

**DISPUTE REVIEW BOARD REPORT
AND RECOMMENDATION
SH 66 OVERLAY – LYONS TO SH 287
BOULDER COUNTY, CO
CDOT PROJECT NO. STA 0661-011**

DISPUTE 3 - ADDITIONAL MILLING DEPTH

Hearing Date: September 14, 2010

Hearing Location: CDOT Region 4 Office
1050 Lee Hill Rd.
Boulder, CO

Hearing Attendees: Ken Lawson – Lawson Construction Co - President
Jim Sampson – Lawson Construction Co. – Project Manager
Jonathan Boonin – Hutchinson Black & Cook – Lawson Attorney
Neil Lacey – CDOT HQ – Area Engineer
Frank Kinder – Assistant Area Engineer
Gary DeWitt – CDOT – Materials Engineer
Mark Gosselin – CDOT Region 4 – Program Engineer
James Flohr – CDOT Region 4 – Resident Engineer
Chris Boespflug – CDOT – Project Engineer
Ella Reichley – CDOT – Assistant Project Engineer

Background:

Lawson Construction Co. (Contractor) was awarded a contract by CDOT for \$6,826,556.55 to construct a six inch bonded concrete overlay above a milled asphalt surface on SH 66 from Lyons to Longmont in Boulder County, approximately 7.5 miles. The width of the overlay varied from 44 to approximately 90 feet. The Notice to Proceed was issued on March 17, 2009. The Project was partially accepted on December 22, 2009 and Final Acceptance occurred on March 19, 2010.

Section 7 of the Contract incorporates the Plans, the Standard Specifications for Road and Bridge Construction dated 2005 and any Special Provisions for this Project and Revised Standard Specifications.

There was a difference between the roadway cross sections as shown on the drawings and the actual conditions which caused the milling requirements to be changed to minimize the concrete overrun. The Contractor submitted several proposals on the matter to CDOT between September and December 2009 and finally submitted a Request for Equitable Adjustment (REA) on January 20, 2010 which was denied by the CDOT Project Engineer on February 11, 2010. Per Specification Section 105.21, the Contractor elevated the dispute to the Resident Engineer on February 18, 2010. An addendum to the REA was submitted on March 10, 2010.

After four meetings with the Resident Engineer, the parties could not reach an agreement. The decision was made on March 19, 2010 to elevate the dispute to a Dispute Review Board per Specification Section 105.22.

Joint Statement of Dispute:

Lawson Construction Company constructed a 6 inch bonded concrete overlay above a milled asphalt surface on State Highway 66 from Longmont to Lyons in Boulder County. The plans required asphalt milling to an approximate depth of ½" to 1" over the entire existing asphalt surface prior to placement of the bonded (all asphalt surfaces are scratched regardless of grade) concrete overlay. Lawson Construction Company contends CDOT recognized substantial additional concrete was necessary to comply with specification requirements. Lawson understands CDOT chose to mitigate a portion of the additional concrete required by directing changes to contract requirements. Due to the variable existing cross slope and variable longitudinal grades and the requirement to provide a uniform 2% finished concrete surface cross slope, CDOT directed additional depth of asphalt milling exceeding that estimated in the plans. CDOT has granted merit on this dispute but the quantum is in dispute. CDOT contends they have based its quantum figure on a Force Account analysis. Lawson contends the specification does not allow for force account determination after the fact. Lawson contends the Specification clearly states the standard for determining force account quantum; well after the work was completed, CDOT attempted to analyze this cost using a force account method which is impossible to do. Lawson contends they are entitled to quantum under the contract as either a negotiated unit price or lump sum method as set forth in Section 109.04. It is desired that the Dispute Resolution Board (DRB) determine quantum.

Pre-hearing Submittal:

In addition to the Plans and Specifications for the Project, both parties provided the DRB with Pre-hearing Submittals per Specification Section 105.22(e) which included but were not limited to documentary evidence relevant to the issues, serial letters, e-mails, speed memos and handwritten notes. Both parties essentially submitted the same documents in organized three ring binders as exhibits, as well as, drawings prepared by the Contractor's surveyor showing the concrete previously placed in the Phase 1 paving and the existing conditions at the edge of the eastbound lane (third pass). Both parties provided the DRB with their lists of attendees.

Contractor Presentation on Cross Section Survey, Change in Cross Slope by CDOT and the Effect on Milling and Subgrade:

The Contractor bid the plans which included the Line Sheets (Plan Sheets No. 24-37) which showed the SH 66 alignment and miscellaneous side locations but no existing or proposed grade profiles or survey information.

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The Survey Tabulation Sheet (Plan Sheet No. 3) showed that the Contractor's surveyor was to use the existing roadway for horizontal and vertical control and roadway alignment. Typical Sections were provided on Plan Sheets No. 4-7 and called out *Approx. ½" to 1" Leveling Planing, 6" Minimum Concrete Thickness and 2% Cross Slope*. The Control Line was shown as the existing roadway crown. The existing H.M.A. Pavement was noted as *Cross Slope Varies*. Based on the information shown on the Sections, the Contractor contended that since there was no indication that the asphalt/subgrade was to be milled to a 2% cross slope, that a concrete overrun should have been expected.

The Contractor submitted a survey of the roadway cross sections on June 1 and June 8, 2009 as required by the Contract. A review of these cross sections coupled with the ½" to 1" milling requirement and a 2% finished cross slope clearly showed that the Project could not be constructed without a very substantial concrete overfill.

There were several meetings after the survey information had been submitted to CDOT to discuss probable problems. The Contractor started milling the westbound lane at the east end of the Project on June 11, 2009 and had gotten to Hoover Street by June 12. Based on the string line that the Contractor had installed, it was very apparent that there was going to be an over depth in concrete if the work was constructed per the milling and cross slope requirements as stated in the Plans and Specifications and the Contractor had a meeting on June 12 with CDOT to discuss their feelings on concrete overrun. The Contractor said that CDOT made the decision to change the Contract requirements by changing the Control Line to the edge of the shoulder of the westbound lane (Phase 1) and the milling was changed to provide for a finished 1 ½ % to 2% cross slope. This changed the milling from a depth requirement to grade controlled milling. This was noted in the Contractor's Job Progress Narrative Report dated June 25, 2009. The Contractor contended that the milling change would result in more time, additional survey and more milling but that CDOT realized that the cost of the added work would be substantially less than the cost for concrete overrun if the Project was constructed per the Contract. The Contractor maintained that the changes reduced the concrete overrun but that the existing roadway conditions did not allow for it to eliminate all the overruns.

To show the impact on the Project from the increase in milling quantities that resulted from the changes requested by CDOT, the Contractor said that CDOT's revised total milling quantity was 9,821 CY and the Contractor's was 10,164 CY while the quantity shown on Plan Sheet No. 9 was 3,012 CY. When the Contractor bid the Project, it assumed there was 5 to 6 inches of asphalt and that the ½" to 1" milling would knock off the high spots and provide the required bonding surface. There was nothing to indicate that the Contractor would have to do grade milling to construct the project.

The Contractor struggled with the costs and submitted letters from the milling sub and surveyor on added costs. The Contractor submitted various proposals for the additional milling and always felt after meetings that they would be reimbursed. Per Specification Section 109.04, they always felt they would get a “fair and reasonable” settlement. CDOT has agreed on merit but used a cost analysis based on Force Account but the Contractor feels the only method to determine the costs for the work is Unit Price or Lump Sum. What CDOT has done is not “fair and equitable”.

The final square yard quantity of milling was less than Plan. As they went along, the Contractor felt it was protected by Unit Price and thought they could negotiate something that was “fair and reasonable”.

CDOT Presentation on Cross Section Survey, Change in Cross Slope by CDOT and the Effect on Milling and Subgrade:

The Contractor said that there was a significant variation in the milled cross slope. If the Contractor would have milled per the Contract to a 2% cross slope, there would not have been a problem with the overlay concrete quantities. CDOT realized that more milling was required than the ½” to 1”. CDOT challenged the Contractor’s position that CDOT directed the changes. There were many conversations which CDOT thought resulted in a collaborative effort to construct the Project. When the Contractor made a proposal, CDOT asked if they had considered something else. The Contractor decided to move the Control Line to the shoulder. Normally, a contractor would ask for a change per Specification Section 104.02 and give written notice rather than expecting a change order from CDOT as the Contractor stated. CDOT did not direct the Contractor to change the Control Line.

From other CDOT projects, the Contractor knew that items would be discussed and that the work should not be done until CDOT could do evaluations. The Contractor’s June 30, 2009 letter was not a Notice but rather stated the corrective actions that it would take to improve concrete smoothness.

CDOT realized there would be some additional milling but the grade control for the milling was a requirement of the Contract. Alpha Milling requested a meeting on their production on Phase 1 but CDOT pointed out that they were exceeding the production as stated in the Methods Statement. Alpha said it was not worth their time to discuss additional costs for Phase 1. CDOT did not assure the Contractor that they would be paid. CDOT is not saying that Force Account applied but used a Force Account analysis to determine costs which CDOT determined was “fair and reasonable” per Specification Section 104.02(c). At one of the Resident Engineer meetings, CDOT asked the Contractor to submit their costs in a Force Account format but the Contractor refused.

CDOT said that the Contractor's revised Unit Price was flawed because they did not account for the fixed costs like mobilization. CDOT sees that the steps for milling are, milling, haul and stockpile maintenance. Alpha Milling's letter said there were no additional costs for Phase 1 but that they were impacted in Phase 2 (August) and would have to evaluate Phase 3 (September) but CDOT never received anything on Phase 3. The added milling costs are very small in comparison to what the Contractor is requesting. The Contractor has never given CDOT anything to backup their method or costs. The Contractor has said they would provide their actual costs but CDOT has never received anything. CDOT went through their methodology for the CDOT cost analysis and said it complies with the CDOT Cost Manual.

The Specifications said the millings could not be windrowed but CDOT allowed windrowing on Phase 1 and no millings were hauled to the stockpile. Per the notes on the Plans, the Contractor was also required to remove all millings from the job at his cost if there was excess.

Contractor Rebuttal

CDOT was required to provide a constructible set of Plans and Specifications and Specification Section 104.02 requires CDOT to evaluate changed conditions and give direction to the Contractor. Alpha Milling had three machines on the job in order to get the production. At the meeting with CDOT, Alpha said they did not have a contract with CDOT, only with the Contractor. The Contractor said they incurred additional costs and left the meeting with the expectation that they would be paid. They said they offered to open their books to CDOT but CDOT said they had no interest. They had their costs as shown in Exhibit 28 (Project Control Analysis) in their pre-hearing submittal. The milling operation could have been put on Force Account anytime but CDOT did not do it. The DRB should use Specification Section 109.04 and give the Contractor something that is "fair and reasonable".

CDOT Rebuttal

CDOT said that the Contractor did not present their cost data at any of the Resident Engineer meetings. Since there is no cost basis for the Contractor's price, an audit is possible. CDOT did not require the three milling machines.

CDOT said no set of plans is perfect. By varying the cross slope, the average milling depth over the Project was 1.63".

Discussions after the Rebuttals

Contractor: CDOT changed the milling requirement since the bid method would not work. The Contractor responded to meet the change in milling and that required more than one machine per Alpha Milling's letter.

Contractor: CDOT expected the work to be done based on the existing roadway. There was no bid survey or control. The Contractor provided the survey drawings showing the conditions for the third pass and paid for the survey work which was not a Contract requirement.

CDOT: In granting merit, many items were discussed but nothing on costs. CDOT agrees there was added work.

CDOT: The industry said to provide a Survey Bid Item and a Milling Bid Item. This was a “showcase project”.

Contractor: The Contractor had a Unit Price for the milling item and felt they were protected by the Specifications.

CDOT: CDOT must justify any cost change. Per the Construction Manual, Unit Prices must be justified even if the Cost Data Book is used. The Project and its nature and requirements must also be looked at in using the Cost Book.

Questions and Points made by the Board

After the DRB met to discuss what had been presented by the parties, it offered the following:

1. If CDOT will require an audit, it does not make much sense for the DRB to make any recommendations if the allowable costs might change.
2. The parties agreed to wait for the audit results and possibly settle their dispute after the audit is complete. CDOT will advise the DRB if the parties reach a settlement.
3. CDOT agreed to issue a Change Order for the additional milling for \$60,347 per CDOT’s calculations and pay the Contractor.

The hearing was recessed pending the CDOT audit and future negotiations. On July 11, 2011, the DRB was advised that the audit had been completed but the parties were not able to reach a settlement and requested the DRB to reconvene to resolve the quantum issue.

Additional Hearing Date: August 11, 2011

Hearing Location: CDOT Region 4 Office
1050 Lee Hill Rd.
Boulder, CO

Hearing Attendees: Ken Lawson – Lawson Construction Co - President
Jim Sampson – Lawson Construction Co. – Project Manager
Jonathan Boonin – Hutchinson Black & Cook – Lawson Attorney
Mark Gosselin – CDOT - PE III
Keith Sheaffer – CDOT Region 4 – South Program Engineer

James Flohr – CDOT Region 4 – Resident Engineer
Chris Boespflug – CDOT – Project Engineer
Ella Reichley – CDOT – Assistant Project Engineer
Karen Sullivan – Assistant Area Engineer
Trent Josten – CDOT Audit – External Auditor
David Sullins – CDOT Audit – External Audit Branch Manager

Per the DRB's request, the parties submitted a copy of the audit, pre-hearing briefs based on the audit and lists of attendees.

Contractor Presentation on the Audit and Settlement

The Contractor had given their position at the initial hearing. The audit was beneficial and the Contractor gave comments to the auditors. The audit says the Contractor is entitled to an additional \$193,000 which gave support for a settlement. They are giving up \$226,000 from their original claim.

The Contractor is concerned that even after the audit CDOT wants to use their Force Account analysis. The Contractor did their due diligence and that is the Contractor's position.

CDOT Presentation on the Audit and Settlement

CDOT said the dispute had merit and has paid the Contractor \$60,347. The calculated amount is not Force Account but is rather based on a Force Account analysis. CDOT hoped that audit would give a definitive amount; however, the audit is not definitive and the audit has several reservations and qualifications.

CDOT admits there was extra work beyond CDOT's analysis to complete the project – project management, survey, asphalt chunk picking and hauling; however the Contractor did not comply with the Specifications and keep costs records for the extra work. A reasonable position from the Contractor would be in the \$125,000 range based on a linear look with an average milling depth of 1.68", the Contractor being responsible for the first inch, and considering some fixed costs.

CDOT would like to get an amount from the Contractor that is in their range but the Contractor has refused to give a breakdown of costs and only wants to use the audit. CDOT feels the amount paid to date is sufficient.

Contractor Rebuttal

The Contractor does not agree with CDOT's position. The audit might not be perfect but it does meet the Specification. A CPA signed the audit after going through the Contractor's records.

The Contractor maintains that it did keep cost records per Specification Section 105 and they are accurate. What CDOT wants is retroactive record keeping. The audit used costs as defined in Specification Section 105.23(b).

CDOT Rebuttal

The records that the Contractor kept were not for additional costs but are costs kept for the entire project. The audit could not separate out the individual additional costs. With as much impact to its operations as the Contractor maintains, a good contractor would have kept separate costs.

The audit reviews all costs. The auditors do not have engineering backgrounds to decide on allowable construction costs. The audited costs are very high and all the costs are not allocable to additional milling.

Discussions after the Rebuttals

Contractor: The audit statement was made with some reservations. CDOT is incorrect because the Contractor did keep cost records. The question is whether record keeping is required until there is a “dispute”. The Contractor questioned if CDOT was retracting their Position Paper.

CDOT: CDOT said its Position Paper was correct – There were some added Project Manager costs but all the additional Project Manager costs are not due to the additional milling. The Contractor had other disputes and the original Project budget for Project Manager was exceeded by May 1, 2009. The Contractor did not keep separate costs for the additional milling.

Contractor: The Contractor disagrees with the CDOT analysis that the costs should be kept per Specification Section 105. In several meetings CDOT said “*We don’t care about costs*”. The only answer is what CDOT says today. The audit was an unbiased look at costs.

CDOT: CDOT took exception to the Contractor’s last statement.

DRB Questions and Discussion

The DRB met in private and then offered the parties the following options:

1. Have the DRB take what has been presented in the two hearings and the pre-hearing information that was submitted and make a recommendation.
2. Have the DRB present its views on the Specifications and costs and then discuss with the parties the various aspects of the added milling costs.

The parties then met in private. CDOT said that the parties had determined that they want the DRB to proceed to make its recommendations.

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The DRB stated that they will not consider a modified total cost solution and that some recommendations may require additional documentation in order to determine actual additional costs.

Findings:

1. The Plans and Specifications that were prepared for the Project did not account for the actual roadway cross sections as found in the field.
2. Both parties admit that several meetings/discussions concerning the problems with the Contract requirements were held; however CDOT maintains that no change notice was ever issued in writing by the Contractor. The Job Progress Narrative Report dated June 25, 2009 which was submitted by the Contractor to CDOT states the changes were made *pursuant to CDOT direction*. Nothing was found in the pre-hearing submittals or was presented during the hearing that indicated CDOT ever responded to this comment.
3. Neither party followed Specification Section 104.02(c) – *Significant Changes in the Character of the Work*. CDOT made major revisions in the way the milling was to be performed but never made the changes in writing. The Contractor proceeded with the performance of the work prior to agreeing with the basis of cost adjustment. This Specification section also states *If a basis cannot be agreed upon, then the adjustment will be made either for or against the Contractor in such amount that the Engineer may determine to be fair and equitable*.
4. Neither party followed Specification Section 104.03 – *Extra Work* and Specification Section 109.04 – *Compensation for Changes and Force Account Work*. CDOT never issued an order authorizing the work even though it was well-aware that there was a major change in the milling work. CDOT always has the option of ordering work be done on a Force Account basis if a price cannot be agreed upon before the work must be done. CDOT can also select Specification Section 109.04 (h) – *Alternate Method of Determining Force Account work*.
5. The written documentation by both parties concerning the existing asphalt paving, how the Contract requirements could or could not be met, and how changed requirements were to be accomplished was very inadequate.
6. The milling methods were changed to attempt to minimize the concrete overrun and provide a reasonable surface on which to place the new concrete pavement. This resulted in a substantial increase in the volume of the asphalt millings. The Contractor's quantity for the total millings that were hauled to the stockpile was 10,164 CY which CDOT agreed to accept at the first hearing and then used in their Reasonableness discussion in their Pre-hearing Addendum submittal. Using the estimated bid quantity for millings of 3,012 CY as shown in the General Notes on Sheet Number 9 of the Plans results in a millings overrun of 7,152 CY.

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7. The Contractor did not keep costs records for the additional work. With maybe the one exception in PCA Cost Code 123101, T&M, all cost were charged to original budget cost codes which is not an acceptable method for isolating additional costs.
8. The Contractor did not comply with Specification Section 105.22(e)3 – *Pre-Hearing Submittal* which states *When the scope of the hearing includes quantum, the requesting party's position paper shall include full cost details, calculated in accordance with methods set forth in subsection 105.23(b).*

In its initial pre-hearing submittal the Contractor submitted a revised unit price analysis by converting its bid SY milling price for a bid depth of 1/2" to a CY basis where the bid quantity was 3,012 CY and then applied the CY price to the additional milling quantity.

Volume U.P conversion: $238,534 \text{ SY} \times (\text{Bid}) \$0.85 / 3,012 \text{ Cy} = \$67.32/\text{CY}$

Additional milling quantity: $10,164 \text{ CY} - 3012 \text{ CY} = 7,152 \text{ CY}$

Additional milling price: $7,152 \text{ CY} \times \$67.32/\text{CY} = \$481,472.64$

The Contractor in its supplemental pre-hearing brief requested the audit total additional cost of \$193,655 which is in addition to the additional payment of \$60,347 that had already been made by CDOT.

9. Courts have concluded that for the Total Cost or Modified Total Cost Method to be used there are four requirements that must be met. One requirement is that *The nature of the particular losses make it impossible or highly impractical to determine them with a reasonable degree of accuracy.* The DRB has determined that actual costs could have been kept for the milling process and any additional costs associated with the additional work. Furthermore, a cost proposal could have been developed using actual costs for work performed by the Contractor. These costs include additional trucking of millings to the stockpile, building/maintaining the stockpile and the asphalt chunk picking associated with the milled material that was windrowed for Phase 1 rather than trucked as called out in the Specifications and then used for shouldering.
10. If subcontractors expect to receive payment for extra work, they too must document or estimate the reasonable costs associated with the extra work. Nothing was submitted to the DRB documenting the actual costs. In the case of Alpha Milling, their only correspondence in the pre-hearing submittal was their letter of September 15, 2009 which only deals with Phase 2 and requests an increase in their Unit Price for milling based on planned hours vs. actual hours. This request makes no provision for fixed costs. The DRB has determined that there were added milling costs for Alpha.
11. The case for Flatirons Inc.'s surveying is similar. The only correspondence from Flatirons addressing additional surveying is their letter dated August 18, 2009 and the only correspondence from the Contractor is their letter dated September 10, 2009.

- Neither parties' pre-hearing submittals have notes nor information on what was discussed at the Presurvey Conference. This information should have given an indication of what the surveyor planned for the job and whether CDOT took exception to what the surveyor proposed. Also, nothing was submitted to the DRB breaking down additional costs for surveying. The first time anything on surveying costs appeared was in the CDOT audit. The DRB has determined that there were added surveying costs for Flatirons Inc.
12. The DRB has determined that additional Project Management would have been required to manage issues related to the inability of the Contractor to construct the Project per the bid Plans and Specifications. In this dispute these issues pertain to changing the milling methods, dealing with additional work due to the increased asphalt millings and dealing with subcontractor costs affected by the changes. The Contractor did not present anything in its Pre-hearing submittal and addendum nor in its presentation at the two hearings to document the Contractor's basis for increased Project Management hours or costs. In agreeing with the audit costs for the additional milling, the Contractor indirectly agreed with the audit Project Management costs. As stated in Finding 9 above, the DRB will not accept the Modified Total Cost Method which is the basis for the audit costs for Project Management. CDOT in its Addendum to its Pre-hearing Submittal agreed that the Contractor was entitled to some costs for additional Project Management related to this dispute.
13. In the case of the hand picking of "out of Specification asphalt chunks" from the shouldering material, it seems plausible that the poor subgrade in some areas could have resulted in chunks of asphalt coming up with the millings. Nothing was presented to the DRB to indicate in how many areas this occurred. Since the stockpiled millings were screened prior to use for shouldering, the only area that would have required the hand picking was Phase 1 where CDOT allowed the Contractor to windrow the millings rather than remove them as required in the Specifications. Accordingly, the DRB has determined that any costs the Contractor incurred for hand picking were more than offset by the savings from not hauling the millings to the stockpile.

Recommendations:

1. The trucking hours for Phases 2 and 3 as listed in the CDOT audit, Exhibit 1 total 803.10 (436.90 + 255.80 + 83.30 + 27.10). The 10,164 CY of millings that went to the stockpile all came from Phases 2 and 3. Using the same tandem truck capacity of 10 CY per truck as used by CDOT in their analysis, equates to 1,016 loads (10,164CY/10 CY per truck) for the total stockpiled millings and 715 loads (7,152/10) for the additional millings. Using the audit truck hours from above, the average time for a truck roundtrip is 0.79 hours (803.1 hr/1016 loads). Since the Contractor did not present documentation on its trucking costs, the DRB recommends the use of the \$65/hour rate used by CDOT in their analysis.

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Accordingly, the trucking cost for the hauling of additional millings is **\$36,715** (715 loads x 0.79 hours/load x \$65/hour).

2. No milling hours for Phase 3 were provided by Alpha Milling but the total milling hours for Phase 2 as stated in their September 15, 2009 letter were 112.5 hours. Assuming the additional milling hours for Phase 3 are proportional to the audit trucking hours for Phases 2 and 3 equates to 61.2 total milling hours for Phase 3 ($282.9/520.2 \times 112.5$). This amounts to total milling hours for Phases 2 and 3 of 173.7 (112.5 + 61.2). Based on Alpha's bid production rate of 900 SY/hour and a milling area of 71,137 SY equates to a bid total of 79 hours (71,137 SY/900 SY per hour) for Phase 2. Using the Phase 2 and 3 trucking hours to proportion the bid milling hours, equates to 43.0 hours of bid for milling for Phase 3 ($282.9/520.2 \times 79.0$). Accordingly, there would be an additional 51.7 milling hours (173.7 - 79.0 - 43.0) for the additional milling. Since no rates were provided in the hearing submittals, the DRB recommends the use of the \$695.99 rate used by CDOT in their analysis. Accordingly, the milling cost for the additional millings is **the lesser of \$35,983** (51.7 hours x \$695.99/hour) or documented charges from Alpha Milling for Phases 2 and 3 that were contained in the audit costs.
3. CDOT agreed that some loader time would be required to maintain the stockpile. If the loader was used during the trucking period for maintaining the stockpile, the cost for the additional millings using CDOT's analysis rate for the loader of \$120.53/hour would be \$6,231 (51.7 hours x \$120.53). However the Contractor stated in its letter of January 20, 2010 that the total stockpile cost was \$6,120. The DRB recommends proportioning the Contractor's total cost by the proportion of additional millings to total millings. Accordingly, the recommended additional stockpile maintenance cost is **\$4,306** ($7,152 \text{ CY}/10,164 \text{ CY} \times \$6,120$).
4. The DRB has determined that additional Project Management time would have been required for:

Meeting and coordinating with CDOT and subcontractors to change the milling methods, including any letters and other items required to make the change.

Preparing and reviewing correspondence to/from CDOT relating to the change and added costs.

Prepare Requests for Equitable Adjustment and the Material for this dispute.

Meetings with CDOT to attempt to resolve the dispute.

Since the Contractor has provided nothing to support the additional Project Management requirements and costs, the DRB can only look at what was contained in the Pre-hearing submittals presented by the Contractor and make an educated estimate of the time that might have been required. Based on the Timeline of Critical Events, Attachment 1, it is estimated that an additional 45 hours could have been

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required on the low side and 60 hours on the high side. Using PCA Cost Code 100102, the hourly rate is \$54.69 (\$72,629/1,328) which includes burden and equipment costs. Based on the foregoing discussion, the DRB recommends **\$2,899** (53 hours x \$54.69) for additional Project Management costs related to this dispute.

5. As was stated in Finding 11, nothing was submitted to substantiate additional survey costs. The DRB has already stated that it will not accept the Modified Total Cost method as used in the audit. Flatirons Inc.'s August 18, 2009 letter indicates that they would absorb the costs for the survey work required to *Verify or Determine Existing Grades and Alignments*. Flatirons' letter maintains that the work done once the Phase 1 paving was completed – staking of the grade for the milling and the subsequent calculations and plotting are additional work. Since the DRB does not have the Flatirons' charges, it recommends the following:
 - a. Payment for additional surveying and preparation of the plots: **the lesser of** the billed amount or actual hours at \$100 per hour per Specification Section 105.12 and the Survey Manual.
 - b. Payment for the plotting work at the Flatirons' billed rate but not more than \$100 per hour.

The basis for the additional survey costs shall be Flatirons' request(s) that back up the survey costs as noted in the audit.

Summary:

Additional Contractor Costs

Additional Trucking Costs:	\$36,715
Milling Stockpile Maintenance	4,306
Additional Project Management	<u>2,899</u>
Subtotal	43,920
16 % Markup	<u>7,027</u>
Subtotal	50,947
Additional Bond Cost (0.4743%)	<u>242</u>
Total Contractor Additional Cost	\$51,189

Additional Subcontractor Costs

1. Once the additional milling costs for Alpha Milling have been determined in accordance with Recommendation 5 above, an additional Markup of 16% and a bond cost of 0.4743% should be added to determine the Total Contractor Additional Cost for subcontractor milling.

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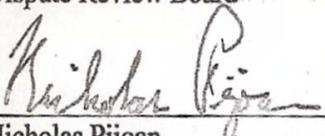
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2. Once the additional surveying costs for Flatirons Surveying have been determined in accordance with Recommendation 2 above, an additional Markup of 16% and a bond cost of 0.4743% should be added to determine the Total Contractor Additional Cost for subcontractor surveying.

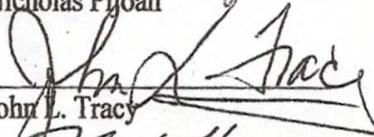
The CMO 14 amount of \$60,347 should be deducted from the total of the above three (3) items.

Respectfully submitted, this 9th day of September 2011.

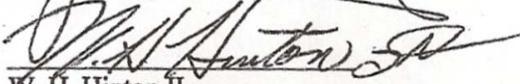
Dispute Review Board



Nicholas Pijoan



John L. Tracy



W. H. Hinton II

Attachments:

1. Timeline of Critical Events

ATTACHMENT 1

**STA 0661-011: 16214
SH 66 - US 36 TO SH 287**

**TIME LINE OF CRITICAL EVENTS
DISPUTE 3: ADDITIONAL MILLING
DEPTH**

6-11-09	Asphalt Milling begins.
6-12-09	Meeting on grade to discuss method of milling
6-17-09	Meeting with Lawson and Alpha Milling to discuss production rate.
9-17-09	Letter submitted requesting an additional \$ 25,395.91 for increased asphalt milling depth incurred in August 2009 based on an affected area of 71,137 SY. Letter states September would have to be evaluated as well. No follow-up letter was received for September quantities.
9-18-09	Asphalt Milling is completed.
11-4-09	Letter submitted requesting an additional \$ 247,273.60 for increased asphalt milling depth based on an affected area of 130,144 SY.
11-9-09	Stockpile of additional millings removed by Boulder County during this week.
12-11-09	Letter submitted requesting an additional \$ 102,813.76 for increased asphalt milling depth based on an affected area of 130,144 SY.
12-22-09	Partial project acceptance given. Final project acceptance waiting for completion of added utility work.
12-30-09	Letter submitted requesting an additional \$ 317,547.86 for increased asphalt milling depth based on an affected area of 217,201 SY.
1-7-10	Notice of Dispute
1-20-10	REA submitted requesting an additional \$ 386,203.64 for increased asphalt milling depth based on an affected area of 217,201 SY.
2-4-10	Project level meeting to discuss merits of dispute
2-11-10	Merit of dispute denied

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- 2-18-10 Lawson rejects PE's denial of merit in letter to the Resident Engineer (RE).
- 2-19-10 RE Review process begun with 1st meeting
- 3-5-10 RE Review 2nd meeting
- 3-10-10 REA addendum submitted requesting an additional \$ 345,349.51 for increased asphalt milling depth based on an affected area of 217,201 SY.
- 3-12-10 RE Review 3rd meeting
- 3-19-10 RE Review process ended with 4th meeting. Decision to take dispute to a Dispute Review Board.
- 3-19-10 Added utility work complete. Notice of final project acceptance given