**DISPUTE REVIEW BOARD REPORT AND RECOMMENDATION**

**I-25 Widening North of Colorado Springs**

**El Paso County, CO**

**CDOT PROJECT NO. I 025A-016**

**DISPUTE 1 CONCERNING ASPHALT CEMENT CONTENT CHANGE**

**Hearing Date:** March 19, 2015

**Hearing Location: CDOT** Resident Engineer Office 1480 Quail Lake Loop – Suite A Colorado Springs, CO

**Hearing Attendees:** Mike McDonald – Kiewit – Project Manager

PeteRemington - Kiewit – Operations Manager

Kelsey Peterson – Kiewit – Engineer

Mark Keating – Kiewit – Corporate Attorney

Marty Beck - Kiewit

Daniel Hunt – CDOT – Resident Engineer

Doug Lollar – CDOT – R2 North Program Engineer

Craig Wieden – CDOT – R2 materials Engineer

Wayne Pittman – CDOT – Project Engineer

Mark Straub – CDOT – Area Engineer

Leo Milan – CDOT – AG Office Attorney

Lauren Curran – CDOT – AG Office Attorney

Jack Nickerson – CDOT - Kleinfelder

**Background**

The Project involved adding one lane in each direction on 11 miles of I-25 north of Colorado Springs, CO. The Contract was a Design/Build Contract with a Guaranteed Maximum Price (GMP) of $51,700,000 plus an additional $5,051,100 for Force Account items. Kiewit submitted its Hot Mix Asphalt (HMA) designs in accordance with the specifications. CDOT then issued Form 43’s (Project Produced Job Mix Formula) that were signed by Kiewit and CDOT which reduced the % Air Voids (AV) but increased the % Asphalt Cement (AC) from Kiewit’s mix designs.

Kiewit gave notice to CDOT on June 26, 2013 that it considered the increase in the %AC a change to the Contract. Kiewit submitted a Request for Change Order on September 18, 2014 which was rejected by CDOT on October 10, 2014. On October 22, 2014, Kiewit responded to CDOT’s rejection letter and said it intended to continue the dispute per Specifications 105.22 and 105.23 but CDOT did not respond.

**Joint Statement of Dispute**

In accordance with the Contract Specifications and Colorado Procedure (CP) 52, Kiewit prepared and submitted several Hot Mix Asphalt (HMA) and Stone Matrix Asphalt (SMA) designs throughout the life of the Project. As required by CDOT, each mix design was properly prepared by an accredited lab, approved by a Colorado registered Professional Engineer and submitted on a Form 429. Each formula met the requirements as outlined in Book 2, Section 10, and Revision of Section 403. The Form 43 established the production targets for the Asphalt Cement (AC) and all mix properties at Air Voids up to 1.0 percent below the mix design optimum. The comparisons of Kiewit’s job-mix formulas and the CDOT’s Form 43s for the various mixes are summarized in **Attachment** “**A**”.

CDOT’s position is that since there was no separate pay item for the type of asphalt cements specified for this project in the various HMA and SMA mixes, the asphalt cement will not be measured and paid separately, but is to be included in the work. The Form 43’s issued for the project are the contractual documents that establish the construction targets for the asphalt cement and all mix properties for the HMA and SMA placed. CDOT followed the Contract in the establishment of the construction targets on the Form 43’s. Kiewit, through signature of the Form 43’s acknowledged and agreed to the target AC contents established on them.

Kiewit’s position is that all originally submitted HMA and SMA job-mix formulas complied with the requirements of Book 2, Section 10, and Revision of Section 403 and that CDOT issued a change directive to adjust the optimum Asphalt Cement content of Kiewit’s properly submitted and fully compliant mix designs via the Form 43’s. Kiewit properly notified CDOT of the change, upon receipt of the Form 43’s. CDOT’s directed change to increase the target oil content of the fully compliant HMA and SMA mix designs to lower the voids is compensable under CDOT-Directed Changes as defined in Book 1, Section 13.3.1.1(1) of the Contract. Kiewit is requesting compensation for the added cost for the additional quantity of Asphalt Cement.

**DRB Scope:**

Per subsection 105.23 (g) of CDOT’s Standard Specifications for Road and Bridge Construction, both parties are requesting a written Recommendation as to whether or not a compensable change occurred as defined under Book 1, Section 13.3.1.1.

**Pre-hearing Submittal**

The parties provided the DRB with Books 1 and 2 of the Contract. Both parties provided the DRB with Pre-hearing Submittals per Spec 105.23(e) which included, but were not limited to, documentary evidence relevant to the issues, serial letters and forms. Both parties provided the DRB with their lists of attendees

**Contractor Presentation on Asphalt Cement Content Change**

Kiewit started its presentation by summarizing its position as follows:

1. Kiewit submitted compliant asphalt mix designs that were prepared in accordance with CDOT requirements by a registered professional engineer. CDOT changed the mix to a non-compliant design.
2. CDOT procedural and substantive defenses lack merit.
3. CDOT reliance on escrow bid documents is misplaced – not a contract document.
4. The contract specification is ambiguous and CDOT has since revised the specification for future contracts in an attempt to remove ambiguity.
5. This is a compensable change.

CDOT’s letter of October 10, 2014 stated, *Kiewit submitted numerous mix designs to the project that indeed did meet the HMA mix design submittal requirements.* Kiewit then referred to Table 403-1 in the Revision of Section 403 – Hot Mix Asphalt and emphasized the statement above the Table, *The design mix for hot mix asphalt* ***shall*** (emphasis added)*conform to the following.* The Revision goes on to state, *Form 43 will establish construction targets for Asphalt Cement and all mix properties at Air Voids up to 1.0 percent below the mix design optimum.*

Kiewit then presented a chart comparing how its values for SX (100) PG 64-22 compared with the Table 403-1 values and explained that its design shoots for the mid-Range of the %AV and that the %AV drives the design for SuperPave HMA and that there is no spec for the AC derivative. When CDOT changed the %AC from 5.1 to 5.4 this caused many of the design mix values to change, some to target values that were outside the values shown in Table 403-1. Kiewit referred to the table in Attachment A of its Pre-hearing Submittal which compares Table 403-1 values, Kiewit’s Form 429 mix design values, the Form 43 values and the differences between the Form 429 and Form 43 values. As a result, the mixes CDOT listed on Form 43 were non-compliant and changed Kiewit’s mix design recipe.

Kiewit said there were other ways to lower the air voids without changing the %AC. At the Owner’s Meeting on May 16, 2013, under Topic 8 – Change Management – PCO #26 – HMA mix design submittal change in oil, was brought up so CDOT knew of the change. PCO #26 is also shown on the Kiewit Potential Change Order Log – May 16, 2013. CDOT said it wanted more AC in the mix and CDOT would not discuss the AC which is the most expensive material in the mix. Kiewit then questioned, “How does a bidder know Table 403-1 does not apply to the mix and that any cost increase is to the contractor?”

Kiewit’s letter of June 26, 2013 to the CDOT Project Manager stated, *Kiewit Infrastructure Co. (KIC) is providing notice per the Contract, Book 1, Section 13.3.1.1(1) of additional costs related to the requested change in the HMA Mix Design. … KIC considers this to be a change to the contract. As a result, KIC will prepare a proposal for the additional costs and time associated with this PCO and will submit this to CDOT at a later date.*  After 15 months without a response to this letter, Kiewit submitted a Request for Change Order dated September 18, 2014 to the CDOT Resident Engineer which summarized the costs for the additional AC.

On October 10, 2014, the CDOT Project Engineer replied to the September 18, 2014 letter stating, *In summary, since there was no pay item for the type of asphalt cements specified for this project in the various HMA and SMA mixes, the asphalt cement will not be measured and paid for separately, but is to be included in the work. The Form 43’s issued for the project are the contractual documents that establish the construction targets for the asphalt cement and all othe(r) mix properties for the HMA and SMA placed. CDOT followed the Contract in the establishment of the construction targets on the Form 43’s. Kiewit, through signature of the Form 43’s acknowledged and agreed to the target AC contents established on them. CDOT is therefore denying the Request for Change Order submitted for the CDOT Change in Asphalt Cement Content.* Kiewit said this was the first written CDOT response to the issue.

On October 22, 2014, Kiewit responded to CDOT’s October 10, 2014 letter and took exception to CDOT’s position that per Spec 401.22 *If there is no pay item for asphalt cement of the type specified it will not be measured and paid for separately, but shall be included in the work.* Kiewit said Spec 401.22 is not applicable to the project and has been misapplied by CDOT and has no bearing to the Change made by CDOT to the asphalt oil content or Kiewit’s request for compensation. Kiewit’s letter went on to state, *Kiewit intends to pursue payment from CDOT for the added asphalt oil in accordance with Section 105.22 and 105.23, as applicable.*  Kiewit said CDOT never responded to the letter.

On October 23, 2014, Kiewit submitted a Request for Equitable Adjustment (REA) to the CDOT Project Manager. On November 5, 2014, the CDOT Project Engineer denied the REA request and stated, *Nothing has been addressed to alter the facts as previously submitted therefore CDOT will address the dispute through the formal meetings required in the formal dispute process.* Kiewit responded on November 6, 2014 and requested meeting dates and stated, *Kiewit would also welcome Doug Lollar or another CDOT representative with decision authority above the project level to attend these meetings.*

Kiewit referenced CDOT’s Pre-hearing Submittal (Pages 1 and 2) which stated, *Per the Contract (Section 13.3), the Contractor may request a change order to increase the Contract price only for increased costs of the work as follows:*

*1. Additional costs directly attributable to* ***additional work*** (emphasis added) *resulting from CDOT - Directed Changes.*

The Pre-hearing Submittal went on to state, *The establishment of a different target AC on the Form 43 … does not fall under any of the above allowable items for submitting an RCO to increase the Contract Price, as there* ***was no additional work*** (emphasis added) *resulting from the CDOT-Directed Changes. The quantity of HMA and SMA remained unchanged as a result of the Form 43 AC target establishment.* Kiewit noted that this response was different from any previous CDOT responses. Kiewit went on to note that in EXHIBIT A Book 1, the definition of “work” is, *All duties and services to be furnished and provided by Contractor as required by the Contract Documents, including …* **Materials**(emphasis added) *… and other efforts necessary or appropriate to achieve Final Acceptance* … Kiewit said the AC was the most expensive component and that added AC was additional work as defined in Section 13.3 and the added AC was a compensable change. Kiewit equated the added AC the same as CDOT adding cement in concrete paving.

Kiewit said CDOT cannot pick and choose the statements in Table 403-1 to support CDOT’s position. The table note states, *All mix designs … must satisfy Table 403-1* and CDOT’s changes fail to meet some of the required parameters in the Table and wants the contractor to pay for the added AC. Both Kiewit and CDOT agree that the Form 43 is a Contract Document. The Form 43 added AC which is a change and Kiewit notified CDOT of the change. Kiewit expected the Form 43 material to be based on the spec and tables in the Contract and that CDOT could not change the requirements of Table 403-1 and expect the contractor to pay for the change.

Kiewit then referred to Page 3 of CDOT’s Pre-hearing Submission which discussed the 2002 Task Force that addressed needed changes to the SuperPave spec because CDOT wanted more AC in the mix. The resulting spec and table changes are not clear and the Task Force did not discuss payment. Kiewit’s member on the Task Force who was a Professional Engineer had to figure out what the new spec meant and that is what he did in new mix designs. CDOT’s Pre-hearing Submission on Page 4 states, *CDOT by Contract sets the construction target percent AC with the Form 43 after the contract is awarded. … The production targets set were reasonable for industry standards.* Kiewit said that CDOT’s mix design did not meet all the requirements of Table 403-1 and that by ignoring the requirements CDOT’s position is not reasonable and that Form 43 cannot supersede the spec.

CDOT’s Pre-hearing Submission on Page 5 discusses the GMP and Force Account. Kiewit said there was no Force Account item for AC material but only for AC price changes. Kiewit knew the terms of the Contract and that the Contract can only be changed by Change Order. Kiewit then questioned: “Why we were here today?”

Kiewit then referred to Page 6 of CDOT’s Pre-hearing Submission concerning the Escrow Documents and that Kiewit knew the %AC should be 5.4. Kiewit’s bid anticipated the estimated costs for each mix design based on past jobs. The contractor makes a lot of assumptions and the %AC is a best guess until the mix is actually developed. The contractor does not prepare a mix design for each mix before a bid. The Bid Work Sheet was for the #1 mix design Kiewit sells in the Colorado Springs area. The Escrow Documents contained only 3 mix designs while there are seven mixes with no Work Sheet. Regardless of what was in the Escrow Documents, Kiewit is at risk for the costs and quality of the HMA and SMA. Kiewit then compared the Escrow HMA SX(100) design with the design mix that Kiewit submitted and noted there was a change to virtually every item except the lime which must be 1% per the specs. The CDOT mix design also slowed production but is not a part of the dispute. The Escrow Documents show the estimated quantity for HMA but the in place quantity was 2,500 tons more than what the escrow showed. Kiewit then questioned: “If CDOT wants to use the Escrow, then why not change the quantity?” Kiewit also pointed out that Book 1 Section 22.1.3 states, *The Contractor also agrees that the EPD are not part of the Contract and that nothing in the EPD shall change or modify the Contract.*

Kiewit said that if CDOT wanted to increase the %AC, they should have said so in the spec rather than stating, *Form 43 will establish construction targets for Asphalt Cement and all mix properties at Air Voids up to 1.0 percent below the mix design optimum.* On September 10, 2014, CDOT MAC members met to discuss the Form 43 issue. Kiewit said the Region 2 Materials Engineer made the following comment in the meeting minutes. *“The CDOT Form #43 will establish construction targets for Asphalt Content and all mix properties at Air Voids up to 1% below the mix design optimum.” While all of CDOT understands that the intent of this language is to get more oil in the mix (use the Contractor’s design and select a higher AC content while simultaneous lowering the voids, outside parties* (like Kiewit) *may not necessarily understand the language and the intent of the wording as stated.* Kiewit said the Region 2 Materials Engineer then drafted the letter from CDOT on no pay item for the AC.

To reduce the uncertainty in project bidding caused by the production targets after bids are awarded, CDOT formed a Task Force in November 2014. This resulted in the revision in 2015 of Table 403-1 and Section 403 – Hot Mix Asphalt and Section 403 - Stone Matrix Asphalt Pavement to read (added language in bold),  *All mix designs shall be run with a gyratory compaction angle of 1.25 degrees and properties must satisfy Table 403-1. Form 43 will establish construction targets for Asphalt Cement and all mix properties at Air Voids up to 1.0 percent below the mix design optimum.* ***CDOT will establish the production asphalt cement and volumetric targets based on the Contractor’s mix design and the relationships shown between the hot mix asphalt mixture volumetric properties and asphalt cement contents on the Form 429. CDOT may select a different AC content other than the one shown at optimum on the Contractors mix design in order to establish the production targets as contained on the Form 43. Historically, Air Void adjustments typically result in asphalt cement increases from 0.1 to 0.5 percent. Contractor’s bidding the project should anticipate this change and factor it into their unit price bid.*** (emphasis added). Similar language was added to Section 403.05 – HMA Payment and Section 403.05 – SMA Payment. Kiewit pointed out that if the new language would have been in the spec for this project, the %AC would have been its risk.

Kiewit pointed out that the I-25 specification **does not** state that …

* CDOT would apply target air voids or other mix properties outside their own standard 403-1 specification range.
* CDOT can directly adjust the optimum AC Content. (If CDOT wants better asphalt they should pay for it.)
* Changes made by CDOT would be at the contractor’s expense.

Kiewit asked, “How does this supersede the requirements of Table 403-1 or that CDOT doesn’t need to pay?” This is why CDOT has changed the spec. The key points are:

* This is **NOT** a technical issue but **IS** a commercial issue.
* CDOT can change the contract requirements but the Contractor should be compensated accordingly.
* CDOT has changed their position over time but Kiewit has maintained our position over time.
* Kiewit deserves to be compensated for the added AC added by CDOT.

**CDOT Presentation on Asphalt Cement Content Change**

CDOT requested that the DRB strike the Power Point presentation since it had not seen it and had not had an opportunity to review the contents, especially some of the tables. The DRB denied the request since most of what was in the Power Point presentation was in the Pre-hearing submittals or just summarized issues in table or bullet format.

CDOT followed the Contract from beginning to end. The GMP Contract in Book 1 Section 13 defines what changes are allowed and this issue does not fall under the Section 13 requirements. The GMP by definition does not set quantities like signs or asphalt. The quantities are up to the Design/Build contractor and are included in the GMP.

Book 2 Section 10 – Pavements requires the contractor to follow CP-52 for their mix designs in compliance with Table 403-1. Kiewit did provide the mix designs and they complied with the requirements. Once the contractor’s mix design is reviewed, the Form 43 establishes the production targets per the 1.0% change in the air voids. CDOT followed the Contract and did not exceed the 1% change in Air Voids.

CDOT uses the Form 429 so that the mix information is presented in a uniform format on all jobs. The Form 429 is a proposed mix design until the Form 43 establishes the production targets. Spec 401.02(b) establishes the tolerances for production.

Book 1 Section 10 on Page 17 of 21 states, *Form 43 will establish construction targets for Asphalt Cement and all mix properties at Air Voids up to 1.0 percent below the mix design optimum.* Form 43 is a Contract document. CDOT followed the Contract and specs to set the Form 43 values.

The 2002 in-place voids study was conducted because CDOT was not getting the desired air voids in the SuperPave asphalt. The mixes resulted in “dried up” mixes which affected the long term performance of the asphalt and caused difficulties in compaction. The Joint Task Force agreed to the use of the 1.25 degree compaction angle with the Form 43 establishing the production targets.

Kiewit’s REA referenced a portion of Section 401.02(b) on Page 284 of the 2011 CDOT Standard Specifications. This section refers to a change in material sources. CDOT does not review the %AC before bids and the material sources did not change after the targets were set on Form 43. Kiewit acknowledges the Form 43 but Kiewit contends the specs do not state any additional costs as a result of the %AC increase are at the contractor’s expense. The Task Force considered the durability of the HMA and the stiff mixes.

CDOT said per the Contract GMP, Kiewit’s request for additional costs in the RCO do not apply because there was no additional work. Other than the AC cost adjustment based on AC price changes, there is no adjustment in the contract for AC costs. The AC cost adjustment does apply and was applied to the payments to Kiewit.

CDOT said the process has been in effect since 2002 and that the Form 43 followed the Contract throughout the process. If there had not been claims on other projects concerning the additional asphalt cement, Kiewit would not have brought the issue up.

CDOT said the Escrow Documents are to be used in settling claims. CDOT looked at what Kiewit used in their proposal. Kiewit dropped the %AC in its mix design and CDOT bumped it back up. The Form 43 AC content lines up with the Kiewit estimate. In the GMP, quantities are not defined.

CDOT has used the same process in setting targets since 2002 and Kiewit has bid and constructed other projects using Form 43 and the change in %AC. CDOT said the DRB should find no merit in the dispute.

**Contractor Rebuttal on Asphalt Cement Content Change**

Kiewit took offense to CDOT’s remark that they were a shark circling for blood. They are a reputable contractor and have a good relationship with CDOT.

Kiewit’s request is legitimate – CDOT changed the materials which is a change in the work per Section 13. They know the risks in Design/Build but must perform per the specs but the change in the %AC is a commercial issue. The Form 429 is a proposed mix design but if it meets the spec, it should be accepted as proposed and the Form 43 should reflect the proposed mix design and they can go to work.

CDOT changed the spec which was based on Air Void acceptance and not %AC. The 2002 issue was a technical issue and not a commercial issue. This is a commercial issue. The question is, “Was a compensable change made?”

Kiewit has not done a lot of work in Region 2 but they followed the Contract. If CDOT says Kiewit should have known the spec, then why did CDOT change the mix so it did not meet the spec? The only place CDOT can change the spec is when the material source changes. CDOT defined their position and rejected the REA but changed the spec for the %AC adjustment. CDOT added AC to an already fully complaint mix which is a compensable change.

**CDOT Rebuttal on Asphalt Cement Content Change**

CDOT changed the mix design but CDOT did not change or alter the spec. The process has been in effect since 2002. Out of all the CDOT Regions the only two disputes on the AC have been in Region 2.

The “tenderness” of the mix was never discussed in the negotiations. The aggregate had 36 to 38 % that was rounded but this was not an issue in the claim. As for the “tenderness” issue, Kiewit’s letter of August 14, 2014, which CDOT handed out at the hearing, responded to a “Condition Red” by adding more AC to improve the mix.

Kiewit’s reference to other jobs and spec changes has no merit. The DRB can only look at the parties’ Contract. In one of the other jobs with a DRB with an AC dispute, the decision was not unanimous and CDOT rejected it.

Kiewit’s Power Point slides on Table 403-1 and Form 43 targets are for design. Form 43 adjusts the properties for production targets with tolerances. CDOT noted that Form 43 changed the design table Lottman from a minimum of 80 to 70 for production. Kiewit continued to ask for added money based on the added AC. CDOT handed out a table showing a comparison of the adjusted %AC spec limits and the %AC that was actually used. The actual cost for the AC outside of the spec limits amounts to $5,500.

Concerning the Escrow Documents, the Section says that the documents are for use in claims. The documents show Kiewit’s mindset when they refer to the mix design as their “parking lot” mix and not what was required for I-25. CDOT has no control over the production rate of the asphalt and Kiewit has given no explanation in the drop of the production rate. The mix Kiewit submitted was cheaper than what the Escrow Documents show which was a savings to Kiewit.

CDOT said they knew Kiewit was competent and had used the 2002 process for many years. Kiewit should have known the process added AC. CDOT values its relationship with the industry and is not disparaging Kiewit. They know Kiewit wants to make a profit. In the fall of 2013, CDOT verbally said they denied the request for a change. Table 403-1 is for the design mix and sets the mix control.

CDOT said that the new revised spec (2015) clarifies the spec in this Contract and the industry had always understood what was intended in the spec.

**Discussions by the Parties**

1. Kiewit said its REA pointed out potential issues for the AC change. Kiewit asked who was responsible for the final product when its design mix was changed. Kiewit is not asking for the incentive/disincentive to be revised due to the workability of the Form 43 mix.
2. CDOT said Kiewit had seen the CDOT Table – Asphalt Cement Content Actual vs Plan before and had gone through it with CDOT.
3. Kiewit said they are not addressing the costs at this time but are asking the DRB if there was a change.
4. Kiewit said the only requirements in the Contract for them to meet were the requirements in Table 403-1. CDOT said that the Table 403-1 was for the mix design and Form 43 sets the final mix as shown in Kiewit’s Appendix F. All parties signed the Form 43’s which are a part of the GMP. CDOT said the Field Materials Manual, CP 52, is a part of the Contract.

**Questions by the DRB:**

**1. To Both:** Explain the Kiewit comment that voids could be filled without adding AC.

Kiewit said that dust mineral filler can fill the voids and keep the AC the same as long as the amount falls in the range shown in Table 403-1.

CDOT said the aggregate gradations could be changed to get higher fines as long as the VMA is met for the oil. The in-place voids were the problem for the 2002 study and CDOT said to use the oil for the fill.

Kiewit said its designers target the mid-range for Air Voids which is 4.0%. FHWA studies suggest Air Voids of 4%. Kiewit’s table in Attachment A shows how the VMA changed with the AC change. CDOT said the VMA is recalculated when the AC is changed.

**2. To Both:** Who is responsible for the in-place material meeting the Contract requirements and the incentive/disincentive procedures?

CDOT said the contractor is responsible to meet the properties they design and referred to the AC/AV design curves.

Kiewit said per the Contract the contractor is responsible even with CDOT changes.

**3. To CDOT:** Explain how CDOT can change theparameters for %AV in the Form 43 mix design to be outside the ranges shown in Table 403-1.

CDOT said the design parameters are to control the submittal of mix designs and that the table is for SMA and two SMA tests failed.

**Summation by Contractor:**

There is a lot of detail and information in the Contract. If CDOT makes changes, then the contractor should be compensated per Section 13.

CDOT revised the spec in 2015 to make it clear to contractors that CDOT can add AC.

**Summation by CDOT:**

CDOT did not deviate from the Contract Book 2 Section 10. The Contract was a GMP contract. If CDOT changed the Contract, point out where. The contract allows CDOT to adjust mix properties up to 1.0 percent for Air Voids.

The values in Table 403-1 are for the mix design. The Form 43 sets the production mix targets. The same Professional Engineer who stamped the mix design also signed the Form 43.

**Findings:**

1. Kiewit submitted nine different asphalt mix designs that fully complied with the HMA and SMA design submittal requirements found in Contract Book 2 Section 10: Revision of Section 403 Hot Mix Asphalt and Contract Book 2 Section 10: Revision of Section 403 Stone Matrix Asphalt Pavement which included Tables 403-1 and 403-2. CDOT’s letter of October 10, 2014 in response to Kiewit’s RCO, stated, *Kiewit submitted numerous HMA mix designs to the project* ***that indeed did meet***(emphasis added) *the HMA mix design submittal requirements.*

2. During the hearing, CDOT confirmed that it was **Kiewit** who wasresponsible to insure the HMA met the Contract requirements for the in-place HMA. Accordingly, if Kiewit had used its mix design and the HMA failed to comply with the Contract requirements, it would have been the Kiewit’s responsibility to accept a Pay Factor adjustment or remove and replace the HMA.

3. CDOT’s position was the values in Table 403-1 are for the mix design but the Form 43 sets the production mix targets. This seems to be different from what is stated on the Form 43 which is copied below from the CDOT website.

**INSTRUCTIONS FOR CDOT FORM NO. 43**

**PURPOSE:** To authorize change in Job-Mix Formula from that shown in the Contract Special Provisions or to make a change during construction from that previously authorized by CDOT Form 43.

**AUTHORITY FOR THIS REPORT:** Subsection 401.02 of the Standard Specifications authorizes the Engineer to modify in writing the Job-Mix Formula specified in the Contract Special Provisions and, when necessary, to establish a new Job-Mix Formula.

**METHOD OF PREPARATION:**  (g) Even though no change in the Job-Mix Formula from that shown in the Special Provisions is desired, the Form shall be made out in its entirety and distributed as a matter of documentation before the Contractor begins the

plant-mix operations. Note in the space at the top of the Form that there is no changeover that shown in the Special Provisions.

**Special Provisions.**

4. Contract Book 2 Section 10: Revision of Section 403 Hot Mix Asphalt states:

*Form 43 will establish construction targets for Asphalt Cement and all mix properties at Air Voids* ***up to 1.0 percent*** (emphasis added) *below the mix design optimum.*

This statement does not state that CDOT can change the Asphalt Cement percentage which it did in upping the %AC by 0.2% to 0.3%. **If CDOT routinely and unilaterally increases the %AC and that the** **%AC is a risk to the contractors, such should be stated in the Contract documents rather than insist that by being allowed to decrease the Air Voids up to 1.0% they have the right to increase the %AC.** This would also allow a “level playing field” at bid time if all contractors knew CDOT was going to add AC to their proposed mix designs.

Both parties stated at the hearing that the %AV could be changed by means other than increasing the AC but CDOT said they wanted more AC in the mix. Although CDOT by spec was allowed to change the Air Voids up to 1%, CDOT decreased the Air Voids the maximum they could which also increased the AC the maximum amount**. If CDOT wanted to decrease the Air Voids the maximum they were allowed by spec, it would seem reasonable, based on the parties comments on changing Air Voids by other methods, that Air Void changes by using methods other that AC should have been considered especially when AC is the most expensive material in the asphalt mix.**

Given the language of the contract, it was reasonable for Kiewit to understand that it could base its cost estimate on the %AC in its submitted mix designs and **any change ordered by CDOT in the %AC would constitute a compensable change in the Work.**

5. CDOT insisted that the values in Table 403-1 were for the “proposed” mix design and not for the “production” mix. There is nothing In Book 2, Section 10: Revision of Section 403 Hot Mix Asphalt that makes such a differentiation. There is also nothing in Table 403-1 that indicates that the %AV can be outside the 3.5 to 4.5 value range. CDOT maintained it could lower the Air Voids **up to 1.0%** but there is nothing that states that CDOT does not have to meet the range of values in Table 403-1. By CDOT lowering the %AV to 3.0% on Form 43, CDOT clearly violated the Table 403-1 lower limits of 3.5%. Attachment A in Kiewit’s Pre-hearing Submittal points out how CDOT’s changes to the %AV in all the HMA mixes put the %AV less than the value indicated in Table 403-1. The same Attachment A also shows the VMA values for the changed mix design cause the VMA values to fall outside the ranges for VMA shown in Table 403-2.

6. During the hearing, CDOT stated the Escrow Documents were to be used in settling claims. This is not stated anywhere in Book 1 Section 22.1 – Escrow Proposal Documents (EPD). The Section does state, *CDOT shall be entitled to review all or any part of the EPD in order to satisfy itself regarding* ***the applicability of*** (emphasis added) *the individual documents to the matter at issue.* Kiewit explained that the Asphalt Work Sheets were for mixes it commonly uses in the Colorado Springs area and that it does not do mix designs prior to the bid. Kiewit pointed that the percent of the mix components in the EPD sheets were substantially different from the components that were submitted in the Form 429 mix design and that the %AC for the Form 429 mix had to be designed considering all components. Also, there were only three Asphalt Work Sheets in the EPD while there were nine mixes required for the project. Basically, CDOT’s position is comparing “apples and oranges” and there is no ***applicability of***the work sheets to the actual project mix designs.

7. CDOT pointed out that the HMA spec was changed in 2002 after review by a joint task force. CDOT’s Position Paper stated, *The consensus of the joint task force was to insert the current language into CDOT specifications to allow the Form 43 to establish the Form 43 asphalt cement and voids target while maintaining the historic design voids requirement to help ensure that the additional AC is used to fill mix voids.*

The changes were put out by CDOT in a Construction Bulletin dated November 21, 2002 which was Tab C in CDOT’s Pre-hearing Submission. Item I.B.2 of the Bulletin states, *Establishing the air voids target at 1% below the target values from optimum determined in the mix design* ***will add approximately 0.3% asphalt cement to the mix*** (emphasis added). Bulletin Item C – Summary of the Changes to HBP states, *Since the increase in the gyratory angle from 1.20 to 1.25 degrees will reduce the asphalt cement content by about 0.1% and establishing the air voids 1.0% below the mix design optimum will increase the asphalt cement content by about 0.3%, we anticipate a net increase in asphalt cement for all CDOT mixes of approximately 0.2%.*

It is quite obvious from the foregoing Bulletin cites that CDOT’s intent in the spec change was to allow CDOT to add AC to the contractor’s mix design. This is also supported by CDOT’s answer to DRB Question 1 where CDOT said that there were other ways to reduce the air voids other than additional AC but CDOT wanted more oil. **If more AC is what CDOT wanted, its spec is not clear and the spec change should have contained language to what is found in the Construction Bulletin which is not a part of Kiewit’s Contract**.

CDOT said that the added AC was a dispute in other CDOT projects, so CDOT’s contention that Kiewit knew that the spec change added asphalt, as did the industry, is unfounded. Kiewit’s Pre-hearing Submittal Tab J contains CDOT MAC Minutes of September 14, 2014. Under New Business, Item 3 – HMA Mix Design Adjustments, the three problems listed are worth noting:

* Recent Contractor disputes requesting additional compensation for added AC.
* An underlying issue with adjusting the AC content of the mixes submitted is the **Professional Liability** associated with them.
* While all of CDOT understands that the intent of the language **is to get more oil in the mix,** outside parties may not necessarily **understand the language and intent of the wording as stated.**

The result of the MAC meeting was a task force that started November 1, 2014 that developed revisions of Section 403 that state, *CDOT may select a different AC content other than the one shown at optimum on the Contractors mix design in order to establish the production targets as contained on the Form 43. Historically, Air Void adjustments typically result in asphalt cement increases from 0.1 to 0.5 percent. Contractor’s bidding the project should anticipate this change and factor it into their unit price bid.* **The foregoing discussions and the 2014 spec change show the language in the Kiewit Contract spec was not clear and that the spec required change to eliminate possible future disputes.**

8. Both parties agreed that Form 43 becomes part of the Contract. However, CDOT maintained that by signing the Form 43, which was signed by the P.E. who stamped the mix designs, Kiewit accepted the change which increased the AC. Kiewit disagreed with CDOT’s position and said it gave proper notice of a change in its letter of June 26, 2013.

During the hearing and in its Position Paper, CDOT stated, *The Contract between CDOT and Kiewit was for a Guaranteed Maximum Price, or “Contract Price” as full compensation for the work unless increased or decreased only by Change Order or Contract Amendment.* Also as CDOT stated at the hearing and as stated in CDOT’s Position Paper that Contract Book 1 Section 13.3, *Per the Contract, The Contractor may request a change order to increase the Contract price only for increased costs of the work as follows:*

*1. Additional costs directly attributable to additional work resulting from CDOT- Directed Changes.*

The Position Paper went on to state*, The establishment of a different AC content on the Form 43 … does not fall under any of the above allowable items for submitting an RCO to increase the Contract Price, as there was no additional work resulting from CDOT-Directed Changes.*

As was discussed in Findings 3, 4 and 5 above, CDOT changed the mix designs by reducing the Air Voids in order to add AC to the mixes even though the Air Voids could have been reduced by changing other mix components. These changes in %AC resulted in additional “work” which is defined in Contract Book 1 Exhibit A as, *All duties and services to be furnished and provided by Contractor as required by the Contract Documents, including …* ***Materials***(emphasis added) *.., necessary or appropriate to achieve Final Acceptance …*

9. During the hearing and in correspondence after the hearing, CDOT took exception to documents that were not a part of prior negotiations and that they had not seen. Based on the documents contained in the Pre-hearing Submittals, it does not appear that the provisions and timelines in Spec 105.22(c) and (d) were followed, especially the weekly meetings with the Resident Engineer which apparently never took place although they were requested by Kiewit in its letter of November 6, 2014. Nothing during the hearing or in the Pre-hearings Submissions document that CDOT responded to this letter or that meetings were ever held. Accordingly, the Board has no way of knowing what Kiewit might have intended to present at the meetings.

Other than for the way Kiewit presented its position in the Power Point presentation, the Board cannot find any new documents that were used in the hearing (other than those handed out by the parties) that were not a part of Kiewit’s Pre-hearing submittal. It should be noted that the Board did not receive any objections from CDOT prior to the hearing on the contents of Kiewit’s Pre-hearing submittal.

**Recommendations**

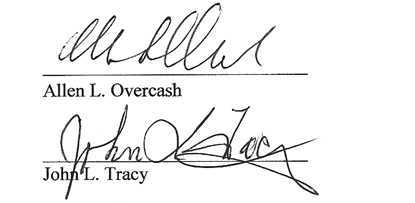
**1.** Since Spec Section 403 is not clear on what CDOT intended as was stated in the Construction Bulletin and confirmed in CDOT’s 2014 change in the spec to clear up CDOT’s ability to add Asphalt Cement to reduce Air Voids, CDOT’s addition of Asphalt Cement was a **change** **to Kiewit’s fully compliant mix designs** which had complied with the Contract submittal requirements.

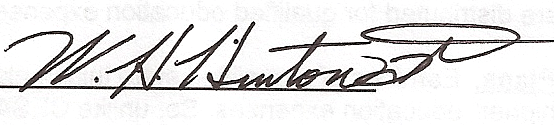
**2.** CDOT **directed** the change in Asphalt Cement by issuing the Form 43’s which resulted in additional work. “Work” as defined in Contract Book 1 Exhibit A includes “Materials”. Accordingly, the Kiewit requested change meets the requirements for a Contractor Requested Change Order as contained in Contract Book 1 Section 13.3.1.1.1.

**3.**  **CDOT’s direction in its Form 43 to increase the %AC in the mix design was a compensable change in the contract.**

**4.** CDOT’spositionthat the quantities are up to the Design/Build contractor and are included in the Guaranteed Maximum Price is without merit.

Respectfully submitted this 13th day of April 2015.



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W. H. Hinton II