the Project schedule broken into line items identical to the line items shown on the contractor's cost break-down. Schnabel's Bar Charts had to be coordinated with the other prime contractors on the Project. DGS reviewed the Bar Charts to verify that the same items that appear in the cost break-down also appear in the Bar Chart and that the work was scheduled throughout the duration of the Project. (N.T. 3386-3388, 3392, 3498; Exhibits P/D-3, P/D-4;

Administrative Procedure No. 6 and 63.33 (b))

18. DGS issued Bulletin No. 1 changing the proposed time of completion date from 480 calendar days from the date of the award of the Contract to 1,095 days. (Exhibits P/D-1 and P/D-2)

19. Schnabel initially submitted a Bar Chart which contained two periods of time in which no work was scheduled to be performed on any item contained in the Bar Chart.<sup>1</sup> Schnabel viewed these periods as a "winter restraint". DGS rejected the utilization of winter shutdowns as shown on Schnabel's initial Bar Chart. (N.T. 390-393, 3391, 3501)

20. Schnabel later submitted a second Bar Chart which indicated a starting date of March 1, 1985 and a completion date of February 29, 1988, thereby establishing a thirty-six month working period.<sup>2</sup> This second Bar Chart, signed by George Mudalel, Schnabel's Project Manager, was executed by representatives from all the other prime contractors and approved by DGS. This Bar Chart contained a winter restraint period for certain items from the second week of December, 1986 to the first of March, 1987 as to Building C; however, it also showed work continuing for other items on Building A during the same period. (N.T. 3391-3395, 3400; Exhibit P-6; General Conditions, Section 63.190)

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<sup>1</sup>The periods were December, 1985 to March, 1986 and December, 1986 to March, 1987. (N.T. 390-393, 402, 411; Exhibit P-7)

<sup>2</sup>Schnabel initially suggested the possibility of a thirty-month contract duration to DGS; however, DGS advised Schnabel that thirty months was unacceptable. (N.T. 378, 381; P/D-2, Bulletin #1) Schnabel also discussed the possibility of utilizing a critical path method (CPM) and was advised by DGS that a CPM could not be substituted for the Bar Chart. (N.T. 387, 3572)

21. The Bar Chart that was ultimately approved by DGS showed work being performed on a number of the buildings at the same time and also showed an activity being started before a preceding activity was completed. (Exhibit P-6)

22. The approved Bar Chart contained a logical flow of work from building to building and all activities were structured around this general concept. The approved chart was organized to proceed in the general direction the site work would be completed, i.e. work in Building "A", then Building "C", "B", "E" and "D", by trade discipline. (N.T. 408, 1105-1106; Exhibit P-6)

23. Despite the Bar Chart submitted by Schnabel and approved by DGS, Schnabel's Vice-President for estimating, William J. Armstrong, testified under cross-examination, that Schnabel's estimate for the general conditions was based on 30 months, even though the specifications required 36 months. (N.T. 120-122)

24. On cross-examination, Mr. Armstrong also testified that he did not contact any other prime contractors as to whether they were bidding on 30 or 36 months. (N.T. 121)

25. George Mudalel had duties which included, among other things, responsibility for managing the Project, field supervision, estimate review and preparation of the construction sequence and schedule. It was established on cross-examination of Mr. Mudalel that Schnabel's general conditions estimate summary sheet had a notation of 480 days which was crossed out and 1095 is written in, although not by Mr. Mudalel. (N.T. 354-355, 1287; Exhibit P-1, pg. 030091)

#### SCHNABEL'S ESTIMATE AND BID

26. In preparing the construction estimate, George Mudalel consulted with F. C. Schnabel, the President of Schnabel Associates, Inc.; R. N. Hunsicker, Vice-President of Construction; A. R. Hein, Vice-President of Finance; and J. M. Astheimer, Director of Construction Services. (N.T. 353-354, 381, 386)

27. William J. Armstrong established that Schnabel based its labor estimate for road and building concrete on past history and on what Schnabel had done on other jobs. Schnabel estimators also used standard estimating guides such as Means catalogs. These labor costs for concrete items appear in the unit column of the estimate sheets under the slash line.

(N.T. 95-96; Exhibit P-1, pgs. 030025-030027)

28. Mr. Armstrong established that in 1985 it was almost company policy for Schnabel to "self-perform" masonry, concrete and rough and finished carpentry. Schnabel would also price out and solicit subcontract pricing for other items of work. Mr. Armstrong also established that because Schnabel did not have a qualified estimator available for the Graterford Project, they contracted with an outside estimator, Mr. Hank Mundy, to do the masonry take-off. (N.T. 75, 101-102)

29. According to Mr. Armstrong, Schnabel had four or five weeks to prepare the bid for the Graterford Project. The specific trade items which Schnabel estimated would have the most impact on its bid for the Project were concrete, masonry, general conditions and hollow metal doors. (N.T. 31, 3042)

30. The take-off for the concrete estimating was done by Mr. Glen E. Eby under the supervision of Mr. Armstrong. Although Mr. Eby apparently has extensive estimating experience, he did not testify on behalf of Schnabel. The building concrete estimate prepared for self-performing work appears on pages 030024 through 030090 of Schnabel's Exhibit P-1. Mr. Armstrong did not know if those pages represented the complete building concrete estimate; however, the first four sheets are the actual summary of all the take-offs. (N.T. 82-83, 91, 98, 122, 131; Exhibit P-1)

31. Mr. Armstrong established that Schnabel was an "open-shop contractor" and not bound by trade-union rules regarding crew-size. He indicated that his estimate for self-performing work, e.g. carpentry and masonry, would be less than a subcontractor's even under prevailing wage guidelines. Based on his experience, Mr. Armstrong believed that for Schnabel's traditionally self-performed work items, a subcontractor would compute his direct costs, plus insurance and taxes and then add 10% for overhead and 10% for profit for its subcontract bid to Schnabel. (N.T. 76-80, 134)

32. Mr. Armstrong established that Schnabel simply marked up the job based upon the amount of the gross estimate. He explained that Schnabel had lower total estimating costs for self-performed work because Schnabel's estimate for that work only included the direct costs of labor, plus 22% for insurance and taxes, material costs and sales tax and equipment costs where applicable. He stated that these direct costs were not marked up for 10% overhead and 10% profit. According to Mr. Armstrong, ". . . we went in a straight cost in the estimate. Any profit we

made was what was at the bottom of the sheet. We just addressed it as self-performing with no overhead and profit." (N.T. 77-80, 131-134)

33. Mr. Armstrong established that Schnabel's estimate for materials handling was distributed over a number of tasks including self-performed concrete, masonry, general conditions and hollow metal doors. Under cross-examination, he acknowledged and it was later established that the estimate for materials handling was for labor only, for 20 weeks at a total cost of \$16,470.00 which included the mark-up of 22% for insurance and taxes. Mr. Armstrong also stated that using 20 weeks was a "guesstimate" and that his estimate did not include any costs for materials or other costs. (N.T. 129, 145-147, 2839, 4108; Exhibits P-1, P-2) (emphasis added)

34. Mr. Armstrong established that Schnabel computed its total lump sum bid of \$15,588,000.00 for the Project as follows for Alternate I:

Sub-total (Direct Costs)	14,359,511.00
Bond Cost	<u>107,696.00</u>
Total Direct Cost (14,359,511.00 +107,696.00)	14,467,207.00
Profit and Overhead (Figured at approximately 8% of direct cost)	<u>1,148,761.00</u>
Total	15,615,968.00
Quote (Base Bid I)	15,588,000.00
Difference (15,615,968.00 (cost) -15,588,000.00 (Bid))=	27,968.00 (Taken from profit)

Revised Profit Base Bid (1,148,761 - 27,968 divided by 14,467,000.00 x 100% = 7.9%)

Alternate #1 (Change Cell Doors): 379,000.00 was added to base bid.

Original value of Contract awarded: 15,967,000.00  
(15,588,000.00 + 379,000)

Revised profit with alternate number: 1,148,793 divided by 14,818,207 = 7.75%. (N.T. 78-79, 87, 149, 1426; Exhibit P-1, pg. 030091, pg. 0300001; D-90, Tab 7)



34. Mr. Armstrong established that \$27,968.00 was removed from profit just prior to submitting the bid in order to get the total lump sum price below \$15,600,000.00, although Alan R. Hein, Treasurer of Schnabel, acknowledged that Schnabel made a profit of "a couple hundred thousand" on the Graterford Project. Computations by Ernst and Young, a firm hired by DGS to evaluate Schnabel's Claim, indicates a gross profit of over \$600,000.00. (N.T. 308; D-89; Section V, Schedule 1, work paper 3)

35. Mr. Kenneth H. Pukita, Schnabel's expert witness,<sup>3</sup> testified that based upon the overall make-up of the bid documents that he had available, he felt Schnabel's estimate was reasonable and well put together. Mr. Pukita had reviewed listings of breakdowns for various bid items and on items Schnabel developed he went through an analysis of take-off and unit prices to see if they met industry price standards from recognized sources such as Means and Walker catalogs. (N.T. 3038-3039, 3041, 3044)

36. Mr. Pukita, on cross-examination, calculated the difference for pricing concrete between Schnabel's estimate and a quote from Baystone, a concrete subcontractor, to be \$867,946.00, or approximately 41%. Mr. Pukita could not readily identify if the 22% for taxes and insurance on labor was included in Schnabel's estimate of building concrete prior to the bid. (N.T. 3157, 3161, 3168-3169; Exhibit P-1)

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<sup>3</sup>Mr. Pukita is both a professional engineer as well as a registered architect. His major at Penn State was structural engineering, where he was enrolled in the master of science program as an architectural engineer. As a graduate student, his position involved both teaching and research. Mr. Pukita worked for an architectural firm during his graduate program and upon graduation worked for a firm in Scranton, where he was appointed chief structural engineer. Mr. Pukita also worked while meeting his apprenticeship requirements to become a licensed professional engineer and architect and has worked for a number of firms primarily in the field of structural engineering. He also worked as a Project Manager on a number of large projects. (N.T. 2940-2948; P-18)

37. On cross-examination, Mr. Pukita opined that the labor rates should have a 22% increase on the labor costs of \$1,109,076.00 for building concrete which would be equal to \$243,966.72. With regard to those costs, Mr. Pukita did not know whether or not the costs were in Schnabel's bid estimate when evaluating the reasonableness of the concrete estimate. (N.T. 3171-3172; Exhibit P-2, pg. 03002)

38. Mr. Pukita had extensive experience in the administrative aspects of construction and project management, but had no experience in testifying as an expert, no experience in evaluating delay claims, and no experience in the design and construction aspects of the security requirements of a prison the size of Graterford. (N.T. 2943-2980, 4010)

39. A Job Summary Report, as utilized by Schnabel on this Project, is a monthly report that is run at the end of each month, which reflects actual labor costs and other various expenditures, e.g. phone bills, electric bills, etc., expended by Schnabel's own work forces from inception to date. These Reports also reflect the committed costs, which would be the total value of the subcontracts and the total value of the purchase orders that were issued at a particular point in time. The primary purpose of the Job Summary Report was to assist the Project Managers. (N.T. 169-170, 199)

40. The Job Summary Report dated October 20, 1988, summarizes all costs and committed costs, including Change Orders, and reflects a figure of \$16,239,093.62. The Application for Payment dated October 10, 1988, shows the amended value of the contract to be \$16,796,766.12, or \$557,672.60 over Schnabel's total costs and commitments. (N.T. 241-242; Exhibit P-2, Section V, pg. 103; Exhibit P-72)

41. Schnabel had bid on other various prison projects around the state, including Camden Prison, Bucks County, Chester County, Delaware County and some facilities in the Shamokin and Williamsport areas. Schnabel's total estimate bid for the Graterford Project was approximately 3.8% under the second lowest bidder. (N.T. 83-84, 4373; Exhibit P-1)

#### SCHNABEL'S ACCOUNTING PROCEDURES

42. Schnabel used "cost codes" as an accounting system to monitor payroll and costs on the Graterford Project. Alan R. Hein, Schnabel's Treasurer, defined "cost codes" as "a numerical numbering system that was set up to identify the

different aspects of construction." For payroll, the data coming in was generated by time cards which were prepared at the job site by field superintendents. Weekly and monthly labor reports were prepared from this information. (N.T. 158-161)

43. Cost codes were also assigned to monitor subcontract payments and payments to material suppliers and those documents were generated from contracts and purchase orders prepared by Schnabel's purchasing department and entered in the system as committed costs. Individual files were maintained for each vendor and subcontractor. Cost accountants matched subcontractor bills with the contracts and material bills with receiving slips. This system was aligned with a construction industry standard such as Means. (N.T. 159, 165-166)

44. Each month an accountant assigned to the Project would enter manual information provided from time cards or vendor's invoices into the computer. This information would be entered under the appropriate cost codes. (N.T. 164-166)

45. After invoices were entered into Schnabel's accounting system, an invoice entry report would be generated to make sure all the bills were entered and coded properly. These reports would be updated for all the account payable files, job cost reports and certain files within Schnabel's Job Summary Report. Each month Mr. Mudalel and the accountant would review the previous month's entries and correct any coding errors and subsequent summary reports would reflect these entries and changes. (N.T. 167-168, 170-171)

46. The computer program utilized by Schnabel for its accounting produced various reports, including the Summary for Estimate Revision, Job Summary Report and Weekly Labor Summary Report. (N.T. 158, 167, 194, 227; Exhibit P-2)

47. Job Summary Reports, prepared monthly, also contained other costs for items that were purchased, but not under a purchase order. (N.T. 199-200)

48. The Job Summary Report included both actual and committed costs. The Job Summary Reports were prepared by Schnabel due to the fact that their financial statements were prepared on a percentage-of-completion basis; thus, Schnabel needed to determine its total revised cost for the Project as compared to its actual cost expended to date. The Job Summary Reports were generated on a monthly basis throughout the course of construction. (N.T. 171, 199, 237-238, 307, 1148, 4063)

49. Errors in cost coding that had appeared in the Weekly Labor to Date Summary Report would be corrected in the Job Summary Report, but would not necessarily be corrected in the Payroll Report. (N.T. 1059-1061, 2135-2136)

50. The labor amounts from the Weekly Labor Summary did not always correspond dollar for dollar to the labor amount on the same task code on the Job Summary Report. (N.T. 225)

51. Mr. Hein established that the Summary for Estimate Revision reports were utilized by the Project Manager and accountant on a monthly basis to reflect changes on the Project accounting. The corrections or changes noted on the Summary for Estimate Revision are placed in revised Job Summary Reports. (N.T. 186-189; Exhibit P-2)

52. The Summary for Estimate Revision and Job Summary Report introduced at trial were both dated October 20, 1988. These reports were generated approximately three months after final inspection. (N.T. 310; Exhibit P-2)

53. The payroll taxes appearing on the Job Summary Report may not have been paid by Schnabel. Mr. Hein established that the Thirty-One Thousand Two Hundred Fifty-Five Dollars and Fifty-One Cents (\$31,255.51) in payroll taxes for task code 0110 was 22% of direct labor. This figure is not the actual tax paid. Mr. Hein testified "it is a projection of what our average payroll taxes were for the course of the year". (N.T. 253-256; Petition to Intervene; Exhibit P-2)

54. The original computer program that was monitoring the Project's costs was amended during construction to add additional Task Codes to monitor additional and Change Order costs as determined by Mr. Mudalel. (N.T. 1209, 2071-2072, 2117, 2588, 2595)

55. The Final Job Summary Report, generated on February 29, 1989, showing all costs incurred, was not presented into evidence. The Job Cost Report showing actual paid costs, purchase orders, retainage and back charges, was not introduced at trial. (N.T. 237-238, 254, 282, 308)

56. The Job Summary Report does not indicate when the costs were incurred on any task code. (N.T. 4063)

57. Mr. Hein established that Task Codes 0301 through 0383 represent Change Orders, but the Change Order number did not correspond exactly with those of DGS. Pages 18-38 of the Job

Summary Report include the 03 series set up for all charges associated with Change Orders. (N.T. 280-284, 286-288; Exhibit D-1)

58. Some Change Order work performed by Schnabel was not cost coded to Change Order task codes. Similarly, purchase orders issued to subcontractors were not necessarily coded to Change Order task codes where it involved Change Order work. (N.T. 210, 211, 1752-1754, 1783-1789, 1794)

59. The forced account Change Orders issued by DGS did not appear dollar for dollar in the Job Cost Summary. (N.T. 4365)

60. Change Order costs submitted by Schnabel include the anticipated cost of remobilization and demobilization. (N.T. 1728-1732, 1861)

61. The total value of Change Orders issued by DGS and paid to Schnabel do not correspond to the totals in Schnabel's Job Summary Report. (N.T. 1694-1707, 1727, 1802, 1823, 1842, 1861, 1866, 1886, 1898, 1924, 1928, 1945, 1963, 1968, 1985-1987)

62. On Schnabel's Job Summary Report of October 20, 1988, the total cost of this Project was recorded as Sixteen Million Two Hundred Thirty-Nine Thousand Ninety-Three Dollars and Sixty-Two Cents (\$16,239,093.62) including the costs of performing Change Order work, but this does not equal the sum of the job totals for labor, subcontract, materials, others and deducts which is Sixteen Million Two Hundred Forty Thousand Six Hundred Ninety-Three Dollars and Twenty-Four Cents (\$16,240,693.24). The difference between these computer generated numbers is One Thousand Five Hundred Ninety-Nine Dollars and Sixty-Two Cents (\$1,599.62). (N.T. 241-242; Exhibit P-2, Section IV, pg. 103; Job Summary Report)

63. Mr. Hein could not account for the discrepancy in the totals. He stated, "It is supposed to total up". (N.T. 242)

64. Schnabel's Claim does not include any task codes encompassing "finishing trades" (i.e., painting, drywall, etc.) or detention equipment. (N.T. 4069)

65. It was established that there was not a direct correlation between the dollar figures and the breakdown used for developing bid estimate as shown on Exhibit P-1, page 030001 and the dollar values for individual task codes shown as the

"Original Estimate" column in Schnabel's damage book Exhibit P-2, as presented at trial. (N.T. 190, 203-205, 1146; Exhibit P-2)

66. Mr. Hein could not recall if there was a back-up document that detailed the cross-over between cost coding by trades used in bidding the Project and the task codes used to track actual job costs through the accounting system. No documentation was produced at trial that showed a direct correlation between the task codes used in the bidding and each task code used in Schnabel's accounting system to track the Project's costs. (N.T. 203-208, 2642)

67. Mr. Mudalel testified that "I took the original estimate which did not have task codes in all cases and assigned a task code to a certain dollar amount to be put into this report to create the original estimate number or numbers that are in that column I guess". He confirmed that there is not direct correlation between the costs estimated for the bid and what is listed in the "Original Estimate" column of Schnabel's damage book Exhibit P-2. (N.T. 1145-1146; Exhibits P-1, P-2)

#### LAY DOWN AREA

68. As a Project Manager for Schnabel, Mr. Mudalel had responsibility for managing the Project and his duties included, among other things, field supervision, reviewing estimates, preparing and letting subcontracts, awarding work and day-to-day field overview of conditions. (N.T. 354-355)

69. Mr. Mudalel testified that at the very beginning of the Project, almost at the initial conference, Schnabel was concerned about the need for lay down space because the construction area was a very tight site. (N.T. 366)

70. Mr. Mudalel testified that subsequent to being awarded the bid and some time near the initial job conference, Schnabel had inquired about utilizing an empty area inside Graterford and adjusting the temporary fence to allow for additional lay down space; however, Schnabel was denied this request by the Department of Corrections because it could pose certain security risks. (N.T. 366, 1274)

71. The Department of Corrections declined to allow any contractors to locate a lay down area within the walls of an occupied prison due to security concerns. (N.T. 1274, 3419)

72. Mr. Mudalel also established that Schnabel then requested the use of an area for maintaining materials as close

to the gate as possible. Schnabel requested the use of an area adjacent to and near the existing guard tower where the temporary construction gate was located and again the request was denied. (N.T. 366-367)

73. Schnabel and the other primes were told that the only area they could utilize for lay down was an area that was off of the complete siting grade at the outside extremity of a parking lot. The lay down area utilized was located approximately 320 feet from the railroad gate which was used as the contractor's access to the work site. (N.T. 367, 3420, 3711, 4388)

74. There was no specific indication in the bidding documents as to lay down area, although the contract did contain special requirement SR.20 entitled, "Special Order for Contractors Performing Services at State Correctional Institution at Graterford", which outlined the various limitations and security measures under which contractors had to operate. (N.T. 3068; Exhibit P/D-1, SR.20, pg. SR-18)

75. The following language appears in the contract for this Project, under Section SR.20:

(c) Tools:

- (1) Tools shall be kept in a secure, locked area when not in use and inventoried on a daily basis to insure proper accountability. While being used, they shall be kept in view or on person. Broken or non-usable tools are to be disposed of away from Institutional property. Any missing tools are to be reported promptly to the Institutional Maintenance Superintendent. Particular attention should be paid to tools which may be used as weapons or instruments of escape. Special procedures will be developed with the SCI Graterford engineering department concerning cutting pliers, bolts cutters, hacksaws

and welding or cutting  
equipment. UNDER NO  
CIRCUMSTANCES WILL CUTTING  
TORCHES OR WELDING EQUIPMENT BE  
LEFT INSIDE THE ENCLOSURE  
OVERNIGHT OR ON WEEKENDS OR  
HOLIDAYS.

(Exhibit P/D-1, SR.20, pgs. SR-18 and SR-19)

76. Rebar was delivered on a flatbed truck to the railroad gate, inspected by DGS and moved on site, but was never stored in the lay down area outside the prison walls. (N.T. 3716)

77. Schnabel did store rebar, concrete forms, masonry units and other construction materials on the job site within the security walls, at various locations adjacent to the construction areas. (N.T. 3713-3715; Exhibit P-9; photos 82785, 10885, 102485, 62489)

78. Although Schnabel was essentially denied access to a lay down area inside the prison, another prime contractor, later in the Project, was permitted to place storage trailers in the construction area. (N.T. 2070-2071)

79. Mr. Mudalel established that Schnabel did not include any costs for cleaning up the lay down area outside the security wall in its estimate and that they had no concept that they would be forced to use an area outside the wall as a lay down area. (N.T. 1175-1176)

80. Schnabel's Claim in excess of its original estimate for materials handling, based upon its inability to utilize a lay down area in or near the prison, was \$17,200. Schnabel did not set up a separate task code for material handling. (N.T. 1176-1177, 2071; Exhibits P-2, P-2B)

81. Schnabel's claim for additional clean-up costs, based upon its inability to utilize a lay down area in or near the prison, was \$4,542, plus 7% profit. Schnabel did not have an amount in the original estimate for this time because it was assumed the lay down area would be within the contract walls and cleaned up as the job proceeded. (N.T. 1173-1176, 2836; Exhibits P-2, 2B)



#### TELEPHONE SERVICE

82. Mr. Mudalel testified that Schnabel contracted the telephone company and found that there were spare lines at Graterford. (N.T. 2810)

83. Mr. Mudalel acknowledged that the contract special requirements required Schnabel, at its own cost and expense, to install and maintain a telephone. (N.T. 2809, 3576; P/D-1, Section SR.2-2.3, pg. SR-7)

84. The Department of Corrections declined to allow Schnabel to hook up to existing lines within the prison because of the need to save lines for emergency purposes. No contractor on any Graterford project has ever been allowed to tap into existing lines. (N.T. 2817, 3418, 3576)

85. Schnabel's claim for additional telephone expenses due to their inability to use existing Graterford lines was \$1,393. (N.T. 1170-1172; Exhibit P-2, P-2B)

86. It was established through Mr. Mudalel on cross-examination that the difference between Schnabel's estimated telephone cost and the actual cost resulted in an underrun of roughly \$5,500.00. (N.T. 2813)

#### SITE CONSTRUCTION

87. Schnabel's daily records indicate Schnabel's first day on-site to perform contract work was April 22, 1985. The initial Job Conference was held on March 29, 1985. (N.T. 3403, 3385, 3404, 3614; Exhibit P-5)

88. Schnabel was principally represented by Mr. Mudalel, the Project Manager while DGS was represented, among others, by W. Sheaf, Assistant Manager and J. Zinicola, the On-Site Inspector. (N.T. 360, 371, 394, 441)

89. Mr. Richard Pluck was the Inspector for the general construction for DGS and he was assigned solely to Schnabel's work on the Project. Mr. Pluck assumed his duties on the Project while the security fence was being erected in May, 1985 and remained on the Project through the generation of the punch list. (N.T. 3603, 3721)

90. During his daily inspections, Mr. Pluck had to verify the work being performed, crew size, crew makeup and equipment utilized by Schnabel. Also, he reviewed Schnabel's

Applications for Payment to verify all work invoiced had been completed. Applications for Payments that included work not performed were rejected by DGS. (N.T. 3608, 3618-3620)

91. The Department of Corrections held a meeting with Schnabel concerning the Special requirements regarding security at Graterford. (N.T. 1278)

92. As mentioned earlier (Finding of Fact No. 21), the construction sequence as planned by Schnabel was to begin with Building "A", then move on the Buildings "C", "B", "E" and "D", in that order. Building "A" was to be located in the northeastern corner, Building "B" was to be located in the southwest corner, "D" and "E" were to be located in the lower southwestern area, and "C" was to be located in the northeastern portion of the construction site farthest from the construction gate. (N.T. 408)

93. Upon completion of all the buildings and site work as per the contract, the security fence would be removed and the gate area would be enclosed in concrete. (N.T. 410; Exhibit P-6)

94. After the security fence had been completed, Schnabel encountered problems in the excavation work along the perimeter of Building "A". On June 27, 1985, Schnabel discovered an obstruction in the form of existing footers from the adjacent existing building which extended into the area of new construction. Mr. Mudalel established that the existing footer shown on the as-builts that were available at the time did not correlate with what was dictated by the construction drawings. On July 5, 1985, Mr. Mudalel sent a formal notification of delay letter to DGS apprising the district supervisor of the problem and delay. (N.T. 470, 471, 478)

95. Mr. Mudalel initially testified that Schnabel was instructed by S & T to "chip away" the interfering concrete; however, he acknowledged that Schnabel suggested the use of jackhammers. S & T advised Schnabel how to handle the problem on or about July 8, 1985. (N.T. 476, 477, 1481)

96. On or about July 11, 1985, Schnabel received verbal authorization from DGS inspector J. Zinicola to proceed on a Change Order basis to remove the footer interference in Building "A". Schnabel was also advised that the footer problem would be handled on a "force account" basis, i.e. very accurate records of the work being performed would be kept on a day-to-day basis. (N.T. 480)

97. Because of the problems experienced by Schnabel with Building "A" footers and the fact that the entire area of footings on that building were impacted due to the footing design, plus the fact that there was an 8-inch active sanitary line that came out of the existing structure, Schnabel proceeded to perform work on Building "C". This decision was made by Schnabel with the concurrence of DGS and S & T. (N.T. 490, 513)

98. Almost immediately, Schnabel encountered the same footer interference problem on Building "C" as had been experienced on Building "A". On July 18, 1985, Schnabel notified DGS of a second delay related to Building "C" and on or about July 29, 1985, Schnabel received instructions from the professional (S & T) to proceed to treat the problem similarly to the problem on Building "A". (N.T. 515-517, 520, 521, 522)

99. With regard to the footer problems on Building "C", Schnabel submitted a letter dated August 6, 1985, advising DGS of the estimated costs of the additional work and on August 8, 1985, Schnabel received verbal direction and approval to proceed with the removal of the obstructions in Building "C" from DGS representative J. Zinicola under a force account Change Order procedure. (N.T. 524-526, P-10, Section 2, pg. 005714)

100. On or about October 9, 1985, Schnabel requested a 25-day extension of time Change Order for Buildings "A" and "C". This request was denied by DGS on or about February 16, 1986. (N.T. 527-528; Exhibit P-10)

101. Mr. Mudalel established that Buildings "A" and "C" were two-story structures and the sequence of construction required the placement of all footers and foundations, then columns and ground floor slabs, placement of scaffolding and then, since the buildings were poured in place, additional scaffolding was needed in order to pour the concrete roof. (N.T. 535-538)

102. Schnabel maintains that the footing interference on Buildings "A" and "C" had a "major impact" on the Project due to changes in ordering and placement of materials. DGS contends, relative to these problems, that Schnabel had "delayed the project . . . [by] not completing concrete pours." (N.T. 542-544, 1621-1624, 1630; Exhibit D-38)

103. In early August of 1985, a manhole interference at Building "A" was also discovered due to the fact that the Department of Corrections or DGS had failed to divert sanitary and laundry lines to another manhole in order to permit manhole

demolition by Schnabel. The manhole in question was sitting directly over the location of a foundation footing (column D-18). S & T instructed Schnabel, on or about August 28, 1985, to relocate certain lines away from the interfering area thereby allowing Schnabel to demolish the manhole. Schnabel's request for an extension of time related to this issue was denied by DGS on or about February 18, 1986. (N.T. 545, 556-561; Exhibits P-3A, P-10)

104. As a result of the various problems experienced early in the Project, Schnabel was given permission to mitigate the delay by performing work, such as digging and placing isolated footings, elsewhere on the Project. (N.T. 547-548)

105. Other various and sundry problems were experienced by Schnabel and DGS early in the Project. Among these were the problems associated with the demolition of the existing well house, the conflict between the 10-inch sanitary and 24-inch storm line, and the conflict between the existing heating/plumbing lines and the masonry for stair A-3. The more serious of these problems, the well house delay, was resolved on or about October 22, 1985. (N.T. 556, 573)

106. Schnabel maintains that the well house problem "piggy-backed" itself right into the building footings in Building "E" and that generally, each problem encountered resulted in additional problems in other areas of the Project. (N.T. 575-578)

107. Another unforeseen problem was encountered on Building "C", in that penetrations in the deck of the first floor for plumbing and kitchen equipment were located in the structural beams and did not allow any placement of the required reinforcing steel. DGS's J. Zinicola issued a stop work order as to Building "C" on October 23, 1985. (N.T. 585-587, 592; Exhibit P-3D)

108. The stop work order on Building "C" was rescinded on or about December 3, 1985. At that time, there was no claim of delays by Schnabel. (N.T. 604-606)

109. Schnabel's claim for an extension of time Change Order related to the Building "C" stop work order was denied by DGS on or about February 18, 1986. Schnabel claims they were entitled to a "winter restraint" for its work on "C", although DGS claimed that Schnabel had other places to work on the Project. (N.T. 614, 1129, 6112-6113)

110. Although Schnabel had requested a winter restraint, DGS had rejected this request and required a Bar Chart showing "continuous activity" on the Project. (See Finding of Fact No. 19; N.T. 3391-3395; Exhibit P-6)

111. The General Conditions of Contract, Section 63.190 reads as follows:

§63.190 INCLEMENT WEATHER

Inclement weather, including but not limited to cold or freezing weather, shall not be considered an excuse for the stopping of work under this contract. The Contractor shall use such methods of protecting as may be necessary to continue the work throughout the period of inclement weather.

(P/D-3; General Conditions, Section 190, pgs. 89 and 90)

112. DGS was aware of the fact that Schnabel did not intend to perform certain activities during the winter months, e.g. pouring concrete, because Schnabel had indicated as much in the preparation and negotiation of their Bar Chart. (N.T. 390-393, 402, 411; Exhibit P-7)

113. In February, 1986, R. A. Picard, Inc. (prime HVAC) failed to return to the Project site to complete its work leaving uncompleted backfilling on the east side of "C" Building. Schnabel had no site access to that portion of "C" Building, which required Schnabel to handle materials and transport form work via hand in order to complete the exterior masonry work on that side of the Building. (N.T. 616-618)

114. Picard's withdrawal from the site also affected Schnabel's work in stairwell A-3, which became extremely labor intensive because the failure to remove penetrations by Picard required hand labor to pour the concrete footings for the stairwell. (N.T. 633-635)

115. Schnabel maintains that there were numerous other problems which occurred on the Project which affected progress and profitability. The following list represents Schnabel's primary complaints in this regard:

(I) Fixtures which were to be delivered to the

Project and supplied by DGS did not arrive when they were needed, resulting in extra labor and clean-up costs; (N.T. 636-643; Exhibit P-10)

(II) delay in the delivery of the locking systems due to DGS or the Department of Corrections' failure to provide a "keying schedule" or "keying information", i.e. how locks would be keyed alike or how specific locks would be keyed differently, e.g. how certain locks would be master-keyed; (N.T. 645-646, 648, 651)

(III) delays resulting from the installation of the "waffle deck"<sup>4</sup> area in the Second Floor Framing Plan, Area "E", due to the fact that the conduits running through the waffle deck did not allow enough room for the installation of reinforcing steel which prohibited the pouring of concrete. This same situation occurred in Building "D" as well. (N.T. 654-655, 753-756; Exhibit P-3-6, Structural [Drawing 18]; Exhibit P-3-L [Drawing 13])

(IV) delays resulting from the need to have additional access panels in various masonry walls, dry walls, security walls and ceilings, in order to service duct work, specific valves, fire dampers, valves for hot water, heating, electrical pull boxes, etc. These delays were not limited to one specific area. The delays were caused due to the need for additional access panels throughout Buildings "A" and "C" to service electrical, HVAC and plumbing, resulting in additional labor in the installation of walls and ceilings; (N.T. 668-676, 689; Exhibit P-3-I [Drawing A-19] and P-3-H [Drawing A-13])

(V) delays in the approval or denial of Change Orders and requests for extensions of time; (N.T. 680, 684-685, 692, 839-842, 947, 980, 1003-1004)

(VI) delays due to incorrectly fabricated steel

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<sup>4</sup>A waffle deck consists of fiberglass waffle-looking pans, that are set on a flat plywood deck and then reinforced steel is placed between the waffle and in the perimeter, depending on the reinforcing layout. (N.T. 655)

needed for the construction of the new sally port, resulting from errors in the contract drawings, which required Schnabel to remodify the steel; (N.T. 695, 705)

(VII) delays<sup>5</sup> resulting from the existence of an existing manhole<sup>5</sup> in the west wing area of Building "D" along Column Line P-135, Column Footing N-7 and Footing K-6, resulting in the need to either excavate and compact the area or reinforce the manhole with additional concrete; (N.T. 719, 722; P-3-J, [Drawing S-11])

(VIII) delays resulting from 22 exterior doors on the ground floor level throughout the Project's five Buildings which did not line up with the masonry courses and the specially-shaped block which was designed to run across the head of the doors. This impacted the completion of the brick work surrounding the 22 doors; (N.T. 734-735; Exhibit P-3-K [Drawing A-15])

(IX) delays resulting from the bottom of the elevated beams and girders being too low in relation to the elevator door frames in two areas, particularly the Second Floor Framing Plan, Area E. The beams had to be reworked or they would have interfered with the follow-up finish work; (N.T. 747-748, 750; Exhibits P-3-G, Drawing S-18)

(X) delays resulting from block that had to be changed from the originally specified block to fire-rated block throughout the Project. (N.T. 764-767, 769; Exhibit P-3-F [Architectural Drawing 12])

(XI) delays resulting from Schnabel's inability to relocate Graterford's X-ray equipment; (N.T. 771-775, 779-781)

(XII) delays resulting from DGS's failure to provide temporary heat to Buildings "A" and "C" on the Project, in that certain temperature restrictive finishes, e.g. dry wall spackling, painting, etc., could not be performed; (N.T. 783-784)

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<sup>5</sup>This is not the same manhole referred to in Finding of Fact No. 102. (N.T. 721-722)

(XIII) delays caused by Schnabel having to revise and rework the steel elevations and redo the form work in order to tie in with adjoining columns in the Second Floor Framing Plan Area, Building "D"; (N.T. 793-796; Exhibit P-3-L, [Structural Drawing 13])

(XIV) delays caused by Schnabel being required, contrary to the contract documents, to enclose exposed pipe in a masonry chase in Building "C". (N.T. 799-801; Exhibit P-3-C, [Drawing S-9])

(XV) delays caused by Schnabel being required to tie the new building into the old building by constructing a concrete ramp to bridge the gap between the two structures. This problem was not addressed in the contract documents; (N.T. 802-806; Exhibit P-3-H [Drawing A-13])

(XVI) delays caused by Schnabel having to remove a concrete lintel above the doorway in the existing wall of the prison in order to place subsequent structural steel for the ramp facility; (N.T. 809-812; Exhibit P-3-H [Drawing A-13])

(XVII) delays caused by modifications to windows due to the fact that the masonry openings provided in the contract documents did not match the physical window dimensions thereby prohibiting installation of the windows in at least two of the buildings; (N.T. 813-817; Exhibit P-3-H [Drawing A-13])

(XVIII) delay caused by Schnabel being required to place additional steel and to order specialty steel cad-welds<sup>6</sup> in area "A" and "E", due to the fact that the column could not be tied in to the other structural

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<sup>6</sup>A cad-weld is a "mechanical splice" - a fusion welding process to join rebar. Cad welds are unique to bar size and must be ordered by bar size. (N.T. 830-832)



components (e.g. reinforcing steel) and had to be modified and re-formed; (N.T. 823-832; Exhibit P-3-G [Drawing S-18])

(XIX) delays caused by an interior chase wall that occurred along Column Line 12 in Building "B" due to the fact that fire safing was required in the area and had not been installed by HVAC Contractor (Rogers), thereby preventing Schnabel from completing the concrete block; (N.T. 844-847; Exhibit P-3-K [Drawing A-15])

(XX) delays caused due to the fact that plumbing access panels, which were to be supplied by the plumbing contractor, were not available when Schnabel was ready to perform finish work; (N.T. 848-851; Exhibit P-3-K [Drawing A-15])

(XXI) delays caused by S & T's failure to coordinate the change from swinging cell doors to sliding cell doors necessitating the modification of 218 doors in Buildings "D" and "E" because the doors would not open; (N.T. 855-860; Exhibit P-3-M [Drawing A-22], P-11)

(XXII) delays caused by an ambiguity as between the structural drawings and the architectural drawings with regard to the floor of the kitchen area in Building "C". The depression in the floor was too deep for the specified quarry tile and Schnabel was directed by S & T to fill in the area with additional grout mix; (N.T. 862-865; Exhibit P-3-E [Drawing S-9], P-11)

(XXIII) delays in the delivery of dining room tables which were to be anchored by Schnabel directly into the structural concrete floor in the kitchen area of Building "C"; (N.T. 889-890)

(XXIV) delays caused by the fact that the receiver sliding panel (the bottom sliding mechanism on the cell doors) was so close to the floor that Schnabel could not install the terrazzo floor properly. This was found to be a problem after DGS awarded an alternate changing the swinging doors to sliding doors and required the terrazzo strips be precast at the factory and individually placed in the space between the block wall and the hall area at all 418 cells; (N.T. 902-905; Exhibit P-3-M [Drawing A-22], P-11)

(XXV) delays caused by virtue of the fact that Schnabel had to provide a masonry security wall between the existing corridor of the building adjoining Building "C" and the new construction corridor in Building "C". The contract drawings contained no provision to cordon the existing inmate population in this area from the new construction; (N.T. 911-913; Exhibit P-3-B [Drawing S-8])

(XXVI) delays caused by showers in "D" and "E" Buildings having exposed piping in them which required Schnabel, at the request of the Department of Corrections, to install security plaster in the ceiling areas of 24 showers; (N.T. 921-924; Exhibit P-3-M [Drawing A-22])

(XXVII) delays resulting from the necessity to lower the drywall ceilings in the corridor of Building "C" due to the congestion in the ceiling area caused by HVAC, plumbing, electrical, etc. The ceiling ended up below the window heads and Schnabel had to create a soffit so that no gap existed; (N.T. 928-931; Exhibit P-3-H [Drawing A-13])

(XXVIII) delays that resulted from the need to completely revise the guard station frames. This problem applied to Buildings "D" and "E"; (N.T. 933-934; Exhibit P-3-Q [Drawing A-50])

(XXIX) delays in the delivery of prepurchased furniture for approximately 400 cells (i.e. desks, bunks and bookshelves) in various buildings throughout the Project; (N.T. 955-959, 1033-1036; Exhibit P-11)

(XXX) delays in the completion of the finish floor and the trims in several of the buildings throughout the Project due to the construction of the exterior construction joint between the slab on grade and the exterior wall; (N.T. 977-978)

(XXXI) delays resulting from a decision, made by HOK for aesthetic reasons, to change the color of the paint on walls that had already been painted; (N.T. 988-991; Exhibit P-3-I [Drawing A-19])

(XXXII) delays that resulted from the request that Schnabel take the walls down in height in the finished toilet rooms of the holding tank area, where inmates

are processed, so that guards could observe the actions of inmates at all times; (N.T. 992-993)

(XXXIII) delays resulting from a stop work order related to the shower areas of Buildings "D" and "E", because the construction as designed would not permit access to piping for clean out or repair purposes if Schnabel installed the ceilings as specified (solid plaster); (N.T. 997-998; Exhibit P-3-M [Drawing A-22])

(XXXIV) delays due to the fact that DGS requested that Schnabel remove specified expansion joint material at the top of each finished cell wall and replace it with a solid grout. This was done for security reasons in every cell where the expansion joint material was found throughout the Project. Mr. Mudalel testified that this particular partition type was located predominantly in all cells in both buildings; (N.T. 1000- 1003; Exhibit P-3-M [Drawing A-22])

(XXXV) delays resulting after Schnabel was ordered to stop work in the area of the ground floor of Building "B" in regard to the installation of cell doors, because the food pass area in 28 of the doors was too small for the prison's food trays. The cell door's food pass areas were enlarged by Schnabel; (N.T. 1036-1039; Exhibit P-3-K)

(XXXVI) delays due to the fact that Schnabel was requested to renumber all the cell doors that were controlled by the electronic security and door system. The door numbering system had to be reprogrammed and the doors had to be repainted; (N.T. 1082-1089; Exhibit P-11)

(XXXVII) delays caused by S & T's failure to provide Schnabel with a punch list when requested; (N.T. 1085-1086)

(XXXVIII) delays resulting from the need to install a proper roof pitch for the expansion flashing between the new building and the existing building in order to prevent water from pouring down between the two buildings. This had to be done after the security fencing was taken down because the security fence went around the upper perimeter of the buildings; (N.T. 1090-1093; Exhibit P-3-I [Drawing A-19])

(XXXIX) delays resulting from a strike by state employees which denied Schnabel access to the Project for 15 days, from July 1, 1988 to July 15, 1988. (N.T. 1093-1094)

116. With regard to labor and materials, all of the aforementioned delays mentioned in Finding No. 115 above were the subject of an approved Change Order, which were approved either on a force account basis, pre-approved or approved after Schnabel had already completed the necessary work. Schnabel was paid on all the Change Orders. (Record; N.T. 1756; P-9, P-10, P-11)

117. Mr. Mudalel established, when asked on cross-examination, that the number of Change Orders on the Graterford Project was "slightly" excessive; however, the cost of the Change Orders was "in line". (emphasis added) (N.T. 1991)

118. Schnabel's expert, Kenneth Pukita established that 84 Change Orders on a job the size of the Graterford Project was not high. (N.T. 3338-3339)

119. During the course of construction, DGS paid Schnabel on some 85 Change Orders totaling \$854,504.12, representing 5% of the construction costs. One Change Order cost \$402,000.00 (changing the cell doors from swinging to sliding). (N.T. 1765, 1991, 3307; Exhibit D-16)

120. Schnabel had substantially completed their work on the Project as of May 2, 1988 and the date of final completion was July 21, 1988. (N.T. 1095-1096)

121. Count I of the Amended Complaint regarding the retainage issue was resolved during the course of the trial by stipulation. (N.T. 760-764; Stipulation of Counsel)

122. Although Schnabel's contract time was extended by 143 days after the Project's completion on July 21, 1988 (See N.T. 3472, 3475, 4016; P-26, P-27), Mr. Mudalel testified, under cross-examination, that Schnabel was given no additional days to perform Change Order work. Mr. Mudalel testified: "If no time is given, you then must complete the same amount of work in the time that you have allotted. And that drives up your costs. And that's what my whole claim is." (N.T. 1797)

123. During the course of construction, Schnabel requested extensions of time totaling 3,019 days, or over 8 years. (N.T. 4044-4046)

CROSS EXAMINATION OF MR. MUDALEL,  
OTHER WITNESSES AND EXPERTS

124. Schnabel's witness, George Mudalel, was on the witness stand for the majority of the trial held before the Board. (See N.T. 341-2932) As Project Manager, he was on the Graterford Project two to three days per week. (N.T. 1330)

125. Besides providing a detailed explanation of the various Change Orders, Mr. Mudalel also testified regarding Schnabel's damages in the form of increased costs in completing the Project. (N.T. 1136-1245)

126. Mr. Mudalel acknowledged on cross-examination that the Graterford Project was his first prison job. (N.T. 1276)

127. It was established through Mr. Mudalel on cross-examination that John Hamburger, Schnabel's on-site superintendent, was responsible for coordination of subcontractors on a day-to-day basis, directing coordination of the field work, implementation of the field work on-site and overseeing of the equipment and material receiving. (N.T. 1328)

128. Leroy Schenkel replaced John Hamburger as Schnabel's superintendent near the end of the Graterford Project, when Mr. Hamburger was transferred to another Schnabel project. (N.T. 1358-1361)

129. Mr. Mudalel acknowledged under cross-examination that the work that was billed on the Applications for Payment was not always done in the time frame under which the Application was submitted. He established that Schnabel may have "piggybacked it on the following months" when an insignificant amount of work was done in one billing period. (N.T. 1549, 1553)

130. It was established through cross-examination of Mr. Mudalel that in a number of instances, Schnabel noted that certain items were 100% complete (billed) on their Applications for Payment. (See, e.g., N.T. 1528, 1556, 1637) Mr. Mudalel indicated that the "cut off date is not a frozen date", but rather "a projection" and testified that work may have been performed after the date noted on the Application for Payment. (N.T. 1530-1531)

131. It was confirmed through Mr. Mudalel on cross-examination that Job Conference No. 15, dated October 30, 1985, prepared by DGS representative Joseph L. Zinicola, has noted on

it "[n]o claim of delays at this time", although Mr. Mudalel testified that he did send letters to DGS "previously" concerning such notations and they were not well received. (N.T. 1557-1558; Exhibit P-10, Tab 6)

132. It was similarly established through cross-examination of Mr. Mudalel that on the job conferences of November 13, 1985, and November 27, 1985, there appears the notation: "[n]o claim of delays at this time". Those Job Conference Reports were also prepared by Mr. Zinicola. (N.T. 1560-1561; Exhibit P-30, P-10, Tab 6)

133. Mr. Mudalel acknowledged on cross-examination that Job Conference 20, held January 22, 1986, and prepared by Mr. Zinicola indicated that DGS was of the opinion that Schnabel had "delayed the project since December 10, 1985, by not completing concrete pours on the areas of "C" deck, 1st floor." This job conference also referenced the fact that the plumbing contractor felt they were being delayed by Schnabel, although Mr. Mudalel objected to this contention. (N.T. 1622-1624; Exhibit P-10, Tab 8)

134. Mr. Mudalel also conceded on cross-examination that a number of other primes, e.g. Willard, Chadwick felt they were being delayed by Schnabel at a number of the buildings and these facts appeared on Job Conference No. 21, dated February 10, 1986 and held February 5, 1986. This Job Conference was also prepared by Mr. Zinicola of DGS. (N.T. 1625-1627; Exhibit P-10, Tab 8)

135. Mr. Mudalel confirmed on cross-examination that Schnabel, in a letter date January 2, 1986, from Mr. Meoli of DGS, was directed to pour concrete in Building "C", first floor slab, pursuant to the applicable terms of the General Conditions and the Specifications. (N.T. 1629-1630; Exhibit D-38)

136. It was established through Mr. Mudalel on cross-examination that Schnabel did not maintain manpower charts showing how they planned to man the crews and how they actually manned the crews. Schnabel also did not keep separate cost codes for the costs incurred in masonry for delay Change Order No. 9. (N.T. 1631-1633)

137. The Commonwealth's witness, John Hefron<sup>7</sup>, after lengthy voir dire examination and cross-examination was qualified as an expert witness. (N.T. 3861-4000)

138. Mr. Hefron and his team prepared a report for DGS providing the Defendant with an analysis of Schnabel's Claim with regard to delay or extension of time requests and the damages claimed at the time the report was submitted, i.e. October 14, 1992. (N.T. 4001; Exhibit D-89)

139. Mr. Hefron also prepared a supplemental report which substituted Section V of the original report, related to the damages claimed by Schnabel. (N.T. 4012; Exhibit D-90)

140. Mr. Hefron, in the preparation of his report, reviewed the contract, including the Special and General Conditions, plans and specifications, project correspondence, Change Orders, extension of time requests, job conference reports, the Project schedule, pay requests, daily construction reports and extension of time requests from other contractors. (N.T. 4013)

141. Mr. Hefron reviewed each extension of time request, analyzed the supporting documentation, reviewed the as-planned schedule and as-built schedule, created a CPM (Critical Path Method) analysis, performed a delay analysis and concluded the amount of time Schnabel was entitled to, in addition to the time allowed for by the contract, was 143 days. Mr. Hefron concluded that Schnabel was entitled to 128 days as a result of problems that were not Schnabel's fault, plus 15 days for the strike that occurred. (N.T. 4014, 4021, 4042)

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<sup>7</sup>John L. Hefron is a partner of the special services group of Ernst & Young. He devotes the majority of his time to the construction industry in the areas of dispute resolution and avoidance, litigation support, operational reviews of construction companies and owners' project management departments and surety consulting. He is a graduate of Rutgers, where he received a B.A. in business and economics and a master's degree in finance and accounting. Mr. Hefron had vast work experience with other companies and institutions and had been qualified as an expert on a number of other occasions. Mr. Hefron had also evaluated a number of damage claims related to prison jobs. (N.T. 3861-3890)

142. Mr. Hefron opined that the number of days requested by Schnabel in their requests for extensions of time was "ludicrous", totalling approximately eight and one-quarter years. (N.T. 4045-4046; D-90)

143. Mr. Hefron opined that only some of the graphic representations on Mr. Pukita's exhibit impacted project completion. Mr. Hefron felt Schnabel's Exhibits P-91, P-25-A, the pre-purchased furniture and the punchlist work all served to extend the time needed to complete the contract. (N.T. 4047-4049)

144. In analyzing Schnabel's Claim, Mr. Hefron reviewed the information contained in Schnabel Exhibits P-1 and P-2, the job summary estimates, the estimate file, the industry guides for costs in 1985, some source documentation and the trial testimony transcripts. Mr. Hefron also sat through the testimony of Mr. Hein, Mr. Armstrong and most of Mr. Mudalel's testimony. (N.T. 4062)

145. Mr. Hefron established that:

- a) he could not tell, from the Job Summary Report on any task codes, when these costs were incurred during the course of the Project;
- b) he could not determine whether or not the costs were actually paid;
- c) he could not determine how many labor hours were incurred in any of the cost areas included in the Job Summary Report;
- d) in his opinion, the method Schnabel used in presenting their damage claim was a modified total cost approach, but it was modified to the benefit of Schnabel only, and contrary to what one would typically see in a modified total cost approach. (Exhibit P-2; N.T. 4063-4064)



146. Mr. Hefron defined a total cost method ("TCM") as a method of calculating damages, which basically uses the actual costs of performance on a project and subtracts the estimated costs of performance, or the base line of what the costs should have been. The TCM utilizes four assumptions according to Mr. Hefron:

(I) the contractor did not contribute in any way to any additional costs on the Project;

(II) the costs are accurately reported and that they are reasonable;

(III) the planned costs or the estimate is reasonable; and

(IV) there is no other alternative left to calculate costs.  
(N.T. 4065)<sup>8</sup>

147. Mr. Hefron analyzed Schnabel's Claim on a cost code by cost code basis and concluded that in the majority of instances Schnabel did not meet its burden under the TCM. (N.T. 4072, 4149, 4167, 4189) Mr. Hefron concluded that in many instances one could not determine from the available records how the damages claimed by Schnabel were calculated, or where or when they occurred. (See e.g. N.T. 4125, 4127, 4148, 4163, 4179) In other instances, Mr. Hefron concluded that Schnabel's bid was too low (e.g. N.T. 4137, 4139, 4142-4145), that Schnabel miscalculated damages (e.g. N.T. 4119, 4128-4129, 4174), or that Schnabel sustained an underrun rather than an overrun as claimed. (N.T. 4116, 4179) (See generally P-1 and P-2)

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<sup>8</sup>Applicable caselaw defines the total cost method in a slightly different fashion. See e.g. Glasgow, Inc. v. Commonwealth, Department of Transportation, 108 Pa. 48, 529 A.2d 576 (1987) and Commonwealth of Pennsylvania, Department of Transportation v. Dubrook, Inc., Board's Docket No. 1011 (Opinion not report).

148. Mr. Hefron opined that Schnabel was entitled to only \$43,054.00, since the company did not meet the requirements of the TCM. Mr. Hefron testified that \$43,054.00 would ". . .[account] for these areas where Schnabel discreetly priced or I was able to discreetly price the impacts to a maximum where we gave Schnabel. . . the benefit of the doubt by giving them a percentage of overruns in areas where project records reflect there may have been some impacts from DGS actions." According to Mr. Hefron's Supplement Report, the maximum Schnabel would be entitled to on its claim would be \$234,777.00 (N.T. 4188-4191)

149. Mr. Pukita, Schnabel's expert, prepared graphs which illustrated as-planned versus as-built analysis of the various buildings involved in Schnabel's delay claim. (N.T. 3022, 3026; Exhibits P-20, P-20a, P-21, P-21a, P-22, P-22a, P-23, P-23a, P-24, P-24a, P-25, P-25a)

150. Mr. Pukita compared the approved Bar Chart schedule with the actual completion dates and condensed the charts into major trade activities. The delay information was taken from Schnabel's claim book, and included a compilation of the Change Order delays. (N.T. 3026-3027, 3032-3034, 3037, Exhibit P-10)

151. Mr. Pukita opined that the preponderance of the delay claims either came through DGS itself or the primes or the professionals that were contracted by DGS and analyzed the various delays outlined in the Finding of Fact No. 115, as well as other delays. He did not believe Schnabel contributed to the delay in the completion of the Project. (N.T. 3054, 3055-3105, 3302)

152. Mr. Pukita also opined that the professional, HOK, utilized an excessive amount of time to compile a punch list and that this further delayed Schnabel's completion of the Project. Mr. Pukita also testified that, based upon the delays and Change Orders that were generated, Schnabel was entitled to extensions of its contract time. (N.T. 3313-3115)

153. When asked if Schnabel had planned a reasonable schedule for construction on the Project, Mr. Pukita stated that Schnabel had "adequate planning and scheduling to do this job". (N.T. 3119)

154. Mr. Pukita testified that of the 143 days that it took to complete the Project past the completion date, none of those days were the responsibility of Schnabel. (N.T. 3132)

155. Mr. Pukita testified that in evaluating the damages he reviewed P-2 and Mr. Mudalel's testimony and did some "selective calculations" and performed a "spot-check" of various items of damages he thought might be questioned. (N.T. 3137-3138)

156. Mr. Pukita established that the system utilized by Schnabel in accounting for its job costs on the Project was the Construction Specification Institute format. In Mr. Pukita's opinion, Schnabel's alleged damages incurred in the completion of the Graterford Project were reasonable and fair. (N.T. 3139-3140, 3145)

157. Mr. Pukita testified that in his opinion Schnabel could not have calculated its damages any other way, based upon the number of Change Orders, delays and the way the incidents took place. (N.T. 3140-3141)

158. Mr. Pukita acknowledged on cross-examination that he had never actually been on the Graterford site, was not comfortable using a Means Catalog and was not familiar with Schnabel's employment history used by Schnabel to determine their labor rates. Mr. Pukita, as indicated earlier herein, was unsure as to whether or not he had included the 22% mark-up in determining the reasonableness of Schnabel's concrete claim. He was also unsure of the labor mix or crew size used by Schnabel when they determined their concrete figures for their bid. (N.T. 3156, 3165-3166, 3177-3172, 3176)

159. After reviewing a recent Commonwealth Court decision (Dubrook), Mr. Pukita testified that for a modified total cost you take the actual costs that were involved and deduct the estimate and any other minor things that affected the total cost of the job to determine the damages. Mr. Pukita did not believe Schnabel erred in their bid. (N.T. 3233-3234)

160. Mr. Pukita did not believe there was concurrent delay by Schnabel and/or Schnabel's subcontractors in performance of the site work and he based this opinion on his review of "selected correspondence" and the chronology of events. (N.T. 3256-3257)

161. Mr. Pukita acknowledged that there may have been "minor mistakes" in Schnabel's masonry estimate, but he did not go through the entire damage assessment and did not make any modifications to Schnabel's damage calculations as a result of those errors. (N.T. 3202, 3234)

162. Mr. Pukita opined that Schnabel was entitled to bid on a 30-month duration, even though Graterford was a multi-prime project, according to the General Conditions. (N.T. 3274)

163. Mr. Pukita did not review any of Schnabel's applications for payment related to the Project. (N.T. 3280)

164. Mr. Pukita, when asked to reference a particular damage calculation, i.e. field supervision, Task Code 110, could not determine how the figure of \$26,024.00 was arrived at by Schnabel as he was unsure of the actual activities and the number of supervisory personnel involved. (N.T. 3284-3285)

165. Mr. Pukita did not believe that Graterford's status as an occupied maximum security prison was relevant to damage calculations. (N.T. 3289)

166. Richard Pluck was the DGS Inspector for general construction on the Graterford Project. Mr. Pluck's experience includes an Associate Degree in construction technology and carpentry experience as a journeyman, including work with concrete form work. (N.T. 3591-3593)

167. Mr. Pluck's duties required him to be on-site inspecting the Project building by building checking each floor. He assumed his duties on the Project in May, 1985, and remained on the Project through the generation of the punch list. (N.T. 3607, 3720)

168. Mr. Pluck's duties involved verification of the work being performed, approval of Applications for Payment, verification of crew size and make-up of the crew and equipment on site. (N.T. 3610, 3616-3620, 3623)

169. Mr. Pluck attended job conferences and took minutes of the conferences. Mr. Pluck noted that the prime contractors engaged in heated disputes to the point where he was concerned a fist fight might break out. At times, Mr. Pluck felt the various primes were "ganging up" on Schnabel. (N.T. 3626-3630, 3636)

170. The conflict between prime management carried down to the trenches and Mr. Pluck noted that there was always conflict down on the Project. Mr. Pluck opined that the lack of cooperation affected job progress and completion of the job. (N.T. 3638)

171. Mr. Pluck felt that Schnabel's superintendent,

Mr. Hamburger, was uncooperative with DGS and did not allow DGS to help resolve the conflicts on the Project. Mr. Pluck advised Mr. Hamburger that he felt there were not enough workmen on the Project; however, Mr. Hamburger ignored his requests for more men. Mr. Pluck felt Mr. Hamburger should have been down at the site more assisting the site boss for Schnabel, Don Dimmick. (N.T. 3641, 3644-3645, 3680, 3847)

172. After Schnabel added "semi-bosses" to their crews, Mr. Pluck noticed more progress. Mr. Pluck believed that Schnabel's lack of supervision hampered the job. (N.T. 3648-3649)

173. According to Mr. Pluck, at least two of Schnabel's subcontractors approached DGS about non-payment of their bills by Schnabel, including Rahns Construction Company (concrete supplier) and Power Lift (heavy equipment-Pettibones). (N.T. 3717-3719)

174. William Sheaf, construction inspector manager for DGS, was assigned to the Graterford Project and reviewed the cost breakdowns, the progress charts, extensions of time, and any other paperwork submitted by Schnabel. He was on site once or twice a month. (N.T. 3379-3381)

175. Mr. Sheaf stated that although Change Orders were slow in being processed "on occasion", not all of the Change Orders were processed slow. (N.T. 3408, 3415)

176. Mr. Sheaf testified that the Professional responded to Change Orders within five (5) days approximately 50 percent of the time and that it took in excess of 30 days for a signed GSC-1 (Change Order approval) to come from Harrisburg. (N.T. 3442-3444, 3446-3447)

177. Mr. Sheaf had not been on any job prior to or subsequent to the Graterford Project that had as many Change Orders and requests for extensions of time. (N.T. 3448-3449)

178. Mr. Sheaf acknowledged on cross-examination that he had difficulty obtaining approval or disapproval on Change Orders and that there were an unusually high number of errors and omissions by the Professional on the Graterford Project. (N.T. 3456, 3458)

179. Mr. Sheaf acknowledged on cross-examination that the Graterford Project was his first prison job and his first project involving multiple buildings in new construction.

(N.T. 3483)

180. Mr. Sheaf stated that the coordination of the other primes was the responsibility of both DGS and Schnabel. (N.T. 3518-3519)

#### SCHNABEL'S CLAIM

181. Schnabel's original claim was for \$1,109,920.00, plus retainage, interest and costs. (Original Complaint; N.T. 4056-4057)

182. Schnabel filed an Amended Complaint on November 9, 1990, requesting release of retainage and \$1,426,955.00 in delay damages, exclusive of interest. (Amended Complaint; N.T. 4057)

183. During trial Schnabel presented additional damage calculations requesting a total of \$1,670,287.00, exclusive of interest. Schnabel, again at trial, amended their damage calculation to reflect damages and a claim of \$1,148,672.90, exclusive of interest. The retainage issue was resolved by stipulation. (Exhibits P-2, P-2-A, P-2-B, D-90; N.T. 760-764, 4057-4062)

#### SCHNABEL'S DAMAGES

184. Schnabel, for the most part, did not segregate overruns into separate cost codes. Mr. Mudalel felt that monitoring Change Orders would be more effective than attempting to maintain a daily account of hours lost due to delays or inefficiencies caused by DGS or S & T. Schnabel claims it did not have the resources to segregate cost codes for various items. (N.T. 1618, 1733-1734)

185. Schnabel did segregate overruns "within" certain cost codes for some areas, e.g. task codes 0110, 0112, 0116, 0131, 0161 (additional field office supervision and related expenses) and separate cost accounting codes for other overruns, e.g. costs codes 3031 and 4100 (winter concrete accelerators and concrete winter protection). (N.T. 2116-2117, 2516-2518, 2758-2761)

186. For the reasons set forth in the Conclusions of Law, the Board will award Schnabel damages only in limited portions of its overall claim, those being the damages suggested by DGS's own expert, John L. Hefron of Ernst & Young. The maximum award suggested by DGS's expert totals \$234,777.00, and

the Board will adopt this amount, plus interest, as a reasonable and fair amount under the circumstances. (Exhibit D-90, page 13)

187. The breakdown of the award is as follows:

a) field overhead	\$34,013
b) site work	1,783
c) building concrete	96,333
d) masonry	79,817
e) overhead & profit	16,426
f) home office overhead	6,405
	<hr/>
Total award	\$234,777

#### CONCLUSIONS OF LAW

1. The Board of Claims has jurisdiction over the subject matter of the Claim, as the Board has exclusive jurisdiction to hear and determine all claims against the Commonwealth which, prior to 1978, were to be adjusted and settled by the Auditor General and the State Treasurer under the fiscal code. **72 P.S. §4651-4**

2. The Board of Claims has jurisdiction over the parties.

3. Schnabel's claim was asserted in a timely fashion.

4. The Board rejects the "modified total cost method" utilized by Schnabel and finds that Schnabel did not meet the requirements necessary to utilize the total cost method, modified or otherwise.

5. Schnabel failed to prove that the nature of the particular losses made it impossible for them to determine those losses with a reasonable degree of accuracy. Schnabel had the informational tools and man power to properly calculate damages and chose not to use them.

6. In numerous instances Schnabel failed to prove it was not responsible for the added expenses or overruns that were being claimed through the analysis of various cost codes.

7. Schnabel's overall bid as to amount was realistic although it was questionable as to whether or not certain aspects of the bid were reasonable.

8. Schnabel proved its actual costs to be reasonable in limited instances. In most cases this Board was unable to determine the reasonableness of the claimed costs, and the modified total cost approach utilized by Schnabel, if accepted by the Board, would result in an award based upon a "guesstimate".

9. The Board finds that Schnabel, as an experienced contractor, familiar with multi-prime projects, knew or should have known that the specified time schedule must be honored and that Schnabel would be liable for any cost overruns based on their unilateral assumption that the specified contract time could be shortened by six (6) months. Schnabel, prior to bid, decided to base the estimate for General Conditions on 30 months.

10. It is apparent from the multitude of Change Orders, the unreasonable amount of time it took to obtain Change Order approval and lack of cooperation from the Professional and in some instances DGS, that Schnabel was adversely affected at the Graterford Project; however, this Board will not "reconstruct" damages when a claimant is unable to meet their burden in proving damages.

11. DGS's expert, John L. Hefron, was more credible than Schnabel's expert, Kenneth H. Pukita.

12. The total maximum amount due suggested by Mr. Hefron is \$234,777.00, and the Board will adopt this amount as being a fair and reasonable award. The Board will invoke its equitable powers in making this award to Schnabel, and the award shall be payable to Schnabel Associates, Inc. and the Department of Labor and Industry, Bureau of Employer Tax Operations.

13. Interest is to be calculated on the award from May 8, 1990, the date Schnabel's claim was filed, at the legal rate of 6%.



14. The award set forth hereinabove is compensable, justified under the circumstances of this claim, and fair and reasonable.

#### OPINION

This matter was originally initiated on or about May 8, 1990, with the filing of a "Complaint" by the Claimant herein, Schnabel Associates, Inc. (hereinafter "Schnabel"). The Respondent, Commonwealth of Pennsylvania, Department of General Services, (hereinafter "DGS") accepted service and filed Preliminary Objections on or about June 8, 1990. Schnabel filed a reply to the Preliminary Objections on July 2, 1990, and after reviewing Briefs submitted by the parties, the Board, on October 9, 1990, rendered an Opinion and Order directing the Claimant to file a more specific Complaint in accordance with the Pennsylvania Rules of Civil Procedure.

On November 19, 1990, Schnabel filed an Amended Complaint and claimed entitlement to a judgment in its favor in a sum in excess of One Million Four Hundred Twenty-Six Thousand Nine Hundred Fifty-Five Dollars (\$1,426,955.00) plus the release of retainage, along with interest and costs. During the trial, Schnabel presented additional damage calculations requesting a total of One Million Six Hundred Seventy Thousand Two Hundred Eighty-Seven Dollars (\$1,670,287.00), exclusive of interest and at trial, the Claim was finally amended to reflect a damages

claim of One Million One Hundred Forty-Eight Thousand Six Hundred Seventy-Two Dollars and Ninety Cents (\$1,148,672.90) exclusive of interest. The retainage issue was resolved by stipulation.

DGS's Answer to the Amended Complaint was filed on December 31, 1990. Both parties had the opportunity to conduct bountiful discovery and subsequently, on September 25, 1992, a Petition to Intervene was filed by the Department of Labor and Industry, Bureau of Employer Tax Operations, (hereinafter "L & I"). On September 30, 1992, the Board rendered an Opinion granting the Petition to Intervene filed by L & I. The caption was changed to reflect L & I's participation in the matter.

On October 6, 1992, the trial began and on October 14, 1992, a Stipulation of Settlement concerning Count I of the Amended Complaint was filed by the parties at the time of hearing. On October 15, 1992, the Board rendered an Opinion and Order that DGS be indebted to Schnabel in the amount of Two Hundred Thirty-Four Thousand Two Hundred Ninety-Nine Dollars and Twenty-Three Cents (\$234,299.23) plus interest thereon at the rate of 7.3665% per annum from November 14, 1991. It was further ordered that the hearing would continue as to all factual aspects and legal conclusions of Count II of the Amended Complaint. That same day, additional testimony was taken and the trial continued through October, November, and December of 1992.

This matter continued well into 1993 and, after

numerous petitions, briefs, motions, and responses, trial resumed on April 6, 1993. Testimony was taken by the Board throughout April and May of 1993 and on May 28, 1993, the trial was concluded. Schnabel's Proposed Findings of Fact and Proposed Conclusions of Law and Legal Argument were filed October 5, 1993. Claimant also, on October 26, 1993, filed Proposed Findings of Fact, Conclusions of Law and Argument in Opposition to Intervention of the Commonwealth of Pennsylvania, Department of Labor and Industry, Bureau of Employer Tax Operations. On November 29, 1993, DGS filed its Proposed Findings of Fact, Proposed Conclusions of Law and Brief in Support, thereof, and on that same date, a brief in support of the intervention of the Commonwealth of Pennsylvania, Department of Labor and Industry, Bureau of Employer Tax Operations was filed by the attorney for the Defendant (DGS). On December 20, 1993, L & I filed its own Brief and on February 14, 1994, Schnabel filed a reply Brief in opposition to DGS's Proposed Findings of Fact, Conclusions of Law and Brief. Schnabel also filed a Reply Memorandum of Law in Opposition to Intervention by L & I. Given this Board's Order of September 30, 1992, allowing intervention by L & I, the Board views the various motions filed relative to the issue of intervention as moot.

Let us begin by stating that this Claim consumed more of this Board's time and resources than any in recent memory.

The Claim was complex from an engineering standpoint, but not as complex as other cases which have come before the Board. There were a number of discovery issues and evidentiary issues during the course of the trial which were admirably handled by then Chairman, Fred C. Pace. The legal issue undoubtedly would have been far more challenging were it not for this Board's decision relative to the issue of the modified total cost approach utilized by Schnabel. However, from a strictly factual standpoint it has been extraordinarily difficult to figure out precisely where to place the blame for the obvious delays which were experienced at the Graterford Project. There is little question that DGS was partially responsible in some instances and completely responsible in other instances for the delays which were experienced by Schnabel. However, in this particular case it seemed as though everybody contributed to the problems experienced with the Project. When one considers the unforeseen circumstances such as those which were the subject of Change Orders, the conflict between management of the various primes which trickled down to and impacted site work, problems with the professionals, slow Change Order approvals, lack of coordination of the primes and work forces, equipment failures, sloppy accounting, bankruptcy and even a strike by the state employees, quite frankly, it is remarkable the Project was even completed. Many of the delays experienced by Schnabel were the result of a

combination of the aforementioned factors, while other delays were easily attributed to a particular factor, litigant or in some instances, a company not a party to this action. In most instances there were a myriad of factors at work contributing to a particular delay and we would have been obligated to scrutinize each and every delay in an effort to determine DGS's culpability, were it not for the Claimant's inability to prove its damages. In the end, the challenge of sorting out the multitude of problems experienced at the Project and the monumental task of sifting through those problems and ascertaining which were solely the result of the action or inaction of DGS became an academic exercise. In simple terms, Schnabel was unable to convince us that the modified total cost method they attempted to utilize was appropriate under the circumstances of this Claim. It was abundantly clear that Schnabel did not meet the requirements necessary for this Board to apply the total cost method, modified or otherwise.

The subject of this Claim was DGS's Project 577-15 phase 2, part B, which was formally entitled "Additional Institutional Capacity Graterford State Correctional Institution, Graterford, Montgomery County, Pennsylvania". Graterford is a maximum security prison. DGS awarded Schnabel the contract for the general construction portion of the Project on or about March 1, 1985, and Schnabel entered into a written agreement

thereafter on March 11, 1985, and agreed to furnish all labor and material necessary for the general construction phase for the total sum of Fifteen Million Nine Hundred Sixty-Seven Thousand Dollars (\$15,967,000.00). The Project was bid with multiple prime contractors which included R. A. Picard, Inc. (mechanical, HVAC), although Rodgers Mechanical ultimately replaced R. A. Picard, Inc. as the HVAC contractor, A.T. Chadwick & Co., Inc., (plumbing), Willard, Inc. (electrical) and Security Elevator Company. The Project professional was a joint venture of Sanders & Thomas Engineers and architects Hellmuth, O'Bata & Kassabaum, P.C.

The design of the Project included erection of a temporary security fence, minor demolition, excavating, back-filling and grading, and construction of five (5) buildings designated as "A" through "E", relocation of existing underground utilities and sealing of openings in existing buildings. The new construction encompassed approximately 181,000 square feet and the buildings were to serve as a new classification center housing approximately 352 inmates. In order to maintain continuous maximum security, the contract required Schnabel to seal up all existing building openings that occurred where new buildings abutted an existing structure. Some existing facilities were removed or relocated. The Project site had to be sealed off from the occupied prison. This was accomplished

through the construction of a temporary security fence. The plans designated an existing railroad entrance in the 40-foot high concrete security wall as the temporary construction entrance for the Project. Schnabel had to use the temporary entrance until the security fence was completely erected, under very tight security.

The proposed time of completion date was 1,095 days from the date of the award of the contract. Schnabel was required to submit a Bar Chart establishing a 36-month working period and containing a logical flow of work from building to building. The approved Chart was organized to proceed in the general direction the site-work would be completed, i.e. work in building "A", then building "C", "B", "E", and "D", by trade discipline. Schnabel had initially submitted a Bar Chart which contained two (2) periods of time in which no work was scheduled to be performed; however, DGS rejected the utilization of winter shutdowns as shown on Schnabel's initial Bar Chart.

From the inception, Schnabel experienced problems which contributed to the delay experienced not only by Schnabel, but all contractors on the Graterford Project. Anchor Fence Company (hereinafter "Anchor") began the erection of the security fence on April 29, 1985, and was still on site performing security fence work on June 20, 1985, approximately four (4) weeks beyond the scheduled completion date of May 22, 1985. Schnabel was

forced to supplement Anchor's work force and ended up back-charging Anchor Nineteen Thousand Eight Hundred Eighty-Eight Dollars (\$19,888.00) for costs associated with the supplementation of Anchor's work crews. This forced Schnabel to utilize the temporary construction entrance which apparently caused delays because guards were not always available to assure safe ingress and egress to the prison. The initial delay was a sign of worse things to come.

Schnabel had assumed that it could utilize the existing phone lines at Graterford and promptly found out such was not the case. The prison management insisted that the extra lines available be kept open for emergency purposes and Schnabel was forced to make other arrangements and run their lines a good distance to avoid the expensive portable phones. Schnabel also assumed that they would be permitted to utilize space within the prison walls for a laydown area; however, again prison management refused to allow this and Schnabel was required to make other arrangements. In both the phone line and laydown area instances, the contract documents, which included various plans, specifications, general conditions, supplemental general conditions, special requirements, bulletins, and administrative procedures, were silent as to the specifics of the two issues in dispute.

Schnabel began site construction on or about April 22,



1985. It should be noted that the initial Job Conference was held on March 29, 1985. Schnabel was represented in most instances by Mr. George Mudalel, Schnabel's Project Manager, while DGS was represented by W. Sheaf, Assistant Manager, and J. Zinicola, the On-Site Inspector. Richard Pluck was the inspector for the general construction for DGS and was assigned solely to Schnabel's work on the Project.

Shortly after construction began, Schnabel immediately experienced problems with the footers in building "A" due to the fact that an area of existing footers from an adjacent existing building were impacting the footer design for the new construction. There was also an 8-inch active sanitary line that came out of the existing structure and Schnabel was forced to request a Change Order and proceed with work in other areas. Schnabel proceeded to perform work on building "C" and experienced similar footer interference problems causing additional delay. Buildings "A" and "C" were two-story structures and the sequence of construction required the placement of all footers and foundations, then columns and ground floor slabs, placement of scaffolding for additional floors and then, since the buildings were poured in place, additional scaffolding was needed in order to pour the concrete roof. Schnabel contends that these initial problems had a "major impact" on the Project due to the change in ordering and

placement of materials and sequence of work, whereas DGS contends that Schnabel simply delayed the Project by not completing concrete pours in a timely fashion. The Project was unquestionably delayed by these initial problems and it is extremely difficult to ascertain where the "most" blame should be placed for the delay. Schnabel contends DGS was slow in having Change Orders approved thereby forcing them into pouring concrete under winter conditions. DGS contends that Schnabel showed continuous activity under the Bar Chart and that the General Conditions of the Contract specifically indicate that inclement weather shall not be an excuse for the stopping of work under the Contract. Indeed, formal written approval which Schnabel could have justifiably waited for under the Contract terms, was slow in coming and Schnabel was apparently reluctant to assume the additional cost associated with pouring concrete under adverse winter conditions, although the Contract required them to do so. In reality, both the Claimant and Respondent were to some degree at fault with regard to the resulting delays in the instances just described and ascertaining which party was more at fault than the other would be very difficult.

Also adding to the delay and headaches experienced by not only the litigants, but the various other prime contractors performing work at Graterford, was the fact that a manhole interference at building "A" was discovered. Again, blame is

difficult to place in that somebody should certainly have been able to figure out that the sanitary and laundry lines needed to be diverted to another manhole in order to prevent manhole demolition by Schnabel. Whether this was the fault of Schnabel, DGS, the Department of Corrections, or most likely, the professional, is again, very difficult to ascertain, and in all probability the fault and resulting delay is nearly impossible to attribute to one party, since the oversight should have been noticed by all concerned. It should be noted that Schnabel was given permission to mitigate the delays being experienced by performing work elsewhere on the projects; however, Schnabel argues quite reasonably that the multitude of problems and delays essentially destroyed their "game plan" and resulted in the Project becoming desultory and an organizational nightmare.

Other various problems were experienced by Schnabel and DGS on the Project. Among them were problems associated with the demolition of the existing wellhouse, the conflict between the 10-inch sanitary line and 24-inch storm line, the conflict between the existing heating/plumbing lines and the masonry for stair A-3. Schnabel maintains the wellhouse problem "piggy-backed" itself right into the building footings in Building "E" and that generally, each problem encountered resulted in additional problems in other areas of the Project. Problems were also experienced in Building "C" in that penetrations in the deck

of the first floor for plumbing and kitchen equipment were located in the structural beams and did not allow any placement of the required reinforcing steel. Eventually, DGS's J. Zinicola issued a stop-work order as to Building "C" on October 23, 1985, and the stop-work order was rescinded as to Building "C" on or about December 3, 1985.

In February, 1986, R. A. Picard, Inc., (prime HVAC) failed to return to the Project site to complete its work leaving uncompleted backfilling on the east side of "C" Building. This affected Schnabel's access to that portion of the site and also affected Schnabel's work in stairwell A-3. In addition, there were a multitude of other problems which eventually resulted in Change Orders, as outlined in Finding of Fact No. 115. We find it ironic that even requests for extensions of time were the subject of delays themselves.

Initially, Schnabel did not request extensions of time as was pointed out by counsel for DGS and illustrated in the job conference reports. In the end, the "request-for-extension-of-time" issue itself would become virtually comical with Schnabel requesting in excess of eight (8) years and the Commonwealth denying each and every request. The Project ran 143 days past the scheduled completion date and DGS did not penalize Schnabel for any of those days, 15 of which were attributable to a strike by the state employees. Again, given the plethora and problems

and delays, the respective contributions of the litigants, and the impact of the other parties not part of this litigation, it is quite difficult to ascertain whether or not the 128 days allowed by DGS was indeed reasonable. The Board relied upon the testimony and report of the Commonwealth's witness, John Hefron, in this regard.

Schnabel's accounting system to monitor payroll and costs on the Graterford Project was explained by Schnabel's treasurer, Alan R. Hein. Mr. Hein defined "cost codes" as the numerical numbering system that was set up to identify the different aspects of construction. The data coming in for payroll was generated by time cards prepared by the field superintendents at the job site. Weekly and monthly labor reports were prepared from this information. Cost codes were also assigned to monitor subcontract payments and payments to material suppliers. Schnabel's purchasing department entered information from contracts and purchase orders into Schnabel's computer system as committed costs. Individual files were maintained for specific vendors and subcontractors. Cost accountants matched subcontractor bills with the contracts and material bills with receiving slips. The system was aligned with a construction industry standard such as Means. Each month an accountant assigned to the Project would enter manual information provided from the time cards or vendor's invoices into the

appropriate cost codes within the computer program. After the invoices were entered into Schnabel's accounting system, invoice entry reports were generated to make certain that all the bills were entered and coded properly. These reports would be updated for all account payable files, job cost reports and certain files within Schnabel's Job Summary Report, which were summaries of the daily information prepared usually on a monthly basis. Each month Mr. Mudalel and the accountant reviewed the previous month's entries and corrected any coding errors and subsequent summary reports reflected those entries and changes. The computer program was capable of producing various reports, including a Summary for Estimate Revision, Job Summary Reports and Weekly Labor Summary Reports. The Job Summary Reports were generated on a monthly basis throughout the course of construction. While Schnabel was unable to meet other requirements mandated by the total cost method, it was the above-described accounting system that was most fatal to their effort to prove damages.

This Board is not persuaded that the accounting system utilized by Schnabel was properly utilized in general, and particularly with regard to the damages issue. It was apparent that many of the reports contained conflicting information and Schnabel's own witnesses had problems explaining the discrepancies. Errors in cost-coding that appeared in the Weekly

Labor to Date Summary Report which may have been corrected in the Job Summary Report, would not necessarily have been corrected in the payroll report. The labor amounts from the Weekly Labor Summary did not always correspond dollar for dollar to the labor amount on the same task code on the Job Summary Report. The Summary for Estimate Revision and Job Summary Report introduced at trial were both dated October 20, 1988, and these reports were generated approximately three (3) months after final inspection. Little or no effort was made by Schnabel to prove their final figures were accurate. In fact, their claim itself was the subject of a number of amendments.

It was established through cross-examination of Mr. Hein that task codes which represented Change Orders did not correspond exactly with those of DGS. Some Change Order work performed by Schnabel was not cost coded to Change Order task codes. Similarly, purchase orders issued to subcontractors were not necessarily coded to Change Order task codes where it involved Change Order work. The forced account Change Orders issued by DGS did not appear dollar for dollar in the Job Cost Summary and the total value of the Change Orders issued by DGS and paid to Schnabel did not correspond to the totals in Schnabel's Job Summary Report. Notably, on Schnabel's Job Summary Report of October 20, 1988, the total cost of the Project including the costs of performing the Change Order work did not

equal the sum of the job totals for labor, subcontract, materials, others and deducts. Mr. Hein could not account for the discrepancy and admitted "it is supposed to total up".

John Hefron was recruited by DGS to perform an analysis of Schnabel's Claim with regard to delay or extension of time requests and the damages claimed by Schnabel. Mr. Hefron's reports were introduced as Exhibits D-89 and D-90 and in preparation of the reports, Mr. Hefron reviewed the contract, including the special and general conditions, plans and specifications, project correspondence, Change Orders, extension of time requests, job conference reports, the Project schedule, pay requests, daily reports and extension of time requests from other contracts. Mr. Hefron also reviewed each extension of time request, analyzed the supporting documentation, reviewed the as-planned schedule and as-built schedule and performed a delay analysis. As indicated, he concluded that Schnabel was entitled to the 128 days the Project ran past the scheduled completion date, plus the 15 days for the strike that occurred. Mr. Hefron also reviewed the information contained in Schnabel's exhibits P-1 and P-2, the Job Summary Estimates, the estimate file, the industry costs for 1985, some source documentation and the trial testimony transcripts. Mr. Hefron also sat through the testimony of Mr. Hein, Mr. Mudalel's testimony, and the testimony of Schnabel's vice-president for estimating, William J. Armstrong.



Mr. Armstrong testified extensively concerning Schnabel's estimate and bid. Based upon the review of all of the aforementioned information, Mr. Hefron established that he could not decipher, from the Job Summary Report on any task codes, when these costs were incurred during the course of the Project. Mr. Hefron also established that he could not determine whether or not the costs were actually paid, nor could he determine how many labor hours were incurred in any of the cost areas included in the Job Summary Report. Mr. Hefron suggested that the method Schnabel used in presenting their damage claim was a "modified total cost approach", but it was modified only to benefit Schnabel and contrary to the typical modified total cost approach that one might see in the industry.

As the fact finder, this Board has to judge the credibility of the witness and weigh their testimony. Miller v. C.P. Centers, Inc., 334 Pa. Super. 623, 483 A.2d 912 (1984); Kaplan v. Redevelopment Authority of Philadelphia, 44 Pa. 149, 403 A.2d 201 (1979).

The Board finds Mr. Hefron's testimony to be credible. After a complete review of the extensive record, exhibits and contract documents, we agree that Schnabel's "modification" of the total cost method was indeed based more upon convenience than necessity. In fact, we question the necessity of utilizing the total cost method under the circumstances of this case.

The total cost method of calculating damages is rather simplistic in theory in that a claimant simply subtracts the estimated costs from the total costs incurred on the Project. Courts of this Commonwealth have established four (4) requirements before the total cost method may be applied. The requirements are as follows: (1) the nature of the particular losses make it impossible to determine them with a reasonable degree of accuracy; (2) the contractor's bid or estimate was realistic; (3) the contractor's actual costs were reasonable; (4) the contractor was not responsible for the added expense. Commonwealth of Pennsylvania, Department of Transportation v. Dubrook, Inc., Board's Docket No. 1011 (Opinion not reported); Glasgow v. Commonwealth of Pennsylvania, Department of Transportation, 108 Pa. 48, 529 A.2d 576 (1987). John F. Harkins Co. Inc. v. School District of Philadelphia, 313 Pa. Super. 425, 460 A.2d 260 (1983).

In the instant case, Schnabel, for the most part, did not segregate overruns into separate cost codes. Mr. Mudalel testified that Schnabel did not have the resources to segregate cost codes for various overruns resulting from the delays that Schnabel complains of throughout the Project. However, the record is replete with references to task codes created during the course of construction which were designed to specifically monitor areas with costs not originally contemplated in the

estimate. Schnabel did segregate overruns "within" certain costs codes for some areas and separated cost accounting codes for overruns where it was apparently convenient. For example, cost codes 3031 and 4100 were created for winter concrete accelerators and concrete winter protection. It was established that Schnabel had at least one member of the accounting department assigned to monitor costs and those costs were reviewed with Mr. Mudalel on a weekly and monthly basis. The Weekly Labor Summary documented overtime hours by task codes. It is apparent to the Board that Schnabel had a fully functional computer and computer program designed to track all costs on a weekly basis and the only evidence presented to support the argument that it would have been impractical or impossible to prove actual losses was Mr. Mudalel's subjective conclusion that segregating costs was taking too much time and effort.

While we are cognizant of the fact that Schnabel did not have to prove damages with mathematical certainty, even under the total cost method the loss claimed has to be substantiated by reliable evidence. Acchione & Canuso, Inc. v. Pa. Department of Transportation, 501 Pa. 337, 461 A.2d 765 (1983); Standard Pipeline Coating Company, Inc. v. Solomon & Teslovich, Inc., 334 Pa. Super. 367, 496 A.2d 840 (1985); Larry Armbruster & Sons, Inc. v. Public School Building Authority, 95 Pa. Commw. 310, 505 A.2d 395 (1986). In this regard, we firmly believe Schnabel

failed to meet the necessary burden of proof even under a "modified" total cost method. This is not a case where there is merely "some" uncertainty as to the precise amount of damages (See, e.g., Pugh v. Holmes, 486 Pa. 272, 405 A.2d 897 (1979)), but rather one where an award based upon the record would essentially be speculative. Having concluded this, it is merely academic as to whether or not the other requirements or application of the total cost method were met. However, the Board is not persuaded that the other requirements were in fact met.

While we believe that the lump sum bid submitted by Schnabel was reasonable, the reasonableness of the discipline estimates is highly questionable. Schnabel's expert, Kenneth H. Pukita, testified that based upon the overall make-up of the bid documents that he had available, he felt Schnabel's estimate was reasonable and well prepared. However, Mr. Pukita's testimony on cross-examination did not bode well for Schnabel. Mr. Pukita was hesitant in a number of regards concerning the concrete bid and this greatly affected his credibility, given the fact that he had no experience in testifying as an expert. Mr. Pukita also had no experience in the design and construction aspects/security requirements of a prison the size of Graterford. Mr. Pukita's testimony was fraught with indications that he had not completely reviewed all of the available information. He indicated that he

did "selective calculations" and a "spot-check" of various items of damages he thought might be questioned. Mr. Pukita acknowledged on cross-examination that he had never been on the Graterford site, was not comfortable using a Means catalog, was not familiar with Schnabel's employment history and was unsure of the labor mix or crew size used by Schnabel when they determined their concrete figures for their bid. Mr. Pukita acknowledged that there may have been "minor mistakes" in Schnabel's masonry estimate and further admitted that he did not go through the entire damage assessment and did not make any modifications to Schnabel's damage calculations as a result of those errors. Mr. Pukita opined that Schnabel was entitled to bid on a 30-month duration for the Project even though this was a multi-prime project and the contract and general conditions required a 36-month duration. Mr. Pukita did not review any of Schnabel's applications for payment related to the Project, could not explain some of the particular damage calculations and incredibly, he did not believe Graterford's status as an occupied maximum security prison was relevant to the damage calculations. His testimony did not sufficiently support Schnabel's utilization of the total cost method.

We also question whether or not Schnabel failed to present evidence of reasonable costs. Again, the record is replete with indications that Schnabel's actual costs contain

errors. The figures on the final page of the Job Summary Report are questionable as is the fact that the Change Order costs reflected in the Job Summary Report did not equal the Change Order costs paid by DGS. The figures in the Weekly Labor Summary Report do not equal the labor figures in the Job Summary Report. Schnabel's failure to establish the accuracy and reliability of the costs alone may be fatal to their total cost method approach.

Finally, we remain unconvinced that Schnabel did not contribute to cost overruns. We recognize the fact that implicit in every construction contract is a covenant from the owner that it will not interfere with the ability of the contractor to perform its work and it will not fail to act in some essential matter necessary to enable the contractor to efficiently and timely complete its work. See Gasparini Excavating Co. v. Pennsylvania Turnpike Commission, 409 Pa. 465, 187 A.2d 157 (1963). We are also cognizant of the testimony of DGS inspector Richard Pluck who was at the Graterford Project and inspected the Project building by building. Mr. Pluck indicated that at times it seemed the various primes were "ganging up" on Schnabel. Nevertheless, Mr. Pluck felt that Schnabel's superintendent, Mr. John Hamburger, was uncooperative with DGS and did not allow DGS to help resolve the conflicts on the Project. Mr. Pluck also felt that Schnabel was not adequately staffed from a management stand point and that after Schnabel added "semi-bosses" to their

crews, he noticed more progress.

There was also testimony from William Sheaf, the construction inspector/manager for DGS at the Graterford Project, who acknowledged that Change Orders were slow being processed on occasion. In reviewing the record, we suspect that processing of Change Orders was indeed slow on a number of occasions. Mr. Sheaf also stated that coordination of the primes was the responsibility of both DGS and Schnabel and both parties apparently lacked leadership in this regard.

We also question the impact that non-payment of subcontractors bills by Schnabel may have had on the overall Project. DGS felt that Schnabel delayed the Project for refusing to complete concrete pours in certain instances and other primes such as Willard and Chadwick felt they were being delayed by Schnabel at a number of the buildings. These facts were gleaned from the Job Conference Reports and correspondence and confirmed by Mr. Mudalel on cross-examination. Accordingly, Schnabel may have been a victim of circumstances as to the delays and overruns caused in some circumstances, but it is apparent from the record that they were also responsible for some of the added expenses.

Mr. Hefron's assessment of damages includes a detailed analysis of the field overhead, site work, road concrete, building, masonry, and hollow metal doors. Mr. Hefron also included overhead and profit and extended home office overhead in

his calculations. Mr. Hefron estimated, according to his review of the record and taking into account delays which seemed clearly attributable to DGS actions, that Schnabel was entitled to additional payment of between Forty-Three Thousand Fifty-Four Dollars (\$43,054.00) and Two Hundred Thirty-Four Thousand Seven Hundred Seventy-Seven Dollars (\$234,777.00). While it may be unorthodox, we are accepting Mr. Hefron's highest figure as a fair and reasonable award to Schnabel based upon equitable principles.

Equitable estoppel is a doctrine, a fundamental fairness designed to preclude a party of depriving another of the fruits of a reasonable expectation when the party inducing the expectation knew, or should have known, that the other would rely. See DeFrank v. County of Greene, 50 Pa. Commw. 30, 412 A.2d 663 (1980); Cmwlth. ex rel Gonzalez v. Andreas, Cmwlth. ex rel 245 Pa. Super. 307, 369 A.2d 416 (1976). Equitable estoppel can be applied to a governmental agency. Commonwealth of Pennsylvania, Department of Environmental Resources v. Dixon Contracting Company, Inc., 80 Pa. 438, 471 A.2d 934 (1984). The application of the doctrine of estoppel cannot be denied simply because the doctrine is being asserted against the Commonwealth. See Commonwealth of Pennsylvania, Department of Public Welfare v. UEC, Inc., 483 Pa. 503, 397 A.2d 779 (1979).

As indicated earlier, a contractor must be permitted to



perform its contract without interference and the owner must not fail to act in some essential manner necessary to enable the contractor to efficiently and timely complete its work. Gasparini Excavating Co. v. Pennsylvania Turnpike Commission, supra. In the instant case, clearly DGS must accept some responsibility for the delays occasioned on the Graterford Project. While the 128-day extension of time unilaterally granted to Schnabel by DGS was "convenient", we find it difficult to believe that after denying each and every extension of time request, the appropriate number of days was exactly the same as the overrun from the contract completion date. DGS also allowed an additional 15 days for the strike making the total a nice, neat 143 days. We view the extension granted as too convenient and feel that Schnabel is entitled to additional delay reimbursement. Having found that equity applies to this situation, we may assess money damages to insure a just result. Solomon v. Cedar Acres East, Inc., 455 Pa. 496, 317 A.2d 283 (1974).

It is notable that DGS's own expert, John L. Hefron, of Ernst & Young, found his own client to have impacted Schnabel "minimally \$43,054.00 to maximally \$234,777.00 plus interest from the date of claim submittal". (D-90, Pg. ii) As indicated, Mr. Hefron basically analyzed Schnabel's Claim in the areas of field overhead, site work, road concrete, building concrete,

masonry, hollow metal doors, overhead & profit, and extended home office overhead. In Exhibit D-90, he analyzes each of these areas, vis-a-vis, the modified total cost method. Interestingly, in other areas of Schnabel's Claim, he finds that the Claimant failed to meet the prerequisites for application of the total cost method while in other instances, such as those mentioned, he found that Schnabel was indeed entitled to reimbursement for problems caused by DGS. The Board finds Mr. Hefron's analysis of the Schnabel Claim to be credible and professionally done; however, we disagree with his application of the total cost method in a piece-meal fashion. We agree with his overall evaluation of the discipline areas and find that DGS is estopped from denying responsibility for the excess costs set forth in Mr. Hefron's analysis. Clearly, if DGS's own expert admits to a negative impact resulting from DGS actions, DGS cannot in good faith deny this fact. We find Mr. Hefron's estimate of \$234,777.00, plus interest from the date of Claim submittal, to be a reasonable assessment of damages which should be awarded to Schnabel as a result of the impact of the actions or, in some instances inaction, on the part of DGS. We will adopt Mr. Hefron's analysis of the damages as our own and hold that DGS's is estopped from denying liability based upon the equitable principles set forth above.

ORDER

**AND NOW**, this            day of            , 1995, we find in favor of the Plaintiff, Schnabel Associates, Inc., and against the Defendant, Commonwealth of Pennsylvania, Department of General Services in the amount of Two Hundred Thirty-Four Thousand Seven Hundred Seventy-Seven Dollars (\$234,777.00), with interest from the date of original claim submittal. The award shall be payable to Schnabel Associates, Inc. and the Department of Labor and Industry, Bureau of Employer Tax Operations.

Upon receipt of said award, Plaintiff shall forthwith file with the Board a Praecipe that the case be marked settled and ended with prejudice.

All costs are to be borne respectively by the parties to this litigation.

BOARD OF CLAIMS

Opinion Signed  
April 11, 1995

\_\_\_\_\_  
David C. Clipper  
Chief Administrative Judge

\_\_\_\_\_  
Louis G. O'Brien, P.E.  
Engineer Member

\_\_\_\_\_  
James W. Harris  
Citizen Member