

BEFORE THE  
MARYLAND STATE BOARD OF CONTRACT APPEALS

Appeal of CORMAN CONSTRUCTION )  
COMPANY, INC. ) Docket No. MSBCA 1308  
 )  
Under MTA Contract No. NW-08-01 )

February 12, 1990

Equitable Adjustment - A contractor is entitled to proceed at a better rate of progress than that shown in its schedule, and the State is liable if it delays the contractor from bettering its progress. However, in the absence of a written schedule showing early completion or clear contemporaneous evidence of such a plan, a contractor seeking to recover delay damages bears a rather heavy burden of proof to show that such a plan did in fact exist and was being realistically pursued.

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PROPOSED DECISION BY CHAIRMAN HARRISON\*

Appellant timely appeals the denial of its claim for increased costs under a Mass Transit Administration (MTA) contract to relocate a portion of Milford Mill Road over the Western Maryland Railway (WMRR) and MTA facilities located in Baltimore County, Maryland. Only entitlement is at issue. The decision is issued as a proposed decision due to the resignation in November 1989 of the Board member who heard the appeal.

Proposed Findings of Fact

A. General

1. On March 9, 1983, Corman Construction, Inc. (Appellant) was awarded MTA Contract No. NW-08-01, Relocated Milford Mill Road. The contract was entered into on March 21, 1983.
2. The contract work included the relocation of a portion of Milford Mill Road from its intersection with Woodside Road east approximately 0.379 miles to its intersection with extended Deerfield Road.

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\*The instant decision became a final decision on or about March 16, 1990 pursuant to COMAR 21.10.06.26

3. The contract required the construction of an embankment known as embankment "A" on the western portion of Milford Mill Road between stations 4+54 and 12+33; and, an embankment known as embankment "B" on the eastern portion of Milford Mill Road between stations 14+71 and 19+63. The embankments were to be connected by the construction of a bridge 238 feet in length, with two continuous spans each 119 feet long. The superstructure was to be a reinforced concrete deck supported on built-up plate girders. The concrete abutments and pier were to be supported on steel bearing piles.

4. On the top of each embankment the contract specified a 55 foot wide roadway constructed of successive layers of six inches of CR-6, successive three inch and two inch layers of bituminous concrete base course, and two inches of bituminous concrete surface course. On either side of the paved roadway, the contract specified a two foot wide shoulder and a four foot wide sidewalk.

5. The contract further required the construction of a 16 foot wide road known as Pikesville Tire Access Road (PTA), extending north 340 feet and intersecting with embankment A at station 7+00; and the construction of a 55 foot wide roadway known as Deerfield Road, extending south 668 feet and intersecting with embankment B at station 19+63.

6. The embankments were composed of approximately 180,000 cubic yards (cy) of fill broken down in approximate amounts as follow:

A	107,000 cy
B	56,000 cy
Deerfield	12,000 cy
PTA	3,000 cy

7. The contract set forth a performance duration of 400 days. On April 16, 1983, Notice to Proceed was issued, establishing a completion date of May 22, 1984. As a result of contractually recognized weather delays, the contract completion date was extended to June 29, 1984. The work was substantially completed on October 10, 1984. However, the parties have stipulated that Appellant is entitled to a 19 day time extension for delays to contract completion encountered subsequent to September 15, 1984 and the Board will consider September 15, 1984 as the substantial completion date for purposes of its decision.

8. Rains and low temperatures normally begin to significantly impact the contractor's ability to place embankment in the Baltimore area around late September, although the actual time varies from year to year. In this case the Board finds that such significant impact in 1983 began on or about October 12, 1983.<sup>1</sup>

The principal matter the Board must determine is whether, as alleged by Appellant, the construction and paving of the A and B embankments and Deerfield Road could have been completed prior to the onset of bad weather on October 12, 1983. The Board must also determine the appropriateness of the assessment of liquidated damages based on failure to complete by June 29, 1984. Finally the Board must determine entitlement respecting various miscellaneous claims.

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<sup>1</sup>There are significant benefits to completing the embankment, paving and permanent seeding prior to the onset of bad weather. Paving protects the top of the fill from damage due to snow or rain. Completion of the paving means that the storm drainage system is in place and functioning to take care of rain water and protect the slopes. If the fill is shut down for the winter, then the contractor must dry the fill in the spring and repair any damage. In addition, the contractor must wait until there are sufficient days of warm dry weather to restart work in the spring, which means the spring startup is subject to weather variances. The completed pavement also provides a good surface for access to any structures (in this case a bridge) required to be constructed.

B. Liquidated Damages

As noted in Proposed Finding of Fact No. 7, the contract completion date was June 29, 1984 and Appellant did not substantially complete the work until September 15, 1984. The contract required Appellant to pay liquidated damages of \$2,000 per day for every calendar day's delay in completion of the job. A table provided in Contract Provision SGP-8.04 sets forth working day delays "which may be expected to occur as a result of normal weather conditions." Time extensions are permitted for working day delays in excess of the numbers listed in the table "only when those excess days of delay affect the critical path of the work involved required to meet the specified contract times or dates."

MTA argues that the bridge rather than the earthwork represented the critical path of the work and asserts that Appellant is responsible for 78 calendar days of delay in completion of the work from June 29, 1984 until September 15, 1984 attributable to the alleged non-critical earthwork. MTA asserts that earthwork delay is due to overbuilding of the embankment slopes by Appellant and claims it is due \$118,000 representing liquidated damages of \$156,000 (78 days x \$2,000 per day) less \$38,000 currently withheld.<sup>2</sup> Appellant contends that the earthwork and not the bridge constituted the critical work.

The Board finds that the earthwork and not the bridge represents the critical path. The record reflects that MTA issued unilateral change orders during the job extending performance for a total of 123 days based on the belief of the parties during performance that the earthwork represented the critical path. However, MTA in its response to the proof of costs and at

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<sup>2</sup>The procurement officer had determined in his final decision that Appellant was only responsible for 19 days of delay and that MTA had withheld \$38,000 (19 days x \$2,000) as a consequence.

the hearing challenged the appropriateness of the MTA contemporaneous conclusion (and granting of unilateral change order extending the time for completion) that the earthwork represented the critical path. The Board places great weight on the parties contemporaneous construction of what constituted critical work and based on the record as a whole finds that the earthwork and not the bridge represents the critical path. Therefore, the Board concludes that MTA is not entitled to assess and/or withhold liquidated damages.

C. Completion by October 11, 1983

9. Pursuant to direction in the contract, Appellant submitted a bar chart progress schedule to MTA on May 4, 1983. The schedule as it pertains to earthwork indicated completion of borrow excavation in November, 1983 and placement of CR-6 and paving of the embankments in 1984.

10. The contract initially required Appellant to excavate approximately 36,760 cy of unsuitable material referred to as undercut on the A embankment. Appellant was to be paid for this work under Bid Item No. 10. The unsuitable material was to be replaced with select granular backfill and paid for under Bid Item No. 14. This work was subsequently deleted by MTA on May 5, 1983 apparently due to concern that the material to be undercut (i.e. dug out) was contaminated and Appellant was directed to proceed with construction of the embankment without undercutting and placement of select granular backfill.<sup>3</sup>

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<sup>3</sup>The Board finds the deletion to be covered by the changes clause rather than the variation in estimated quantities clause, Section 31.02-4(4)C of the SIA Blue Book or Section TP-9 of the contract's Technical Provisions.

11. As a result of the deletion of the undercutting and backfill, Appellant submitted a revised progress schedule on June 3, 1983<sup>4</sup> showing the effects of this deletion. This schedule continued to indicate completion of the embankments in November, 1983 and paving in 1984.

12. Appellant commenced borrow excavation on the A embankment on May 26, 1983 after placing at MTA's direction four settlement plates on the embankment to measure settlement estimated to occur as a result of deletion of the undercutting and backfill work. The necessity while working in the vicinity of the plates to protect and repair occasional damage to the plates and the requirement to take weekly readings (measurements) of the amount of settlement caused a minor loss of efficiency during the work on the A embankment prior to October 11, 1983. Appellant claims \$3,609 as representing the additional cost<sup>5</sup> associated with an asserted loss of efficiency of 5%. The Board finds that the record supports a finding of a 5% loss of efficiency and sustains Appellant's appeal in this regard.

13. While Appellant's initial fill placement rate was low, by mid June, 1983 the initial learning curve had been overcome and fill placement continued from late June through early August, 1983 at an average rate of 2700 cy per placement day. However, the material was above optimum moisture content and therefore required manipulation in order to meet the compaction requirements set forth in the contract. Nevertheless, at such a rate of placement, completion of the fill and paving could have been achieved by October 11, 1983.

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<sup>4</sup>The schedule was dated May 31, 1983.

<sup>5</sup>The claim of \$3,609 represents 5% of Appellant's placement costs for the days it was working in the area of the settlement plates. While Appellant apparently did not notify MTA that the settlement plates were causing a loss of efficiency of 5%, we will not reject Appellant's claim on such basis.

14. The contract required installation of an 84" pipe running across the A embankment in a north-south direction approximately 2/3 of the way up the embankment at station 9+84. On June 26, 1983 MTA issued revised drawings incorporating details for the construction of a larger endwall for the 84" pipe. By agreement with MTA, Appellant continued placement of fill in the area where the endwall was to be constructed during the approval process for the drawings.

Appellant commenced excavation of the embankment to accommodate construction of the endwall on August 20, 1983 and completed the excavation on August 26, 1983. This work was performed on a force account basis, and in order to minimize costs, MTA refused to pay Appellant for the cost of either (1) placing the excavated material in the fill, or (2) wasting it and placing new material for backfill when the endwall was complete, or (3) off-site stockpiling of the material for subsequent re-use as backfill. Appellant was thus constructively directed by MTA to stockpile the material on site for subsequent re-use as backfill when the endwall was completed. While not a matter free from doubt, the Board further finds that Appellant was left with no reasonable cost alternative given site constraints for available areas for stockpiling of fill other than to stockpile the material on top of the embankment above the area of excavation for the endwall for the 84" pipe. Appellant thus stockpiled the material above the area of excavation on the A embankment. However, MTA subsequently determined that the stockpiled material should not be used<sup>6</sup> and had it removed by another contractor in

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<sup>6</sup>It is probable that MTA believed that the stockpiled material may have been contaminated because of the possibility that the excavation for the endwall included some material that had been encompassed by the deleted undercut work. The material also became saturated in September, 1983 due to heavy rains making its use as fill of questionable cost effectiveness.

May, 1984. The Board finds that the constructive direction by MTA to stockpile the material on top of the embankment would have impeded Appellant's ability to complete the fill and ductwork until it was removed.

15. Not far from the toe of the A embankment between stations 5+00 and 6+00 stood a pole holding telephone, electric, and cable television wires which crossed the embankment in a north-south direction. The MTA was responsible for the relocation of these wires and intended to have relocation accomplished by the date of issuance of the notice to proceed on April 16, 1983. The need to relocate these wires was addressed in numerous progress meetings and on August 8, 1983, Appellant requested that the BG&E work be expedited so that embankment work not be affected adversely. However, despite numerous phone calls by the MTA resident engineer to the utilities requesting them to relocate their wires, they were not all relocated until sometime in September, 1983.

16. As a result of the length of the delay in utility relocation, MTA is not excused by the "normal delay" exculpatory provision of the contract regarding relocation of utilities. The Board finds that the delay beyond August 8, 1983 (when Appellant specifically requested expedition of the BG&E relocation) in utility relocation is abnormal, the responsibility of MTA and that such delay adversely impacted the Appellant's work in that the fill in the west end of the A embankment had to be left low in the area of the wires because equipment could not work underneath them if the fill was brought up to normal height. The Board also finds that further inefficiency was introduced into the progress of the work because dump trucks were required to lower their dumps prematurely to avoid hitting the wires and vehicular traffic was obstructed by the pole.<sup>7</sup>

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<sup>7</sup>The Board assumes that the pole was removed shortly after the last wires were relocated.



17. Thirteen feet west of the designated location of the toe of the B embankment at station 14+26 sat a 15 foot high pole with a 12 foot long crossbeam from which hung signal communication wires for the Western Maryland Railroad (WMRR). These wires were to be relocated underground by WMRR to allow for construction of the fill. MTA was responsible for coordinating this relocation. During a progress meeting on April 26, 1983, MTA advised Appellant that the wires should be relocated on or about May 26, 1983 prior to the indicated date for start of the B embankment. However, the wires were not relocated until August 18, 1983.

Because of the presence of the wires, Appellant was unable to begin placement along the critical area on the B embankment in accordance with normal procedures and instead made a few intermittent placements away from the toe in early June and July. In mid-July 1983, MTA initially advised Appellant to keep its embankment at least 50 feet from the lines and then on July 20, 1983 advised Appellant that it could work "as close and as safe as possible" to the lines.

For a brief period after July 20, 1983, Appellant placed a small amount of material around the poles and under the wires. However, the lack of realistic clearance for construction equipment and safety considerations caused Appellant to alter its placement procedures by dumping material on top of the embankment and pushing it over the front and sides of the fill. This resulted in overbuilding of the fill which overbuilding had to be removed at a later date.

18. The contract specified the installation of electrical and telephone (C&P) ductwork across each embankment and through the bridge.<sup>8</sup> Appellant's May 31, 1983 revised project schedule showed installation of C&P ductwork from

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<sup>8</sup>The electrical ductwork was on one side and the C&P ductwork was on the other side of the embankments and bridge.

July 18 to July 31, 1983 and installation of electrical ductwork from August 1 to August 14, 1983. However, C&P made various material changes in the proposed work for the telephone ducts as a result of which MTA did not issue a notice to proceed with such work to the Appellant until November 9, 1983. While Appellant complained of the delay in finalization of the C&P work, it made no complaint that the C&P ductwork delay was affecting the performance of the installation of the electrical ductwork. Appellant's electrical subcontractor Pel Bern Electric (Pelbern) did not commence placement of electrical ductwork along the critical path at the top of the embankment until October 17, 1983<sup>9</sup> after receipt of a telegram from Appellant on October 4, 1983 advising that its performance would hold up completion of the project. The electrical ductwork was completed on November 9, 1983 and the C&P ductwork was essentially finished in February 1984 except for the area of the 84" endwall stockpile on the A embankment.

The critical work for purposes of completion of the embankment and paving by October 11, 1983 was the C&P and electric duct on the top of the embankment (as distinct from the electric work off of the embankment).<sup>10</sup> The record reflects that it would have been most efficient to have installed the electric and C&P ductwork on the top of the embankment concurrently. The Board further finds that despite Appellant's schedule showing sequential installation of the C&P ductwork prior to the electric ductwork, it came to believe by late summer 1983 that concurrent placement of the C&P and electric ductwork on the top of the embankment would represent the most efficient manner of proceeding. The Board concludes that MTA is responsible

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<sup>9</sup> Pelbern had commenced installation of the electric ductwork outside the embankment area on August 24, 1983. Both parties agree that the critical ductwork for purposes of the appeal was the ductwork on the embankments.

<sup>10</sup> There was no C&P ductwork to be performed off of the embankment.

for the delay in installation of the C&P ductwork and that the Appellant's deferral (while awaiting the C&P changes) of the critical (top of embankment) electric ductwork until October 17, 1983 was reasonable.

19. Access to the B embankment was over Deerfield Road. While both the Deerfield and B embankments could be constructed independently, Appellant preferred to bring up the two embankments concurrently, thus providing a reliable haul road to the B embankment as well as affording an additional area for drying fill. However, the contract provided that MTA would determine whether the area where the Deerfield embankment was to be constructed required undercutting to remove unstable material and replacement with select granular material prior to construction of the Deerfield embankment.

In early June, 1983, when Appellant attempted to run vehicles over this area to use in construction of the B embankment, the area pumped. Rather than direct undercutting, however, MTA instructed Appellant to place a quantity of fill on the unstable area to see if it would stabilize. Despite placement of the fill, the area did not stabilize preventing simultaneous construction of the Deerfield and B embankments. It is probable that MTA was reluctant to direct undercutting after placement of fill to see if the area would stabilize because of the cost of removal and ultimate replacement of the material that had been placed for stabilization purposes. Eventually, however, sometime in late September 1983, MTA determined that the Deerfield area required undercutting, which work was performed by Appellant in October, 1983. Accordingly, the Deerfield embankment could not be completed and paved prior to the onset of adverse weather on October 12, 1983.

The Board finds that considering the relatively small size of the Deerfield embankment (12,000 cy) and given Appellant's on site resources and availability of sufficient material for fill and time for drying of such relatively small amount that Appellant could have completed and paved Deerfield prior to October 11, 1983 had MTA directed undercutting by at least late August, 1983. While the record is not crystal clear on the matter, the Board finds that Appellant requested that undercutting be directed prior to late August, 1983, and that it should have been evident to MTA at the time of such request that undercutting would in fact be necessary. The Board further finds that had MTA directed undercutting by late August, 1983, Appellant would have completed and paved the Deerfield embankment by October 11, 1983, and thus Appellant is entitled to an equitable adjustment for its increased costs in construction of Deerfield in 1984.

20. Prior to August 8, 1983, Appellant had been using borrow material from the Wabash Bus Facility project (Wabash), a contemporaneous MTA project on which it was the contractor. The Wabash material was very wet, i.e., was above optimum moisture content and therefore required manipulation (drying and tightening procedures) in order to meet the compaction requirements set forth in the contract. On or about August 8, 1983, Appellant began supplementing the wet Wabash material with dry material from Arundel quarry to aid in drying the Wabash material more quickly so it could be used as fill. Appellant determined to cease bringing in dry material from Arundel quarry and the last day material was received from Arundel quarry was August 18, 1983.

21. As indicated above, Appellant placed fill material at an average rate of 2,700 cy per day between June 27, 1983 and August 6, 1983, although the material was above optimum moisture content and therefore required manipulation in order to meet the compaction requirements set forth in the contract.

22. As of August 7, 1983, approximately 11,718 cy of material remained to be placed on the A embankment, and 46,283 cy remained to be placed on the B embankment and Deerfield Road. Little or no material was placed on the A embankment from August 6, 1983 until August 23, 1983. Instead, Appellant directed its placement efforts on the B embankment and drove piles on the A abutment during the period August 8, 1983 to August 16, 1983. Appellant drove piles on the B abutment during the period August 16, 1983 to August 23, 1983 but placed little or no fill on the B embankment. Thus during August, 1983 fill generally was not placed on the A or B embankment when pile driving for the abutments was being performed on that particular side.

23. On August 23, 1983, MTA's on-site personnel were advised by Appellant that beginning the next day, material consisting of 18" to 24" rocks and reddish soil would be hauled to the job from Wabash. This material brought onto the site from Wabash subsequent to August 23 continued to be very wet. The high moisture content of the material required each layer of fill to be tightened prior to placement of subsequent layers. The record reflects that MTA permitted use of the wet material based upon its belief that the Appellant would not pave until the spring of 1984 which would give the material time to tighten up.

24. From August 23, 1983 until the end of the month, Appellant placed material on embankment B on August 26 and 29, and on both embankments on August 24 and 30. On each of these days except for August 26, Appellant's earthwork foreman noted on the timesheet that ground conditions were good and that the fill material was wet.

25. Appellant placed fill on either embankment A or B on September 1, 2, 6, 7, 8, and 9, 1983. On all but one of these days, Appellant's timesheets described the weather as clear, the ground conditions as good, and the fill material as wet.

26. The last placement on the A embankment until the end of October, 1983 was on September 8, 1983. After September 9, 1983, Appellant placed material on the B embankment on September 20, 26 and 27, 1983, and thereafter not until November, 1983. In the interval between the relocation of the WMRR wires on the B embankment on August 18, 1983 and September 27, 1983 the weather was favorable for placing fill and there were no other blockages on the B embankment. During this period, however, Appellant placed fill on the B side only intermittently on 11 days. Material was also placed at Deerfield and the Pikesville Tire Access Road during the latter part of September. The timesheets continued to refer to the use of wet fill on days that the weather conditions and the ground conditions were satisfactory.

27. When adverse weather commenced on October 12, 1983, Appellant took no action such as temporary seeding or the installation of slope drains to protect the embankments and minimize damage from the effects of winter weather.

28. The A and B embankments were not finally constructed and paved until October 1984. Appellant concedes that it was responsible for a great deal of overbuilding of the slopes of the A and B embankments prior to the onset of

adverse weather in October of 1983, although certain of the overbuilding resulted from MTA caused interferences.<sup>11</sup> In any event, the Board finds that it would have been physically possible (without consideration of MTA or any concurrent delay) for Appellant to have brought the embankments to grade, removed the overbuilding, installed ductwork, repaired the slopes, placed CR-6 and paved prior to the onset of adverse weather on October 12, 1983. While there is a morass of conflicting testimony in the record, the Board finds that Appellant orally conveyed to MTA its intention to construct and pave the embankments prior to the onset of adverse weather and for purposes of this decision the Board accepts as true the testimony to such effect from Messrs. Palmer, Hawes and Craig (the persons involved in scheduling and managing the progress of earthwork for Appellant). The Board further finds that such hope or expectation of early completion (i.e. prior to adverse weather) of these items of work was orally communicated to MTA as early as June, 1983 and as late as September 30, 1983. While no specific date for early completion other than late September to early October 1983 was specified, the Board accepts Appellant's contention that the hoped for completion date was a date prior to October 12, 1983 when the adverse weather, the onset of which was unpredictable, actually commenced.

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<sup>11</sup>The Appellant admits that it is responsible for 22 (19 working) calendar days of overbuilding removal. MTA asserts that Appellant required 31 working (38 calendar) days to remove overbuilding for which Appellant was responsible. The dispute centers on how much overbuilding was attributable to the WMRR lines and how much slope work in 1983 consisted of removal of overbuilding or mere dressing of slopes. The Board finds that Appellant is responsible for 28 (24 working) calendar days of overbuilding removal calculated on the basis of a 6 day workweek.

Proposed Decision

I. Completion by October 11, 1983

As noted in Proposed Finding of Fact No. 19, the Board has found that Appellant is entitled to an equitable adjustment for additional costs incurred in construction and paving of Deerfield in 1984.<sup>12</sup>

The bulk of the remaining costs claimed by Appellant are attributed to increased costs of construction of the A and B embankments in 1984.

Appellant claims entitlement to the increased unit costs incurred on these operations subsequent to October 12, 1983 on the theory, that but for the acts and omissions of MTA, embankment A and embankment B would have been completed and paved by October 11, 1983 at a lower unit cost.

Appellant also asserts that certain miscellaneous costs such as the cost of show up time, temporary seeding and draining the site due to wet conditons in 1984 also would have been avoided.

Appellant further claims entitlement to increased costs for the placement of fill on the B embankment after September 6, 1983 and on the A embankment after August 11, 1983 resulting from inceased unit costs of fill and altered placement proceedures after such dates

The law is clear that a contractor is entitled to an equitable adjustment when prevented from completing early. Metropolitan Paving Co. v. United States, 325 F.2d 241, 163 Ct. Cl. 420 (1963). A contractor is entitled to proceed at a better rate of progress than that shown in his schedule, and the Government is liable if it delays the contractor from bettering his progress. Montgomery-Ross-Fisher, Inc., PSBCA Nos. 1033, 1096, 84-2 BCA ¶17,492; Eickhof Construction Company, ASBCA No. 20049, 77-1

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<sup>12</sup>Appellant has apparently been compensated for the cost associated with placing and then removing (to perform undercutting) fill on Deerfield in 1983.



BCA ¶12,308. See also: Department of General Services v. Cherry Hill Sand & Gravel, 51 Md. App. 799 (1982); Metropolitan Paving Co. v. United States, supra; Traylor Brothers and Associates, MDOT 1028, 1 MICPEL ¶86 (1984).

As noted in Owen L. Schwam Construction Co., Inc., ASBCA No. 22,407, 79-2 BCA ¶13,919, a contractor has the right to recover delay costs measured from a date preceding the originally specified contract delivery date where there exists a realistic schedule for early completion. The early completion schedule need not necessarily be communicated to the government, but it must exist in some fashion and must be feasible. In Schwam, the evidence that established a schedule to complete early was the contractor's communication to the government of its intention to deliver early. Id. at 68,330. Similarly, in Beco Corp., ASBCA No. 27,090, 82-2 BCA ¶16,124, the contractor met the test set forth in Schwam when it submitted to the government a projected schedule showing early completion well before the commencement of work, and the government acknowledged the schedule was attainable. Id. at 80,039.

However, in the absence of a written schedule showing early completion or clear contemporaneous evidence of such a plan, a contractor seeking to recover delay damages bears a rather heavy burden of proof to show that such a plan did in fact exist and was being realistically pursued. See Newell Clothing Co., ASBCA No. 26088, 82-2 BCA ¶15,951; R. W. Contracting, Inc., ASBCA No. 24627, 84-2 BCA ¶17,302; Traylor Brothers and Associates, MDOT 1208, supra. Thus a written schedule is viewed by this Board as an important although not controlling item of evidence to be carefully weighed in the balance of the parties respective evidentiary presentations on the question of entitlement.

The Board has found that Appellant physically could have constructed and paved the A and B embankments, i.e. such activity was achievable, by October 11, 1983. The Board has further found that the delay in relocation of the utility and WMMR lines, delay in provision of the C&P ductwork changes and delay resulting from the stockpiling of the 84" endwall excavation, all of which delay is the responsibility of MTA, would have adversely impacted Appellant's ability to complete the disputed work by October 11, 1983.

Because the MTA caused delay would have had an impact on Appellant's ability to proceed expeditiously and because early completion was physically possible, the burden shifts to MTA to demonstrate that despite such delays, Appellant would not have been able to finish by October 11, 1983 for other reasons. See John Driggs Company, Inc., Eng. BCA Nos. 4926, 5061, 5081, 87-2 BCA ¶19,833. In this regard, Appellant is not bound by and need not follow its original schedule (which in this case shows completion of the disputed work in 1984) but may adjust its operation to proceed in whatever reasonable manner it believes to be most economical under the changed circumstances. However, once the State challenges the contractor's assertion that it intended to complete early, the contractor must address such challenge (evidence) and demonstrate, particularly where its formal schedule does not show early completion for the disputed work, that its adjusted operation was realistically designed to accomplish early completion. Stated another way, a contractor may not take advantage of a State caused delay by relaxing or failing to continue reasonable efforts to complete early and then recoup any increased costs that actual later completion entails through the claims process. See Avedon Corp. v. United States, 15 Cl. Ct. 648, 653 (1988); Corman Construction, Inc., MSBCA 1254, 2 MSBCA \_\_\_\_ (February 28, 1989).

While a contractor need not exclude all potential or theoretical causes of concurrent or non State caused delay, it must demonstrate that its actions were reasonably calculated to accomplish early completion despite State hindrances.

For example, in this case, the failure of decision by MTA to undercut Deerfield until late September, 1983 effectively precluded Appellant from constructing and paving Deerfield prior to October 12, 1983 no matter what actions Appellant took or did not take. The MTA decision in June, 1983 to have Appellant place fill on Deerfield to see if the area would stabilize and the delay in reversal of such decision when it should have been obvious that the area would require undercutting was the sole apparent cause of the delay in construction and paving until 1984. The law does not require that a contractor submit a revised schedule showing early completion as an element of proof of entitlement in a claim based on prevention of early completion. Since the record reflects that Appellant had on site sufficient manpower, equipment and usable fill to complete the relatively small amount of work involved in Deerfield by October 11, 1983, MTA's sole available defense based on the absence of a revised schedule fails and Appellant is not otherwise required to address hypothetical issues of concurrent delay.

On the other hand, the record on construction of the A and B embankments is not as clear in defining cause for later completion as with Deerfield. The various delays that MTA is responsible for that impacted construction of the A and B embankments (utility relocations, WMRR lines, C&P duct changes and the 84" stockpile) and particularly the C&P changes would in combination at least have prevented early completion.<sup>13</sup> However,

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<sup>13</sup>The Board recognizes that while Deerfield could have been constructed and paved independently of the A and B embankments, the frustrated desire of Appellant to construct Deerfield and the B embankment concurrently in 1983 would have had a minor impact on completion of the B embankment before

unlike the situation at Deerfield, the record does not reflect ipso facto that these delays were the sole cause of a failure of early completion. Other issues of concurrent delay respecting the manner in which Appellant proceeded with the work are also apparent from the record. The question therefore is whether upon consideration of what actually occurred, the record as a whole demonstrates that Appellant intended to overcome the MTA caused delays, had a reasonable plan or method of proceeding to accomplish early completion and was proceeding in such fashion. While the Board finds that Appellant had the subjective hope if not expectation of early completion, the record does not demonstrate by virtue of the steps Appellant actually took to overcome the MTA delays that early completion would have been achieved. Thus, upon its review and weighing of the evidence the Board finds that Appellant would not have completed the A and B embankments even had the MTA caused delays or hindrances not been present. The record reflects too many actions or lack of action by Appellant notwithstanding the MTA caused delays that are inconsistent with objective proof of a viable ongoing plan for early completion for the Board to find that Appellant would have completed early. Assuming arguendo that Appellant had filed an amended schedule in the

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October 12, 1983. However, such impact as with the other delays could have been overcome. The Board recognizes that delay in provision of the C&P ductwork changes would in and of itself probably have prevented early completion. However, the record must demonstrate that Appellant was proceeding in such manner that the A and B embankments would have been constructed to grade and overbuilding removed (save that overbuilt material used in connection with material from the duct trenches to complete the final few feet of fill above the ducts) in sufficient time for Appellant to have concurrently placed the C&P and electric ductwork on the embankments, placed CR-6 and paved prior to October 12, 1983 had the C&P changes been finalized and forwarded to Appellant in timely fashion. The Board also recognizes the impact of the 84" stockpile on construction of the A embankment. However, Appellant asserts that the stockpile would have been readily removed had it been able to proceed with the C&P and electrical ductwork or otherwise removed had it been the only stumbling block to early completion, an assertion the Board finds to be reasonable. The utility and WMRR relocations in and of themselves would not have prevented early completion.

summer of 1983 projecting completion by mid October, 1983, the Board finds that Appellant's actual performance would not have been consistent with such amended schedule showing early completion.

Perhaps the most difficult matter to explain is why Appellant shut down Arundel quarry on August 18, 1983. It would not have been possible for Appellant to complete early without continued use of the dry Arundel material or dry material from some other source to mix with the wet Wabash material to achieve acceptable moisture content for placement of the fill. Appellant's explanation is that on August 18, 1983 there was very little unrestricted area available to receive fill and that if it had continued to place fill at full production it would have had to demobilize the fill operation, lay off employees and idle equipment only to have to remobilize after the MTA problems were resolved. This explanation fails to address the unrestricted availability of the B embankment to receive fill after removal of the WMRR lines on August 18, 1983, the additional drying time and costs that even reduced placement of fill using the wet Wabash material entailed and the relatively large quantity of Wabash material actually placed on both embankments between 18 August, 1983 and September 20, 1983 and the stability and compaction problems associated with use of such wet material. On balance, the Board finds the explanation to be unsatisfactory and concludes that the shutdown of Arundel quarry is inconsistent with a realistic effort to complete early.

Also inconsistent with a realistic effort to complete early was the fact that Appellant placed little or no fill on the A embankment while driving piles on the A abutment for the bridge during the period August 8, 1983 to August 16, 1983 and placed little or no fill on the B embankment while driving piles for the B abutment during the period August 16, 1983 to August

23, 1983. The fact that fill was not placed on the A or B embankment when pile driving for the abutment (a noncritical path item of work) was being performed on that side during August suggests a conscious decision to proceed in such manner which is inconsistent with the earliest possible completion of earthwork and paving.

The record further reflects that there was a substantial amount of overbuilding of the embankments that was required to be removed prior to the embankments being ready for paving. Appellant admits that it was responsible for 22 (19 working) calendar days of overbuilding removal. The Board has found that it was responsible for 28 calendar (24 working) days. Removal of overbuilding and dressing of the slopes was also made more difficult by the presence in the fill of 18" to 24" rock from the material brought in from Wabash after August 23, 1983. While the Board has found that the overbuilding could have been removed in time to permit completion of the disputed work by October 11, 1983, the record reflects that it would have required a substantial effort by Appellant. More importantly, the amount of overbuilding that Appellant was responsible for and the use of rocky material is not consistent with reasonable efforts to complete early and suggests the possible existence of an attitude that completion of the earthwork could be deferred until 1984.

The record also reflects that completion of the 84" endwall was necessary before Appellant could pave the A embankment. Excavation of the embankment for construction of the revised endwall began on August 20, 1983. Backfilling of the embankment, however, was not completed until June, 1984, rendering a 1983 paving goal impossible to achieve.

MTA claims that Appellant proceeded with the work on the endwall in an inefficient manner and with insufficient manning. Had Appellant chosen to expedite the work MTA argues that it could have been finished by late September 1983. Appellant contends on the other hand that inefficiencies delaying earlier completion of the endwall were caused by MTA's requiring it to re-use forms, failure to clarify damp-proofing requirements and MTA's overzealous control over the costs of the work which had been directed to be performed on a cost account basis. In resolving these contentions, the Board finds that the record supports MTA's assertion that Appellant did not aggressively pursue this work. This presents yet another inconsistency with a realistic effort to complete early.

These various inconsistencies in the record, most particularly the shut down of Arundel quarry, cast sufficient doubt on the existence of a realistic effort to complete early in 1983 that the Board concludes that Appellant would not have completed the earthwork and paved by October 11, 1983. Accordingly, its claim based on the increased costs of late completion is denied.

Appellant has also sought an equitable adjustment for discreet additional placement costs incurred in the August/September/mid October, 1983 timeframe on the A and B embankments. On the A embankment, Appellant claims entitlement for increased costs of placement beginning August 11, 1983. The increased costs on the A embankment allegedly resulted from Appellant having to divide the work on the A embankment into two smaller operations rather than one continuous and more efficient operation for placement of fill as a result of the continued presence of the overhead utility wires in the west end and the placement of the 84" stockpile in the center

commencing on August 20, 1983. Additionally, Appellant notes a direction on August 20, 1983 to place material in the isolated areas around the abutment to enhance settlement as a result of the deletion of the undercut.

The Board finds that Appellant normally would have placed fill in one continuous operation on the embankments. However, the above mentioned situation on the A embankment required Appellant to place the material in smaller segments. Accordingly, Appellant is entitled to an adjustment for any increased cost of placement of material on the A embankment between August 21, 1983, a date the Board finds that significant impact from the overhead wires and stockpile began to occur, and September 8, 1983 when the last placement prior to the onset of bad weather on October 12, 1983 occurred.

On the B embankment, Appellant claims the additional cost of all placements after August 31, 1983. Unlike the A side there were no similar impediments or occurrences impacting the placement of fill on the B embankment in the August/September/mid October time frame. Appellant asserts that the increased costs were caused by bad weather and intermittent placements resulting from bad weather. The record fails to support such assertion, however, and Appellant's claim for increased placement costs prior to October 12, 1983 on the B embankment is denied.

## II. Miscellaneous Claims

In addition to its earthwork claims, Appellant claims entitlement for various miscellaneous items. These various claims are as follows:

- A. 84" Headwall
- B. Settlement Plates
- C. Wedge on the B side
- D. Temporary fill on the B side



E. Additional trucking costs.

A. 84" Headwall

The 84" Headwall claim is for costs resulting from a changed condition or a change.

As a result of the change deleting the undercut and granular backfill on the A embankment, the headwall for the 84" pipe running across the embankment had to be constructed in the in situ unsuitable material rather than the granular backfill originally contemplated by the contract. The granular material would have afforded a smooth, drainable surface on which to work. As a result of the deletion, however, Appellant was required to work in wet material. Appellant had to overexcavate the unsuitable material and stabilize the bottom of the excavation with stone. Due to the wet conditions, Appellant was also required to pump the area while concrete was being poured. The wet, unstable conditions increased the cost of construction of the 84" headwall and Appellant is entitled to an equitable adjustment for such increased costs.

B. Settlement Plates.

The Board has determined (Proposed Finding of Fact No. 12) that Appellant is entitled to an equitable adjustment to compensate it for a 5% loss of efficiency associated with work in the vicinity of the settlement plates.

C. Wedge on the B Side

Appellant had to alter its method of constructing the portion of the B embankment below the axis of the WMRR lines because of a lack of clearance due to the wires and an MTA directive to keep the embankment at least 50 feet from the wires. Appellant thus held back placement of material which created a wedge that had to be filled in later. Appellant

received permission to work around the lines on July 20, 1983. The first placement thereafter occurred on July 23, 1983, and by July 27, 1983 some fill had been placed around the poles. By August 9, 1983 the fill was at the top of the wires such that there was no further impact from the wires. Appellant's claim is for the additional cost incurred on the 5 placement days on the B side occurring during the period July 20, 1983 through August 9, 1983.

The unit cost was \$1.24 for the 5 days, and Appellant deducted therefrom the previously experienced cost of \$1.01 and applied the \$0.23 difference to the entire 10,938 cy placed on the B side during this period. Appellant concedes that not every yard placed during this period was impacted by the WMRR lines.<sup>14</sup> However, Appellant was not able to separate the cost of the impacted yards from the unimpacted. The Board finds that only a small portion of the entire placement for the 5 placement days from July 20, 1983 through August 9, 1983 was impacted by the presence of the wires. In order to compensate Appellant for the impact, the Board shall apply a jury verdict approach, see Greiner Engineering Sciences, Inc., MSBCA 1366, 2 MSBCA \_\_\_ (1989), and determines that Appellant is entitled to an equitable adjustment with respect to the additional cost (\$0.23) per cy for 1000 cy of placement.

#### D. Temporary fill on the B Side

Appellant seeks an equitable adjustment for removal of temporary fill on the B side. Allegedly because of the altered construction methods required as a result of the WMRR lines, Appellant overbuilt the area on the face of the B abutment. Appellant claims that this overbuilding restricted access to the abutment for removal of the temporary fill required in order to prepare the reverse slope for protection. As discussed above, the presence of the

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<sup>14</sup>On August 4, 1983, Appellant worked east of Station 16+00 which was outside of the area impacted by the presence of the WMRR lines.

WMRR lines resulted in some overbuilding for which MTA is responsible. However, the Appellant failed to articulate with any specificity why its particular costs to remove the overbuilding in the area of the abutment increased and therefore its claim is denied.

#### E. Additional Trucking Costs

There was insufficient material at Wabash in 1984 to complete the embankments and Deerfield. Appellant argues that if the fill had been completed in 1983, the excess material would have come from Arundel quarry. In 1984, however, Arundel quarry was unavailable and Appellant brought a total of 4,609 cy of material from Dolefield starting on June 11, 1984. The unit cost for trucking material from Dolefield was \$4.51 per cy as compared to \$2.72 per cy from Arundel quarry. The Board finds that Dolefield was the cheapest alternative to Arundel quarry and Wabash. After June 11, 1984, 5507 cy was placed on Deerfield out of a total of 7148 cy placed on the job or 77%. As such, most of the increased trucking costs in 1984 are attributable to placement of fill on Deerfield, the construction and paving of which would, the Board has found, have occurred in 1983 but for MTA caused delay.

The Board has denied Appellant's earthwork claim on the A and B embankments based on completion prior to October 12, 1983. Accordingly, the unavailability of Arundel quarry in 1984 only has relevance to the availability of fill for construction of Deerfield in 1984 for which the Board has found Appellant entitled to an equitable adjustment for the increased costs of construction in 1984. There is no specific breakdown in the record of how much of the 4,609 cy received from Dolefield was placed on Deerfield. However, since Deerfield received 77% of the total cy of material placed on the job after June 11, 1984 from all sources, the Board finds that


it is reasonable to assume that approximately 77% of the Dolefield material was placed on Deerfield and determines that Appellant is entitled to an equitable adjustment for the additional trucking costs associated with the hauling of such quantity of material (77% of 4,609) from Dolefield.

For the foregoing reasons Appellant's appeal as to entitlement on its various claims is sustained in part and remanded for negotiation of an equitable adjustment.

Dated: February 12, 1990


  
Robert B. Harrison III  
Chairman

I concur:

  
Sheldon H. Press  
Board Member

I certify that the foregoing is a true copy of the Maryland State Board of Contract Appeals Proposed Decision in MSBCA 1308, appeal of CORMAN CONSTRUCTION COMPANY, INC., under MTA Contract No. NW-08-01.

Dated: February 13, 1990

  
Mary J. Priscilla  
Recorder