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State Claims Commission

FEB 24 2014

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BEFORE THE STATE CLAIMS COMMISSION

Of the State of Arkansas

☐ Mr.
☐ Mrs.
☐ Ms.
☐ Miss

AMENDMENT ATTACHED

APAC-Tennessee, Inc., Claimant

vs.

State of Arkansas, Respondent
Highway Dept.
Highway Comm.

Do Not Write in These Spaces

Claim No. 14-0651-CC

Date Filed February 24, 2014 (Month) (Day) (Year)

Amount of Claim $ 893,254.26

Fund AHTD ASHC

Breach of Contract

COMPLAINT

APAC-Tennessee, Inc. (Name), the above named Claimant, of 1210 Harbor Ave. (Street or R.F.D. & No.) Memphis, (City) TN (State) 38113 (Zip Code) (901)947-5600 (Daytime Phone No.) County of Shelby represented by Jack East III (Legal Counsel, if any, for Claim) of 2725 Cantrell Rd., Ste 202 (Street and No.) Little Rock (City) AR (State) 72202 (Zip Code) (501)372-3278 (Phone No.) 376-0949 (Fax No.), says:

State agency involved: Arkansas State Highway Commission and Arkansas Highway & Transportation Dept. Amount sought:

Month, day, year and place of incident or service: 2013

Explanation: See Complaint and exhibits attached

As parts of this complaint, the claimant makes the statements, and answers the following questions, as indicated: (1) Has claim been presented to any state department or officer thereof? Yes (Yes or No); when August 22 2013 (Month) (Day) (Year); to whom? AHTD Chief Engineer (Department): and that the following action was taken thereon: Claim denied September 6, 2013

and that $ 0 was paid thereon: (2) Has any third person or corporation an interest in this claim? No; if so, state name and address (Name) (Street or R.F.D. & No.) (City) (State) (Zip Code)

and that the nature thereof is as follows: NA

: and was acquired on NA, in the following manner:

THE UNDERSIGNED states on oath that he or she is familiar with the matters and things set forth in the above complaint, and that he or she verily believes that they are true.

Jack East III, Attorney for Claimant
(Print Claimant/Representative Name)

Jack East III, Attorney
(Signature of Claimant/Representative)

SWORN TO and subscribed before me at Little Rock, (City) AR (State)

(SEAL)

on this 24th (Date) day of February (Month), 2014 (Year)

Julianna Ingram
(Notary Public)

My Commission Expires: August (Month) 02, (Day) 2023 (Year)

SF1-R7/99

COMPLAINT

Comes Claimant, APAC – Tennessee, Inc. (APAC), and for its claim against the Arkansas State Highway Commission (ASHC) and Arkansas Highway & Transportation Department (AHTD) states:

1. APAC is a corporation duly qualified to do business in Arkansas as a highway contractor.

2. ASHC and AHTD are agencies of the State of Arkansas.

3. On or about February 27, 2013 APAC submitted a sealed bid to the ASHC for Job BB0109, I-40-Jericho(S), per ASHC's invitation, for the work described as follows:

> THE PURPOSE OF THIS PROJECT IS TO MILL AND CONSTRUCT AN ACHM INLAY FOR 7.692 MILES OF ROADWAY AND REHABILITATE FOUR BRIDGE STRUCTURES ON I-55, IN CRITTENDEN COUNTY. THIS PROJECT CONSISTS OF EARTHWORK, ACHM BINDER AND SURFACE COURSES, GUARDRAIL, BRIDGE DECK HYDRODEMOLITION REHABILITATION (492.23' AND 81.00'), PAVEMENT MARKINGS, MAINTENANCE OF TRAFFIC AND MISC. ITEMS.

The bid specifications required bidders to bid the prices for the work on a unit price basis. The bid specifications also required bidders to include a bid for the time of performance of the work. The ASHC awarded a Contract for the Project to APAC based upon a monetary bid for both prices and time. APAC was found to be the lowest responsible bidder submitting a responsive bid based, in part, on the number of working days APAC included in its bid. A true copy of the Contract and bid proposal of APAC is attached as Exhibit A. APAC bid 67 working days at $30,000.00 per day. Such bid was reasonable and attainable at the time, however, the 67 working day time was tight, and delays would impact it. A true copy of Contract Standard Specifications and Special Provisions relevant to this claim are attached as Exhibit B.

4. APAC promptly furnished ASHC and AHTD with a proposed construction schedule. The schedule reasonably and properly was based upon prompt, knowledgeable and diligent review and approval of the concrete mix design specified in the Contract in accordance with Standard Specifications.

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5. APAC submitted the "Very Early Strength Latex Modified Concrete Overlay" (VESLMC) mix design to AHTD in timely fashion for approval on March 15, 2013.

6. AHTD wrongfully rejected the VESLMC mix design as submitted by APAC due to AHTD misconceptions. During the months of April and May, 2013 APAC and the concrete supplier (Modified) and subcontractor (Chris Hill) were in constant communication with AHTD in effort to obtain mix design approval. Alternate designs were submitted but rejected. VESLMC mix design was finally approved by AHTD on June 21, 2013, over 80 days following initial submittal. The VESLMC mix design approval by the AHTD on June 21, 2013 was the same mix design APAC initially submitted for approval on March 15, 2013.

7. AHTD's wrongful rejection of the mix design initially, and lack of diligence in approving the VESLMC mix design, delayed APAC's performance of the work as bid by APAC and as reflected on the schedule accepted by the AHTD before work began. As a result, APAC requested AHTD extend the time of performance by twenty days to avoid the heavy time penalties and liquidated damages imposed by Contract. A true copy of APAC's July 19, 2013 letter to the AHTD Resident Engineer is attached as Exhibit C. In a separate letter APAC requested two additional days. This request was also denied, as reflected by the correspondence attached as Exhibit D.

8. AHTD's Resident Engineer denied APAC's request for additional time. APAC then appealed the denial to AHTD's Chief Engineer, who also denied APAC's request, which had been amended to request twenty-five days instead of twenty days due to additional work at the Project. True copies of this correspondence is attached as Exhibit D. At this time AHTD has wrongfully charged APAC with overrunning the Contract time by twenty-two days.

9. AHTD breached the Contract by failing to perform its mix design approval responsibilities in a timely manner so as not to interfere with the progress of the work.

10. As a result of AHTD's breach of contract APAC has suffered damages as follows:

1.	Liquidated Damages Withheld-	22 days at $1,900.00= $41,800.00
2.	Site Use Charges-	22 days at $30,000.00= $750,000.00
3.	Extended Overhead-	22 days at $1,850.58= $40,712.81
4.	Unearned Incentive-	3 days at $30,000.00= $90,000.00
	Total Claim-	$922,512.81

11. The claims Commission should Award and recommend to the General Assembly that APAC's claim be allowed in the sum of $922,512.81.

12. APAC and defendants are presently in discussions concerning another unrelated claim on the Project. APAC reserves the right to Amend this Complaint to include that separate claim in this proceeding.

WHEREFORE, APAC-Tennessee, Inc. requests the Claims Commission Award and recommend payment of its claim in the sum of $922,512.81 and for all other appropriate relief.

473326

ARKANSAS STATE HIGHWAY COMMISSION

CONTRACT

CONTRACTOR

FOR THE CONSTRUCTION OF

STATE JOB NO. BI0109

FEDERAL AID PROJECT BIM-B55-0(201)

I-40-JERICHO (S)

STATE HIGHWAY 55 SECTION 11

IN CRITTENDEN COUNTY

Bound herein are the Supplemental Specifications, Special Provisions, Proposal Form and Schedule of Items applicable to this proposed construction contract.

Applicable to this proposed construction contract, but not bound herein, are the Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 2003, and the Construction Plans.

Blumberg No. 5306

EXHIBIT A 5

ARKANSAS
STATE HIGHWAY COMMISSION

STANDARD SPECIFICATIONS
FOR
HIGHWAY CONSTRUCTION

EDITION OF 2003

CONTRACT FORMS

CONTRACT
CONTRACT SCHEDULE OF PRICES
STATUTORY PERFORMANCE BOND
STATUTORY PAYMENT BOND

ARKANSAS STATE HIGHWAY COMMISSION

CONTRACT

THIS CONTRACT AND AGREEMENT, made and entered into this date MAR 27 2013 by and between **APAC-TENNESSEE, INC.**

hereinafter referred to as the Contractor, and the Arkansas State Highway Commission, hereinafter referred to as the Commission, Witnesseth:

That for and in consideration of the payment to be made as set forth in the Contract Schedule of Prices, the Contractor hereby agrees to furnish all tools, labor, equipment, and materials, and to build and construct that certain project in **CRITTENDEN** County, designated as

Job BB0109 **FEDERAL AID PROJECT BIM-B55-0(201)**

Job Name: I-40-JERICHO (S)

consisting of an improvement of State **Highway 55, Section 11,** more specifically described in the Contract Schedule of Prices attached hereto, all in exact accord with the Construction Plans on file in the Office of the Commission at Little Rock, Arkansas; and with the Arkansas Standard Specifications for Highway Construction, Edition of 2003; and with the Proposal filed with the Commission on **February 27, 2013**; and with the Supplemental Specifications and Special Provisions accompanying said Proposal, copy of said Plans, Specifications, Supplemental Specifications, and Special Provisions being attached hereto and made a part hereof as fully as though copied in full herein; under the direct supervision of the Engineer, and to the entire satisfaction of the Commission, and in accordance with the laws of the State of Arkansas; and in case the United States Government is participating in any portion of the cost of the work, the work shall also be subject to inspection and approval at all times by the appropriate Federal agency.

The Contractor agrees, for the consideration set forth in the Contract Schedule of Prices, to begin work within ten days after a Work Order is issued by the Engineer and to complete the work **within sixty-seven (67) working days.** If the Contractor shall fail to complete the work within the time limit herein specified, he shall pay to the Commission, as liquidated damages, and not in the nature of a penalty, the sum of **one thousand nine hundred dollars ($1,900.00)** for each day delayed, it being understood and agreed between the parties hereto that the said sum fixed as liquidated damages is a reasonable sum, considering the damages that the Commission will sustain in the event of any such delay, and said amount is herein agreed upon and fixed as liquidated damages, because of the difficulty of ascertaining the exact amount of damages that may be sustained by such delay. The said sum shall be deducted from the final amount of estimate due the Contractor.

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It is agreed and understood between the parties hereto that the Contractor agrees to accept and the Commission agrees to pay for the work at the prices stipulated in the Contract Schedule of Prices, such payment to be in lawful money of the United States, and the payment shall be made at the time and in the manner set forth in the Specifications.

WITNESS OUR HANDS, this date MAR 27 2013

CONTRACTOR

APAC-TENNESSEE, INC.

BY: _____

PRINTED NAME: **Nickolas R. Haynes**
President
(Must Be Legible)

ARKANSAS STATE HIGHWAY COMMISSION

BY: _____
Director of Highways and Transportation

CONTRACT SCHEDULE OF PRICES

LETTING DATE: February 27, 2013

STATE JOB NO: BE0109 FEDERAL AID PROJECT BIM-B55-0(201)

JOB NAME: I-40-JERICHO (S)

ROUTES: 55
SECTIONS: 11

COUNTY: CRITTENDEN

DESCRIPTION:
THE PURPOSE OF THIS PROJECT IS TO MILL AND CONSTRUCT AN ACHM INLAY FOR 7.692 MILES OF ROADWAY AND REHABILITATE FOUR BRIDGE STRUCTURES ON I-55, IN CRITTENDEN COUNTY. THIS PROJECT CONSISTS OF EARTHWORK, ACHM BINDER AND SURFACE COURSES, GUARDRAIL, BRIDGE DECK HYDRODEMOLITION REHABILITATION (492.23' AND 81.00'), PAVEMENT MARKINGS, MAINTENANCE OF TRAFFIC AND MISC. ITEMS.

LENGTH: 7.801000 MILES

CONTRACT WORK DAYS: 67

CONTRACTOR: APAC-TENNESSEE, INC.
ADDRESS: P. O. BOX 13427
MEMPHIS, TN 38113-0427

CONTRACT AMOUNT: $ 7,705,442.56
AMOUNT FOR AWARD CONSIDERATION: $ 9,715,442.56

LIQUIDATED DAMAGES: $ 1,900 PER DAY
ROAD USER COST: $ 30,000 PER DAY

TYPE OF PROJECT: NHS

CONTRACT SCHEDULE OF PRICES

STATE JOB NO: BB0109
JOB NAME: I-40-JERICHO (S)
FEDERAL AID PROJECT: BIM-B55-0(201)

LINE NO	ITEM CODE	ITEM DESCRIPTION	ESTIMATED QUANTITY AND UNITS	UNIT BID PRICE DOLLARS	UNIT BID PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
SECTION 0001 PROPOSAL ITEMS							
0001	202	REMOVAL AND DISPOSAL OF APPROACH SLAB AND GUTTERS	8.000 EACH	8,900.00000		71,200.00	
0002	202	REMOVAL AND DISPOSAL OF DELINEATOR POST	250.000 EACH	21.00000		5,250.00	
0003	202	REMOVAL AND DISPOSAL OF CONCRETE MEDIAN BARRIER	1,235.000 LF	24.25000		29,948.75	
0004	SP	REMOVAL AND DISPOSAL OF GUARDRAIL	2,469.000 LF	4.20000		10,369.80	
0005	210	UNCLASSIFIED EXCAVATION	1,000.000 CUYD	17.40000		17,400.00	
0006	240	COMPACTED EMBANKMENT	1,000.000 CUYD	17.40000		17,400.00	
0007	SS&303	AGGREGATE BASE COURSE (CLASS 1)	895.000 TON	22.10000		19,779.50	
0008	SS&303	AGGREGATE BASE COURSE (CLASS 7)	748.000 TON	50.75000		37,961.00	
0009	401	TACK COAT	29,908.000 GAL	2.56000		76,564.48	
0010	SPSS406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	2,213.000 TON	50.55000		111,867.15	
0011	SPSS406	ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1") (MINIMUM BID $120.00)	99.000 TON	975.00000		96,525.00	

CONTRACT SCHEDULE OF PRICES

STATE JOB NO: BB0109
JOB NAME: I-40-JERICHO (S)
FEDERAL AID PROJECT: BIM-B55-0(201)

LINE NO	ITEM CODE	ITEM DESCRIPTION	ESTIMATED QUANTITY AND UNITS	UNIT BID PRICE DOLLARS	UNIT BID PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0012	SPSS407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	32,034.000 TON	52.70000		1,688,191.80	
0013	SPSS407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2") (MINIMUM BID $120.00)	6.000 TON	767.00000		4,602.00	
0014	SPSS407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2") (MINIMUM BID $120.00)	1,751.000 TON	975.00000		1,707,225.00	
0015	412	COLD MILLING ASPHALT PAVEMENT	282,727.000 SQYD	1.75000		494,772.25	
0016	SPSS415	ACHM PATCHING OF EXISTING ROADWAY	200.000 TON	470.00000		94,000.00	
0017	SP&504	APPROACH SLABS	401.520 CUYD	465.00000		186,706.80	
0018	SP&504	APPROACH GUTTERS	269.150 CUYD	400.00000		107,660.00	
0019	507	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT FOR PATCHING	250.000 SQYD	41.40000		10,350.00	
0020	SS&507	PORTLAND CEMENT CONCRETE PAVEMENT PATCHING (10" UNIFORM THICKNESS)	250.000 SQYD	290.00000		72,500.00	
0021	509	JOINT REHABILITATION (TYPE A)	158.000 LF	47.25000		7,465.50	
0022	SP	SCARIFYING CONCRETE PAVEMENT	844.000 SQYD	22.60000		19,074.40	

CONTRACT SCHEDULE OF PRICES

STATE JOB NO: BB0109
JOB NAME: I-40-JERICHO (S)
FEDERAL AID PROJECT: BIM-B55-0(201)

LINE NO	ITEM CODE	ITEM DESCRIPTION	ESTIMATED QUANTITY AND UNITS	UNIT BID PRICE DOLLARS	UNIT BID PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0023	SP&S602	FURNISHING FIELD OFFICE	1.000 EACH	8,500.00000		8,500.00	
0024	SP&S603	MAINTENANCE OF TRAFFIC	1.000 L.S.	103,000.00000		103,000.00	
0025	SS&604	SIGNS	1,452.000 SQFT	7.60000		11,035.20	
0026	SS&604	BARRICADES	16.000 LF	10.50000		168.00	
0027	SS&604	TRAFFIC DRUMS	449.000 EACH	34.65000		15,557.85	
0028	SS&604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	1,500.000 LF	50.25000		75,375.00	
0029	SP	MOBILE SPEED NOTIFICATION SYSTEM	2.000 EACH	9,975.00000		19,950.00	
0030	SS&604	RELOCATING PRECAST CONCRETE BARRIER (MAX. BID 25% OF ITEM NUMBER 0028)	5,280.000 LF	12.55000		66,264.00	
0031	SS&604	CONSTRUCTION PAVEMENT MARKINGS	180,089.000 LN	0.37000		66,632.93	
0032	604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	3,548.000 LF	4.00000		14,192.00	
0033	SP&S604	ADVANCE WARNING ARROW PANEL	270.000 DAY	14.70000		3,969.00	
0034	SP&S604	PORTABLE CHANGEABLE MESSAGE SIGN	60.000 WEEK	236.00000		14,160.00	

CONTRACT SCHEDULE OF PRICES

STATE JOB NO: BB0109
JOB NAME: I-40-JERICHO (S)
FEDERAL AID PROJECT: BIM-B55-0(201)

LINE NO	ITEM CODE	ITEM DESCRIPTION	ESTIMATED QUANTITY AND UNITS	UNIT BID PRICE DOLLARS	UNIT BID PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0035	SS&604	VERTICAL PANELS	5.000 EACH	21.00000		105.00	
0036	SS&617	GUARDRAIL (TYPE A)	2,125.000 LF	18.10000		38,462.50	
0037	SS&617	TERMINAL ANCHOR POSTS (TYPE 1)	6.000 EACH	756.00000		4,536.00	
0038	SS&617	GUARDRAIL TERMINAL (TYPE 2)	5.000 EACH	2,310.00000		11,550.00	
0039	SS&617	THRIE BEAM GUARDRAIL TERMINAL	9.000 EACH	1,760.00000		15,840.00	
0040	631	CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)	1,235.000 LF	146.00000		180,310.00	
0041	635	ROADWAY CONSTRUCTION CONTROL	1.000 L.S.	11,000.00000		11,000.00	
0042	636	BRIDGE CONSTRUCTION CONTROL	1.000 L.S.	11,000.00000		11,000.00	
0043	642	RUMBLE STRIPS IN ASPHALT SHOULDERS	159,346.000 LF	0.12000		19,121.52	
0044	721	RAISED PAVEMENT MARKERS (TYPE II)	1,878.000 EACH	8.40000		15,775.20	
0045	SS&728	DELINEATOR (TYPE 1)	250.000 EACH	2.65000		662.50	
0046	802	GROOVING	4,660.000 SQYD	3.55000		16,543.00	
0047	803	CLASS 3 PROTECTIVE SURFACE TREATMENT	2,266.000 LF	2.75000		6,231.50	

CONTRACT SCHEDULE OF PRICES

STATE JOB NO: BB0109
JOB NAME: I-40-JERICHO (S)
FEDERAL AID PROJECT: BIM-B55-0(201)

LINE NO	ITEM CODE	ITEM DESCRIPTION	ESTIMATED QUANTITY AND UNITS	UNIT BID PRICE DOLLARS	UNIT BID PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0048	SS&804	REINFORCING STEEL-ROADWAY (GRADE 60)	69,354.000 LB	1.50000		104,031.00	
0049	SS&804	REINFORCING STEEL-BRIDGE (GRADE 60)	1,000.000 LB	2.63000		2,630.00	
0050	SP	SILICONE JOINT SEALANT	632.000 LF	52.50000		33,180.00	
0051	SP	HYDRODEMOLITION	4,911.000 SQYD	94.65000		464,826.15	
0052	SP	VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY (1 1/2" THICK)	4,921.600 SQYD	83.90000		412,922.24	
0053	SP	VERY EARLY STRENGTH LATEX MODIFIED CONCRETE (VARIABLE DEPTH)	68.200 CUYD	1,155.00000		78,771.00	
0054	SP	BRIDGE DECK REPAIR	5,683.000 SQFT	22.40000		127,276.80	

SECTION 0002 HIGH PERF. PAVEMENT MARKING WHITE (4") ALTERNATES: BID ONE ITEM ONLY.

0055	SP&719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4")	103,294.000 LF	2.70000		278,893.80	

SECTION 0003 HIGH PERF. PAVEMENT MARKING YELLOW (4") ALTERNATES: BID ONE ITEM ONLY.

0057	SP&719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	82,649.000 LF	2.70000		223,152.30	

SECTION 0004 HIGH PERF. CONTRAST PAVEMENT MARKING WHITE (4") ALTERNATES: BID ONE ITEM ONLY.

CONTRACT SCHEDULE OF PRICES

STATE JOB NO: BB0109
JOB NAME: I-40-JERICHO (S)
FEDERAL AID PROJECT: BIM-B55-0(201)

LINE NO	ITEM CODE	ITEM DESCRIPTION	ESTIMATED QUANTITY AND UNITS	UNIT BID PRICE DOLLARS	UNIT BID PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0060	SP HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")	1,180.000 LF		8.40000		9,912.00	
SECTION 0005		HIGH PERF. PAVEMENT MARKING WHITE (8") ALTERNATES: BID ONE ITEM ONLY					
0062	SP HIGH PERFORMANCE MARKING TAPE WHITE (8")	6,569.000 LF		6.56000		43,092.64	
SECTION 0006		-					
0063	601 MOBILIZATION (UNIT BID AMOUNT MAY NOT EXCEED 5% OF SUBTOTAL)	1.000 L.S.		350,000.00000		350,000.00	
	TOTAL BID					7,705,442.56	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. BB0109

SITE USE (A+C METHOD)

1. General. The process for bidding will take into account not only the contract amount bid but also the bidder's stated delivery time in which the Specified Site Use Work will be substantially complete. This method shall be used to determine the successful bidder and to establish the contract time (working days). It shall not be used to determine the award amount nor final payment to the Contractor when the project is completed.

2. Definition of Terms. (a) Specified Site Use Work. The specified site use work, referred to herein as Part C, shall consist of all items of work in the Contract.

(b) Contract Amount. The summation of the products of the quantities shown in the bid schedule multiplied by the unit bid price.

(c) Working Day. As defined in Subsection 101.01 of the Standard Specifications. Working days will be assessed in accordance with Subsection 108.06 of the Standard Specifications.

(d) Contract Time. The number of working days established by the bidder to complete the project.

(e) Substantially Complete. The date at which time charges cease due to the completion of all pay items. The Engineer will be the sole authority in determining when the work is substantially complete. Part C Site Use Work will be considered complete on this date.

(f) Daily Road User Cost. The amount which represents the average daily cost of interference and inconvenience to the road user. The daily road user cost for Part C is $30000.

(g) Bid Site Use Time. The number of working days specified in the bid by the bidder as the time required to substantially complete the Specified Site Use Work for Part C.

(h) Punch List. A list of items and/or areas of the project requiring correction, replacement, repair, or general cleanup which is furnished by the Engineer following the declaration of the project as Substantially Complete.

3. Preparation of Proposal. The bidder shall establish the number of working days to be used to substantially complete the Specified Site Use Work for Part C.

The total number of working days established by the bidder to substantially complete the Specified Site Use Work for Part C shall not exceed 75 days.

Bids showing time for completion in excess of this amount will be considered non-responsive and will be rejected.

EXHIBIT
B
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. BR0109

SITE USE (A+C METHOD)

The product of the number of working days established by the bidder for Part C multiplied by the daily road user cost of $30000 per working day will be added to the contract amount bid. The sum of the two amounts will be the amount used for consideration of bids for award.

4. Consideration of Bids. Each bid submitted shall consist of two parts:

(A) The Contract amount.

(C) Total number of working days proposed by the bidder to substantially complete the Specified Site Use Work for Part C.

The successful bid will then be determined by the Department as the lowest combination of (A) and (C) according to the following formula:

(A)
+ [(C) x (daily road user cost of $30000)]
= Bid amount for award consideration.

The preceding formula shall be used only to determine the successful bidder and shall not be used to determine the contract award amount nor final payment to the Contractor, except as may be adjusted under sections 6 and 7 below.

5. Assessment of Site Use Time. No Site Use Time will be assessed for any work performed during the 10 calendar day period following the effective date of the Work Order. Site Use Time will be assessed on all working days for each working day or portion thereof beginning on the eleventh calendar day following the effective date of the Work Order, and continue until the Specified Site Use Work is substantially completed.

Unless an emergency is declared, the Contractor shall not perform work that requires inspection on Sundays, legal holidays designated in Subsection 101.01 of the Standard Specifications, Edition of 2003, and Monday following a holiday on Sunday or Friday preceding a holiday on Saturday. If the Commission declares Friday following Thanksgiving Day as a Departmental holiday, the Contractor shall not perform work that requires inspection on this day.

Extensions of the Bid Site Use Time for Part C will be granted ONLY for the following reasons:

(a) The work has been delayed by any act or omission of the Commission. This includes suspension of the work when the suspension is not the fault of the Contractor.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. BB0109

SITE USE (A+C METHOD)

(b) If the dollar value of the Specified Site Use Work, exclusive of incentives and disincentives, exceeds the dollar value for the bid Site Use Work, the time will be extended in the same proportion.

(c) Change Orders affecting the work that results in additional time being required to complete the Specified Site Use Work.

Requests for extension of the Bid Site Use Time shall be made in writing and shall state the reasons for the request and identify the specific days for which extension is requested.

6. Early Completion of Specified Site Use Work. The Contractor will be paid $30000 for each working day the Specified Site Use Work is substantially complete before the number of working days stated by the Contractor in the bid, including extensions granted in accordance with paragraph 5 above. The maximum number of working days for which this payment will be made is 8 days. Payment for early completion will be made after all items identified on the punch list have been completed to the satisfaction of the Engineer.

7. Failure to Substantially Complete the Specified Site Use Work in the Time Bid. Failure to substantially complete the Specified Site Use Work within the number of working days stated by the Contractor in the bid, including extensions granted in accordance with paragraph 5 above, will result in the Daily Road User Cost of $30000 being assessed for every working day in excess of the stated number, up to the time in which the Specified Site Use Work is substantially complete.

This assessment will be deducted from any compensation due the Contractor or recovered if sufficient compensation is not due.

The Engineer will be the sole authority in determining when the Specified Site Use Work is substantially complete.

8. Contract Time and Liquidated Damages. Determination of working days charged, extensions of Contract Time, and assessment of liquidated damages for failure to complete all work within the Contract Time limit will be made in accordance with the Section 108 of the Standard Specifications. Liquidated damages under Section 108 of the Standard Specification are ***separate and in addition*** to the Daily Road User Costs assessed under this Special Provision.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

LIQUIDATED DAMAGES

As specified in the Contract, liquidated damages for this project will be as shown in the following table:

WORKING DAY PROJECTS

ORIGINAL CONTRACT AMOUNT

FROM MORE THAN	TO AND INCLUDING	RATE
$ 0	$ 50,000	$ 400
50,000	100,000	700
100,000	500,000	800
500,000	1,000,000	1100
1,000,000	2,000,000	1300
2,000,000	5,000,000	1500
5,000,000	10,000,000	1900
10,000,000	15,000,000	2000
15,000,000	20,000,000	2100
20,000,000	----------	2500

FIXED DATE PROJECTS

ORIGINAL CONTRACT AMOUNT

FROM MORE THAN	TO AND INCLUDING	RATE
$ 0	$ 50,000	$ 90
50,000	100,000	100
100,000	500,000	200
500,000	1,000,000	250
1,000,000	2,000,000	320
2,000,000	5,000,000	400
5,000,000	10,000,000	600
10,000,000	----------	750

ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. BB0109

VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

DESCRIPTION: This work shall consist of constructing a Very Early Strength Latex Modified Concrete (VESLMC) overlay on bridge deck concrete or other specified concrete roadway surfaces previously prepared as specified in the plans, **within the constraints of the Maintenance of Traffic special provision**. This work includes all labor, materials, equipment and incidentals necessary to complete the work in accordance with the plans, the Standard Specifications, this Special Provision, and as directed by the Engineer.

VESLMC OVERLAY SPECIALIST AND WORK PLAN: Work shall be performed by a Contractor or Subcontractor who has successfully performed at least eight (8) verifiable projects similar to this project within the last four (4) years, including projects with similar requirements for the Maintenance of Traffic. A brief description of each project including the location, start and completion dates, and a reference shall be included for each project listed. As a minimum, the reference shall include an individual's name, affiliation with the project, and current phone number. In addition, the onsite supervisor assigned to this project must have experience in that position on a minimum of five (5) projects which are similar in nature to this project. A summary of the onsite supervisor's experience shall contain enough information for the Engineer to assess the individual's qualifications. The onsite supervisor shall be present during all operations.

The above information shall be submitted to the Engineer along with a VESLMC Overlay Work Plan for review and record purposes at least thirty (30) days prior to commencement of overlay operations. The VESLMC Overlay work plan shall list all equipment, materials and methods the Contractor proposes for use for the following operations:

1. Final cleaning, preparation, and protection of the surface prior to overlay.
2. Mix design for the VESLMC as described below including QC/QA submittals.
3. Mixing, placing and finishing the VESLMC Overlay.
4. Curing and treatment of the VESLMC Overlay surface.
5. **Detailed schedule of work and conformance to project Maintenance of Traffic provisions.**

This work shall not commence until the experience record submittal and Hydrodemolition Work Plan have been reviewed by and are satisfactory to the Engineer. Work shall conform to the submitted work plan unless changes are submitted in writing to the Engineer.

MATERIALS: The materials, methods, and testing requirements shall conform to Section 802, except as modified in the plans and these specifications.

(a) Cement shall conform to the requirements of Subsection 802.02(a) except as modified herein. The approved cement shall be a rapid-hardening cement conforming to ASTM C1600-11 that will provide an overlay concrete that meets the physical requirements of VESLMC as specified herein, or approved equal.

(b) The Latex Modifier shall be a formulated latex emulsion admixture that is a nontoxic, film forming, polymeric emulsion to which all stabilizers have been added during manufacture and that is homogenous and uniform in composition. The latex admixture shall be a styrene-

butadiene latex emulsion in which at least 90 percent of the non-volatiles are styrene-butadiene polymers. The latex admixture shall be manufactured for this use and conform to the following requirements when tested in accordance with the procedures shown in Report No. FHWA-RD-78-35, April 1978, *Styrene-Butadiene Latex Modifiers for Bridge Deck Overlay Concrete*:

Property	Specified Value	Permissible Variance[1]
Color	White	
Polymer Type	Styrene-Butadiene	
Solids , percent	46-53	
pH	5.0 – 12.0	± 1 %
Mean Particle Size, angstrom	1400 - 2500	± 300
Median Particle Size, angstrom	1400 - 2500	
Viscosity, centipoises	-	± 20
Maximum Coagulum, percent by mass	0.10	
Maximum Surface Tension, dynes/cm	50	
Butadiene, percent by mass	30-40	

[1]Permissible Variance: Properties of samples collected shall not vary from Manufacturer's certification or prequalification value by more than the listed variance.

A certificate of compliance signed by the Manufacturer, certifying that the material conforms to these requirements, shall be submitted for each shipment used in this project. The certification shall show the brand name and designation; the composition or description of the admixture; the manufacturing ranges for specific gravity at 77°F, percent total solids, and pH; the infrared spectrums; and the manner in which the material will be identified on containers and shall have specific test results attached showing conformance with these requirements.

The containers in which the latex modifier are delivered shall be clearly marked with the Manufacturer's name, the brand name, designation of material, lot number and net quantity. Bulk shipments shall be accompanied by a delivery ticket showing this information.

The latex modifier shall be within its expiration date at the time of use and shall be stored in such a manner as to protect it from freezing, prolonged exposure to temperatures in excess of 85°F, or other damaging conditions, as specified by the Manufacturer's product information.

(c) Coarse aggregate shall conform to Subsection 802.02(c), except the gradation shall be that specified in AASHTO M43 #7 (1/2" - #4).

(d) All other admixtures to be used shall be included in the Contractor's approved mix design and shall be compatible with the latex modifier and cement used. Fly ash, ground granulated blast furnace slag, or other pozzolanic admixtures or cements shall not be used.

(e) Replacement reinforcing steel, if required, shall conform to the requirements of Section 804.

SPECIAL PROVISION JOB NO. BB0109

VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

PROPORTIONING: The VESLMC mixture shall contain no less than 658 lbs. of cement per cubic yard and shall be accurately proportioned as follows:

Material	Quantity (Per Bag of Cement*)
Cement	94 lbs.
Latex Admixture	3.5 gal.
Natural Sand	210 to 255 lbs.
Coarse Aggregate	168 to 208 lbs.
Water (including free moisture on the sand and coarse aggregate)	8 to 22 lbs.

*If approved cement is supplied in quantities other than 94 lb. bags, adjust proportions by weight.

The properties of the latex modified concrete mixture shall be as follows:

Property	Value
Compressive Strength (at time specified, cured at approximately 70° F.)	
6 Hours	3000 psi.
28 Days	4000 psi.
Slump (measured 4 to 5 minutes after discharge from a continuous mixer)	4 to 6 in.
Air Content	6% ±2%
Water-Cement Ratio	Not more than 0.40**

(**including all the liquid components of all additives as part of the water)

The Contractor shall submit in writing a concrete mixture design to the Engineer in accordance with Subsection 802.05(b) specifying the name and location of aggregate suppliers, and the type and brand of the cement and latex proposed for use. Trial batches in accordance with Subsection 802.05(c) shall also be made and tested by the Contractor, under the observation of the Engineer, prior to approval of the mix design. Compressive strength testing for approval of the mix design shall be in accordance with Subsection 802.06(a), except for the time of testing. The measurement of time for testing shall begin from the mixing of water and cement. Specimens shall be tested for each time requirement shown above and any other time required for the Contractor's VESLMC Work Plan. Specimens for compressive strength test at less than 12 hours of age shall be wet cured in their molds until time of test; shall be de-molded no more than 10 minutes before testing; shall be kept covered and damp until testing; and shall be tested within 10 minutes of the time specified to achieve the minimum compressive strength requirement.

No concrete shall be placed prior to the Engineer's approval of the design. Acceptance of the mix design will be based on apparent conformity with this special provision. It shall remain the Contractor's responsibility during production to produce concrete according to the mix design and the acceptance criteria. No change in materials will be permitted unless approved by the Engineer in writing.

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VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

EQUIPMENT: Equipment and tools necessary for handling materials and performing all parts of the work shall be approved by the Engineer as to design, capacity, and mechanical condition. Equipment shall be on site sufficiently ahead of the start of construction operations to be examined and approved.

The operation or placement of equipment and, or materials on the subject bridges shall be subject to the provisions of SS-105-2 "Equipment and Material Storage on Bridge Structures". Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

(a) Mixer. A continuous type mixer, calibrated to accurately proportion the specified mix, will be used to mix and discharge the VESLMC. The mixer shall be equipped so that the proportions of the cement, fine aggregate, and coarse aggregate can be fixed by calibration of the mixer and cannot be changed without destroying a seal or other indicating device affixed to the mixer by the Engineer. In addition to being equipped with a flow meter for calibrating the water supply portion of the mixer, the mixer shall also be equipped with a cumulative-type water meter which can be read to the nearest 0.1 gallon. The water meters shall be readily accessible, accurate to within 1%, and easy to read. Both water meters will be checked by the Engineer each time the mixer is calibrated. Approved admixtures shall be added by methods that ensure proportion and timing are controlled and compatible with each admixture manufacturer's recommendations. The mixer shall have a visible recording meter and batch ticket printout capable of positive measurement of cement added and the quantity of VESLMC mixed.

The continuous type mixer shall be calibrated to the satisfaction of the Engineer prior to starting the work. Yield checks will be made for each 50 cubic yards of mix. Recalibration will be necessary when indicated by the yield checks, and at any other times the Engineer deems necessary to ensure proper proportioning of the ingredients.

Continuous type mixers which entrap unacceptable volumes of air in the mixture shall not be used. Batch type and drum-type transit truck mixers or rotating drum batch type mixers shall not be used for VESLMC mixing.

The mixer shall be kept clean and free of partially dried or hardened materials at all times. It shall consistently produce a uniform, thoroughly blended mixture within the specified air content and slump limits. Malfunctioning mixers shall be immediately repaired or replaced with acceptable units.

(b) Placing and Finishing Equipment. Placing and finishing equipment shall include hand tools for placement and brushing-in freshly mixed VESLMC and for distributing it to approximately the correct level for striking-off with the screed.

An approved finishing machine shall be used for finishing all areas of work. The finishing machine shall be self-propelled and capable of forward and reverse movement under positive control. Provision shall be made for raising all screeds to clear the screeded surface for traveling in reverse. The finishing machine shall be of one the following two types:

1. A self-propelled finishing machine equipped with one or more rotating rollers, augers, and 1,500 to 2,500 vpm vibratory pans may be used.
2. A vibrating-screed type designed to consolidate the modified composition by vibration. Vibration frequency shall be variable with positive control between 3,000 and 11,000

vpm. The bottom face of the screeds shall be not less than 4 in. wide and shall be metal covered. The screeds shall be provided with positive control of the vertical position.

Finishing machine support rails shall be placed and fastened in position to ensure finishing the new surface to the required profile. Anchorage for supporting rails shall provide horizontal and vertical stability. Support rails that must be removed from overlaid area shall be removed without the use of release agents that would contaminate the VESLMC and areas affected will be hand finished to an equivalent surface as surrounding overlay. A suitable portable lightweight or wheeled work bridge will be required and used behind the finishing operation.

CONSTRUCTION REQUIREMENTS: The Contractor shall overlay the entire prepared surface in order to return it to traffic service within the time allotted by Maintenance of Traffic special provision. No highway traffic shall be allowed on areas of the deck where any existing deck concrete has been removed. The Contractor shall adjust preparation and placement operations so that placement ends coincide with allowed joint locations as noted in the plans or as approved by the Engineer.

(a) Weather Limitations. Construction of the overlay should be performed when the ambient, mixture, and prepared surface temperatures are between 55 and 75° F. In all instances, the VESLMC overlay shall be placed and kept at a temperature above 45° F for the duration of the curing period specified herein. The mixture shall not be placed when the ambient, mixture, or prepared surface temperature is above 85° F. The Contractor shall take approved steps to maintain all temperatures within these limits or cease overlay placement until such temperature limits can be maintained. The VESLMC overlay shall be protected from rain, excessive evaporation, or other atmospheric conditions that cause difficulty in the satisfactory finishing and curing of the overlay. This may require scheduling placement to avoid such conditions or the use of approved coverings or other equipment to mitigate the effects of such conditions. Material damaged by such conditions shall be removed at the direction of the Engineer and at no cost to the Department. If changing conditions necessitate a delay during placement operations, the Contractor shall implement delay measures as described in section (e) below.

(b) Surface Preparation. The VESLMC overlay shall be placed onto a surface that has been properly prepared in accordance with the plans and job special provisions. Additional preparation of any areas required shall be at the direction of the Engineer and may require the use of hand tools. After preparation, the deck shall be cleared of all debris. Highway traffic will not be permitted on the prepared portion of the deck.

(c) Reinforcing: Deteriorated reinforcing steel exhibiting section loss of greater than 25% or reinforcing steel damaged during concrete removal shall be replaced at the direction of the Engineer with new bars of the same or larger size that conform to Section 804. New bars shall be lapped 40 bar diameters to existing bars or dowelled into sound concrete in accordance with Section 804.04.

Exposed reinforcing steel which is left unsupported by the removal process shall be adequately supported and protected from bending by vehicles and equipment on the deck.

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VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

(d) Cleaning. After surface preparation but before placing the overlay, the entire area of the deck surface, including the vertical faces of curbs, parapets, and barrier walls, up to a height of 1 in. above the elevation of the planned overlay, shall be power wash cleaned with a minimum 5,000 psi washing system such that all exposed concrete and reinforcing steel shall have a bright, clean appearance and be free from laitance, dust, dirt, oil, grease, bituminous material, paint, and all other foreign matter. All debris of every type, including dirty water, resulting from the cleaning operation shall be reasonably confined during the performance of the cleaning work and shall be immediately and thoroughly cleaned from the blast cleaned surfaces and all other areas where any escaped debris may have accumulated.

The process used to clean the existing deck shall be performed so as to conform to Job Special Provision "Management of Hydrodemolition Wastewater". Any method that does not consistently produce satisfactory work and conform to the above requirements shall be discontinued and replaced by an acceptable method.

The cleaning should be performed immediately preceding placement of the overlay on the area. The cleaned areas shall be protected, as necessary, against contamination prior to placement of the overlay. It shall be covered with a plastic cover that will be rolled up as the overlay placement equipment passes over it so that the cleaned surface is not exposed to wheels, dirt, oil, grease or any other contaminates. Contaminated areas and areas exposed more than 36 hours shall be cleaned again as directed by the Engineer at the Contractor's expense.

The work area shall be thoroughly wet down with potable water 1 hour prior to overlay. The work area shall be maintained in a "saturated surface dry" condition until it is overlaid. The Contractor shall also have equipment on standby to remove any standing water in depressions with vacuum or oil-free compressed air ahead of the overlay placement.

(e) Mixing. The Engineer shall be present for the initial calibration of the concrete mobile mixer. The Engineer will check and measure the volume of the latex, cement, aggregate and water at the concrete mobile mixer before and after as an approximate check of the calibration of the concrete mixer. Aggregate stockpiles shall be maintained at uniform moisture content.

Concrete shall be mixed at the work site in accordance with the specified requirements for the equipment used and the approved mix design and mixer calibration. The maximum time between completion of mixing and placement shall not exceed 5 minutes. Mixing capability shall be such that finishing operations can proceed at a steady pace and be completed before the formation of the plastic surface film.

Quality Control and Quality Assurance sampling and testing shall be in accordance with Subsections 802.06 (a) – (c) except as modified herein. Subsection 802.06 (b) shall be modified as follows:

> The standard lot size for acceptance of slump, air content and compressive strength will be 30 cubic yards or the full bridge length of one lane overlay, including shoulder, whichever is less, with each standard lot divided into at least 3 sublots with a maximum size of 10 cubic yards or one pour, whichever is less. Partial lots of any size may be established by the Engineer.

Compressive strength testing for maintenance of traffic and conformance with the VESLMC work plan shall be in accordance with the requirements of the Proportioning section of this

specification. Compressive Strength testing for acceptance shall be for 28-day strength only and shall be in accordance with Subsection 802.06(b) as modified herein. Slump and air content testing for quality control and acceptance shall be in accordance with Subsection 802.06(b).

A random sample of 1 quart of the latex shall be taken off each concrete mobile mixer and delivered to AHTD, Materials Division for evaluation compliance with the material requirements specified above. The sample shall be taken in a clean, durable, un-reactive, sealed container suitable for this material.

(f) Placing, Consolidating and Finishing. The finishing machine shall be test-run over the entire area to be overlaid prior to placement to ensure that the required minimum overlay thickness and minimum cover to reinforcing steel specified in the plans will be achieved. Clearance shall be checked with a filler block 1/8 in. less than the required overlay thickness attached to the bottom of the finishing machine. Areas having insufficient clearance shall be corrected by removing material or by adjustments to the machine support rails at the direction of the Engineer. Areas where removal occurs shall meet the cleaning requirements above.

Immediately prior to placement of the overlay, prepared areas shall be thinly coated with the VESLMC as a bond coat by brushing or scrubbing with a stiff brush. Course particles that do not adhere to the prepared surface shall be removed. The grout bond coat shall not be allowed to dry prior to placement of the overlay.

The VESLMC overlay shall be placed evenly across the work area ahead of the finishing machine approximately 1/8 to 1/4 in. above the final grade and then mechanically consolidated and struck off to final grade. Deep pockets and areas not accessible to the finishing machine shall be consolidated and finished by approved hand methods. Removal of finishing machine supports or temporary bulkheads shall be done as to not damage the fresh overlay material. Affected areas shall be hand finished to an equivalent surface as surrounding overlay. The VESLMC overlay surface shall receive a burlap drag finish as specified in Subsection 802.19(b)(7). Prior to the commencement of curing, the exposed surface shall be protected from excessive evaporation, with approved misting or fogging equipment as necessary.

Construct longitudinal joints at locations shown on the plans or as approved. Construct transverse joints at the allowed ends of the overlay placement as noted on the plans or as approved by the Engineer. Construct a straight and vertical edge at transverse and longitudinal construction joints. Saw joints as required by the plans before placing the adjacent overlay. The vertical faces of construction joints shall be prepared as specified above prior to placing of the adjacent overlay.

During short delays of less than 30 minutes in the overlay operations the exposed edge of the placement shall be protected from drying by the application of wet burlap. Delays in the placement operations exceeding 30 minutes or stoppage due to material or condition changes shall require the formation of an approved construction joint by removal of material not set to finish grade and the installation of a bulkhead across the full width of the placement.

(g) Curing. The overlay surface shall be covered promptly with a single layer of clean, wet burlap as soon as the surface will support it without damage. The burlap shall be maintained continuously wet from the time of placement until its removal. Within 1 hour of commencement of curing, the wet burlap shall be covered with material conforming to Subsection 802.17(a) (1) -

SPECIAL PROVISION JOB NO. BB0109

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(4). The covering material shall have a minimal number of sealed seams and shall be secured to prevent disruption of the wet cure. The overlay shall be covered and maintained continuously wet for a minimum of 6 hours, unless otherwise approved in writing by the Engineer. Uncovering portions of the overlay for surface testing or joint sawing shall be limited to short durations and the immediate work area and the surface of the exposed overlay shall be maintained continuously wet during such breaks. Water used for curing shall conform to Subsection 802.02(d) and shall be added evenly across the surface of the overlay in an approved manner that does not cause damage to the surface or an excess of runoff. Temperature limits of the overlay shall be maintained during the wet cure.

At the conclusion of the wet cure period, coverings shall be removed and the overlay surface shall be coated with an approved membrane curing compound before the overlay surface dries. The membrane curing compound shall meet the requirements of Subsection 802.17(a)(5) and shall be applied according to the Manufacturer's recommendations, but at a rate of no less than 1 gallon/125 sq. ft. of area. No traffic of any kind shall be allowed on the surface until the membrane curing compound is dry.

Contractor substitution of lithium silicate curing compounds or other materials for these provisions will not be allowed.

(h) Inspection. The surface of the VESLMC overlay shall meet the straightedge and surface requirements for Bridge Roadway Surface Construction specified in Subsection 802.20(b) – (d). In addition, the surface of the VESLMC overlay shall be inspected for cracking and sounded for any de-lamination from the underlying concrete prior to application of the Roadway Surface Finish.

(i) Roadway Surface Finish. The surface of the VESLMC overlay shall be given a finish as specified in Subsection 802.19(b)(7) "Class 7, Grooved Bridge Roadway Surface Finish" within 7 days of placement of the overlay.

(j) Construction Joint Treatment. After completion of the Bridge Roadway Surface Finish, the Contractor shall apply a Class 3 Protective Surface Treatment to longitudinal construction joints adjacent to existing rails or curbs in accordance with Section 803, "Protective Surface Treatment for Concrete". Transverse and longitudinal joints separating adjacent overlay placements shall be prepared and sealed in accordance with the plan details. Treatment of construction joints in addition to those called for in the plans shall be at no cost to the Department unless approved by the Engineer.

(k) Reconstruction. Any and all areas of the overlay which either display a significant number of cracks or which are not intimately bonded to the underlying deck shall be removed and replaced with acceptable concrete at the Contractor's expense. All small cracks which exist but are not significant enough to require removal of the overlay shall be thoroughly sealed with a method approved by the Engineer at the Contractor's expense.

(l) Traffic Loading. The new VESLMC surface shall not have traffic loading until the completion of the approved wet curing period and inspection, and until the material shall be shown through approved testing by the Contractor to have attained a compressive strength of 3000 psi. Traffic will be allowed on the overlay with the burlap-drag finish, but roadway surface finish and treatment as defined in sections (i) and (j) above shall be completed within 7 days of placement of the overlay.

SPECIAL PROVISION JOB NO. BB0109

VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

METHOD OF MEASUREMENT: Very Early Strength Latex Modified Concrete Overlay (1 ½" Thick) will be measured by the square yard complete in place.

Very Early Strength Latex Modified Concrete (Variable Depth) will be measured by the cubic yard complete in place. The number of cubic yards will be determined by deducting the theoretical volume of the required minimum thickness of the VESLMC overlay from the total volume of VESLMC required, as indicated by the batch quantity tickets, to obtain the finished grade shown on the plans or established by the Engineer.

Grooving for the Class 7, Grooved Bridge Roadway Surface Finish shall be measured in accordance with Section 802. Class 3 Protective Surface Treatment shall be measured in accordance with Section 803. Replacement Reinforcing Steel, if required shall be measured in accordance with Section 804.

BASIS OF PAYMENT: The Very Early Strength Latex Modified Concrete Overlay (1 ½" Thick) completed and accepted and measured as provided above will be paid for at the contract unit price per square yard, which price will be full compensation for any surface preparation; for cleaning; for furnishing all materials; for mixing, placing, finishing, and curing the VESLMC; for performing mix designs and trial batches; for quality control and acceptance sampling and testing; and for inspection and any reconstruction required in accordance with the plans, the Standard Specifications, this Special Provision and as directed by the Engineer; and for any tools, labor, equipment or incidentals necessary for such placement. The VESLMC in this item includes only the VESLMC for the required minimum overlay thickness as shown in the plans.

Accepted quantities as measured above of Very Early Strength Latex Modified Concrete (Variable Depth) will be paid for at the invoice price of the materials delivered to the project, except in no case shall maximum payment exceed the unit price in the contract documents. All other costs associated with placement of the Very Early Strength Latex Modified Concrete (Variable Depth) shall be incidental to the price bid for Very Early Strength Latex Modified Concrete Overlay (1 ½" Thick).

Payment will be made under:

Pay Item	Pay Unit
Very Early Strength Latex Modified Concrete Overlay (1 ½" Thick)	Square Yard
Very Early Strength Latex Modified Concrete (Variable Depth)	Cubic Yard

Where called for in the plans and this Special Provision, Grooving and Class 3 Protective Surface Treatment will be paid for in accordance with Sections 802 and 803, respectively. Replacement Reinforcing Steel, if required shall be paid for in accordance with Section 804.

ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. BB0109

HYDRODEMOLITION

DESCRIPTION: This work shall consist of the removal of bridge deck concrete using hydrodemolition equipment as preparation for bridge deck repairs or overlay **within the constraints of the Maintenance of Traffic special provision**. All work shall be performed in accordance with the plans, the Standard Specifications, this Special Provision, and as directed by the Engineer.

HYDRODEMOLITION SPECIALIST AND WORK PLAN: Work shall be performed by a Contractor or Subcontractor who has successfully performed at least eight (8) verifiable projects similar to this project within the last four (4) years. A brief description of each project including the location, start and completion dates, and a reference shall be included for each project listed. As a minimum, the reference shall include an individual's name, affiliation with the project, and current phone number. In addition, the onsite supervisor assigned to this project must have experience in that position on a minimum of five (5) projects which are similar in nature to this project. A summary of the onsite supervisor's experience shall contain enough information for the Engineer to assess the individual's qualifications. The onsite supervisor shall be present during all hydrodemolition operations. The hydrodemolition system shall be operated by a trained individual having sufficient experience with the machinery used for the performance of the hydrodemolition.

The above information shall be submitted to the Engineer along with a Hydrodemolition Work Plan for review and record purposes at least thirty (30) days prior to commencement of hydrodemolition operations. The hydrodemolition work plan shall list all equipment, materials and methods the Contractor proposes for use for the following operations:

1. Hydrodemolition, milling, scarifying, or other removal of concrete.
2. Shielding and other safety devices.
3. Collection and disposal of debris and cleaning of the finished surface.
4. Repair methods and materials for unexpected blow-through of concrete deck or into a deck void form of a voided slab bridge.
5. **Detailed schedule of work and conformance to project Maintenance of Traffic plans.**

This work shall not commence until the experience record submittal and Hydrodemolition Work Plan have been reviewed by and are satisfactory to the Engineer. Work shall conform to the submitted work plan unless changes are submitted in writing to the Engineer.

MATERIALS AND EQUIPMENT: The hydrodemolition equipment shall be a self-propelled machine that utilizes a high pressure water jet stream capable of removing concrete to the depths shown on the plans or as directed by the Engineer and be capable of removing rust and concrete particles from reinforcing steel. The equipment shall be capable of removing all concrete to the required minimum overlay thickness and unsound concrete up to the limit detailed in the plans and provide a rough and bondable surface. Hand held high pressure wands or pneumatic hammers, 45 pound class maximum, may be used in areas that are inaccessible or inconvenient to the self-propelled machine such as, but not limited to, areas not to exceed one foot away from curbs or joints.

SPECIAL PROVISION JOB NO. BB0109 - HYDRODEMOLITION

Prior to hydrodemolition, cold milling or mechanically scarifying the deck to remove any asphalt overlay or to remove bridge deck concrete to a depth allowed in the plans and which does not come into contact with existing reinforcement is allowed. Cold milling and scarifying equipment shall be self propelled with sufficient power, traction, and stability and capable of uniformly removing the old surface to the depths required in a satisfactory manner.

The operation or placement of equipment and, or materials on the subject bridges shall be subject to the provisions of SS-105-2 "Equipment and Material Storage on Bridge Structures". Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

CONSTRUCTION REQUIREMENTS: No highway traffic shall be allowed on areas of the deck surface where any existing deck concrete has been removed. The Contractor shall adjust hydrodemolition operations so that overlay placement ends coincide with allowed joint locations as noted in the plans or as approved by the Engineer.

Prior to the commencement of the removal operation, the hydrodemolition equipment shall be calibrated on an area of sound concrete of approximately 25 sq. ft. on the existing bridge deck surface as directed by the Engineer. The cost of the calibration procedure shall be included in the unit price bid for hydrodemolition. The Engineer shall verify the following settings:

1. Water pressure.
2. Machine staging or step control.
3. Nozzle size.
4. Nozzle travel speed.

During the calibration, any or all of the above settings may be adjusted in order to achieve removal in accordance with the requirements of the plans. When the designated depth of removal is attained, the settings shall be recorded and maintained throughout the removal operation unless otherwise directed by the Engineer. The depth of removal shall be verified periodically and, if necessary, the equipment re-calibrated to ensure the planned depth of removal.

The Contractor shall provide shielding, as necessary, to ensure containment of all water and dislodged concrete within the removal area in order to protect the traveling public from flying debris and water spray both on and under the work site. Hydrodemolition operations over roadways or railroads shall conform to Job Special Provisions "Special Safety Requirements for Bridges" or "Insurance, Construction, and Flagging Requirements on Railroad Property (Owner)" as required.

Appropriate care shall be taken to prevent damage to the bridge slab reinforcing steel, joints, drains and other appurtenances. Should any damage occur to these items, they shall be repaired at the Contractor's expense.

After hydrodemolition, the deck shall be inspected by sounding to ensure that all deteriorated concrete up to the limit detailed in the plans has been removed. At the direction of the Engineer, the Contractor shall remove the areas of deteriorated concrete by additional passes of the hydrodemolition equipment or jackhammers to a depth not to exceed the maximum allowed in the plans. When the bond between existing concrete and reinforcing steel that will remain in

place has been destroyed, the concrete adjacent to and below the bar to a minimum depth of ¾" below the bar shall be removed in order to permit the new concrete to bond to the entire periphery of the exposed bar. Areas requiring additional removal and repair prior to the subsequent overlay, as determined by the Engineer, shall be repaired in accordance with the Job Special Provision "Bridge Deck Repair".

Wastewater from the hydrodemolition process shall be collected, treated, and released in accordance with Job Special Provision "Management of Hydrodemolition Wastewater and Solid Residue" and the Hydrodemolition Work Plan. Bridge joints and deck drains not used to convey waste water to a sediment basin shall be plugged during the hydrodemolition process.

Cleaning of the bridge deck shall be performed with a vacuum system capable of removing wet debris and water. The deck shall then be blown dry with air to remove excess water and residual debris. Cleaning shall be done before debris and water are allowed to dry on the deck surface. All exposed reinforcing steel which is left unsupported by the hydrodemolition process shall be adequately supported and protected from bending by vacuum trucks or any other equipment. All reinforcing steel damaged or dislodged by these operations shall be replaced with bars of the same size at the expense of the Contractor. Reinforcing Steel shall conform to the requirements of Section 804. All material removed during bridge deck demolition and cleaning shall be collected and disposed of in accordance with Job Special Provision "Management of Hydrodemolition Wastewater and Solid Residue" and the Hydrodemolition Work Plan.

For slab-on-girder bridges, if the hydrodemolition equipment blows through the deck, hydrodemolition shall cease and the Engineer shall be notified. The Engineer shall determine if the blow through should have been avoided by proper monitoring of the demolition operations. If so, the damaged area shall be the responsibility of the Contractor and shall be repaired at the Contractor's expense to the satisfaction of the Engineer. Before resuming, hydrodemolition operations shall be adjusted to avoid similar blow-through during subsequent demolition. If it was unavoidable due to existing deterioration, the damaged area shall be paid for in accordance with the Job Special Provision "Bridge Deck Repair". All repair methods and materials shall be in accordance with the Job Special Provision "Bridge Deck Repair" and as specified in the Contractor's Work Plan.

For reinforced concrete slab-span bridges, if the hydrodemolition equipment blows through the deck or into a void of a voided slab, hydrodemolition shall cease and the Engineer shall be notified. Before resuming, hydrodemolition operations shall be adjusted to avoid similar blow-through during subsequent demolition. The damaged area shall be the responsibility of the Contractor and shall be repaired at the Contractor's expense to the satisfaction of the Engineer. Repair methods and materials shall be as specified in the Contractor's Work Plan.

SPECIAL PROVISION JOB NO. BB0109 - HYDRODEMOLITION

METHOD OF MEASUREMENT: Hydrodemolition shall be measured by the square yard of the total deck area removed regardless of the depth of removal.

BASIS OF PAYMENT: The accepted quantity of hydrodemolition will be paid for at the contract unit price per square yard, which price will be full compensation for all materials, equipment and labor necessary to remove and dispose of all concrete and other debris to the depth shown on the plans or as directed by the Engineer. This item shall also include calibration of equipment, cold milling, vacuuming, shielding, containment and disposal of wastewater, additional jack hammering, any repair required due to Contractor damage, as determined by the Engineer, and all other aspects of work necessary to remove bridge deck concrete in preparation for repair or overlay.

Payment will be made under:

Pay Item	Pay Unit
Hydrodemolition	Square Yard

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB BB0109

MAINTENANCE OF TRAFFIC

Section 603 Maintenance of Traffic and Temporary Structures of the Standard Specifications, Edition of 2003, is hereby expanded as follows:

The Contractor shall provide additional traffic control through the project as defined below, in order to provide a safe and convenient traffic flow at all times throughout the limits of each work zone and the approaches thereto.

The Contractor shall assume full responsibility for the safe and efficient movement of traffic through the construction area for the duration of the project. Prior approval by the Engineer shall be required for any alterations of traffic patterns shown on the plans.

All traffic control devices shall be in accordance with the details shown in the plans or on Standard Drawings TC-1, TC-2, TC-3, TC-4, and TC-5. The Contractor will be responsible for furnishing, placing, maintaining, relocating, and subsequent removal of all traffic control devices within the limits of the project.

There shall be no two-way traffic operations permitted on the main lanes. Interchange ramps may be closed for periods of up to one (1) hour to allow for cold milling and hot mix operations, at times approved by the Engineer. All signing, including Portable Changeable Message Signs, necessary for this work shall be at the expense of the Contractor.

The Contractor shall notify the Engineer a minimum of 5 full business days prior to closing a lane. If the Contractor fails to give the proper notification, the lane closure will not be allowed until 5 full business days after the notification was given

When closing a lane, a Portable Changeable Message Sign shall be placed in advance of the construction signs advising motorists of the lane closure. Portable Changeable Message Signs shall be placed prior to placement of lane closure signing and at locations as directed by the Engineer.

For the Mill & Inlay operations only one (1) lane closure with a maximum work area of 4 miles will be provided for in the plans. The lane closure shall be installed such that it never exceeds the actual work area by more than ¼ mile. The Contractor shall not close any portion of a lane unless active work will begin immediately. In addition, when gainful work is not being accomplished in an area where a lane has been previously closed, steps shall be taken to return traffic to normal conditions – that is, all lanes open to traffic in each direction within 2 hours after construction operations have ceased. All additional labor, materials and incidentals needed to return the traffic to normal conditions shall be provided, maintained, removed, and replaced, if necessary, at no cost to the Department. Traffic shall not be permitted on any milled surface.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB BB0109

MAINTENANCE OF TRAFFIC

Failure to comply with this requirement will result in a lane use charge of $4000 per hour until work begins in the closed lane or the lane closure is removed. A lane closure will not be considered to be removed until all advance warning devices specific to the lane closure have been removed or revised. In assessing this lane use charge any portion of an hour will be counted as a full hour.

The Contractor shall schedule his work so that no main lane closures exist and no work requiring main lane closures will be performed for the time period of the day before the Holiday through the day after the Holiday for the following Legal Holidays:

New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day & the Following Day
Christmas Eve & Christmas Day

If the Legal Holiday is immediately prior to a weekend or immediately following a weekend, the weekend will be considered a part of the Holiday.

In addition, single lane closures of the I-55 main lanes will <u>not</u> be permitted during the following time periods:

Sunday through Saturday: 7:00 a.m. to 8:00 p.m.

Failure to comply with this requirement will result in a lane use charge of $4,000 per hour until the lane closure is removed. A lane closure will not be considered to be removed until all advance warning devices specific to the lane closure have been removed or revised. In assessing this lane use charge any portion of an hour will be counted as a full hour.

For the Bridge Deck Rehabilitation operations the contractor will be allowed to close a lane on one (1) bridge as shown in the plans with no hourly restrictions. The contractor will be allowed a maximum of 18 calendar days per bridge for Bridge Deck Rehabilitation for Bridge A3131 and B3131. The contractor will be allowed a maximum of 4 calendar days per bridge for Bridge Deck Rehabilitation for Bridge A2808 and 2808. A work day will be accessed for each calendar day. The Bridge Deck Rehabilitation operations shall not begin until the Mill & Inlay operations are completed. The Contractor shall not close any portion of a lane unless active work will begin immediately. In addition, when gainful work is not being accomplished in an area where a lane has been previously closed, steps shall be taken to return traffic to normal conditions – that is, all lanes open to traffic in each direction within 6 hours after construction operations have ceased. All additional labor, materials and incidentals needed to return the traffic

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB BB0109

MAINTENANCE OF TRAFFIC

to normal conditions shall be provided, maintained, removed, and replaced, if necessary, at no cost to the Department.

The lane closure for the bridge operations shall not exceed the maximum allowable days for each bridge. Any lane closure beyond the maximum allowable days will result in a lane use charge of $4000 per hour until the lane closure is removed. A lane closure will not be considered to be removed until all advance warning devices specific to the lane closure have been removed or revised. In assessing this lane use charge any portion of an hour will be counted as a full hour.

The Contractor shall schedule and perform the work, including the placement and removal of traffic control devices, to insure that all I-40 traffic lanes are open at all times, with the aforementioned exceptions.

Special events or occurrences could cause traffic to become congested. When this occurs, the Contractor shall immediately modify the work schedule, working methods, or procedures to lessen the impact of the work on traffic or as directed by the Engineer.

The Contractor shall regulate the access of work vehicles and equipment to the work area while insuring safety to the traveling public and minimum damage to highway facilities. Any damage to the highway facility or vegetation caused by the Contractor shall be repaired at no cost to the Department. Unless operating within the area closed to traffic, the Contractor's work vehicles shall travel in the direction of the normal traffic flow. Only those vehicles necessary for the work shall be allowed in the work zone. All other vehicles shall be parked at a safe location outside the work zone, as approved by the Engineer.

General equipment storage areas or operations centers will be allowed within the limits of the right of way only where permitted by the Engineer. At the end of the work day, equipment shall be either shielded from traffic by an approved positive barrier or placed so it is not within 30 feet of any lane carrying traffic.

The Contractor shall restrict the crossing of the median to existing interchanges and overpasses. Access to the project shall be limited to existing interchanges.

The Contractor shall conduct his operations so that no equipment or personnel shall occupy any portion of the roadway that remains designated for the passage of traffic.

BASIS OF PAYMENT: There shall be no direct payment for fulfilling the requirements of the Special Provision, but compensation shall be considered included in the price bid for Maintenance of Traffic.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB BB0109

MAINTENANCE OF TRAFFIC

Traffic control devices, where shown on the plans for payment, will be paid for at the contract unit price for each item involved. All additional traffic control devices beyond the contract amount shall be provided, maintained, and replaced, if necessary, at no cost to the Department.

Standard Specifications for HIGHWAY CONSTRUCTION

Arkansas State Highway
and
Transportation Department

Edition of 2003

The Engineer will determine the date upon which the Contract is substantially complete and time assessment will cease. In the event cleanup is necessary or items found at the final inspection are to be corrected, the Contractor shall complete this work in a timely manner or the Engineer will resume time charges.

(b) Fixed Completion Date. When the contract time is specified as a fixed date, it will be the date on which all work on the project shall be substantially complete. The Contractor shall take into consideration all normal conditions considered unfavorable to the normal progress of the work and place a sufficient work force and equipment on the project to ensure completion of the work within the contract time. Inaccessibility to a portion of the work due to utility conflict or utility work, either of which prevents effective utilization of 60% of normal forces and equipment for at least 60% of the Contractor's normal work hours, will be considered as an adverse working condition for time exceeding that specified in the Contract for the utility adjustment.

(c) Working Days. When the contract time is specified in working days, time will be assessed for each day on which, in the judgement of the Engineer and subject to the limitations below, conditions allow the Contractor to effectively utilize 60% of normal forces and equipment to prosecute the work required at that time, for at least 60% of the Contractor's normal work hours, regardless of whether the Contractor actually works.

The Engineer will not assess a working day when conditions exist beyond the control and without the fault of the Contractor that prevent the utilization of forces and equipment as defined above. Also, for the purpose of assessment of working days, inaccessibility to a portion of the work due to utility conflict or utility work, either of which prevents utilization of forces and equipment as defined above, will be considered as an adverse working condition for time exceeding that specified in the Contract for the utility adjustment. The ability of vendors, suppliers, and subcontractors to provide materials and/or services is considered within the Contractor's control for the purpose of assessment of working days.

Should the Contractor prepare to begin work on any day on which inclement weather, or the conditions resulting from the weather, prevent the work from beginning at the usual starting time, and the

crew is dismissed as a result, the Contractor will not be charged for a working day whether or not conditions change during the day and the rest of the day becomes suitable for construction operations.

Time from December 21 through March 15, inclusive, will not be assessed against the contract time.

Saturdays and Department recognized holidays, other than those designated above, which may be declared by the Department for certain special or unusual circumstances, will be optional to the Contractor as working days, and time will not be assessed unless work is performed that requires inspection. If work is performed, contract time assessment will be based upon the same conditions as a normal working day.

Contract time will be assessed during a Partial Work Order period according to Subsection 108.02(b)(3).

Contract time will not be assessed during a full suspension of the work as ordered by the Engineer. During a partial suspension of the work as ordered by the Engineer, the contract time will be assessed in direct proportion to the ratio of the money value of the items not suspended to the total contract amount.

At the end of each estimate period, the Engineer will furnish the Contractor a written statement showing each working day charged during the preceding period and the total number of working days charged to date. If the Contractor disagrees with the working days charged by the Engineer, then the Contractor shall, within 10 calendar days after receipt of the statement, give the Engineer written notice of such disagreement and the reasons therefor. Subsequent handling of this dispute shall be according to Subsection 105.01. If the Contractor fails to protest the Engineer's determination of working days charged within the 10 calendar day period, the Contractor shall be deemed to have accepted the time charged for that period as correct and no subsequent request for review will be considered.

(d) Extension of Contract Time. If the Contractor is unable to complete the work within the contract time as specified, at any time prior to the final acceptance of the project, a written request may be made to the Engineer for an extension of time. This request must contain specific dates and the detailed circumstances relative to the

time extension desired. The Contractor's contention that insufficient time was specified is not a valid reason for an extension of time.

All extensions of time, except extensions due to overruns, will be documented by Change Order.

Any extended time for completion shall be in full force and effect the same as though it were the original contract time.

(1) An extension of time will be granted:

a. On fixed completion date projects, if the Work Order is not issued within 30 calendar days after the execution of the Contract. An extension of time will be given based on the number of days delayed beyond the 30 calendar days

b. On fixed completion date projects, for time elapsing between the effective dates of any order from the Engineer for a complete or partial suspension of the work, when such suspension is due to no fault of the Contractor. Days assessed during a partial suspension period will be determined by dividing the money value of the work performed during the partial suspension period by the money value of one day. The money value of one day will be based on the ratio of the total contract amount to the number of calendar days from the date of the work order through the fixed calendar date stipulated in the Contract, both dates inclusive.

c. On fixed completion date projects, if the total dollar value of accumulated current estimates or the final estimate, **exclusive of incentives and disincentives**, exceeds the dollar value of the total contract bid, the completion date will be extended by the number of calendar days obtained by multiplying the contract time as set forth in the Contract by that percentage that the dollar value of the estimate exceeds the dollar value of the total contract bid. When this occurs, the extension of time will be based upon the number of calendar days from the date of the work order through the fixed calendar date stipulated in the Contract, both dates inclusive.

d. On jobs on which time is specified in working days, the contract time will be increased in the same proportion that the total dollar value, **exclusive of incentives and disincentives**, exceeds the total contract bid.

(2) An extension of time will be considered, based upon documented evidence submitted by the Contractor, if:

a. The Contract requires the furnishing of critical materials and the Contractor experiences a delay in delivery because of Federal priorities for defense needs or because of nationwide shortages. Additional contract time may be allowed in an amount equal to the actual lost time resulting from such delay. To obtain additional contract time, the Contractor shall document and file with the Engineer all evidence pertaining to the original agreement with the material supplier or manufacturer. This evidence must indicate that delivery would be made at or before the time the materials would be needed in the normal sequence of construction operations for incorporation in the work. In the event that no prior agreement has been made for furnishing a critical material, and the Contractor is unable to locate a supplier or manufacturer that can deliver the material when needed, the Engineer shall be advised of this situation in writing, indicating the date that delivery will be made and the date of the original request for such material. In either of these situations, when work has progressed to the point that critical materials not delivered are delaying progress of the project, the Contractor may make a written request to the Engineer for additional contract time.

b. The work has been delayed by any act or omission of the Commission.

c. Preparatory work to be performed by the Owner or by others specified in the Contract has not been accomplished and the delay is not the fault of the Contractor.

d. Weather conditions or the condition of the ground or materials were significantly abnormal and these conditions significantly delayed the work. For consideration of a time extension based on weather conditions, the Contractor shall submit, in writing, documented evidence of the conditions

that existed for the specific days requested. The Engineer will verify the validity of the request.

e. Change Orders involve extra work and the time needed to complete this extra work would exceed the normal time extension as a result of overruns, based on money value, the completion date may be extended by Change Order to provide for this difference.

f. It is determined that anticipated time extensions due to overruns did not materialize due to underruns in other items

g. The work was delayed because of conditions not described herein that were beyond the control and without fault of the Contractor.

108.07 Failure to Complete Work on Time. Time is an essential element of the Contract and it is important that the work be pressed vigorously to completion. The cost to the Department of the administration of the Contract, including engineering, inspection, and supervision, will be increased as the time occupied in the work is lengthened. Loss will accrue to the public due to delayed completion of the contemplated facility.

For each calendar day or working day, as specified, that work remains uncompleted after the contract time has expired, the sum specified in the proposal and Contract will be deducted from any money due the Contractor, not as a penalty, but as liquidated damages.

Should the amount otherwise due the Contractor be less than the amount of such liquidated damages, the Contractor and the Surety shall be liable to the Department for such deficiency.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Department of any of its rights under the Contract.

108.08 Default and Termination of Contract. The Engineer will give written notice of delay, neglect, or default to both the Contractor and the Surety if the Contractor:

APAC-Tennessee, Inc.

Post Office Box 13427
1210 Harbor Avenue
Memphis, TN 38113-0427
Tel: (901) 947-5600
Fax: (901) 947-5699

July 19, 2013

Mr. Jeff Adams, Resident Engineer
Arkansas Highway & Trans. Dept.
P. O. Box 309
West Memphis, AR. 72303

Re: AHTD Job BB0109
I-40 - Jericho (S)
F.A.P. BIM – B55-0(201)
Crittenden, County

Dear Jeff,

APAC requests that the Department consider the following information as support for additional time being added to the project as a result of the extended review and approval process for the VESLMC mix design on the project. Please reference the attached VESLMC Submittal and Approval chronology

April 1, 2013 APAC provided mix design documents to the Department for review and approval, although it was not specifically stated in the design, citric acid was included as a retarder in the mix. The use of citric acid is considered a standard industry practice and due to the small percentage of the total mix used it was not included in the materials list on the design provided by the producer. During the trial batching process Modified Concrete Inc. was held to the slump and water cement ratio requirements of the Special Provision creating a mix which failed in both strength and workability. Due to the harshness of the mix during the trial batch process an alternate design was submitted by Modified Concrete using Type III cement to provide the slump and w/c ratio specified in the SP. After Department review and denial of this design due to the cement type, the supplier returned to the initial Rapid Set Cement requesting modifications of the slump and water/cement ratio and including citric acid as a retarder detailed in the May 29th submittal. This mix design submittal was based on the letters of recommendation from the cement and latex suppliers indicating citric acid as the only retarder which would provide the desired properties for the overlay.

Anticipating approval of the design based on this recommendation from the latex and cement manufacturers, APAC and Chris-Hill proceeded to schedule Modified Concrete and Hydroblasters to begin operations on the SBML on the project on the first available time slot which was now June 10th. The Department was advised of the schedule and as this date approached APAC was verbally instructed that operations could not begin and lane closure placed until an approved mix design was in place. APAC advised Chris-Hill of the same and at the last moment the schedule was postponed due to the delay in approval of the design. Additional citric acid information was provided as requested by the Department on June 12th and June 14th however formal approval of the mix design was not provided until June 21st. Subsequent arrangements and scheduling of subcontractors could not be coordinated until June 26th when work began on the SB outside lanes at Hwy 64 overpass.

APAC had anticipating performing work on the SB bridge structures while simultaneously completing the mill and inlay of the NB main lanes on the project. This delay in approval of the VESLMC mix design from June 10th through June 26th could not have been anticipated and was directly related to the Departments process for approval of a new material complying with the SP contained in the Contract. This Special Provision clearly states that all admixtures used shall be compatible with the latex modifier and cement used in the mix design. Initial denial of the mix indicating that retarding materials must be included from the AHTD Qualified Products list is in contradiction with the requirements of the Special Provision.

EXHIBIT
C

Standard Specifications allow the Department 30 days for review and approval of normal mix design submittals by the Contractor. As shown in the attached log this process actually occurred over an 82 day period. APAC recognizes that this VESLMC mix is not normal for AHTD and is a new process which is being used within the State and that other contractors have experienced the same review process on other AHTD projects. This extended approval process was apparently not accounted for by the Department in the determination of the maximum allowed days for construction of the project nor allowed for by APAC in development of the project schedule. APAC's presentation of the proposed Sequence of Construction and Baseline CMP schedule at the Preconstruction Conference anticipated starting construction of the SB Hwy 64 bridge overlay on June 8th which would have been work day 21 in order to complete the project within the 67 days bid on the project. The actual start date for the bridge overlay occurred on June 26th which was Charged Day number 41 on the project.

The Department imposed monetary Incentives / Disincentives in the Contract in order to ensure timely completion of the project. The approval process by the Department for this particular critical material design should be allow special consideration as an impact which was neither the fault of the Department or the Contractor. APAC requests that an additional twenty (20) days be added to the Contract time due to the process of providing approval of the design which delayed the start of a specific series of critical activities which ultimately will delay the completion of the project. Should you have any questions or need additional information please contact this office.

Sincerely,

Jim W. Smith P.E.
Engineering / QC Manager

Cc: N. Haynes - APAC
M.Carden - APAC
APAC #3326 -055 file

Chronological Log of VESLMC information submittal

April 1, 2013 - Submitted Hydrodemolition plan and VESLMC mix design
April 10, 2013 - Provided additional information requested to supplement April 1 submittal
April 16, 2013 - Provided additional information requested to supplement April 10 submittal
April 19, 2013 – Submitted VESLMC Work Plan
May 2, 2013 - AHTD requested revisions to Waste Water Management Plan
May 8, 2013 – Submitted alternate VESLMC Mix Design w/Type III cement
May 13, 2013 – Sumbitted Waste Water Management Plan
May 15, 2013 – AHTD denied use of Type III cement in VESLMC mix design
May 20, 2013 – Revised Waste Water Management Plan
- Revised VESLMC Work Plan
- Revised VESLMC Mix Design

May 21, 2013 – AHTD Approved Waste Water Management plan
May 29, 2013 - Revised VESLMC Mix Design w/ Citric Acid
May 30, 2013 - Requsted waiver of Latex Bond Coat
June 6, 2013 – AHTD Approval to waive use of Latex Bond Coat
June 11, 2013 – Provided information for VESLMC Mix Design w/ Citric Acid
June 11, 2013 – AHTD Denial of use of Citric Acid as retarder
June 12, 2013 – Provided additional Citric Acid Information
June 13, 2013 – AHTD fax request for additional Citric Acid Information
June 14, 2013 – Provided Additional Citric Acid Information
June 21, 2013 – Received AHTD approval of VESLMC Mix Design w/ Citric Acid

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

Scott E. Bennett
Director
Telephone (501) 569-2000

P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400

P.O. Box 309
West Memphis, Arkansas 72303-0309

July 31, 2013

Attn: Jim Smith
APAC-Tennessee, Inc.
P.O. Box 13427
Memphis, TN 38113-0427

RE: BB0109
F.A.P No: BIM-B55-0(201)
I-40-Jericho (S)
Crittenden County

Dear Jim,

The Department has reviewed your request for the addition of 20 days to the Contract time based on the contention that the approval of the VESLMC mix design impacted the completion of the project. After review, it has been determined that this process, that included the approval of multiple work plans and the approval of multiple variances to our specifications, did not impact the completion of the project. Therefore, the time extension will not be granted for this reason. If you have any questions, please feel free to call this office at 870-735-2466.

Sincerely,

Jeff Adams
Resident Engineer

Cc: Mike Sebren, State Construction Engineer
Ray Woodruff, District Engineer
file

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

RECEIVED
AUG 06 2013
APAC TENNESSEE, INC.

Scott E. Bennett
Director
Telephone (501) 569-2000

P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400

P.O. Box 309
West Memphis, Arkansas 72303-0309

August 2, 2013

Attn: Jim Smith
APAC-Tennessee, Inc.
P.O. Box 13427
Memphis, TN 38113-0427

RE: BB0109
F.A.P No: BIM-B55-0(201)
I-40-Jericho (S)
Crittenden County

Dear Jim,

The Department is processing a change order for the "Removal and Disposal of Approach Slabs", "Remove and Reinstall Guardrail" and "Remove and Reinstall Thrie-Beam Terminals". Regarding the request for two days to be added to the Contract, there has not been any evidence presented to the Department that indicates that the removal of the underlying approach slabs at bridges A2808 and 2808 would add two days to the Contract. Therefore, the change order for the removal and disposal of the approach slab will not include any additional contract time. If you have any questions, please feel free to call this office at 870-735-2466.

Sincerely,

Jeff Adams

Jeff Adams
Resident Engineer

Cc: Mike Sebren, State Construction Engineer
Ray Woodruff, District Engineer
file

APAC-Tennessee, Inc.

Post Office Box 13427
1210 Harbor Avenue
Memphis, TN 38113-0427
Tel: (901) 947-5600
Fax: (901) 947-5699

August 22, 2013

Mr. Frank Vozell, Chief Engineer
Arkansas Highway & Trans. Dept.
P. O. Box 2261
Little Rock, AR. 72203-2261

Re: AHTD Job BB0109
I-40 - Jericho (S)
F.A.P. BIM – B55-0(201)
Crittenden, County

Dear Frank,

APAC is in receipt of the attached correspondence from the Resident Engineer dated July 31. 2013 indicating that additional time on the project would not be granted due to the lengthy approval process of the VESLMC mix design on the project.

APAC and its VESLMC vendors, suppliers and subcontractors strongly disagree with the assessment of Liquidated Damages and Site Use Charges and request that additional time be considered based upon the attached Project Issue Log.

Considerable discussion has developed between the construction industry and the Department around the accelerated completion dates and increased Incentives /Disincentives placed on projects. These increased disincentives values not only effect prime contractors like APAC but in this contract it will be borne by small privately owned local subcontractors that do not have the support to push submittals through the processes that have not been fully vetted. The approval process by the Department for this particular critical material design should be allowed special consideration as an impact which was neither the fault of the Department or the Contractor. APAC requests an additional 20 days for the VESLMC design approval process and the inadequate material QPL issues and an additional 5 days for extra work performed on the project.

Based on these issues, APAC requests that a total of 25 days be added to the contract Time limit on the project. Thank you for your consideration and should you have any questions or need additional information please call.

Sincerely,

Jim W. Smith P.E.
Engineering / QC Manager

Cc: N. Haynes - APAC
M.Carden – APAC
J. Adams – AHTD RE #14
APAC #3326 -059 file

Safety First *Always* 48

AHTD Job BB0109 Issue Log

- Standard specifications allow the Department 30 days for review and approval of mix designs submitted by the contractor. Had the VESLMC special provision been fully vetted through with producers and manufactures prior to the advertisement, the submittal of multiple work plans and review of variances would not have taken the additional time required to obtain approval.
- This same approval process stress in trying to find solution and resolution was occurring at the same time on other I-40 AHDOT projects as shared with us by common vendors, suppliers and subcontractors of the VESLMC.
- Contract Special Provisions required use of Rapid Set Cement for the VESLMC overlay of the existing bridge decks however the sequence of construction specified in the plans allowed for use of lane closures with precast barrier wall which and sufficient time which would have allowed for another cement product to obtain similar results. Consideration of a design with Standard Cement would have reduced the lengthy approval process created with a new material and process. A design with Type III cement was submitted by the subcontractor meeting the physical requirements of the Specification but was denied due to the type of Cement.
- A bid schedule as well as a work schedule was developed to incorporate the normal approval process and the statement from the RE rejection letter that a plus 80 day approval of the VESLMC design did not impact the completion of the project indicates a lack of understanding of the construction schedule process surrounding this Contract Special Provision. A detailed activity log as well as periodic CPM schedules have been provided outlying the anticipated and actual progress of activities on the project. This approval delayed the start of the SB bridge deck overlay operations which could have been performed simultaneously while mill and overlay work was being performed in the NB lanes.
- This project had several pre-bid questions which addressed the allowed time and the sequence of construction detailed in the plans but answers did not fully address the questions nor the conditions on the existing roadway. Plan details and sequence of construction failed to provide a southbound lane closure to remove and replace the existing approach slabs of Bridges 6102 and 6103. An approved Change Order recognized this omission in the plan sequence; however no consideration for additional time was included.
- Project Time, Working Days and Calendar Days: The accumulation of the allowed days for the bridge deck repairs (76) exceeded the maximum allowed number of days (75) for bid on the entire project. This maximum time limit did not even consider the time for 7.8 miles of 4 lane of asphalt milling and inlay operation or other required construction

activities which could not be performed during the bridge repair operations. This fact alone necessitated that the Contractor must develop and alternate Sequence of Construction. Special Provisions limited working hours and prohibited working in the NB lanes and SB lanes simultaneously for milling/inlay or for the bridge deck overlay operations on the project. However, once operations were shifted for bridge repairs, charges were assessed each calendar day (24 hours) however the time restrictions were not removed from other work activities. These restriction created additional construction time and increased exposure to the work force, both contractors and the Department, as well as the traveling public.

- Change orders were submitted on the project requesting additional time for Removal and Disposal of approach slabs (2 days) which were encountered and additional sawing and removal of existing approach gutter and transition median wall (1 day) which were denied by the RE. Prior to completion of the South Bound main lanes work resumed on AHTD job 110587. This work prevented the continuous operations of placing rumble strips and final striping within the existing one lane closure. This coordination of work within the limits of Job 110587 required an additional 1 day to phase completion of rumble strips and 1 day to phase the final pavement markings. These Changes should be considered for an additional 5 days added to the Contract.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

Scott E. Bennett
Director
Phone (501) 569-2000 Fax (501) 569-2400

P. O. Box 2261
Little Rock, Arkansas 72203-2261
WWW.ARKANSASHIGHWAYS.COM

RECEIVED
SEP 13 2013
APAC TENNESSEE, INC.

September 11, 2013

Jim W. Smith
Apac-Tennessee, Inc.
P. O. Box 13427
Memphis, TN 38113-0427

RE: Statement of Time Charged
Project Number: BB0109
Project Name: I-40-Jericho (S)
FAP Number: BIM-B55-0(201)
County: Crittenden

Dear Mr. Smith:

During the Estimate Period ending September 9, 2013, time was charged on the above project on the following dates:

Days Charged This Period:	0
Days Charged Through The End Of This Period:	89
Total Contract Time:	67
Percent of Time Used:	132.84%

Please review these time charges. In accordance with subsection 108.06(c) of the Standard Specifications, if you do not file a written notice of disagreement and the reason therefor within ten (10) calendar days from your receipt of this letter, you will be deemed to have accepted the time charged for this period as correct, and no subsequent request for review will be considered.

Sincerely,

Jeff Adams, Resident Engineer #14

File

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

Scott E. Bennett
Director
Telephone (501) 569-2000
Voice/TTY 711

P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400
www.arkansashighways.com

September 6, 2013

RECEIVED
SEP 09 2013
APAC TENNESSEE, INC.

Mr. Jim W. Smith, P.E.
Engineering/QC Manager
APAC-Tennessee, Inc.
1210 Harbor Avenue
Memphis, Tennessee 38113-0427

Re: Job BB0109
FAP: BIM-B55-0(201)
I-40-Jericho (S)
I-55, Section 11
Crittenden County

Dear Mr. Smith:

Reference is made to your letter appealing the decision of Resident Engineer Jeff Adams regarding your request for additional contract time on this project.

You have requested twenty (20) additional days due to the amount of time taken for the approval process of the concrete mix design. However, a review of the project records indicates that APAC submitted information not meeting the requirements of the project special provisions and made several requests to allow changes to these provisions. APAC's failure to provide information meeting the requirements of the contract does not justify adding contract time. Furthermore, in our review of the approval process, we did not find any unreasonable delays caused by the Department.

In reference to your request for three (3) additional days for the change order work associated with the bridge approach slabs, it has been determined that this change did not cause any delays since this work was performed in conjunction with other bridge work which took longer to complete.

Lastly, you requested two (2) additional days as a result of having to complete the rumble strips and final striping within the area of an adjacent highway project. The Special Provision "Coordination of Work" has taken into account the adjacent project, and the provision specifies that work on this project would have to be scheduled and performed in such a manner that the work would progress in an expeditious manner in coordination with the adjacent project. This information should have been taken into consideration prior to bidding. Therefore, no additional time is justified.

Based on our review, your request for a twenty-five (25) day contract extension cannot be granted.

Sincerely,

Frank Vozel
Deputy Director
and Chief Engineer

c: Director
Assistant Chief Engineer – Operations
Construction Engineer
District 1 Engineer
Resident Engineer 14

BEFORE THE STATE CLAIMS COMMISSION
Of the State of Arkansas

APAC – Tennessee, Inc. **Claimant**

v. **NO. 14-0651-CC**

State of Arkansas **Respondent**

FIRST AMENDMENT TO COMPLAINT

Comes Claimant, APAC – Tennessee, Inc. (APAC), and for its first Amendment to Complaint states:

1. The purpose of this First Amendment to Complaint is: (1) to add an additional claim which has been denied by the Chief Engineer since the original Complaint was filed; (2) to correct a math error in Complaint paragraph ten; and (3) to assert that "Site use charges" are not compensatory charges but are punitive in nature and, therefore, unenforceable.

2. Paragraphs one through nine of the Complaint are incorporated herein by reference.

3. Complaint paragraph ten is amended to read as follows:

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As a result of AHTD's breach of contract APAC has suffered time-related damages as follows:

1. Liquidated Damages Withheld-	22 days at $1,900.00= $41,8000.00
2. Site Use Charges-	22 days at $30,000.00= $660,000.00
3. Extended Overhead-	22 days at $1,850.58= $40,712.81
4. Unearned Incentive-	3 days at $30,000.00= $90,000.00
Total Time-related Claim-	$832,512.81

4. In the alternative APAC asserts the $660,000.00 site use charge is illegal and unenforceable because it is penal in nature.

5. During performance of the work APAC and its hydrodemolition subcontractor, Chris Hill Construction, were required by the Resident Engineer to perform work described in the Construction Contract as "Bridge Deck Repair". This work consisted of removing by hydroblasting concrete around bridge deck reinforcing steel as per the following specification, and then replacing that concrete:

> After hydrodemolition, the deck shall be inspected by sounding to ensure that all deteriorated concrete up to the limit detailed in the plans has been removed. At the direction of the Engineer, the Contractor shall remove the area of deteriorated concrete by additional passes of the hydrodemolition equipment or jackhammers to a depth not exceed the maximum allowed in the plans. When the bond between existing concrete and reinforcing steel that will remain in place has been destroyed, the concrete adjacent to and below the bar to a minimum depth of ¾" below the bar shall be removed in order to permit the new concrete to bond to the entire periphery of the exposed bar. Areas requiring additional removal and repair prior to the subsequent overlay, as determined by the engineer, shall be repaired in accordance with the Job Special Provision "Bridge Deck Repair".

6. The area of "Bridge Deck Repair" work replacement concrete furnished and installed by APAC was 52.59 Cubic Yards as directed by the Engineer. As a result APAC should have been paid for additional "repair concrete" (Pay Item 53) in compliance with the Special Provision regarding Bridge Deck Repairs.

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7. In accordance with the Contract APAC was entitled to be paid $1,155.00 per Cubic Yard for the 52.59 cubic yards of repair concrete, or $60,741.45.

8. Attached as Exhibit A are relevant Special Provisions of the Contract concerning Hydrodemolition and Bridge Deck Repair.

9. APAC has presented the repair concrete claim to the Resident Engineer and Chief Engineer. A true copy of the Chief Engineer's denial letter is attached as Exhibit B.

WHEREFORE, APAC – Tennessee, Inc. prays it be awarded $832,512.81 as reflected in paragraph 3 herein and $60,741.45 for the Bridge Deck Repair work as described in this First Amended to Complaint for a total claim of $893,254.26.

JACK EAST III
2725 Cantrell Road, Suite 202
Little Rock, AR 72202
(501) 372-3278
Bar ID No. 75-036
jack@jackeastlaw.com

CERTIFICATE OF SERVICE

I, Jack East III, Attorney at Law, do hereby certify that I have served the foregoing by depositing a copy in the United States Mail, Postage prepaid, this 31st day of March, 2014, addressed to:

Mark Umeda
Staff Attorney
Arkansas State Highway and
Transportation department
P.O. Box 2261
Little Rock, AR 72203-2261

Jack East III

5b

ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. BB0109

HYDRODEMOLITION

DESCRIPTION: This work shall consist of the removal of bridge deck concrete using hydrodemolition equipment as preparation for bridge deck repairs or overlay **within the constraints of the Maintenance of Traffic special provision**. All work shall be performed in accordance with the plans, the Standard Specifications, this Special Provision, and as directed by the Engineer.

HYDRODEMOLITION SPECIALIST AND WORK PLAN: Work shall be performed by a Contractor or Subcontractor who has successfully performed at least eight (8) verifiable projects similar to this project within the last four (4) years. A brief description of each project including the location, start and completion dates, and a reference shall be included for each project listed. As a minimum, the reference shall include an individual's name, affiliation with the project, and current phone number. In addition, the onsite supervisor assigned to this project must have experience in that position on a minimum of five (5) projects which are similar in nature to this project. A summary of the onsite supervisor's experience shall contain enough information for the Engineer to assess the individual's qualifications. The onsite supervisor shall be present during all hydrodemolition operations. The hydrodemolition system shall be operated by a trained individual having sufficient experience with the machinery used for the performance of the hydrodemolition.

The above information shall be submitted to the Engineer along with a Hydrodemolition Work Plan for review and record purposes at least thirty (30) days prior to commencement of hydrodemolition operations. The hydrodemolition work plan shall list all equipment, materials and methods the Contractor proposes for use for the following operations:

1. Hydrodemolition, milling, scarifying, or other removal of concrete.
2. Shielding and other safety devices.
3. Collection and disposal of debris and cleaning of the finished surface.
4. Repair methods and materials for unexpected blow-through of concrete deck or into a deck void form of a voided slab bridge.
5. **Detailed schedule of work and conformance to project Maintenance of Traffic plans.**

This work shall not commence until the experience record submittal and Hydrodemolition Work Plan have been reviewed by and are satisfactory to the Engineer. Work shall conform to the submitted work plan unless changes are submitted in writing to the Engineer.

MATERIALS AND EQUIPMENT: The hydrodemolition equipment shall be a self-propelled machine that utilizes a high pressure water jet stream capable of removing concrete to the depths shown on the plans or as directed by the Engineer and be capable of removing rust and concrete particles from reinforcing steel. The equipment shall be capable of removing all concrete to the required minimum overlay thickness and unsound concrete up to the limit detailed in the plans and provide a rough and bondable surface. Hand held high pressure wands or pneumatic hammers, 45 pound class maximum, may be used in areas that are inaccessible or inconvenient to the self-propelled machine such as, but not limited to, areas not to exceed one foot away from curbs or joints.

SPECIAL PROVISION JOB NO. BB0109 - HYDRODEMOLITION

Prior to hydrodemolition, cold milling or mechanically scarifying the deck to remove any asphalt overlay or to remove bridge deck concrete to a depth allowed in the plans and which does not come into contact with existing reinforcement is allowed. Cold milling and scarifying equipment shall be self propelled with sufficient power, traction, and stability and capable of uniformly removing the old surface to the depths required in a satisfactory manner.

The operation or placement of equipment and, or materials on the subject bridges shall be subject to the provisions of SS-105-2 "Equipment and Material Storage on Bridge Structures". Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

CONSTRUCTION REQUIREMENTS: No highway traffic shall be allowed on areas of the deck surface where any existing deck concrete has been removed. The Contractor shall adjust hydrodemolition operations so that overlay placement ends coincide with allowed joint locations as noted in the plans or as approved by the Engineer.

Prior to the commencement of the removal operation, the hydrodemolition equipment shall be calibrated on an area of sound concrete of approximately 25 sq. ft. on the existing bridge deck surface as directed by the Engineer. The cost of the calibration procedure shall be included in the unit price bid for hydrodemolition. The Engineer shall verify the following settings:

1. Water pressure.
2. Machine staging or step control.
3. Nozzle size.
4. Nozzle travel speed.

During the calibration, any or all of the above settings may be adjusted in order to achieve removal in accordance with the requirements of the plans. When the designated depth of removal is attained, the settings shall be recorded and maintained throughout the removal operation unless otherwise directed by the Engineer. The depth of removal shall be verified periodically and, if necessary, the equipment re-calibrated to ensure the planned depth of removal.

The Contractor shall provide shielding, as necessary, to ensure containment of all water and dislodged concrete within the removal area in order to protect the traveling public from flying debris and water spray both on and under the work site. Hydrodemolition operations over roadways or railroads shall conform to Job Special Provisions "Special Safety Requirements for Bridges" or "Insurance, Construction, and Flagging Requirements on Railroad Property (Owner)" as required.

Appropriate care shall be taken to prevent damage to the bridge slab reinforcing steel, joints, drains and other appurtenances. Should any damage occur to these items, they shall be repaired at the Contractor's expense.

After hydrodemolition, the deck shall be inspected by sounding to ensure that all deteriorated concrete up to the limit detailed in the plans has been removed. At the direction of the Engineer, the Contractor shall remove the areas of deteriorated concrete by additional passes of the hydrodemolition equipment or jackhammers to a depth not to exceed the maximum allowed in the plans. When the bond between existing concrete and reinforcing steel that will remain in

SPECIAL PROVISION JOB NO. BB0109 - HYDRODEMOLITION

place has been destroyed, the concrete adjacent to and below the bar to a minimum depth of ¾" below the bar shall be removed in order to permit the new concrete to bond to the entire periphery of the exposed bar. Areas requiring additional removal and repair prior to the subsequent overlay, as determined by the Engineer, shall be repaired in accordance with the Job Special Provision "Bridge Deck Repair".

Wastewater from the hydrodemolition process shall be collected, treated, and released in accordance with Job Special Provision "Management of Hydrodemolition Wastewater" and the Hydrodemolition Work Plan. Bridge joints and deck drains not used to convey waste water to a sediment basin shall be plugged during the hydrodemolition process.

Cleaning of the bridge deck shall be performed with a vacuum system capable of removing wet debris and water. The deck shall then be blown dry with air to remove excess water and residual debris. Cleaning shall be done before debris and water are allowed to dry on the deck surface. All exposed reinforcing steel which is left unsupported by the hydrodemolition process shall be adequately supported and protected from bending by vacuum trucks or any other equipment. All reinforcing steel damaged or dislodged by these operations shall be replaced with bars of the same size at the expense of the Contractor. Reinforcing Steel shall conform to the requirements of Section 804. All material removed during bridge deck demolition and cleaning shall be collected and disposed of in accordance with Job Special Provision "Management of Hydrodemolition Wastewater" and the Hydrodemolition Work Plan.

For slab-on-girder bridges, if the hydrodemolition equipment blows through the deck, hydrodemolition shall cease and the Engineer shall be notified. The Engineer shall determine if the blow through should have been avoided by proper monitoring of the demolition operations. If so, the damaged area shall be the responsibility of the Contractor and shall be repaired at the Contractor's expense to the satisfaction of the Engineer. Before resuming, hydrodemolition operations shall be adjusted to avoid similar blow-through during subsequent demolition. If it was unavoidable due to existing deterioration, the damaged area shall be paid for in accordance with the Job Special Provision "Bridge Deck Repair". All repair methods and materials shall be in accordance with the Job Special Provision "Bridge Deck Repair" and as specified in the Contractor's Work Plan.

For reinforced concrete slab-span bridges, if the hydrodemolition equipment blows through the deck or into a void of a voided slab, hydrodemolition shall cease and the Engineer shall be notified. Before resuming, hydrodemolition operations shall be adjusted to avoid similar blow-through during subsequent demolition. The damaged area shall be the responsibility of the Contractor and shall be repaired at the Contractor's expense to the satisfaction of the Engineer. Repair methods and materials shall be as specified in the Contractor's Work Plan.

SPECIAL PROVISION JOB NO. BB0109 - HYDRODEMOLITION

METHOD OF MEASUREMENT: Hydrodemolition shall be measured by the square yard of the total deck area removed regardless of the depth of removal.

BASIS OF PAYMENT: The accepted quantity of hydrodemolition will be paid for at the contract unit price per square yard, which price will be full compensation for all materials, equipment and labor necessary to remove and dispose of all concrete and other debris to the depth shown on the plans or as directed by the Engineer. This item shall also include calibration of equipment, cold milling, vacuuming, shielding, containment and disposal of wastewater, additional jack hammering, any repair required due to Contractor damage, as determined by the Engineer, and all other aspects of work necessary to remove bridge deck concrete in preparation for repair or overlay.

Payment will be made under:

Pay Item	Pay Unit
Hydrodemolition	Square Yard

ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. BB0109

BRIDGE DECK REPAIR

BRIDGE NOS. A3131 & B3131

DESCRIPTION: This item shall consist of removing unsound portions of the bridge deck concrete below the designated depth of removal by hydrodemolition, disposing of the removed concrete, preparing the surface, and the work for replacing the removed volume with repair concrete meeting the requirements of the Job Special Provision "Very Early Strength Latex Modified Concrete Overlay" or "Latex Modified Concrete Overlay", prior to subsequent overlay. This work shall be completed in accordance with the plans, the Standard Specifications, and job Special Provisions; and as directed by the Engineer.

MATERIALS: Repair concrete shall conform to the requirements of the Job Special Provision "Very Early Strength Latex Modified Concrete Overlay" or "Latex Modified Concrete Overlay" as directed in the plans. The Contractor may submit an alternate repair concrete for approval.

Replacement reinforcing steel, if required, shall conform to the requirements of Section 804.

EQUIPMENT: The equipment used shall be subject to the approval of the Engineer. Removal should be accomplished with power-driven hand tools such as chipping hammers or pneumatic hammers, 45 lb. class maximum. Mechanical chipping tools shall generally not be operated at an angle in excess of 45° measured from the surface of the deck. Surface cleaning equipment shall be capable of properly cleaning the exposed reinforcement and existing concrete surface as defined herein.

The operation or placement of equipment and, or materials on the subject bridges shall be subject to the provisions of SS-105-2 "Equipment and Material Storage on Bridge Structures". Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

PREPARATION OF SURFACE: (a) Removal: After cold milling, hydrodemolition, or other scarifying of the deck surface, the surface shall be sounded and any areas of unsound, delaminated, or otherwise deteriorated concrete to be repaired shall be marked and measured by the Engineer. The area shall be made rectangular with sides parallel or perpendicular to the reinforcing steel. All concrete within the marked area shall be removed with vertical sides to the depth necessary to remove unsound concrete as directed by the Engineer. If the bottom mat of reinforcing is exposed, then the removal and repair shall be made full depth. Care shall be taken to avoid damage to reinforcing steel, steel joint components, drains, or other appurtenances to remain. These items shall be repaired or replaced at the Contractor's expense if any damage occurs to them.

The structural integrity and stability of the deck and the structure shall be maintained by limiting the removal to the least area possible and avoiding unnecessary loading near unrepaired removals. Exposed reinforcing steel shall be supported as necessary to protect it from bending by vehicles or equipment loadings.

SPECIAL PROVISION JOB NO. BB0109 – BRIDGE DECK REPAIR

BRIDGE NOS. A3131 & B3131

The Contractor shall provide shielding, as necessary, to ensure containment of all water and dislodged concrete within the removal area in order to protect the traveling public from flying debris and water spray both on and under the work site.

(b) Cleaning: Prior to placement of repair concrete, the surfaces shall be blast cleaned with high-pressure water, sand or other media until all exposed concrete and reinforcing steel are free from laitance, rust, dust, dirt, oil, grease, bituminous material, paint, and all other foreign matter. The process used to clean the repair area shall be performed so as to conform to Job Special Provision "Management of Hydrodemolition Wastewater and Solid Residue".

(c) Reinforcing: Deteriorated reinforcing steel exhibiting section loss of greater than 25% or reinforcing steel damaged during concrete removal shall be replaced at the direction of the Engineer with new bars of the same or larger size that conform to Section 804. New bars shall be lapped 40 bar diameters to existing bars or dowelled into sound concrete in accordance with Section 804.06.

(d) Formwork: Full depth repairs shall have a bottom surface formed to match the underside of the surrounding deck surface. Existing stay-in-place forms that are sound shall be cleaned and retained, otherwise suitable formwork shall be used and the concrete made to match the surrounding area. Removable formwork shall be removed by the Contractor after repair has obtained the minimum required compressive strength of 3000 psi.

PLACING AND FINISHING CONCRETE: The Contractor shall plan operations for a given repair area to be within the working time of the concrete mixture and the maintenance of traffic special provision for the project.

The work area shall be thoroughly wet down with potable water prior to repair placement and be maintained in a "saturated surface dry" condition until placement. The Contractor shall also remove any standing water in depressions with vacuum or oil-free compressed air ahead of the placement.

After the surface has been cleaned, and immediately before placing repair concrete, a thin coating of the repair concrete shall be scrubbed into the prepared surface with a stiff brush. Course particles that do not adhere to the prepared surface shall be removed.. Care shall be exercised to ensure that all areas receive a thorough, even coating and that the coating does not dry before it is covered with the repair concrete.

Repair concrete shall be placed in a continuous operation for a given repair area. Repair areas which extend less than 2 in. below the bottom of the top mat of reinforcing steel may be filled concurrent with the placement of the overlay. Repair areas deeper than 2 in. below the bottom of the top mat and full depth repairs shall be filled with repair concrete and allowed to obtain its required compressive strength of 3000 psi prior to the placement of the overlay.

For repair areas not filled concurrent with the placement of the overlay, the top surface of the repair concrete shall match the surrounding concrete but no closer than ¾ in below the bottom of the top mat of reinforcing steel. The concrete shall be consolidated by hand or by machine vibration, depending on depth, and then intentionally roughened to an amplitude of ¼ in.

SPECIAL PROVISION JOB NO. BB0109 – BRIDGE DECK REPAIR

BRIDGE NOS. A3131 & B3131

CURING CONCRETE: Immediately after placement, the repair areas shall be moist cured in accordance with the cement manufacturer's recommendations until it has attained a compressive strength of 3000 psi. Moist curing shall consist of a fog spray of clean water above the area or the application of clean, wetted covering conforming to Subsection 802.17 (1), (3), or (4).

Contractor substitution of lithium silicate curing compounds or other materials for these provisions will not be allowed.

METHOD OF MEASUREMENT: Bridge Deck Repair shall be measured by the square foot of the total deck area repaired at the direction of the Engineer.

Repair concrete shall be measured by the cubic yard as "Very Early Strength Latex Modified Concrete (Variable Depth)" or "Latex Modified Concrete (Variable Depth)" in accordance with Job Special Provision "Very Early Strength Latex Modified Concrete Overlay" or "Latex Modified Concrete Overlay", as directed in the plans.

Replacement reinforcing steel, if required, shall be measured in accordance with Section 804.

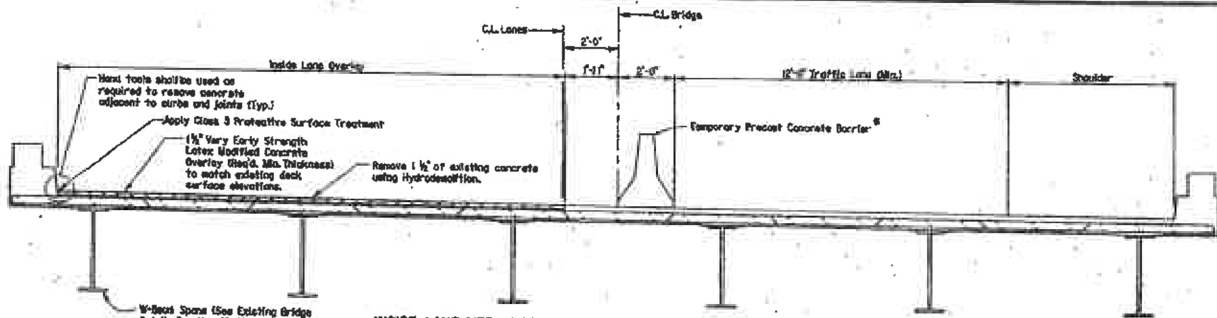
BASIS OF PAYMENT: The completed and accepted quantity of Bridge Deck Repair measured as provided above will be paid for at the contract unit price per square foot, which price will be full compensation for removal of concrete to the depth directed; collection and disposal of removed concrete and other debris; for surface preparation; for cleaning; for furnishing materials not measured separately; for the installation and removal of any required formwork; for mixing, placing, finishing, and curing the repair concrete; and for any tools, labor, equipment or incidentals necessary to complete to perform the work in accordance with the plans, the Standard Specifications, this Special Provision, and as directed by the Engineer.

Payment will be made under:

Pay Item	Pay Unit
Bridge Deck Repair	Square Foot

Repair concrete shall be paid for as "Very Early Strength Latex Modified Concrete (Variable Depth)" or "Latex Modified Concrete (Variable Depth)" in accordance with Job Special Provision "Very Early Strength Latex Modified Concrete Overlay" or "Latex Modified Concrete Overlay", as directed in the plans.

Replacement reinforcing steel, if required, shall be paid for in accordance with Section 804.

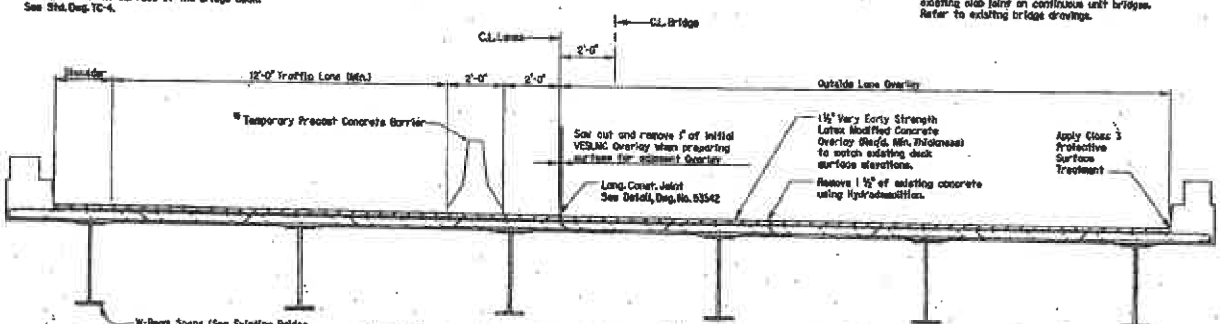


INSIDE LANE VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

(Looking in direction of traffic)

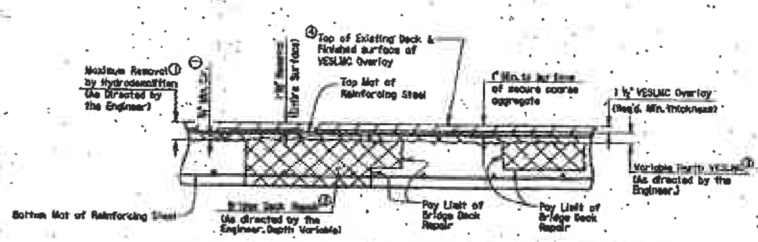
* Temporary Precast Concrete Barrier shall not be connected to the surface of the bridge deck. See Std. Dwg. TC-4.

NOTE:
The minimum overlay placement length shall be a full span on simple span bridges and to an existing slab joint on continuous unit bridges. Refer to existing bridge drawings.



OUTSIDE LANE VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

(Looking in direction of traffic).



DETAILS OF HYDRODEMOLITION AND LATEX MODIFIED CONCRETE OVERLAY

① Removal of unsound concrete beyond 1½" below the original surface shall be at the direction of the Engineer. If the bond between existing concrete and the top mat of reinforcing steel is destroyed, then the concrete shall be removed to a minimum of ¾" clearance below the bar.

② Areas requiring additional repair, as determined by the Engineer, shall be repaired in accordance with the Job Special Provision "Bridge Deck Repair".

③ Depth Varies to achieve minimum clearance below top mat of reinforcing steel

④ Finished Surface of VESLMC Overlay shall match existing concrete deck surfaces unless increase is required to maintain minimum required VESLMC Overlay thickness and a minimum of 1½" cover to reinforcing steel.

GENERAL NOTES:
CONSTRUCTION SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 2003, with applicable special provisions and Supplemental Specifications. Unless otherwise noted in the plans Section and Subsection refer to the Standard Specifications.

Drawing shows details and dimensions of existing structures based on the original bridge plans. The Contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and fit the new work to the existing structure.

The operation or placement of vehicles, equipment and/or materials on the subject bridges shall be subject to the provisions of SS-105-2 "Equipment and Material Storage on Bridge Structures". Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

HYDRODEMOLITION: The designated area of the existing bridge deck shall receive hydrodemolition in accordance with the Job Special Provision "Hydrodemolition" to a planned depth of 1½" below the existing bridge deck surface. Deteriorated concrete below this depth shall be removed up to the limits detailed and at the direction of the Engineer. These areas shall be measured by the square yard and shall be paid for at the unit price bid for the item SP Job BB0109 "Hydrodemolition."

Prior to hydrodemolition, cold milling of any existing asphalt for its full depth and the concrete deck to a maximum depth of 1" will be allowed unless there will be a conflict with existing reinforcing steel.

BRIDGE DECK REPAIR: After hydrodemolition, the deck surface shall be sounded and any areas of unsound, delaminated or otherwise deteriorated concrete shall be removed at the direction of the Engineer and in accordance with SP Job BB0109 "Bridge Deck Repair".

VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY: The designated area of the existing bridge deck shall receive a Very Early Strength Latex Modified Concrete (VESLMC) Overlay to a planned depth of 1½" below the existing bridge deck surface, in accordance with the Job Special Provision "Very Early Strength Latex Modified Concrete Overlay". These areas shall be measured by the square yard and shall be paid for at the unit price bid for the item SP Job BB0109 "Very Early Strength Latex Modified Concrete Overlay (1½" Thick)". Areas of the existing bridge deck removed at the direction of the Engineer to a depth greater than 1½" below the existing bridge deck surface shall be filled with VESLMC concurrent to the placement of the 1½" VESLMC Overlay. This area shall be measured and paid for as SP Job BB0109 "Very Early Strength Latex Modified Concrete (Variable Depth)" at the unit price bid for the item.

BRIDGE DECK: The VESLMC Overlay surface shall be given a grooved finish as specified for final finishing in Subsection 802.19 for Class 7 Grooved Bridge Roadway Surface Finish and in accordance with Job Special Provision "Very Early Strength Latex Modified Concrete Overlay".

PROTECTIVE SURFACE TREATMENT: The longitudinal joint between the VESLMC overlay and the adjacent existing concrete curb or rail shall be given a Class 3 Protective Surface Treatment as specified in Section 803 and in accordance with Job Special Provision "Very Early Strength Latex Modified Concrete Overlay".

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0109	54	86
				① A313, B313		VESLMC OVERLAY		

SHEET 1 OF 3
DETAILS OF VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY
I-40 - JERICHO (S)

ROUTE I-55 SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: [illegible] DATE: 12-12
CHECKED BY: SSP DATE: 12-12-12
REVIEWED BY: [illegible] DATE: 12-12
FILENAME: [illegible]
SCALE: None
BRIDGE NO. A313, B313 DRAWING NO. 53541

1-17-13
BRIDGE ENGINEER

...dgn 1/17/2013 8:00:18 PM

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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

RECEIVED
MAR 13 2014
APAC TENNESSEE, INC.

Scott E. Bennett
Director
Telephone (501) 569-2000
Voice/TTY 711

P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400
www.arkansashighways.com

March 5, 2014

Mr. Jim W. Smith, P.E.
Engineering/QC Manager
APAC-Tennessee, Inc.
1210 Harbor Avenue
Memphis, Tennessee 38113-0427

Re: Job BB0109
FAP: BIM-B55-0(201)
I-40-Jericho (S)
I-55, Section 11
Crittenden County

Dear Mr. Smith:

Reference is made to your letter appealing the decision of Resident Engineer Jeff Adams regarding your request for payment for work under the item "Bridge Deck Repair" on this project.

The Contract clearly details the limits of hydrodemolition shall extend ¾" below the reinforcing steel, as directed by the Engineer. Areas requiring removal below this ¾" depth is considered additional and should be paid for as "Bridge Deck Repair" as detailed on Plan Sheet 57.

Based on the work performed and the contract documents, the Resident Engineer has paid the various items appropriately, and therefore your request cannot be granted.

Sincerely,

Ralph J. Hall
Deputy Director
and Chief Engineer

c: Director
Assistant Chief Engineer – Operations
Construction Engineer
District 1 Engineer
Resident Engineer 14

EXHIBIT
B
Blumberg No. 5936

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BEFORE THE ARKANSAS STATE CLAIMS COMMISSION OF THE STATE OF ARKANSAS

NATIONWIDE CONSTRUCTION GROUP **CLAIMANT**

V. **CLAIM NO. 14-0690-CC**

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT **RESPONDENT**

ANSWER

COMES THE RESPONDENT, and for its Answer to the Complaint herein states:

1. The Respondent denies all allegations of the Complaint not admitted herein.

2. Affirmatively pleading, the Respondent states any additional work or material that was needed by the Claimant were caused by Claimant's own actions.

WHEREFORE, the Respondent PRAYS for dismissal of the Complaint, for cost, and all proper relief.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

By: _____

Mark Umeda
Staff Attorney
AHTD, Legal Division
Arkansas Bar No. 2007287
P. O. Box 2261
Little Rock, AR 72203-2261
(501) 569-2165

CERTIFICATE OF SERVICE

I, Mark Umeda, certify that I have served the foregoing Answer upon the Claimant by mailing a true copy of same this 9th of April, 2014, to:

Scott M. Keller

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ARKANSAS STATE CLAIMS COMMISSION

APAC- TENNESSEE, INC **CLAIMANT**

VS **CLAIM NO. 14-0651-CC**

ARKANSAS STATE HIGHWAY COMMISSION & ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT **RESPONDENTS**

ANSWER TO FIRST AMENDED COMPLAINT

Comes the Arkansas State Highway Commission and Arkansas State Highway and Transportation Department (together as "Respondents"), through their undersigned attorney, state:

1. The allegations in Paragraph 1 appear to be for jurisdictional purposes only and require no response. To the extent the allegations attempt to state a cause of action against Respondent, the allegations are denied.

2. The allegations in Paragraph 2 appear to be for jurisdictional purposes only and require no response. To the extent the allegations attempt to state a cause of action against Respondent, the allegations are denied. Respondent incorporate its responses to Paragraphs 1 through 9 in its Answer.

3. Respondents deny the allegations in Paragraph 3.

4. Respondents deny the allegations in Paragraph 4.

5. Respondents admit the allegations in Paragraph 5.

6. Respondents deny the allegations in Paragraph 6. Further, Pay Item 53 of the Contract is "SP Very Early Strength Latex Modified Concrete (Variable Depth)," not Bridge Deck Repair as stated in the Amended Complaint.

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7. Respondents deny the allegations in Paragraph 7. Again, Pay Item 53 is SP Very Early Strength Latex Modified Concrete (Variable Depth) which was paid at $1,155.00 per cubic yard according to the Contract. The "Bridge Deck Repair" Claimant is referring to in its Amended Complaint is a different pay item of the Contract and was paid at $22.40 a square foot in accordance with the Contract. Accordingly, this allegation should be dismissed from the Amended Complaint, or it should be amended to correctly identify the pay items or contract terms in which are in dispute.

8. Respondents admit the allegations in Paragraph 8.

9. Respondents admit the allegations in Paragraph 9.

WHEREFORE, Respondents pray that the Arkansas State Claims Commission deny and dismiss Claimant's First Amended Complaint and for all other relief to which it is entitled.

Respectfully submitted,

Arkansas State Highway Commission &
Arkansas State Highway and Transportation Department

BY: _____

Mark C. Umeda, Ark. Bar # 2007-2285
Staff Attorney
Arkansas State Highway and Transportation Department
P.O. 2261
Little Rock, AR 72203
501.569.2165
Mark.Umeda@ahtd.ar.gov

CERTIFICATE OF SERVICE

I, Mark Umeda, Attorney for Respondents, certify that I have placed a true and correct copy of the forgoing in the U.S. Mail, first class, postage prepaid and via email to the attorney for Claimant, Jack East, III, 2725 Cantrell Road, Suite 200, Little Rock, AR 72202 on this 21st day of April 2014.

Mark Umeda

BEFORE THE STATE CLAIMS COMMISSION
Of the State of Arkansas

APAC- Tennessee, Inc.

Claimant

v. **No. 14-0651-CC**

State of Arkansas

Respondent

PRE-HEARING SUBMISSION OF APAC-TENNESSEE, INC.

I.
Introduction

APAC-Tennessee, Inc. (APAC) seeks recovery of $832,512.81 from the AHTD and ASHC as time related damages, and $60,741.45 for bridge deck repairs as authorized in the contract but unpaid by Respondents.

The time-related charges of $832,512.81 primarily represent sums earned by APAC but withheld by the AHTD under a highly penal contract provision imposing a $30,000.00 per day charge should the contractor fail to complete the work in the time bid by the contractor. Recovery of these charges by APAC is authorized by Standard Specifications (Ed. Of 2003) 108.06 (d) (2) (b) (c) (e) and (g).These provisions authorize time extensions where:

> b. the work has been delayed by any act or omission of the Commission.
>
> c. Preparatory work to be performed by the Owner or by others specified in the Contract has not been accomplished and delay is not the fault of the Contractor.
>
> ...

e. Change Orders involve extra work and the time needed to complete this extra work would exceed the normal time extension as a result of overruns, based on money value, the completion date may be extended by Change Order to provide for this difference.

...

g. The work was delayed because of conditions not described herein that were beyond the control and without fault of the Contractor.

(See also, Special Provision Section 5 for similar language.)

It is APAC's position that at least twenty days of delay were caused by Respondents' improper delay in approving the mix design for a type of concrete specified by Respondents in the contract but about which Respondents had no experience. Another three days should have been granted by Respondents because change order work was performed which caused additional time to be expended under 108.06 (d) (2) (e). (This change order work related to removal of an unforeseen approach slab which had to be removed before approach gutters could be installed, and removal, and reinstallation of guard rails.) Another two day extension should have been granted due to delays in striping and rumble strip installation. These delays resulted from construction activities on another project adjacent to APAC's job which delayed this work. Further, the acts and omissions of Respondents in failing to approve a design mix for over twenty days after it should have been approved resulted in APAC's loss of three days incentive under the contract, and cost additional direct, job-site costs to be incurred (extended overhead).

Alternatively, should the Commission find for Respondents on the above issues, the law of Arkansas is absolutely clear that the $30,000.00 per day charge is an unlawful penalty which cannot be justified as a reasonable charge in addition to the usual liquidated damages. Johnson v. Jones, 33 Ark. App. 149, 807 S. W. 2d 39 (1991- fine imposed on union member for working during a strike offends public policy as a penalty); McIvenny v. Horton, 227 Ark. 826, 302 S.W. 2d 70(1957); Muradian v. Haley, 12 Ark. App. 138 (1984). See also Milton Construction Co. v. State, 568 So. 2d 784 (Ala.

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1990), Aff'd. after Remand, 586 So. 2d 872 (Ala. 1991) for a case remarkably similar to this case. Copy attached. (Needless to say, if the Commission finds the $30,000.00 per day charge is a penalty, then APAC's claim for the $90,000.00 incentive should not prevail either.)

The bridge deck repair issue is more technical, and involves the misclassification of certain work performed by APAC as hydrodemolition rather than bridge deck repairs, resulting in an underpayment for that work.

II.
Factual Background

On March 27, 2013 the Arkansas State Highway Commission (ASHC) and APAC-Tennessee, Inc. (APAC) entered into a construction contract requiring APAC to mill and construct an ACHM (Asphalt Concrete Hot Mix) inlay for 7.692 Miles of roadway and rehabilitate four bridge structures on I-55 in Crittenden County, Arkansas, among other things. The estimated contract price was $7,705,442.56.

The contract included a liquidated damages provision imposing $1,900.00 per day as the daily amount of damages the Commission would suffer due to delays in completion. The job was also an "A +C" project, which means each bidder bid on time of performance as well as the cost of the work. The contract allowed bids up to 75 days. The daily penalty for failure to complete within the time bid is $30,000.00 per day. APAC bid 67 days. (It was not the bidder offering the lowest number of days.)

The contract also included methods of construction and materials new to the AHTD. These new methods included hydrodemolition of bridge concrete. The new material was Very Early Strength Latex Modified Concrete Overlay (VESLMC). This project was the first time VESLMC had ever been used on a job in AHTD District 1 and it was one of the first two VESLMC jobs in the entire State of Arkansas. These two new features are important in this case.

Materials used in constructing highways must be approved by AHTD. This is done through a submittal process requiring the contractor to submit its "mix design" of the

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VESLMC to the Resident Engineer for approval. Lack of an approved mix design precludes the start of the work involving the VESLMC.

APAC first presented AHTD with a VESLMC mix design on April 1, 2013, six days before the preconstruction conference. It is now apparent that from the outset AHTD officials charged with reviewing the VESLMC mix design were not familiar with it, and rejected it several times between April 1, 2013 and June 21, 2013 simply because they applied portland cement standards to the VESLMC which did not apply to the VESLMC mix design. Had these officials investigated the VESLMC mix design using appropriate standards, the initial mix design would have been promptly approved, and APAC would have finished the job in 64 days rather than 89 days. The written record and testimony of witnesses will show the above.

The preconstruction conference was held on April 2, 2013. APAC presented its proposed schedule at this conference. AHTD officials reviewed the schedule and ultimately agreed to APAC's proposed sequence of construction. The schedule showed APAC completing the job in 67 days. A work order was subsequently issued. AHTD began charging time on Monday, April 22, 2013 as reflected in the daily diary. Time charges stopped on August 20, 2013 when the Resident Engineer found the job substantially complete. The job time overran 22 days and, therefore, AHTD charged APAC liquidated damages of $41, 800.00 and penalties of $660,000.00.

The testimony and documentary evidence will show that APAC diligently prosecuted the work-even performing work on Saturdays and Sundays when called for. The testimony will also show that the VESLMC mix design was not approved until June 21, 2013, which was day 39 of the 67 days bid by APAC. Bridge work promptly began on June 25, 2013 after such approval, however, due to the delay in the approval of the mix design the time frame for bridge work was shortened to such an extent that it was not possible for APAC to complete the bridge work in the remaining 28 working days. (It will also be shown that all roadway and related work was very near completion on day 67 and, had the VESLMC mix design been approved in timely fashion, all work could have been accomplished by the 64th day as bid.)

Further, additional time (3 days) was justified due to the change order work required to remove an old, unknown approach slab and remove/reinstall guard rails. See Standard Specification 108.06 (d) (2) (e) and (g). Finally, another contractor's work on an adjacent job clearly delayed final completion of striping and rumble strips and justified a 2 day extension. Such an extension is allowed by 108.06 (d) (2) (g).

The "Bridge Deck Repair" claim ($60, 741.45) is based upon the following Special Provision in the Contract

BRIDGE DECK REPAIR

BRIDGE NOS. A3131 &B3131

DESCRIPTION: This item shall consist of removing unsound portions of the bridge deck concrete below the designated depth of removal by hydrodemolition, disposing of the removed concrete, preparing the surface, and the work for replacing the removed volume with repair concrete meeting the requirements of the Job Special Provision "Very Early Strength Latex Modified Concrete Overlay" or "Latex Modified Concrete Overlay", prior to subsequent overlay. This work shall be completed in accordance with the plans, the Standard Specifications, and job Special Provisions; and as directed by the Engineer.

...

PREPARATION OF SURFACE: (a) Removal: After cold milling, hydrodemolition, or other scarifying of the deck surface, the surface shall be sounded and any area of unsound, delaminated, or otherwise deteriorated concrete to be repaired shall be marked and measured by the Engineer. The area shall be made rectangular with sides parallel or perpendicular to the reinforcing steel. All concrete within the marked area shall be removed with vertical sides to the depths necessary to remove unsound concrete as directed by the engineer. If the bottom mat of reinforcing is exposed, then the removal and repair shall be made full depth. Care shall be taken to avoid damage to reinforcing steel, steel joint components, drains, or other appurtenances to remain. These items shall be repaired or replaced at the Contractor's expense if any damage occurs to them.

After hydrodemolition operations the Resident Engineer marked and measured areas of existing concrete below the rebar to be removed by chipping and jackhammering instead of hydrodemolition. This hydrodemolition subcontractor reasonably and properly believed this work would be paid for as "Bridge Deck Repair" rather than Hydrodemolition because, obviously, the concrete involved is not removable by hydrodemolition methods; and it is not capable of such removal.

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III.
Legal Principles

APAC respectfully submits the Claims Commission should apply common law principles of the law of contracts in this case. The principles of contract law applicable to this case are, in APAC's view, as follows:

1) a project owner, such as the AHTD, which requires competitive bidding on time of performance, must cooperate fully with the contractor to allow completion within the time allowed; and may not do anything to hinder the contractor's ability to timely perform;

2) an owner, such as the AHTD, who specifies a material, such as VESLMC, has a duty to ascertain and become educated about that material where the owner is required to approve the material's design mix;

3) an owner cannot refuse to approve a design mix erroneously and then refuse a time extension for delays caused by the erroneous refusal;

4) the $30,000.00 per day charge is a penalty prohibited by law;

5) the interpretation by Chris Hill of the "Hydrodemolition" and "Bridge Deck Repair" special provisions was reasonable and, therefore, the AHTD should be required to pay for the concrete removal as "Bridge Deck Repair".

As to principles one through three above the Arkansas Supreme Court has held that an owner must facilitate contractor completion to the maximum extent possible. In Housing Authority v. Forcum-Lannom, Inc., 248 Ark. 750, 454 S.W. 2d 101 (1970) the Court stated:

> [T]hat defendant was under a duty of cooperation to do whatever was necessary in the project area to enable plaintiff to perform its contract in an orderly manner and that defendant breached this duty in that it failed to use its best efforts to

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secure the removal of the utilities, underground and overhead, and that such failure unreasonably hindered and delayed the contractor in the performance of the contract.

And in Howard P. Foley Co. v. J.L. Williams Co., 622 F.2d 402 (8th Cir. 1980) the Court held Arkansas law required an owner to refrain from hindering a contractor's performance. In Housing Authority v. E.W. Johnson Co., 264 Ark. 523, 573 S.W. 2d 316 (1978) the Supreme Court specifically noted that, "an owner may not prevent a contractor's early completion of his assignment with impunity." Lastly, in S.O.G-San Ore-Gardner v. Missouri-Pacific RR Co., 658 F. 2d 562 (8th Cir. 1981-Arkansas case) the Court refused an award of liquidated damages due to delays caused by the party claiming the damages.

Based upon the above principles of contract law APAC submits AHTD's failure to timely become knowledge about, investigate and approve the VESLMC design mix authorizes a twenty day extension of time and prevents imposition of liquidated damages and penalties.

Cases applicable to principle of contract law four above have been previously cited. Note that in Muradian v. Haley, 12 Ark. App. 133, 671 S.W. 2d (1984) the Court of Appeals plainly stated that, "where the sum agreed upon bears no reasonable relationship to the damages which likely would result following a breach, the amount agreed upon will be held to be a penalty [and recovery of it denied]."

In Milton Construction Co., Inc. v. State, 586 So.2d 784 (Ala.1990), aff'd. after rem. 586 So. 2d 872 (12991) Milton Construction was assessed both liquidated damages and disincentive penalties on two Alabama Highway Department projects. The liquidated damages represented the estimated cost associated with project delays to the Alabama Highway Department. The disincentives assessed against Milton were part of an incentive/disincentive program similar to the one before the Commission. In this context the Alabama Supreme Court stated:

> The issues before us are whether a clause of a construction contract that authorizes the withholding of disincentive payments is void and unenforceable as a penalty [and] whether Milton is estopped from asserting a claim that the disincentive clause is void where it has previously received incentive compensation pursuant to the incentive clause of the incentive/disincentive payments provision in a prior contract; ...

After reciting the disincentive clause in question the Court then noted: (1) that each contract contained clauses allowing the Department to recover the cost of any constractor default from the contractor and its surety ;(2) that each contract included a liquidated damages clause; and (3) Each contract contained a clause allowing the Department to refuse to allow Milton to bid on other projects if Milton failed to maintain satisfactory progress on the two jobs. The Department assessed liquidated damages and disincentives against Milton. Milton challenged the validity of the disincentive penalties on public policy grounds.

After an extensive review of Alabama law the Court held the disincentives were clearly a penalty. The Court then stated the factors necessary to validate or invalidate a pre-contract forfeiture for delay:

> "First, the injury caused by the breach must be difficult or impossible to accurately estimate; second, the parties must intend to provide for the damages rather than for a penalty; and, third, the sum stipulated must be a reasonable pre-breach estimate of the probable loss."
>
> If one of these three criteria is not met, the clause must fail as a penalty. Applying the three criteria to the facts of the instant case, we find that the disincentive clause at issue clearly constitutes a penalty and therefore is void as a matter of public policy.
>
> First, in each contract, the amount of injury caused by delay had already been determined, assessed, and withheld. Furthermore, any other injury that the highway Department would suffer was addressed in the "Default Clause", which allowed recovery of "all costs and charges incurred by the Department, together with the cost of completing the work under contract." The recovery of "all costs" by the Highway Department upon

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> Milton's default in either the I-65 Project or in the I-59 Project, along with the additional recovery of liquidated damages for delay, would certainly "justly compensate" the Highway Department for any injury; any further compensation would pass the limit of reasonableness.
> ...
>
> Furthermore, according to the complaint, the clear language of each contract indicates that the purpose of the disincentive clause was to encourage early completion of the contract—"the contractor's attention is directed to the fact that it is in the public's interest to complete this project at the earliest possible date"—and not as compensation for any delay caused to the highway Department or to the public. Therefore, the disincentive clause clearly acts as a discouragement or penalty for late completion. Thus, the Highway Department is using the disincentive clause as security for the performance of the contract through acts of financial punishment, a result that Alabama law does not allow. ...
>
> The third criterion ... (that the stipulated sum must be reasonable) is applied after the fact and measures whether the sum stipulated did in fact reasonably approximate the actual injury that previously was unascertainable; in essence, whether the disincentive clause bears a rational relation to the injury incurred. The Highway Department conceded that it arbitrarily set the dollar amount of the per-day assessment and the maximum time limit for the assessment in the disincentive clause. From our review of the record, we conclude that these arbitrary calculations had no correlation to the damages that the Highway Department sustained; therefore, considering the fact that liquidated damages had already been assessed and withheld from Milton, we must conclude that the disincentive clause does not compensate for the injury that occurred, but rather attempts to coerce performance and results in disproportionate, unreasonable compensation. Such a purpose is penal in nature and is therefore invalid.

After holding the disincentive to be a penalty, and therefore against public policy, the Court then held that Milton was not estopped to assert public policy prohibited the disincentive.

Arkansas public policy also prohibits contractual penalties. The fact that the AHTD now calls these penalties "roadway user costs" does not magically transform the illegal to the legal.

Finally, with respect to the "Bridge Deck Repair" claim note that in the sealed bid context if a contractor's interpretation of a specification relevant to bid preparation is reasonable, he will be allowed to rely upon the owner-prepared specification, and his interpretation of it, in preparing his bid. Centex Construction Co. v. James, 374 F.2d 921 (8th Cir., 1967-Arkansas law). This makes sense because the owner prepares the specifications and has the power to correct ambiguities, and the contractor has only a limited time to analyze the specs. and to prepare his bid.

IV.
Conclusion

The AHTD has a strong financial incentive to refuse time extensions in A + C jobs. In view of this APAC submits it must do more than just passively review a design mix it knows little about. For this, and the other reasons noted herein, APAC requests the relief in the Amended Complaint be awarded.

JACK EAST III
2725 Cantrell Road, Suite 202
Little Rock, AR 72202
(501) 372-3278
Bar ID No. 75-036
jack@jackeastlaw.com

CERTIFICATE OF SERVICE

I, Jack East III, Attorney at Law, do hereby certify that I have served the foregoing by depositing a copy in the United States Mail, Postage prepaid, this 3rd day of September, 2014, addressed to:

Mark Umeda
Staff Attorney
Arkansas State Highway and
Transportation department
P.O. Box 2261
Little Rock, AR 72203-2261

Jack East III

ARKANSAS STATE CLAIMS COMMISSION

APAC- TENNESSEE, INC **CLAIMANT**

VS **CLAIM NO. 14-0651-CC**

ARKANSAS STATE HIGHWAY COMMISSION & ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT **RESPONDENTS**

RESPONDENTS' WITNESS LIST

Respondent may call the following witnesses at the trial of this matter:

Jeff Adams

Kimberly Romano

Any witnesses listed by Claimant

Respectfully submitted,
Arkansas State Highway & Transportation Department

BY: _____
Mark Umeda, 2007-285
Attorney for Respondent
Arkansas State Highway and Transportation Department
P.O. Box 2261
Little Rock, AR 72203-2261
(501) 569-2165
mark.umeda@ahtd.ar.gov

CERTIFICATE OF SERVICE

I, Mark Umeda, Attorney for Respondents, certify that I have placed a true and correct copy of the forgoing in the U.S. Mail, first class, postage prepaid and via email to the attorney for Claimant, Jack East, III, 2725 Cantrell Road, Suite 200, Little Rock, AR 72202 on this 3rd day of September 2014.

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Mark Umeda

APAC-Tennessee, Inc.

Post Office Box 13427
1210 Harbor Avenue
Memphis, TN 38113-0427
Tel: (901) 947-5600
Fax: (901) 947-5699

February 20, 2014

Mr. Ralph Hall, Chief Engineer
Arkansas Highway & Trans. Dept.
P. O. Box 2261
Little Rock, AR. 72203-2261

Re: AHTD Job BB0109
I-40 - Jericho (S)
F.A.P. BIM - B55-0(201)
Crittenden, County

Dear Ralph,

APAC is in receipt of the attached correspondence from the Resident Engineer on the project advising that the requested payment under the item of "Bridge Deck Repair" was denied by the Department.

APAC was advised by Chris-Hill Construction of the additional removal required on the bridge decks which was marked by the Department personnel in accordance with the description for "Preparation of Surface – Removal" under the Special Provision contained in the Contract. After areas had been marked and removed the subcontractor was advised that the additional removal would not be paid and was subsidiary to the other items of work and not included in the Bridge Deck Repair item.

APAC has witnessed the effort by Chris-Hill in removing the existing concrete to provide the required ¾" clearance around the exposed reinforcing steel after completion of the hydro-demolition process. After review of the applicable Special Provisions and plan details, APAC understands the lack of clarity detailing exactly how compensation was to be made for any necessary hand chipping of sound concrete to meet the required clearance around reinforcing. However, this direction to perform additional removal was provided to the subcontractor by the Department. Given the estimated quantity allowed in the plans and the directive that any bar with greater than one half the diameter exposed would require additional removal to provide ¾" clearance, it was expected that payment would be included under the bid item "Bridge Deck Repair". This expectation was based on the statements contained in the "Hydrodemolition" Special Provision that "*When the bond between existing concrete and reinforcing steel that will remain in place has been destroyed, the concrete adjacent to and below the bar to a minimum depth of ¾" below the bar shall be removed in order to permit the new concrete to bond to the entire periphery of the exposed bar. Areas requiring additional* ***removal*** *and repair prior to the subsequent overlay, as determined by the Engineer, shall be repaired in accordance with the Job Special Provision "Bridge Deck Repair".* This statement contained within the same paragraph of the SP implies payment for the additional removal required to fully expose rebar would be included for payment under the Bridge Deck Repair item.

APAC appeals this decision to the Chief Engineer and requests consideration for payment of the additional concrete removal directed and measured by the Department per square foot as Bridge Deck Repair. Should you have any questions or need additional information please contact this office.

Sincerely,

Jim W. Smith P.E.
Engineering / QC Manager

Cc: M.Carden – APAC
APAC #3326 -066 file

Safety First Always

ARKANSAS STATE CLAIMS COMMISSION

APAC- TENNESSEE, INC **CLAIMANT**

VS **CLAIM NO. 14-0651-CC**

ARKANSAS STATE HIGHWAY COMMISSION &
ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT **RESPONDENTS**

RESPONDENTS' EXHIBIT LIST

Respondent may refer to or introduce the following exhibits at trial of this matter:

Standard Specifications for Highway Construction, 2013 Edition

Plans for the Job

Contract for the Job

Bid Proposal for the Job

Daily work reports for the Job

Any document in the Construction File for the Job

Pictures of the Job

All exhibits attached to Prehearing Statements

Respectfully submitted,
Arkansas State Highway & Transportation Department

BY: _____
Mark Umeda, 2007-285
Attorney for Respondent
Arkansas State Highway and Transportation Department
P.O. Box 2261
Little Rock, AR 72203-2261
(501) 569-2165
mark.umeda@ahtd.ar.gov

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CERTIFICATE OF SERVICE

I, Mark Umeda, Attorney for Respondents, certify that I have placed a true and correct copy of the forgoing in the U.S. Mail, first class, postage prepaid and via email to the attorney for Claimant, Jack East, III, 2725 Cantrell Road, Suite 200, Little Rock, AR 72202 on this 3rd day of September 2014.

Mark Umeda

ARKANSAS STATE CLAIMS COMMISSION

APAC- TENNESSEE, INC — **CLAIMANT**

VS — **CLAIM NO. 14-0651-CC**

ARKANSAS STATE HIGHWAY COMMISSION & ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT — **RESPONDENTS**

RESPONDENTS' PREHEARING BRIEF

I. BACKGROUND

The Arkansas State Highway Commission ("Commission") entered into a contract with APAC-Tennessee to repair I-55 in Crittenden County, Arkansas. The project consisted of milling and paving approximately 7.8 miles. It also required APAC-Tennessee to demolish and repair four bridges on I-55.

Traditionally, the Commission has focused on acquiring construction services through low-bid contracts. In order to recover the costs of administering a project that is not completed in accordance with the contract time, the Commission used a liquidated damages contract term. Liquidated damages are imposed to help recover the costs of construction oversight and administration by the Arkansas State Highway and Transportation Department ("AHTD"). The Commission is now more focused on shortening road construction delays for the citizens of Arkansas and the traveling public. The benefit of shorter construction times are obvious: minimized inconvenience and disruption of the traveling public, improves safety of both the public and construction crews, minimizes the economic impacts on local businesses and freight companies, and minimizes the social costs of traffic delays. The Commission is

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determined to finish construction projects as quickly as possible, and it has focused on schedule and time based contracting methods to shorten construction time.

In order to shorten construction work, the Commission has started letting contracts using the A+C method. In A+C bidding, each bid is evaluated based on two parts. The "A" component is the cost, which includes labor and material. The "C" component is time. "C" is calculated by multiplying the number of days each contractor bids by the daily user costs. The contractor is rewarded with bonus payments, or incentive, for completing the project ahead of its time bid, and the contractor is charged a disincentive for late completion. The disincentive charge help compensate the additional expenses incurred by road users such as lost time, safety, noise, impact to local businesses, increased vehicle maintenance, additional fuel costs, and other items that occur when construction zones delay the public. This method has been approved by the Federal Highway Administration since 1995 and is used in many states.

II. DISCUSSION

a. Road User Costs

Here, the Department determined that the road user costs would be $30,000.00 per day. It calculated the road user costs by using a formula developed from the Federal Highway Administration, which is used as a guideline for all the states. The formula incorporates various functions and components in order to determine the cost to the traveling public for the delays caused by road construction. AHTD looks at the speed reduction, the stop time, operation costs, safety, and delays in order to develop the road user costs. After examining these components, AHTD determined the road user costs would be $30,000 for contract purposes. More than 30,000 cars pass through this project daily. Individually, the road user costs used by AHTD is approximately a $1.00 a vehicle. This costs

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includes the time sitting in traffic, increased operating costs, and the increased likelihood of accidents. among other items discussed above. AHTD's estimate was conservative as it did not account for large portion of truck traffic this corridor sees.

AHTD determined that the maximum duration of the project would be 75 days. Contractors could bid below that threshold, but the contract would not be awarded to a contractor who bid more than 75 days to complete the job. Here, APAC-Tennessee was the successful bidder. It bid approximately $7.7 million for the work, the "A" component, and it said it could complete the work in 67 days, the "C" component, or ten less days than the maximum allowed in the contract. If APAC-Tennessee could complete the job in less than 67 working days, it would be awarded a $30,000.00 a day incentive. If, however, APAC-Tennessee did not complete the project in the allotted time, it would be charged the same amount for every day it was late. The parties agreed to these terms, and a contract was signed on May 27, 2013.

b. Modified Concrete Approval

The delays in approving the Very Early Strength Latex Modified Concrete ("Modified Concrete") were due to APAC-Tennessee's failure to comply with the contract. A special provision for the modified concrete was written for the job. The Special Provision provides that APAC-Tennessee provide concrete that passed certain criteria and contain certain materials. It failed to do so. Instead of rejecting the mix design outright, which it had the right to do under the contract, AHTD tried to approve the modified concrete.

APAC-Tennessee submitted its mix to AHTD on April 1, 2013.[1] However, APAC-Tennessee did not notify AHTD that the proposed mix design was not in compliance with the contract nor did it

[1] The following information is from a memorandum from the AHTD District 1 Engineer providing a timeline to the AHTD Central Office. The letters and correspondences can be provided, but in an effort to reduce the paperwork of this, AHTD has attached the summary as Exhibit 1.

note that citric acid was being used as a retarder. A retarder reduces the rate in which concrete sets. The use of citric acid as a retarder was not permitted under the contract. This submission also failed to submit any documents showing that all the admixtures were compatible with latex modifier and the cement used as required by the contract. This was completed by APAC-Tennessee of June 14, 2013.

The modified concrete mix design is a part of a Special Provision entitled, Very Early Strength Latex Modified Concrete. Exhibit 2. The Very Early Modified Concrete Special Provision also requires the contractor to submit qualifications for the contractor or subcontractor doing the work and a work plan for using the modified concrete. As seen below, APAC-Tennessee was slow in providing the necessary information required by the contract to AHTD. Under the provision, APAC-Tennessee was required to submit this information at least thirty days prior to starting the bridge work.

AHTD first tested to modified concrete on May 2, 2013. The modified concrete provided by APAC-Tennessee failed to pass the tests by AHTD. On May 8, 2013, APAC-Tennessee then revised its modified concrete mix by adding a type of cement that was not acceptable under the contract. Again, this was rejected by AHTD as it did not comply with the contract requirements. As noted above, APAC-Tennessee also failed to mention that citric acid was used in the mix, and it failed to notify that the modified concrete did not comply with the contract until much later in the approval process. APAC-Tennessee then used Memphis Stone sand. This material was not on the qualified products list. The qualified products lists is a list of products that are pre-approved for use on AHTD projects. This concrete mix passed the tests by AHTD, but it was rejected since, once again, it failed to comply with the contract's material requirements. APAC-Tennessee yet again submitted its modified concrete mix, its fourth, with material that was not approved on the qualified products lists. This

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submission was on June 10, 2013. The day that APAC-Tennessee claims it could start work on the bridges. This was again denied because it did not comply with the contract terms.

On May 29, 2013, APAC-Tennessee requests AHTD to allow for variances in the Very Early Strength Latex Modified Concrete Special Provision. APAC-Tennessee finally requests to use citric acid as a retarder. AHTD requests additional information from APAC-Tennessee about citric acid on May 30, 2013. On June 11, 2013, AHTD denied APAC-Tennessee's request to use citric acid as a retarder and notes that APAC-Tennessee did not provide information to AHTD about the compatibility of the citric acid with the latex in the concrete as required by the contract. On June 12, 2013, APAC-Tennessee provides the citric acid information to AHTD. On June 13, 2013, AHTD requests additional information about citric acid, which was provided a day later on June 14, 2013. On June 20, 2013, a change order was approved by AHTD allowing APAC-Tennessee to use citric acid as a retarder, and the contractor was advised on this approval on June 21, 2013.

APAC-Tennessee not only submitted a concrete mix design that was not in compliance with the contract, it also failed to provide the modified concrete work plan in a timely matter. The contract required APAC-Tennessee to provide a work plan for the use of modified concrete. The final approved plan was not received by AHTD until June 4, 2013 after several submissions that did not comply with the special provision starting on April 1, 2013. It took approximately ten submissions before the final plan was in compliance with the contract and approved by AHTD. Under the contract, the work plan must be submitted thirty days before the bridge work was to start. APAC-Tennessee's approved work plan was received on June 4, 2013 - six days before it claims it could start the bridge work and not the thirty days required in the contract.

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APAC-Tennessee's failure to comply with the contract specifications does not justify adding contract time. APAC-Tennessee submitted modified concrete mix designs that were not in compliance with the contract. It did not provide an acceptable work plan until June 4, 2013, and when AHTD requested additional information in order to get a variance in the contract, APAC-Tennessee did not provide this information in a timely matter. For example, AHTD requested information regarding the use of citric acid on May 20, 2013. It did not receive all the requested material until June 14, 2013. AHTD had to request the information for APAC-Tennessee several times as seen above. Once the proper information was included, it took AHTD seven days to approve the modified concrete mix design. If APAC-Tennessee had provided the information as requested by AHTD, it could have started work on June 10, 2013, as it wanted. However, as discussed below, APAC-Tennessee could not have started working on the bridges until much later.

The delays in approving the modified concrete design are immaterial because APAC-Tennessee could not begin to use the concrete mix design until June 22, 2013. The modified concrete mix was approved for use on June 20, 2013. June 22, 2013, was the 40th working day of the 67 work day job. Under the contract, the mill and inlay, or asphalt work, must be completed before the use of the modified concrete on the bridge could start. The Maintenance of Traffic Special Provision of the contract reads, "The Bridge Deck Rehabilitation operations may begin when the Mill and Inlay operations for the set lanes has been completed." Exhibit 3. This was completed on June 22, 2013, two days after the modified concrete mix design was approved. There was a pre-bid question that addressed this situation. The question asks, "The plans and proposal specify that bridge repairs cannot begin until milling and inlay of the main lanes is complete. Does this requirement apply to both the northbound and southbound main lanes collectively or individually?" Exhibit 4. AHTD answered, "The

mill and inlay operations are to be completed for the main lanes in one direction before hydrodemolition bridge deck repair operations can begin in that set of lanes." *Id.* So, the contract and the pre-bid questions clearly instruct the contractor that it could not begin work on the bridges until the paving was complete. APAC-Tennessee is aware of this provision as seen below. Under the contract, June 22, 2013 was the first date that APAC-Tennessee could begin work on the bridge deck. Therefore, the approval of the modified concrete mix did not impact APAC-Tennessee's completion of the job on time.

APAC-Tennessee contends that a letter written by Jeff Adams, the Resident Engineer for AHTD, on April 11, 2013, waived the Special Provision for the Maintenance of Traffic requiring the mill and inlay to be completed before the bridge deck repairs could begin. The letter does not expressly state that the asphalt did not have to be completed before work on the bridges begins. The relevant part of letter reads, "It is also acceptable to extend the lane closure north during the last portion of [the southbound lane of traffic] to begin the deck rehabilitation to the outside lane of [the] Bridge . . ." Exhibit 5. This letter was written in response to a letter from APAC-Tennessee requesting that a lane closure be extended. In its letter, APAC-Tennessee writes that it will follow the Maintenance of Traffic Special Provision. It notes, "This [request] will also comply with the requirements that the SB Bridge rehabilitation begin after [south bound] Mill and Inlay operations have been completed." Exhibit 6. Again, this was complete June 22, 2013, two days after the modified concrete mix design was approved. Mr. Adams did not waive this provision in his letter because APAC-Tennessee said it would comply with it. Even if the letter allowed APAC-Tennessee to start the bridge work, it only allowed them to work on the southernmost bridge. The second bridge could not start until after June 22, 2013, because lane closures to work on the bridge would extend beyond what was allowed in the contract.

Thus, AHTD could have approved the concrete when it was first submitted, but APAC-Tennessee could not have began work on it until June 22, 2013, when the mill and inlay was completed.

According to APAC-Tennessee's schedule it submitted to AHTD, it was already behind schedule when it wanted to start the bridge work. Jim Smith, the Supervisor for APAC-Tennessee, wrote that he wanted to start the bridge work on June 10th, "the first available slot," but he was delayed due to the approval of the modified concrete mix. Exhibit 7. He explained that according to his schedule he anticipated that the bridge work would start on June 8, 2013, "which would have been work day 21." *Id.* Records kept by AHTD, the daily work reports, track the working day charges. These reports indicate that June 8, 2013, was day charge 30 of the project, not day 21 as anticipated by APAC-Tennessee. Exhibit 8. Since work could not start until June 10th, the first available slot, the project was already 11 days behind schedule. According to APAC-Tennessee, it anticipated that work on the northern bridges would begin on work day 27. However, due to the milling and inlay operations discussed above, it could not start work on the northern bridges until work day 40, June 22, 2013.

c. Daily Road User Costs

APAC-Tennessee asserts in its complaint that the site use charges are a penalty, and thus, unenforceable. As discussed above, the site use charges represent the cost to the traveling public. Road construction presents delays, loss business revenue, and increased expenses like fuel and maintenance for the citizens of Arkansas and traveling public. While the liquidated damages clause of the Standard Specifications details the additional costs incurred by the Department, the daily site use charges are damages and costs to the public.

Liquidated damages are an amount that a party agrees to pay if that party fails to keep a promise. When the damages for breach of contract are by their nature uncertain and difficult to determine, the parties may stipulate in the contract to the amount to be paid as substitute for actual damages in the event a breach of contract occurs. *Phillips v. Ben M. Hogan Co.*, 267 Ark. 1104, 594 S.W.2d 39 (Ark. App. 180). The Arkansas Supreme Court has determined that a liquidated damages provision will be valid if three conditions are satisfied: (1) the parties contemplated that damages would flow from a failure to perform the contract; (2) such damages would be indeterminate or difficult to determine; and (3) the stipulated sum bears some reasonable proportion to the damages that the parties contemplated might flow from a failure to perform the contract. *Alley v. Rodgers*, 269 Ark. 262, 599 S.W.2d 739 (1980). This contract provision meets these requirements. The parties agreed to the liquidated damages and daily site use charges; the costs to AHTD and the public are hard to determine; and the charges were calculated using a formula provided by the Federal Highway Administration.

The purpose of the daily site use charges was to secure performance of the contract within the time bid by APAC-Tennessee. The contract defined daily road user costs as "[t]he amount which represents the average daily cost of interference and inconvenience to the road user." The contract stated that this cost would be $30,000.00. If APAC-Tennessee completed the contract before its time bid, it would have received an incentive. Likewise, if APAC-Tennessee, like it did here, fail to complete the job in the amount of time it bid, it would be charged a daily site charge.

Litigation over site use charges or daily road charges has been minimal. However, it appears that the States that has litigated over this matter have held that these charges are permissible under the law. In *James Construction Group, LLC v. State of Louisiana,* 977 So.2d 989 (2007), the

contractor agreed to a $10,000.00 per day stipulated damages clause for each day of the contractor was late completing the project. The $10,000.00 figure was based upon the daily user costs and was implemented in order "to minimize construction duration and construction operations impact on roadway users." *Id.* The daily user costs were calculated using a formula provided by the Federal Highway Administration like the present case. *Id.* In *James Construction Group*, a reduction in speed from 70 mph to 45 mph showed a daily user cost of $21,135.00. *Id.* The Louisiana Court of Appeal held that this disincentive was appropriate. It reasoned that the contractor was free to enter into the contract, and it cannot complain about the measure of damages in order to avoid its end of the bargain after it did not complete the work on time. *Id.*

APAC-Tennessee will likely rely on an Alabama case which found that a disincentive for failing to complete the work on time is void as a penalty. *Milton Construction Co., Inc. v. State Highway Dept.*, 568 So.2d 784 (1990). In *Milton*, the Alabama Department of Transportation included a disincentive clause in the contract. The disincentive provision would reduce payment owed to the contractor $5,000.00 per day it was late, and there was a maximum disincentive amount of $300,000.00. The project was not completed on time and the contractor received the maximum disincentive of $300,000.00. The Alabama Supreme Court noted that the disincentive clause's purpose was to encourage early completion of the project and not as compensation for delays and costs to the Alabama Department of Transportation or the public. In other words, there was no nexus between the $300,000.00 amount and any sort of damages suffered by the public or the Alabama Department of Transportation.

The *James Construction Group* case is more analogous to the present case. Like Louisiana, AHTD calculated the road user costs and applied it to the disincentive clause. Further, Louisiana, like AHTD, chose a reduced charge for its disincentive. Thus, the road user costs are not a penalty.

d. Claims for Profit and Overhead

The contract expressly prohibits claims for profit and overhead. The Standard Specifications state that a contractor cannot make claims for "loss of anticipated profits, organization or overhead expenses. . .". Standard Specification 105.18. Accordingly, these items should be summarily dismissed and denied.

e. Hydrodemolition

The contract included a Special Provision for the Hydrodemolition. Hydrodemolition is the process of removing concrete from a bridge deck by using a high pressure water jet stream. The Special Provision details what is included in the hydrodemolition process. First, specialized equipment uses high powered water streams to remove concrete from the bridge. After the hydrodemolition equipment has passed over the bridge, the Special Provision requires the bridge deck be inspected to ensure enough concrete has been removed in accordance with the contract. Here, at least 1.5 inches was required to be removed during hydrodemolition. Next, "At the direction of the Engineer, the Contractor shall remove the areas of deteriorated concrete by additional passes of the hydrodemolition equipment or jackhammers to a depth not to exceed the maximum allowed in the plans." Exhibit 9. The maximum depth allowed in the plans is 0.75 inches under any rebar that was exposed after hydrodemolition equipment passed over the concrete. In other words, the contract required at least 1.5 inches of bridge deck to be removed, and at the direction of the Engineer, up to 0.75 inches under any exposed rebar is to be included in hydrodemolition. The Special Provision explains that when the rebar

is exposed, "the concrete adjacent to and below the bar to a minimum depth of ¾" below the bar shall be removed in order to permit the new concrete to bond to the entire periphery of the exposed bar." *Id.* This provision clearly directs the contractor that material under the exposed rebar was considered hydrodemolition and not bridge deck repair as APAC-Tennessee argues. To illustrate further, the Special Provision for Bridge Deck Repair explains that Bridge Deck Repair is the removal of "unsound portions of the bridge deck concrete **below** the designated depth of removal by hydrodemolition . . .". Exhibit 10 (emphasis added). Again, the below the designated depth of removal by hydrodemolition is ¾" below any exposed rebar as described in the Special Provision.

In a letter written from the hydrodemolition subcontractor, Chris Hill, to APAC-Tennessee, Chris-Hill requests payment under Bridge Deck Repair. Chris Hill explains that since most of the repair areas identified by the Engineer were the result of reinforcing steel being exposed during hydrodemolition. It writes that the concrete around or below the reinforcing steel, or rebar, is sound and that it required the use of pneumatic hammers to remove it. Thus, it is entitled to additional payment under Bridge Deck Repair. Exhibit 11. Likewise, APAC-Tennessee writes that it was necessary to use hand chipping to remove "sound concrete." Exhibit 12. AHTD and the contract provisions disagree. First, the Special Provision for Hydrodemolition details the exact situation that Chris Hill is explaining to APAC-Tennessee. The Special Provision for Hydrodemolition states that the contractor could be directed by the Engineer to remove material under the exposed rebar. Second, Bridge Deck Repair applies to the removal of unsound concrete. Chris-Hill noted that the material it had to remove around the rebar was "sound concrete." Chris-Hill then expressly "requests payment for equipment and labor required to perform this additional removal of **sound concrete** directed by the Department to

provide the required clearance for unbonded reinforcing steel under the Contract item of "Bridge Deck Repair."" This is not Bridge Deck Repair as defined by the contract.

III. CONCLUSION

APAC-Tennessee's claim should be denied and dismissed. APAC-Tennessee failed to comply with the contract specifications for the concrete mix design. APAC-Tennessee's failure to comply with the specifications should not justify adding additional time to the contract. AHTD could have denied the mix design for failure to satisfy the contract outright. Instead, AHTD allowed for variances in the contract provision. In order to allow for these variances, AHTD requested information from APAC-Tennessee. This information was not provided in a timely matter. If APAC-Tennessee was responsive to these requests, the concrete mix design could have been approved more quickly.

APAC-Tennessee claims it could start working on the bridge repairs on June 10, 2013. The contract only allowed work on the bridges to start after completion of the mill and inlay work. This was not completed until June 22, 2013. Two days after AHTD approved the concrete mix design. Even if the bridge work could have started on June 10, 2013, like APAC-Tennessee claims, it was already ten days behind its own schedule.

APAC-Tennessee is not entitled to additional funds for removing sound concrete around exposed rebar during the hydrodemolition process. The Special Provision and plans indicate that additional hydrodemolition could be directed by the Engineer to remove ¾" below any exposed rebar. This could be done by the hydrodemolition machine or by jackhammers. This process is not "Bridge Deck Repair" as APAC-Tennessee contends. Bridge Deck Repair is the removal of unsound concrete below hydrodemolition. APAC-Tennessee's letters to AHTD state that it was removing sound concrete around the rebar. This is clearly hydrodemolition and not bridge deck repair.

The contract entered into by APAC-Tennessee shows that it is not entitled to recover overhead expenses and lost profits. These claims should be summarily denied and dismissed.

Finally, the road user costs are not a penalty. The contract states that the road user costs represent the cost to the traveling public. Other jurisdictions have held that the road user costs incurred by a contractor are permissible, and this type of bidding has been approved by the Federal Highway Administration. A+C bidding allows the Commission to provide improvement projects with minimal delay and frustration to the public. If the Arkansas State Claims Commission rules against AHTD, contractor would have no incentive to finish jobs as quickly as possible and as they bid. APAC-Tennessee knew about the road user costs and entered into the contract freely.

Respectfully submitted,
Arkansas State Highway Commission &
Arkansas State Highway and Transportation Department

BY: _____

Mark C. Umeda, Ark. Bar # 2007-2285
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Arkansas State Highway and Transportation Department
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CERTIFICATE OF SERVICE

I, Mark Umeda, Attorney for Respondents, certify that I have placed a true and correct copy of the forgoing in the U.S. Mail, first class, postage prepaid and via email to the attorney for Claimant, Jack East, III, 2725 Cantrell Road, Suite 200, Little Rock, AR 72202 on this 3rd day of September 2014.

_____
Mark Umeda

INTER OFFICE MEMORANDUM

DATE: July 24, 2013

TO: **Mr. Mike Sebren, State Construction Engineer**

FROM: R. J. Woodruff, District Engineer, District One

SUBJECT: **Request For Additional Contract Time**
Job No. BB0109

Attached is a letter from APAC-Tennessee, Inc. requesting that 20 additional working days be added to the contract because of the extended period of time for the approval of the VESLMC mix design. The following is a timeline of submittals and approvals concerning the hydrodemolition and the VESLMC deck overlays on this project:

April 1, 2013 – Contractor submits information regarding the subcontractor that is to perform the hydro-blasting and VESLMC overlay and the proposed mix design for the VESLMC. This was done by electronic mail at 5:00 PM and the Contractor did not note that the mix design was not in compliance with the Special Provision for this material or included citric acid. Nor did their submittal include any documentation to show that all admixtures were compatible with latex modifier and cement used.

April 2, 2013 – Pre-construction conference was held.

April 3, 2013 – Resident Engineer responded to the Contractor that insufficient information was provided regarding the qualifications of the proposed subcontractors for the hydro-blasting and VESLMC overlay work.

April 8, 2013 – Work order issued and work started on the project.

April 10, 2103 – Contractor provided additional information about the qualifications of the hydro-blasting and VESLMC overlay subcontractors.

April 12, 2013 - Resident Engineer responded to the Contractor that insufficient information was provided regarding the qualifications of the proposed subcontractors for the hydro-blasting and VESLMC overlay work.

April 15, 2013 – Contractor submitted hydrodemolition work plan and Resident Engineer forwarded to Construction.

April 18, 2013 – Received response from Construction regarding the hydrodemolition work plan and issues that Bridge Division wanted addressed.

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April 19, 2013 - Received response from Construction regarding the hydrodemolition work plan and issues that Environmental Division wanted addressed. Resident Engineer advised Contractor of Bridge Division's and Environmental Division's issues that needed to be addressed.

April 19, 2013 – Contractor submitted VESLMC overlay work plan and Resident Engineer forwarded to Construction.

April 19, 2013 – Contractor submits proposal to eliminate required longitudinal joint detail included in the plans. The Resident Engineer forwarded the request to me and I forwarded to Construction.

April 22, 2013 - Received response from Construction regarding the hydrodemolition work plan and issues that Environmental Division wanted addressed. Resident Engineer advised Contractor of Environmental Division's issues that needed to be addressed.

April 23, 2013 - Contractor submitted revised hydrodemolition work plan and Resident Engineer forwarded to Construction.

April 23, 2013 – Resident Engineer sent Contractor letter asking for clarification regarding the supervisors for the deck overlay work.

April 25, 2013 - Received response from Construction regarding the VESLMC overlay work plan and issues that Bridge Division wanted addressed. Resident Engineer advised Contractor of Bridge Division's issues that needed to be addressed.

April 25, 2013 - Contractor submitted revised hydrodemolition wastewater plan and Resident Engineer forwarded to Construction.

April 30, 2013 - Received response from Construction regarding the VESLMC overlay work plan and Bridge Division's approval. Resident Engineer advised Contractor of the approval of their work plan.

April 30, 2013 - Received response from Construction regarding the proposed change to the longitudinal joint detail and Bridge Division's approval. Resident Engineer advised Contractor of the approval of their proposed revision.

April 30, 2013 - Contractor submitted revised VESLMC overlay work plan.

May 1, 2013 – Resident Engineer forwards revised VESLMC overlay work plan to Construction.

May 2, 2013 - Received response from Construction regarding revised hydrodemolition wastewater plan and issues that Environmental Division wanted addressed. Resident Engineer advised Contractor of Environmental Division's issues that needed to be addressed.

May 2, 2013 – First trial batch for VESLMC. Three attempts to meet slump before one was achieved.

May 8, 2013 - Contractor submitted VESLMC mix design, Resident Engineer forwarded to District and District forwarded to Construction. It should be noted that there was no mention of the use of citric acid in this submittal.

May 13, 2013 - Contractor submitted revised hydrodemolition wastewater plan and Resident Engineer forwarded to Construction.

May 15, 2013 – Contractor advised proposed VESLMC mix design was not acceptable because of proposed use of Type III cement.
May 16, 2013 - Received response from Construction regarding the VESLMC overlay work plan and issues that Bridge Division wanted addressed. Resident Engineer advised Contractor of Bridge Division's issues that needed to be addressed.

May 20, 2013 - Contractor submitted revised hydrodemolition wastewater plan and VESLMC overlay work plan and Resident Engineer forwarded to Construction.

May 20, 2013 - Contractor submitted revised VESLMC mix design. The mix design included two areas that did not meet the requirements of the Special Provision for this material and included some information regarding the use of citric acid. Due to concerns about meeting the SP the Contractor was requested to furnish additional information.

May 21, 2013 – Received approval from Construction of the hydrodemolition wastewater plan and Contractor was advised of approval.

May 21, 2013 – Second trail batch for VESLMC. Used Type III cement that had not been and wasn't approved for use.

May 29, 2013 - Third trail batch for VESLMC. Used Memphis Stone sand that was not on QPL. Passing results received on 6-4-13. (Memphis Stone sand QPL approval received on 6-12-13)

May 30, 2013 – Contractor submits letter dated 5-29-13 with a revised VESLMC mix design and requests for allowing variances in the SP requirements, which included the request to use citric acid. Resident Engineer requested additional information from the Contractor

May 30, 2013 – Contractor submits letter requesting to eliminate the use of a latex bond coat prior to the placement of the VESLMC. Resident Engineer forwarded this to the District and I forwarded to Construction.

May 31, 2013 – Contractor had not submitted requested additional information regarding citric acid use. VESLMC mix design was forwarded to District and Construction for consideration.

June 4, 2103 – Contractor submitted revision to VESLMC overlay work plan along with revised VESLMC mix design and compressive strengths from the trail batches. Resident Engineer forwarded this to the Construction office.

June 5, 2013 - Received approval from Construction of the use of a different screed in VESLMC work plan and Contractor was advised of approval.

June 6, 2013 - Received approval from Construction of the elimination of the bond coat and Contractor was advised of approval.

June 10, 2013 - Fourth trail batch for VESLMC. Used Razorback sand in case Memphis Stone sand didn't obtain QPL approval. Passing results received late that afternoon.

June 11, 2013 – Received approval of the Contractor's revised VESLMC overlay work plan with stipulations from Bridge Division.

June 11, 2013 – Received approval of the Contractor's revised VESLMC mix design allowing the requested exceptions in the SP with the indication the use of citric acid was denied.

June 12, 2013 – Received additional information from the Contractor about the compatibility of the citric acid with the cement. The RE forwarded this to the District and it was sent to Construction. It was noted that no information was included regarding the compatibility of the citric acid with the latex.

June 13, 2013 – Construction advised of additional information that Materials Division requested regarding the citric acid. Contractor was advised.

June 14, 2013 – Contractor provided additional information regarding the use of citric acid. This information was forwarded to Construction.

June 20, 2013 – Change order was approved for the use of citric acid as a retarder in the VESLMC.

June 21, 2013 – Contractor was advised of the approval of change order allowing use of citric acid.

June 22, 2013 – Contractor completed all work on the southbound lanes with the exception of the deck overlays.

July 10, 2013 - Contractor completed all work on the northbound lanes with the exception of the deck overlays.

The Contractor's request is based upon their CPM schedule they submitted for information at the preconstruction conference. They indicate their schedule was for the work to start on bridge 2808 on June 8, 2013 which is immediately after all southbound work was completed with the exception of the deck overlays and approach slabs for those bridges. This work was actually completed on June 22, 2103 charged day 40. Thus their progress on the other work which was not impacted by the the approval of the VESLMC mix design impacted their overall schedule as much or more. On June 26th when work began on the deck overlay/hydrodemolition it was charged day 43. So only 2 working days elapsed between the time work could have begun on the

deck overlay/hydrodemolition and the time it actually began. It should be noted that those days are due to the scheduling of the subcontractor.

I would also note that their schedule indicates deck overlay work would begin on June 8th or charged day 21. June 8th was the 30th day charged on the project.

From a review of their schedule that was not required but they are using for a reason to extend the contract time it appears the delay in the approval of the VESLMC mix design is not a factor in them being behind schedule. I believe the delay in the approval of their mix design is directly attributable to the subcontractor's insistence that it is done this way everywhere else and it doesn't matter what our contract requires. If they had tried to provide sufficient information early on in the process to document the validity of their assertions it would not have taken that long for approval. Thus I recommend that no additional time be added to the contract because of the time required in approving their VESLMC mix design.

Please review and advise of your findings.

INTER OFFICE MEMORANDUM

DATE: 7/22/13

TO: **Ray Woodruff, District Engineer**

FROM: Jeff Adams, Resident Engineer, District 1 Construction

SUBJECT: **Job BB0109, Request for Additional Contract Time**

Please find correspondence from Jim Smith of APAC requesting 20 days to be added to the Contract time. APAC is requesting this additional time due to the review time for the approval of the VESLMC mix design.

It is my opinion that this request should be denied since the Special Provision requires the materials for the VESLMC mix to meet Section 802 with exceptions. The Special Provision does not mention retarder as an exception. APAC contends that the admixture citric acid is compatible with the cement and latex and that it should be allowed based on the excerpt from the Special Provision, "(d) All other admixtures to be used shall be included in the Contractor's approved mix design and shall be compatible with the latex modifier and cement used". In order to know that citric acid is compatible, the cement and latex supplier would need to provide information that indicates that citric acid is compatible with their product. Although the cement supplier had indicated that citric acid was compatible with their product at an earlier date, the Department did not receive anything from the latex manufacturer until 6/13/13.

The approval of the VESLMC mix design was given on June 21, 2013. Work was still in progress in the southbound lanes at that time. The southbound roadway work was completed on June 22, 2013 with the night time northbound paving beginning the night of June 23rd. APAC had intended on extending the southbound lane closure to begin the VESLMC for the Hwy 64 Bridge as they neared the end of the southbound roadway work. Once all of the southbound roadway work was completed, the lane closure would be removed from the south end of the project, but extended to the north to encompass the flat deck bridge. The beginning of the work for the VELMC overlay began on June 25th. Therefore, even if the VESLMC mix design had been approved much earlier, the VESLMC overlay could not have been pursued until the southbound roadway was complete.

Based on the mix design approval date and the date that work began, I see no delay, even with all of the requests made for variances in the mix design requirements and the review of the use of citric acid.

Please review and advise to our response.

Cc. file

APAC-Tennessee, Inc.

Post Office Box 13427
1210 Harbor Avenue
Memphis, TN 38113-0427
Tel: (901) 947-5600
Fax: (901) 947-5699

July 19, 2013

Mr. Jeff Adams, Resident Engineer
Arkansas Highway & Trans. Dept.
P. O. Box 309
West Memphis, AR. 72303

Re: AHTD Job BB0109
I-40 - Jericho (S)
F.A.P. BIM – B55-0(201)
Crittenden, County

Dear Jeff,

APAC requests that the Department consider the following information as support for additional time being added to the project as a result of the extended review and approval process for the VESLMC mix design on the project. Please reference the attached VESLMC Submittal and Approval chronology

April 1, 2013 APAC provided mix design documents to the Department for review and approval, although it was not specifically stated in the design, citric acid was included as a retarder in the mix. The use of citric acid is considered a standard industry practice and due to the small percentage of the total mix used it was not included in the materials list on the design provided by the producer. During the trial batching process Modified Concrete Inc. was held to the slump and water cement ratio requirements of the Special Provision creating a mix which failed in both strength and workability. Due to the harshness of the mix during the trial batch process an alternate design was submitted by Modified Concrete using Type III cement to provide the slump and w/c ratio specified in the SP. After Department review and denial of this design due to the cement type, the supplier returned to the initial Rapid Set Cement requesting modifications of the slump and water/cement ratio and including citric acid as a retarder detailed in the May 29th submittal. This mix design submittal was based on the letters of recommendation from the cement and latex suppliers indicating citric acid as the only retarder which would provide the desired properties for the overlay.

Anticipating approval of the design based on this recommendation from the latex and cement manufacturers, APAC and Chris-Hill proceeded to schedule Modified Concrete and Hydroblasters to begin operations on the SBML on the project on the first available time slot which was now June 10th. The Department was advised of the schedule and as this date approached APAC was verbally instructed that operations could not begin and lane closure placed until an approved mix design was in place. APAC advised Chris-Hill of the same and at the last moment the schedule was postponed due to the delay in approval of the design. Additional citric acid information was provided as requested by the Department on June 12th and June 14th however formal approval of the mix design was not provided until June 21st. Subsequent arrangements and scheduling of subcontractors could not be coordinated until June 26th when work began on the SB outside lanes at Hwy 64 overpass.

APAC had anticipating performing work on the SB bridge structures while simultaneously completing the mill and inlay of the NB main lanes on the project. This delay in approval of the VESLMC mix design from June 10th through June 26th could not have been anticipated and was directly related to the Departments process for approval of a new material complying with the SP contained in the Contract. This Special Provision clearly states that all admixtures used shall be compatible with the latex modifier and cement used in the mix design. Initial denial of the mix indicating that retarding materials must be included from the AHTD Qualified Products list is in contradiction with the requirements of the Special Provision.

Safety First *Always*

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Standard Specifications allow the Department 30 days for review and approval of normal mix design submittals by the Contractor. As shown in the attached log this process actually occurred over an 82 day period. APAC recognizes that this VESLMC mix is not normal for AHTD and is a new process which is being used within the State and that other contractors have experienced the same review process on other AHTD projects. This extended approval process was apparently not accounted for by the Department in the determination of the maximum allowed days for construction of the project nor allowed for by APAC in development of the project schedule. APAC's presentation of the proposed Sequence of Construction and Baseline CMP schedule at the Preconstruction Conference anticipated starting construction of the SB Hwy 64 bridge overlay on June 8th which would have been work day 21 in order to complete the project within the 67 days bid on the project. The actual start date for the bridge overlay occurred on June 26th which was Charged Day number 41 on the project.

The Department imposed monetary Incentives / Disincentives in the Contract in order to ensure timely completion of the project. The approval process by the Department for this particular critical material design should be allow special consideration as an impact which was neither the fault of the Department or the Contractor. APAC requests that an additional twenty (20) days be added to the Contract time due to the process of providing approval of the design which delayed the start of a specific series of critical activities which ultimately will delay the completion of the project. Should you have any questions or need additional information please contact this office.

Sincerely,

Jim W. Smith P.E.
Engineering / QC Manager

Cc: N. Haynes - APAC
M.Carden - APAC
APAC #3326 -055 file

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Chronological Log of VESLMC information submittal

April 1, 2013 - Submitted Hydrodemolition plan and VESLMC mix design
April 10, 2013 - Provided additional information requested to supplement April 1 submittal
April 16, 2013 - Provided additional information requested to supplement April 10 submittal
April 19, 2013 – Submitted VESLMC Work Plan
May 2, 2013 - AHTD requested revisions to Waste Water Management Plan
May 8, 2013 – Submitted alternate VESLMC Mix Design w/Type III cement
May 13, 2013 – Sumbitted Waste Water Management Plan
May 15, 2013 – AHTD denied use of Type III cement in VESLMC mix design
May 20, 2013 – Revised Waste Water Management Plan
- Revised VESLMC Work Plan
- Revised VESLMC Mix Design

May 21, 2013 – AHTD Approved Waste Water Management plan
May 29, 2013 - Revised VESLMC Mix Design w/ Citric Acid
May 30, 2013 - Requsted waiver of Latex Bond Coat
June 6, 2013 – AHTD Approval to waive use of Latex Bond Coat
June 11, 2013 – Provided information for VESLMC Mix Design w/ Citric Acid
June 11, 2013 – AHTD Denial of use of Citric Acid as retarder
June 12, 2013 – Provided additional Citric Acid Information
June 13, 2013 – AHTD fax request for additional Citric Acid Information
June 14, 2013 – Provided Additional Citric Acid Information
June 21, 2013 – Received AHTD approval of VESLMC Mix Design w/ Citric Acid

ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. BB0109

VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

DESCRIPTION: This work shall consist of constructing a Very Early Strength Latex Modified Concrete (VESLMC) overlay on bridge deck concrete or other specified concrete roadway surfaces previously prepared as specified in the plans, **within the constraints of the Maintenance of Traffic special provision.** This work includes all labor, materials, equipment and incidentals necessary to complete the work in accordance with the plans, the Standard Specifications, this Special Provision, and as directed by the Engineer.

VESLMC OVERLAY SPECIALIST AND WORK PLAN: Work shall be performed by a Contractor or Subcontractor who has successfully performed at least eight (8) verifiable projects similar to this project within the last four (4) years, including projects with similar requirements for the Maintenance of Traffic. A brief description of each project including the location, start and completion dates, and a reference shall be included for each project listed. As a minimum, the reference shall include an individual's name, affiliation with the project, and current phone number. In addition, the onsite supervisor assigned to this project must have experience in that position on a minimum of five (5) projects which are similar in nature to this project. A summary of the onsite supervisor's experience shall contain enough information for the Engineer to assess the individual's qualifications. The onsite supervisor shall be present during all operations.

The above information shall be submitted to the Engineer along with a VESLMC Overlay Work Plan for review and record purposes at least thirty (30) days prior to commencement of overlay operations. The VESLMC Overlay work plan shall list all equipment, materials and methods the Contractor proposes for use for the following operations:

1. Final cleaning, preparation, and protection of the surface prior to overlay.
2. Mix design for the VESLMC as described below including QC/QA submittals.
3. Mixing, placing and finishing the VESLMC Overlay.
4. Curing and treatment of the VESLMC Overlay surface.
5. **Detailed schedule of work and conformance to project Maintenance of Traffic provisions.**

This work shall not commence until the experience record submittal and Hydrodemolition Work Plan have been reviewed by and are satisfactory to the Engineer. Work shall conform to the submitted work plan unless changes are submitted in writing to the Engineer.

MATERIALS: The materials, methods, and testing requirements shall conform to Section 802, except as modified in the plans and these specifications.

(a) Cement shall conform to the requirements of Subsection 802.02(a) except as modified herein. The approved cement shall be a rapid-hardening cement conforming to ASTM C1600-11 that will provide an overlay concrete that meets the physical requirements of VESLMC as specified herein, or approved equal.

(b) The Latex Modifier shall be a formulated latex emulsion admixture that is a nontoxic, film forming, polymeric emulsion to which all stabilizers have been added during manufacture and that is homogenous and uniform in composition. The latex admixture shall be a styrene-

butadiene latex emulsion in which at least 90 percent of the non-volatiles are styrene-butadiene polymers. The latex admixture shall be manufactured for this use and conform to the following requirements when tested in accordance with the procedures shown in Report No. FHWA-RD-78-35, April 1978, *Styrene-Butadiene Latex Modifiers for Bridge Deck Overlay Concrete*:

Property	Specified Value	Permissible Variance[1]
Color	White	
Polymer Type	Styrene-Butadiene	
Solids , percent	46-53	
pH	5.0 – 12.0	± 1 %
Mean Particle Size, angstrom	1400 - 2500	± 300
Median Particle Size, angstrom	1400 - 2500	
Viscosity, centipoises	-	± 20
Maximum Coagulum, percent by mass	0.10	
Maximum Surface Tension, dynes/cm	50	
Butadiene, percent by mass	30-40	

[1]Permissible Variance: Properties of samples collected shall not vary from Manufacturer's certification or prequalification value by more than the listed variance.

A certificate of compliance signed by the Manufacturer, certifying that the material conforms to these requirements, shall be submitted for each shipment used in this project. The certification shall show the brand name and designation; the composition or description of the admixture; the manufacturing ranges for specific gravity at 77°F, percent total solids, and pH; the infrared spectrums; and the manner in which the material will be identified on containers and shall have specific test results attached showing conformance with these requirements.

The containers in which the latex modifier are delivered shall be clearly marked with the Manufacturer's name, the brand name, designation of material, lot number and net quantity. Bulk shipments shall be accompanied by a delivery ticket showing this information.

The latex modifier shall be within its expiration date at the time of use and shall be stored in such a manner as to protect it from freezing, prolonged exposure to temperatures in excess of 85°F, or other damaging conditions, as specified by the Manufacturer's product information.

(c) Coarse aggregate shall conform to Subsection 802.02(c), except the gradation shall be that specified in AASHTO M43 #7 (1/2" - #4).

(d) All other admixtures to be used shall be included in the Contractor's approved mix design and shall be compatible with the latex modifier and cement used. Fly ash, ground granulated blast furnace slag, or other pozzolanic admixtures or cements shall not be used.

(e) Replacement reinforcing steel, if required, shall conform to the requirements of Section 804.

SPECIAL PROVISION JOB NO. BB0109

VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

PROPORTIONING: The VESLMC mixture shall contain no less than 658 lbs. of cement per cubic yard and shall be accurately proportioned as follows:

Material	Quantity (Per Bag of Cement*)
Cement	94 lbs.
Latex Admixture	3.5 gal.
Natural Sand	210 to 255 lbs.
Coarse Aggregate	168 to 208 lbs.
Water (including free moisture on the sand and coarse aggregate)	8 to 22 lbs.

*If approved cement is supplied in quantities other than 94 lb. bags, adjust proportions by weight.

The properties of the latex modified concrete mixture shall be as follows:

Property	Value
Compressive Strength (at time specified, cured at approximately 70° F.)	
6 Hours	3000 psi.
28 Days	4000 psi.
Slump (measured 4 to 5 minutes after discharge from a continuous mixer)	4 to 6 in.
Air Content	6% ±2%
Water-Cement Ratio	Not more than 0.40**

(**including all the liquid components of all additives as part of the water)

The Contractor shall submit in writing a concrete mixture design to the Engineer in accordance with Subsection 802.05(b) specifying the name and location of aggregate suppliers, and the type and brand of the cement and latex proposed for use. Trial batches in accordance with Subsection 802.05(c) shall also be made and tested by the Contractor, under the observation of the Engineer, prior to approval of the mix design. Compressive strength testing for approval of the mix design shall be in accordance with Subsection 802.06(a), except for the time of testing. The measurement of time for testing shall begin from the mixing of water and cement. Specimens shall be tested for each time requirement shown above and any other time required for the Contractor's VESLMC Work Plan. Specimens for compressive strength test at less than 12 hours of age shall be wet cured in their molds until time of test; shall be de-molded no more than 10 minutes before testing; shall be kept covered and damp until testing; and shall be tested within 10 minutes of the time specified to achieve the minimum compressive strength requirement.

No concrete shall be placed prior to the Engineer's approval of the design. Acceptance of the mix design will be based on apparent conformity with this special provision. It shall remain the Contractor's responsibility during production to produce concrete according to the mix design and the acceptance criteria. No change in materials will be permitted unless approved by the Engineer in writing.

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VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

EQUIPMENT: Equipment and tools necessary for handling materials and performing all parts of the work shall be approved by the Engineer as to design, capacity, and mechanical condition. Equipment shall be on site sufficiently ahead of the start of construction operations to be examined and approved.

The operation or placement of equipment and, or materials on the subject bridges shall be subject to the provisions of SS-105-2 "Equipment and Material Storage on Bridge Structures". Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

(a) Mixer. A continuous type mixer, calibrated to accurately proportion the specified mix, will be used to mix and discharge the VESLMC. The mixer shall be equipped so that the proportions of the cement, fine aggregate, and coarse aggregate can be fixed by calibration of the mixer and cannot be changed without destroying a seal or other indicating device affixed to the mixer by the Engineer. In addition to being equipped with a flow meter for calibrating the water supply portion of the mixer, the mixer shall also be equipped with a cumulative-type water meter which can be read to the nearest 0.1 gallon. The water meters shall be readily accessible, accurate to within 1%, and easy to read. Both water meters will be checked by the Engineer each time the mixer is calibrated. Approved admixtures shall be added by methods that ensure proportion and timing are controlled and compatible with each admixture manufacturer's recommendations. The mixer shall have a visible recording meter and batch ticket printout capable of positive measurement of cement added and the quantity of VESLMC mixed.

The continuous type mixer shall be calibrated to the satisfaction of the Engineer prior to starting the work. Yield checks will be made for each 50 cubic yards of mix. Recalibration will be necessary when indicated by the yield checks, and at any other times the Engineer deems necessary to ensure proper proportioning of the ingredients.

Continuous type mixers which entrap unacceptable volumes of air in the mixture shall not be used. Batch type and drum-type transit truck mixers or rotating drum batch type mixers shall not be used for VESLMC mixing.

The mixer shall be kept clean and free of partially dried or hardened materials at all times. It shall consistently produce a uniform, thoroughly blended mixture within the specified air content and slump limits. Malfunctioning mixers shall be immediately repaired or replaced with acceptable units.

(b) Placing and Finishing Equipment. Placing and finishing equipment shall include hand tools for placement and brushing-in freshly mixed VESLMC and for distributing it to approximately the correct level for striking-off with the screed.

An approved finishing machine shall be used for finishing all areas of work. The finishing machine shall be self-propelled and capable of forward and reverse movement under positive control. Provision shall be made for raising all screeds to clear the screeded surface for traveling in reverse. The finishing machine shall be of one the following two types:

1. A self-propelled finishing machine equipped with one or more rotating rollers, augers, and 1,500 to 2,500 vpm vibratory pans may be used.
2. A vibrating-screed type designed to consolidate the modified composition by vibration. Vibration frequency shall be variable with positive control between 3,000 and 11,000

vpm. The bottom face of the screeds shall be not less than 4 in. wide and shall be metal covered. The screeds shall be provided with positive control of the vertical position.

Finishing machine support rails shall be placed and fastened in position to ensure finishing the new surface to the required profile. Anchorage for supporting rails shall provide horizontal and vertical stability. Support rails that must be removed from overlaid area shall be removed without the use of release agents that would contaminate the VESLMC and areas affected will be hand finished to an equivalent surface as surrounding overlay. A suitable portable lightweight or wheeled work bridge will be required and used behind the finishing operation.

CONSTRUCTION REQUIREMENTS: The Contractor shall overlay the entire prepared surface in order to return it to traffic service within the time allotted by Maintenance of Traffic special provision. No highway traffic shall be allowed on areas of the deck where any existing deck concrete has been removed. The Contractor shall adjust preparation and placement operations so that placement ends coincide with allowed joint locations as noted in the plans or as approved by the Engineer.

(a) Weather Limitations. Construction of the overlay should be performed when the ambient, mixture, and prepared surface temperatures are between 55 and 75° F. In all instances, the VESLMC overlay shall be placed and kept at a temperature above 45° F for the duration of the curing period specified herein. The mixture shall not be placed when the ambient, mixture, or prepared surface temperature is above 85° F. The Contractor shall take approved steps to maintain all temperatures within these limits or cease overlay placement until such temperature limits can be maintained. The VESLMC overlay shall be protected from rain, excessive evaporation, or other atmospheric conditions that cause difficulty in the satisfactory finishing and curing of the overlay. This may require scheduling placement to avoid such conditions or the use of approved coverings or other equipment to mitigate the effects of such conditions. Material damaged by such conditions shall be removed at the direction of the Engineer and at no cost to the Department. If changing conditions necessitate a delay during placement operations, the Contractor shall implement delay measures as described in section (e) below.

(b) Surface Preparation. The VESLMC overlay shall be placed onto a surface that has been properly prepared in accordance with the plans and job special provisions. Additional preparation of any areas required shall be at the direction of the Engineer and may require the use of hand tools. After preparation, the deck shall be cleared of all debris. Highway traffic will not be permitted on the prepared portion of the deck.

(c) Reinforcing: Deteriorated reinforcing steel exhibiting section loss of greater than 25% or reinforcing steel damaged during concrete removal shall be replaced at the direction of the Engineer with new bars of the same or larger size that conform to Section 804. New bars shall be lapped 40 bar diameters to existing bars or dowelled into sound concrete in accordance with Section 804.04.

Exposed reinforcing steel which is left unsupported by the removal process shall be adequately supported and protected from bending by vehicles and equipment on the deck.

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(d) Cleaning. After surface preparation but before placing the overlay, the entire area of the deck surface, including the vertical faces of curbs, parapets, and barrier walls, up to a height of 1 in. above the elevation of the planned overlay, shall be power wash cleaned with a minimum 5,000 psi washing system such that all exposed concrete and reinforcing steel shall have a bright, clean appearance and be free from laitance, dust, dirt, oil, grease, bituminous material, paint, and all other foreign matter. All debris of every type, including dirty water, resulting from the cleaning operation shall be reasonably confined during the performance of the cleaning work and shall be immediately and thoroughly cleaned from the blast cleaned surfaces and all other areas where any escaped debris may have accumulated.

The process used to clean the existing deck shall be performed so as to conform to Job Special Provision "Management of Hydrodemolition Wastewater". Any method that does not consistently produce satisfactory work and conform to the above requirements shall be discontinued and replaced by an acceptable method.

The cleaning should be performed immediately preceding placement of the overlay on the area. The cleaned areas shall be protected, as necessary, against contamination prior to placement of the overlay. It shall be covered with a plastic cover that will be rolled up as the overlay placement equipment passes over it so that the cleaned surface is not exposed to wheels, dirt, oil, grease or any other contaminates. Contaminated areas and areas exposed more than 36 hours shall be cleaned again as directed by the Engineer at the Contractor's expense.

The work area shall be thoroughly wet down with potable water 1 hour prior to overlay. The work area shall be maintained in a "saturated surface dry" condition until it is overlaid. The Contractor shall also have equipment on standby to remove any standing water in depressions with vacuum or oil-free compressed air ahead of the overlay placement.

(e) Mixing. The Engineer shall be present for the initial calibration of the concrete mobile mixer. The Engineer will check and measure the volume of the latex, cement, aggregate and water at the concrete mobile mixer before and after as an approximate check of the calibration of the concrete mixer. Aggregate stockpiles shall be maintained at uniform moisture content.

Concrete shall be mixed at the work site in accordance with the specified requirements for the equipment used and the approved mix design and mixer calibration. The maximum time between completion of mixing and placement shall not exceed 5 minutes. Mixing capability shall be such that finishing operations can proceed at a steady pace and be completed before the formation of the plastic surface film.

Quality Control and Quality Assurance sampling and testing shall be in accordance with Subsections 802.06 (a) – (c) except as modified herein. Subsection 802.06 (b) shall be modified as follows:

> The standard lot size for acceptance of slump, air content and compressive strength will be 30 cubic yards or the full bridge length of one lane overlay, including shoulder, whichever is less, with each standard lot divided into at least 3 sublots with a maximum size of 10 cubic yards or one pour, whichever is less. Partial lots of any size may be established by the Engineer.

Compressive strength testing for maintenance of traffic and conformance with the VESLMC work plan shall be in accordance with the requirements of the Proportioning section of this

SPECIAL PROVISION JOB NO. BB0109

VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

specification. Compressive Strength testing for acceptance shall be for 28-day strength only and shall be in accordance with Subsection 802.06(b) as modified herein. Slump and air content testing for quality control and acceptance shall be in accordance with Subsection 802.06(b).

A random sample of 1 quart of the latex shall be taken off each concrete mobile mixer and delivered to AHTD, Materials Division for evaluation compliance with the material requirements specified above. The sample shall be taken in a clean, durable, un-reactive, sealed container suitable for this material.

(f) Placing, Consolidating and Finishing. The finishing machine shall be test-run over the entire area to be overlaid prior to placement to ensure that the required minimum overlay thickness and minimum cover to reinforcing steel specified in the plans will be achieved. Clearance shall be checked with a filler block 1/8 in. less than the required overlay thickness attached to the bottom of the finishing machine. Areas having insufficient clearance shall be corrected by removing material or by adjustments to the machine support rails at the direction of the Engineer. Areas where removal occurs shall meet the cleaning requirements above.

Immediately prior to placement of the overlay, prepared areas shall be thinly coated with the VESLMC as a bond coat by brushing or scrubbing with a stiff brush. Course particles that do not adhere to the prepared surface shall be removed. The grout bond coat shall not be allowed to dry prior to placement of the overlay.

The VESLMC overlay shall be placed evenly across the work area ahead of the finishing machine approximately 1/8 to 1/4 in. above the final grade and then mechanically consolidated and struck off to final grade. Deep pockets and areas not accessible to the finishing machine shall be consolidated and finished by approved hand methods. Removal of finishing machine supports or temporary bulkheads shall be done as to not damage the fresh overlay material. Affected areas shall be hand finished to an equivalent surface as surrounding overlay. The VESLMC overlay surface shall receive a burlap drag finish as specified in Subsection 802.19(b)(7). Prior to the commencement of curing, the exposed surface shall be protected from excessive evaporation, with approved misting or fogging equipment as necessary.

Construct longitudinal joints at locations shown on the plans or as approved. Construct transverse joints at the allowed ends of the overlay placement as noted on the plans or as approved by the Engineer. Construct a straight and vertical edge at transverse and longitudinal construction joints. Saw joints as required by the plans before placing the adjacent overlay. The vertical faces of construction joints shall be prepared as specified above prior to placing of the adjacent overlay.

During short delays of less than 30 minutes in the overlay operations the exposed edge of the placement shall be protected from drying by the application of wet burlap. Delays in the placement operations exceeding 30 minutes or stoppage due to material or condition changes shall require the formation of an approved construction joint by removal of material not set to finish grade and the installation of a bulkhead across the full width of the placement.

(g) Curing. The overlay surface shall be covered promptly with a single layer of clean, wet burlap as soon as the surface will support it without damage. The burlap shall be maintained continuously wet from the time of placement until its removal. Within 1 hour of commencement of curing, the wet burlap shall be covered with material conforming to Subsection 802.17(a) (1) -

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VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

(4). The covering material shall have a minimal number of sealed seams and shall be secured to prevent disruption of the wet cure. The overlay shall be covered and maintained continuously wet for a minimum of 6 hours, unless otherwise approved in writing by the Engineer. Uncovering portions of the overlay for surface testing or joint sawing shall be limited to short durations and the immediate work area and the surface of the exposed overlay shall be maintained continuously wet during such breaks. Water used for curing shall conform to Subsection 802.02(d) and shall be added evenly across the surface of the overlay in an approved manner that does not cause damage to the surface or an excess of runoff. Temperature limits of the overlay shall be maintained during the wet cure.

At the conclusion of the wet cure period, coverings shall be removed and the overlay surface shall be coated with an approved membrane curing compound before the overlay surface dries. The membrane curing compound shall meet the requirements of Subsection 802.17(a)(5) and shall be applied according to the Manufacturer's recommendations, but at a rate of no less than 1 gallon/125 sq. ft. of area. No traffic of any kind shall be allowed on the surface until the membrane curing compound is dry.

Contractor substitution of lithium silicate curing compounds or other materials for these provisions will not be allowed.

(h) Inspection. The surface of the VESLMC overlay shall meet the straightedge and surface requirements for Bridge Roadway Surface Construction specified in Subsection 802.20(b) – (d). In addition, the surface of the VESLMC overlay shall be inspected for cracking and sounded for any de-lamination from the underlying concrete prior to application of the Roadway Surface Finish.

(i) Roadway Surface Finish. The surface of the VESLMC overlay shall be given a finish as specified in Subsection 802.19(b)(7) "Class 7, Grooved Bridge Roadway Surface Finish" within 7 days of placement of the overlay.

(j) Construction Joint Treatment. After completion of the Bridge Roadway Surface Finish, the Contractor shall apply a Class 3 Protective Surface Treatment to longitudinal construction joints adjacent to existing rails or curbs in accordance with Section 803, "Protective Surface Treatment for Concrete". Transverse and longitudinal joints separating adjacent overlay placements shall be prepared and sealed in accordance with the plan details. Treatment of construction joints in addition to those called for in the plans shall be at no cost to the Department unless approved by the Engineer.

(k) Reconstruction. Any and all areas of the overlay which either display a significant number of cracks or which are not intimately bonded to the underlying deck shall be removed and replaced with acceptable concrete at the Contractor's expense. All small cracks which exist but are not significant enough to require removal of the overlay shall be thoroughly sealed with a method approved by the Engineer at the Contractor's expense.

(l) Traffic Loading. The new VESLMC surface shall not have traffic loading until the completion of the approved wet curing period and inspection, and until the material shall be shown through approved testing by the Contractor to have attained a compressive strength of 3000 psi. Traffic will be allowed on the overlay with the burlap-drag finish, but roadway surface finish and treatment as defined in sections (i) and (j) above shall be completed within 7 days of placement of the overlay.

SPECIAL PROVISION JOB NO. BB0109

VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

METHOD OF MEASUREMENT: Very Early Strength Latex Modified Concrete Overlay (1 ½" Thick) will be measured by the square yard complete in place.

Very Early Strength Latex Modified Concrete (Variable Depth) will be measured by the cubic yard complete in place. The number of cubic yards will be determined by deducting the theoretical volume of the required minimum thickness of the VESLMC overlay from the total volume of VESLMC required, as indicated by the batch quantity tickets, to obtain the finished grade shown on the plans or established by the Engineer.

Grooving for the Class 7, Grooved Bridge Roadway Surface Finish shall be measured in accordance with Section 802. Class 3 Protective Surface Treatment shall be measured in accordance with Section 803. Replacement Reinforcing Steel, if required shall be measured in accordance with Section 804.

BASIS OF PAYMENT: The Very Early Strength Latex Modified Concrete Overlay (1 ½" Thick) completed and accepted and measured as provided above will be paid for at the contract unit price per square yard, which price will be full compensation for any surface preparation; for cleaning; for furnishing all materials; for mixing, placing, finishing, and curing the VESLMC; for performing mix designs and trial batches; for quality control and acceptance sampling and testing; and for inspection and any reconstruction required in accordance with the plans, the Standard Specifications, this Special Provision, and as directed by the Engineer; and for any tools, labor, equipment or incidentals necessary for such placement. The VESLMC in this item includes only the VESLMC for the required minimum overlay thickness as shown in the plans.

Accepted quantities as measured above of Very Early Strength Latex Modified Concrete (Variable Depth) will be paid for at the invoice price of the materials delivered to the project, except in no case shall maximum payment exceed the unit price in the contract documents. All other costs associated with placement of the Very Early Strength Latex Modified Concrete (Variable Depth) shall be incidental to the price bid for Very Early Strength Latex Modified Concrete Overlay (1 ½" Thick).

Payment will be made under:

Pay Item	Pay Unit
Very Early Strength Latex Modified Concrete Overlay (1 ½" Thick)	Square Yard
Very Early Strength Latex Modified Concrete (Variable Depth)	Cubic Yard

Where called for in the plans and this Special Provision, Grooving and Class 3 Protective Surface Treatment will be paid for in accordance with Sections 802 and 803, respectively. Replacement Reinforcing Steel, if required shall be paid for in accordance with Section 804.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. BB0109

MAINTENANCE OF TRAFFIC

The Maintenance of Traffic Special Provision is hereby amended as follows:

The section **For the Bridge Deck Rehabilitation operations** is hereby deleted and the following substituted therefor:

For the Bridge Deck Rehabilitation operations the contractor will be allowed one lane closure for the work at two (2) bridges. Work can be performed on the bridges simultaneously in the same direction and the same lane with no hourly restrictions. The contractor will be allowed a maximum of 22 calendar days per bridge for Bridge Deck Rehabilitation for Bridge A3131 and B3131. The contractor will be allowed a maximum of 16 calendar days per bridge for Bridge Deck Rehabilitation and reconstruction of the Approach Slabs and Gutters for Bridges A2808 and 2808. A work day will be assessed for each calendar day. Precast Concrete Barrier Wall will be provided for bridge deck rehabilitation as shown in the plans. The Bridge Deck Rehabilitation operations may begin when Mill & Inlay operations for the set of lanes has been completed. The Contractor shall not close any portion of a lane unless active work will begin immediately. If working two bridges simultaneously, active work shall begin immediately on both bridges. Only one lane closure per set of main lanes will be allowed and shall not exceed the active work area by more than ¼ mile. If working two bridges simultaneously, bridge rehabilitation can only be performed in the same lane. In addition, when gainful work is not being accomplished in an area where a lane has been previously closed, steps should be taken to return traffic to normal conditions – that is, all lanes open to traffic within 6 hours after construction operations have ceased. If working two bridges simultaneously and one bridge is completed prior to the other, the traffic control shall be adjusted to reduce the length of closure to only the area needed for the remaining bridge. This shall also be done within the 6 hour time limit. All additional labor, materials and incidentals needed to return the traffic to normal conditions shall be provided, maintained, removed, and replaced, if necessary, at no cost to the Department.

The lane closure for the bridge operations shall not exceed the maximum allowable days for each bridge. Any lane closure beyond the maximum allowable days will result in a lane use charge of $4000 per hour until the lane closure is removed. Additionally, failure to comply with the 6 hour time limit to return traffic to normal conditions or adjust the traffic control for work on one bridge will result in a lane use charge of $4000 per hour. In assessing these lane use charges, any portion of an hour will be counted as a full hour.

JOB BB0109

I-40-JERICHO (S)

1. **Question:**
The plans and proposal specify a maximum of 4 calendar days per bridge for Bridge Deck Rehabilitation for Bridge A2808 and 2808. The removal and disposal of existing approach slabs and their replacement is also required in the same location of these bridges. It appears the approach slab removal and replacement was omitted from the time allowed. Are both operations intended to be performed during this 4 day period?

Answer:
The 4 day period is for the bridge deck repair only. Also, the intent is that the Approach Slab and Gutter reconstruction for Bridges A2808 and 2808 be done in conjunction with the bridge deck repair operations. An addendum will be issued.

2. **Question:**
The plans and proposal specify that bridge repairs cannot begin until the milling and inlay of the main lanes is completed. Does this requirement apply to both the northbound and southbound main lanes collectively or individually?

Answer:
The mill and inlay operations are to be completed for the main lanes in one direction before hydrodemolition bridge deck repair operations can begin in that set of lanes. An addendum will be issued.

3. **Question:**
Can the Contractor perform milling and inlay operations in the northbound and southbound main lanes simultaneously?

Answer:
The milling and inlay operations shall be completed in one set of main lanes before milling and inlay operations can begin in the opposite set of main lanes.

4 **Question:**
Based on the plan quantities and the maximum days allowed for the Job, would the Department review the Training Program requirement?

Answer:
The Special Provision "Training Program" will be removed from Job BB0109. An addendum will be issued.

5 **Question:**
Which stage of construction does the Department anticipate removal and replacement of the existing median barrier wall at Station 226+97 – 239+32?

Answer:
This will be included in Stage 1 construction. An addendum will be issued.

6 **Question:**
Does the ACHM Patching of Existing Roadway include any removal and repairs of existing Portland Cement Concrete Pavement?

Answer:
No. The items ACHM Patching of Existing Pavement, Removal and Disposal of Concrete Pavement Patching, and Portland Cement Concrete Pavement Patching are separate pay items. Refer to the Special Details Plan Sheets for Portland Cement Concrete Pavement Patching.

7 **Question:**
The lane closures required to remove and replace the 4 approach slabs on Bridges 06102 and 06103 and the time allowed to do this work have not been clarified other than during Stage 1 Construction.

Answer:
Bridges 06102 and 06103 do not require hydrodemolition. Therefore, the calendar day restrictions do not apply to the replacement of the approach slabs. These bridges are located on a 2-lane ramp with a detour (Refer to the Maintenance of Traffic Plan Sheets). The Construction Staging is at the Contractor's discretion with approval by the Engineer.

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8 **Question:**
Bridges A2808 and 2808 currently have an asphalt overlay on the existing deck. Once milling is performed to expose the concrete deck for hydrodemolition and concrete overly, the finished deck grade does not match the mill and inlay roadway grades. Since the milling and inlay must be accomplished prior to bridge construction, how should grade differential be addressed?

Answer:
The mill and inlay operation should transition from final inlay elevation on the roadway to the final proposed deck elevation similar to what is shown on the pavement transition detail and as directed by the Engineer.

9 **Question:**
Additional time consideration was given to allow approach slabs to be constructed during the same period that deck repairs were being performed on Bridges A2808 and 2808. However, only one closure was allowed for one bridge repair in each direction and the work on the northbound and southbound bridges could not be performed simultaneously. A simple accumulation of the days allowed for bridge construction exceeds the maximum 75 days allowed in the contract without consideration for the mill an inlay of the roadway, median barrier removal and replacement, approach slab removal and replacement for bridges 06102 and 06103, or the patching of the existing asphalt and concrete pavements. Contract Time allowance does not appear appropriate for restrictions placed on construction activities. Allowance for at least 2 bridge repairs to be performed simultaneously could meet the Department's schedule for completion. Has this been considered?

Answer:
Previous plan revisions permit the bridge hydrodemolition repair operations and construction of the approach slabs and gutters at A2808 and hydrodemolition repair operations on the deck of A3131 can be ongoing while paving and median barrier wall construction operations are ongoing in the northbound lanes. Bridges 06102 and 06103 do not have hydrodemolition deck repair so calendar day restrictions do not apply to the approach slab and gutter replacement. The bridges are located on a two lane ramp with a detour (Refer to the Maintenance of Traffic Plan Sheets). The Construction Staging is at the Contractor's discretion with approval by the Engineer.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

Scott E. Bennett
Director
Telephone (501) 569-2000

P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400

P.O. Box 309
West Memphis, Arkansas 72303-0309

April 11, 2013

Attn: Jim Smith
APAC-Tennessee, Inc.
P.O. Box 13427
Memphis, TN 38113-0427

RE: BB0109
F.A.P No: BIM-B55-0(201)
I-40-Jericho (S)
Crittenden County

Dear Jim,

The Department has reviewed your Sequence of Construction and proposed changes to the planned Sequence of Construction. It has been determined that the southbound lane closure for the approach slab construction at bridges 6102 and 6103 is needed. The lane closure can be extended to the north of Bridge 2671A, thus eliminating the need for the precast barrier wall on the shoulder. It is also acceptable to extend the lane closure north during the last portion of Phase SB-3 to begin the deck rehabilitation on the outside lane of Bridge 3131. Furthermore, patching can begin in the northbound lanes during Phase SB-3. As agreed, this would be done within the time restrictions and the lane closure for this operation would be limited to a maximum of 2 miles.

However, during review of the Baseline Schedule and through the Preconstruction Conference scheduling discussion, it appears that it is APAC's intent on pursuing the hydrodemolition and bridge deck rehabilitation on two bridges simultaneously. Per the Maintenance of Traffic Special Provision, only one bridge can be pursued at a time. Please make changes to your schedule in order to comply with this stipulation.

If you have any questions, please feel free to call this office at 870-735-2466.

Sincerely,

Jeff Adams
Resident Engineer

Cc: Mike Sebren, State Construction Engineer
Ray Woodruff, District Engineer
file

DEFENDANT'S EXHIBIT 5

APAC-Tennessee, Inc.

Post Office Box 13427
1210 Harbor Avenue
Memphis, TN 38113-0427
Tel: (901) 947-5600
Fax: (901) 947-5699

April 2, 2013

Mr. Jeff Adams, Resident Engineer
Arkansas Highway & Trans. Dept.
P. O. Box 309
West Memphis, AR. 72303

Re: AHTD Job BB0109
I-40 - Jericho (S)
F.A.P. BIM – B55-0(201)
Crittenden, County

Dear Jeff,

As a follow-up to our discussion at the Preconstruction conference this date and the previous submittal of the CPM Schedule on the noted project, APAC would like to clarify the proposed Sequence of Construction on the project for completion of the construction within the 67 Working Days bid in the Contract.

Plan details failed to provide a SB lane closure to remove and replace the existing approach slabs on Bridges 6102 and 6103 as well as quantities for the necessary temporary precast barrier and asphalt leveling for grade adjustments at this location. This work could be performed under left and right closures of APAC Phase SB-3. Additionally the plan precast barrier wall installed on the SB inside shoulder for removal and replacement of the existing median wall from Station 226+97 – 234+70 could be eliminated and utilized for delineation of the approach slab work areas. This lane closure should be extended to the North Bridge End of Bridge 2671A to allow for adequate sight distance as well as provide the safe clearance for removal and replacement of the median wall behind a closure.

APAC requests that the right lane closure during APAC Phase SB-3 be extended North to allow deck rehabilitation to begin on the outside lane of Bridge 3131 within the final 6 working days of the Phase SB-3 outside closure. This total closure length will be less than the maximum 4 mile closure limit specified in the Contract provisions. This will also comply with the requirement that SB Bridge rehabilitation begin after SB Mill and Inlay operations have been completed.

Due to the disparity in the number of NB asphalt patches (26) and the SB asphalt patches (9) APAC requests to be allowed to begin patching of the NBML during the same time period when APAC Phase SB-3 is occurring. This will allow the timely completion of the NB patching and allow for the removal of the existing ACHM deck overlay from Bridge 2808 to eliminate the pavement differential that would occur during the typical mill and inlay operations.

These changes are deemed necessary to complete the scope of work detailed in the plans within the specified time and include the SBML closures for removal and replacement of the existing approach slabs. Please review and advise if these proposed modifications to the plan Sequence of Construction are considered acceptable. Should you have any questions or need additional information please contact this office.

Sincerely,

Jim W. Smith P.E.
Engineering / QC Manager

Cc: N. Haynes - APAC
M.Carden - APAC
APAC #3326 -010 file

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AHTD BB0109 Sequence of Construction

Phase 1

Install Advance Traffic Control Devices Entire Project
Install Temporary Shoring Bridges 3131A & 3131B
SB – ACHM Patching of Existing Roadway
SB – ACHM Milling of Asphalt Bridge 2808A Deck overlay and Transitions

Phase 1a
SB-1 Milling and ACHMSC Inlay SB Sta. 620+00 – 469+00 Inside and Outside Lanes

Phase 1b
SB-2 Milling and ACHMSC Inlay SB Sta. 469+00 – 249+10 Inside and Outside Lanes

Phase 1c (Potential Coordination Conflict AHTD Job 110587)
SB-3 Install Temporary Precast Barrier
SB-3 R&D existing approach slabs Inside Lane SB Br. 6102 & 6103
SB-3 R&D existing Median Barrier & footing
SB-3 Construct New Median Barrier & footing
SB-3 PCCP Patching SB Inside Lane
SB-3 Construct NEW Approach Slabs and Gutters SB Inside Lane
SB-3 ACHM Paving Binder & Surface SB Inside Lane
SB-3 Relocate Temporary Precast Barrier
SB-3 R&D existing approach slabs Outside Lane SB Br. 6102 & 6103
SB-3 PCCP Patching SB Outside Lane & Ramp
SB-3 Construct NEW Approach Slabs and Gutters SB Outside Lane
SB-3 ACHM Paving Binder & Surface SB Outside Lane & Ramp
SB-3 Relocate Temporary Precast Barrier
SB-3 Br 3131A Outside Lane Hydroblast Exist Deck & Prep for Deck Overlay
NB – ACHM Patching of Existing Roadway
NB – ACHM Milling of Asphalt Bridge 2808A Deck overlay and Transitions

Phase 2

SB-3 Br 3131A Outside Lane Deck Overlay
SB-3 Br 2808A Outside Lane Hydroblast Exist Deck & Deck Overlay
SB-3 Relocate Temporary Precast Barrier
SB-3 Br 3131A Inside Lane Hydroblast Exist Deck & Deck Overlay
SB-3 Br 2808A Inside Lane Hydroblast Exist Deck & Deck Overlay
SB-3 Relocate Temporary Precast Barrier

Phase 2a
NB-1 Milling and ACHMSC Inlay NB Sta. 194+95 – 285+00 Inside, Outside & Accel Lanes

Phase 2b
NB-1 Milling and ACHMSC Inlay NB Sta. 285+00 – 409+00 Inside & Outside Lanes

Phase 2c
NB-1 Milling and ACHMSC Inlay NB Sta. 409+00 – 620+00 Inside & Outside Lanes

Phase 3

NB-3 Br 3131 Inside Lane Hydroblast Exist Deck & Deck Overlay
NB-3 Br 2808 Inside Lane Hydroblast Exist Deck & Deck Overlay
NB-3 Relocate Temporary Precast Barrier
NB-3 Br 3131 Outside Lane Hydroblast Exist Deck & Deck Overlay
NB-3 Br 2808 Outside Lane Hydroblast Exist Deck & Deck Overlay
NB-3 Remove Temporary Precast Barrier
SB Bridge Deck Grooving
SB Rumble Strips
SB Permanent Striping

Phase 4

NB Bridge Deck Grooving
NB Rumble Strips
NB Permanent Striping

APAC-Tennessee, Inc.

Post Office Box 13427
1210 Harbor Avenue
Memphis, TN 38113-0427
Tel: (901) 947-5600
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July 19, 2013

Mr. Jeff Adams, Resident Engineer
Arkansas Highway & Trans. Dept.
P. O. Box 309
West Memphis, AR. 72303

Re: AHTD Job BB0109
I-40 - Jericho (S)
F.A.P. BIM – B55-0(201)
Crittenden, County

Dear Jeff,

APAC requests that the Department consider the following information as support for additional time being added to the project as a result of the extended review and approval process for the VESLMC mix design on the project. Please reference the attached VESLMC Submittal and Approval chronology

April 1, 2013 APAC provided mix design documents to the Department for review and approval, although it was not specifically stated in the design, citric acid was included as a retarder in the mix. The use of citric acid is considered a standard industry practice and due to the small percentage of the total mix used it was not included in the materials list on the design provided by the producer. During the trial batching process Modified Concrete Inc. was held to the slump and water cement ratio requirements of the Special Provision creating a mix which failed in both strength and workability. Due to the harshness of the mix during the trial batch process an alternate design was submitted by Modified Concrete using Type III cement to provide the slump and w/c ratio specified in the SP. After Department review and denial of this design due to the cement type, the supplier returned to the initial Rapid Set Cement requesting modifications of the slump and water/cement ratio and including citric acid as a retarder detailed in the May 29th submittal. This mix design submittal was based on the letters of recommendation from the cement and latex suppliers indicating citric acid as the only retarder which would provide the desired properties for the overlay.

Anticipating approval of the design based on this recommendation from the latex and cement manufacturers, APAC and Chris-Hill proceeded to schedule Modified Concrete and Hydroblasters to begin operations on the SBML on the project on the first available time slot which was now June 10th. The Department was advised of the schedule and as this date approached APAC was verbally instructed that operations could not begin and lane closure placed until an approved mix design was in place. APAC advised Chris-Hill of the same and at the last moment the schedule was postponed due to the delay in approval of the design. Additional citric acid information was provided as requested by the Department on June 12th and June 14th however formal approval of the mix design was not provided until June 21st. Subsequent arrangements and scheduling of subcontractors could not be coordinated until June 26th when work began on the SB outside lanes at Hwy 64 overpass.

APAC had anticipating performing work on the SB bridge structures while simultaneously completing the mill and inlay of the NB main lanes on the project. This delay in approval of the VESLMC mix design from June 10th through June 26th could not have been anticipated and was directly related to the Departments process for approval of a new material complying with the SP contained in the Contract. This Special Provision clearly states that all admixtures used shall be compatible with the latex modifier and cement used in the mix design. Initial denial of the mix indicating that retarding materials must be included from the AHTD Qualified Products list is in contradiction with the requirements of the Special Provision.

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Standard Specifications allow the Department 30 days for review and approval of normal mix design submittals by the Contractor. As shown in the attached log this process actually occurred over an 82 day period. APAC recognizes that this VESLMC mix is not normal for AHTD and is a new process which is being used within the State and that other contractors have experienced the same review process on other AHTD projects. This extended approval process was apparently not accounted for by the Department in the determination of the maximum allowed days for construction of the project nor allowed for by APAC in development of the project schedule. APAC's presentation of the proposed Sequence of Construction and Baseline CMP schedule at the Preconstruction Conference anticipated starting construction of the SB Hwy 64 bridge overlay on June 8th which would have been work day 21 in order to complete the project within the 67 days bid on the project. The actual start date for the bridge overlay occurred on June 26th which was Charged Day number 41 on the project.

The Department imposed monetary Incentives / Disincentives in the Contract in order to ensure timely completion of the project. The approval process by the Department for this particular critical material design should be allow special consideration as an impact which was neither the fault of the Department or the Contractor. APAC requests that an additional twenty (20) days be added to the Contract time due to the process of providing approval of the design which delayed the start of a specific series of critical activities which ultimately will delay the completion of the project. Should you have any questions or need additional information please contact this office.

Sincerely,

Jim W. Smith P.E.
Engineering / QC Manager

Cc: N. Haynes - APAC
M.Carden - APAC
APAC #3326 -055 file

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Contractor	Supervisors	Workers	Hours Worked
SOUTHERN GUARD RAIL CO., INC.		6	

Contractor	Supervisors	Workers	Hours Worked
SUPERIOR TRAFFIC CONTROL-MEMPHIS, INC.		3	

DWR Created By: Marilyn A. Johnson **Date Authorized:** 6/10/2013

Weather: AM: PM: High: 0 Low: 0

EEO / DBE Issues

A payroll update, of all the payroll deficiencies for all contractors/subcontractors was emailed to Jeff Adams, Ryan Blankenship, Earnest Gardner, Donnaire Granger, Donnie Henson, Austin Hill, Jonathan Holland, Ronald Oliver & Sonya Rose (AHTD) on this d

ate. Also, a word document copy of the deficiencies was put in the file as well. Also, there are no updates on the payroll issues (See letter dated 5-24-13).

DWR Created By: Jeff Adams **Date Authorized:** 6/10/2013

Weather: AM: PM: High: 0 Low: 0

General Notes:

Sent a letter to Jim Smith of APAC noting bulletin board deficiencies.

Materials:

Informed Jim Smith of APAC that they might want to consider using an approved supplier of fine aggregate for a new trial batch for the VESLMC mix design. The recently submitted mix design had a fine aggregate from a non approved source. A sample of tha

t fine aggregate was taken to the Materials Division for testing this date. Mr. Smith was told that they results could be expected in about a week. Mr. Smith indicated that they may run a new trial batch with another approved source and use whichever i

s approved first.

Saturday **June 8** **30 / 67** **Date Authorized:** 6/17/2013 **Authorized By:** Jeff Adams

No Time Charged: Contractor unable to employ 60% of normal forces and equipment.

No Time Charged Reason: Saturday - Contractor elected not to work.

DWR Created By: Donnaire M. Granger **Date Authorized:** 6/17/2013

Weather: AM: Partly Cloudy PM: Partly Cloudy High: 84 Low: 61

Working Conditions: ROADWAY -- GOOD
STRUCTURES -- GOOD

Engineering Activities: NONE

Roadway Work:

NO WORK IN PROGRESS

Structure Work:

NO WORK IN PROGRESS

Sunday **June 9** **30 / 67** **Date Authorized:** 6/17/2013 **Authorized By:** Jeff Adams

No Time Charged: Contractor unable to employ 60% of normal forces and equipment.

No Time Charged Reason: Sunday - No time charged.

DWR Created By: Donnaire M. Granger **Date Authorized:** 6/17/2013

Weather: AM: Partly Cloudy PM: Partly Cloudy High: 89 Low: 70

Working Conditions: ROADWAY -- GOOD
STRUCTURES -- GOOD

Engineering Activities: NONE

Roadway Work:

ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. BB0109

HYDRODEMOLITION

DESCRIPTION: This work shall consist of the removal of bridge deck concrete using hydrodemolition equipment as preparation for bridge deck repairs or overlay **within the constraints of the Maintenance of Traffic special provision**. All work shall be performed in accordance with the plans, the Standard Specifications, this Special Provision, and as directed by the Engineer.

HYDRODEMOLITION SPECIALIST AND WORK PLAN: Work shall be performed by a Contractor or Subcontractor who has successfully performed at least eight (8) verifiable projects similar to this project within the last four (4) years. A brief description of each project including the location, start and completion dates, and a reference shall be included for each project listed. As a minimum, the reference shall include an individual's name, affiliation with the project, and current phone number. In addition, the onsite supervisor assigned to this project must have experience in that position on a minimum of five (5) projects which are similar in nature to this project. A summary of the onsite supervisor's experience shall contain enough information for the Engineer to assess the individual's qualifications. The onsite supervisor shall be present during all hydrodemolition operations. The hydrodemolition system shall be operated by a trained individual having sufficient experience with the machinery used for the performance of the hydrodemolition.

The above information shall be submitted to the Engineer along with a Hydrodemolition Work Plan for review and record purposes at least thirty (30) days prior to commencement of hydrodemolition operations. The hydrodemolition work plan shall list all equipment, materials and methods the Contractor proposes for use for the following operations:

1. Hydrodemolition, milling, scarifying, or other removal of concrete.
2. Shielding and other safety devices.
3. Collection and disposal of debris and cleaning of the finished surface.
4. Repair methods and materials for unexpected blow-through of concrete deck or into a deck void form of a voided slab bridge.
5. **Detailed schedule of work and conformance to project Maintenance of Traffic plans.**

This work shall not commence until the experience record submittal and Hydrodemolition Work Plan have been reviewed by and are satisfactory to the Engineer. Work shall conform to the submitted work plan unless changes are submitted in writing to the Engineer.

MATERIALS AND EQUIPMENT: The hydrodemolition equipment shall be a self-propelled machine that utilizes a high pressure water jet stream capable of removing concrete to the depths shown on the plans or as directed by the Engineer and be capable of removing rust and concrete particles from reinforcing steel. The equipment shall be capable of removing all concrete to the required minimum overlay thickness and unsound concrete up to the limit detailed in the plans and provide a rough and bondable surface. Hand held high pressure wands or pneumatic hammers, 45 pound class maximum, may be used in areas that are inaccessible or inconvenient to the self-propelled machine such as, but not limited to, areas not to exceed one foot away from curbs or joints.

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SPECIAL PROVISION JOB NO. BB0109 - HYDRODEMOLITION

Prior to hydrodemolition, cold milling or mechanically scarifying the deck to remove any asphalt overlay or to remove bridge deck concrete to a depth allowed in the plans and which does not come into contact with existing reinforcement is allowed. Cold milling and scarifying equipment shall be self propelled with sufficient power, traction, and stability and capable of uniformly removing the old surface to the depths required in a satisfactory manner.

The operation or placement of equipment and, or materials on the subject bridges shall be subject to the provisions of SS-105-2 "Equipment and Material Storage on Bridge Structures". Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

CONSTRUCTION REQUIREMENTS: No highway traffic shall be allowed on areas of the deck surface where any existing deck concrete has been removed. The Contractor shall adjust hydrodemolition operations so that overlay placement ends coincide with allowed joint locations as noted in the plans or as approved by the Engineer.

Prior to the commencement of the removal operation, the hydrodemolition equipment shall be calibrated on an area of sound concrete of approximately 25 sq. ft. on the existing bridge deck surface as directed by the Engineer. The cost of the calibration procedure shall be included in the unit price bid for hydrodemolition. The Engineer shall verify the following settings:

1. Water pressure.
2. Machine staging or step control.
3. Nozzle size.
4. Nozzle travel speed.

During the calibration, any or all of the above settings may be adjusted in order to achieve removal in accordance with the requirements of the plans. When the designated depth of removal is attained, the settings shall be recorded and maintained throughout the removal operation unless otherwise directed by the Engineer. The depth of removal shall be verified periodically and, if necessary, the equipment re-calibrated to ensure the planned depth of removal.

The Contractor shall provide shielding, as necessary, to ensure containment of all water and dislodged concrete within the removal area in order to protect the traveling public from flying debris and water spray both on and under the work site. Hydrodemolition operations over roadways or railroads shall conform to Job Special Provisions "Special Safety Requirements for Bridges" or "Insurance, Construction, and Flagging Requirements on Railroad Property (Owner)" as required.

Appropriate care shall be taken to prevent damage to the bridge slab reinforcing steel, joints, drains and other appurtenances. Should any damage occur to these items, they shall be repaired at the Contractor's expense.

After hydrodemolition, the deck shall be inspected by sounding to ensure that all deteriorated concrete up to the limit detailed in the plans has been removed. At the direction of the Engineer, the Contractor shall remove the areas of deteriorated concrete by additional passes of the hydrodemolition equipment or jackhammers to a depth not to exceed the maximum allowed in the plans. When the bond between existing concrete and reinforcing steel that will remain in

place has been destroyed, the concrete adjacent to and below the bar to a minimum depth of ¾" below the bar shall be removed in order to permit the new concrete to bond to the entire periphery of the exposed bar. Areas requiring additional removal and repair prior to the subsequent overlay, as determined by the Engineer, shall be repaired in accordance with the Job Special Provision "Bridge Deck Repair".

Wastewater from the hydrodemolition process shall be collected, treated, and released in accordance with Job Special Provision "Management of Hydrodemolition Wastewater" and the Hydrodemolition Work Plan. Bridge joints and deck drains not used to convey waste water to a sediment basin shall be plugged during the hydrodemolition process.

Cleaning of the bridge deck shall be performed with a vacuum system capable of removing wet debris and water. The deck shall then be blown dry with air to remove excess water and residual debris. Cleaning shall be done before debris and water are allowed to dry on the deck surface. All exposed reinforcing steel which is left unsupported by the hydrodemolition process shall be adequately supported and protected from bending by vacuum trucks or any other equipment. All reinforcing steel damaged or dislodged by these operations shall be replaced with bars of the same size at the expense of the Contractor. Reinforcing Steel shall conform to the requirements of Section 804. All material removed during bridge deck demolition and cleaning shall be collected and disposed of in accordance with Job Special Provision "Management of Hydrodemolition Wastewater" and the Hydrodemolition Work Plan.

For slab-on-girder bridges, if the hydrodemolition equipment blows through the deck, hydrodemolition shall cease and the Engineer shall be notified. The Engineer shall determine if the blow through should have been avoided by proper monitoring of the demolition operations. If so, the damaged area shall be the responsibility of the Contractor and shall be repaired at the Contractor's expense to the satisfaction of the Engineer. Before resuming, hydrodemolition operations shall be adjusted to avoid similar blow-through during subsequent demolition. If it was unavoidable due to existing deterioration, the damaged area shall be paid for in accordance with the Job Special Provision "Bridge Deck Repair". All repair methods and materials shall be in accordance with the Job Special Provision "Bridge Deck Repair" and as specified in the Contractor's Work Plan.

For reinforced concrete slab-span bridges, if the hydrodemolition equipment blows through the deck or into a void of a voided slab, hydrodemolition shall cease and the Engineer shall be notified. Before resuming, hydrodemolition operations shall be adjusted to avoid similar blow-through during subsequent demolition. The damaged area shall be the responsibility of the Contractor and shall be repaired at the Contractor's expense to the satisfaction of the Engineer. Repair methods and materials shall be as specified in the Contractor's Work Plan.

SPECIAL PROVISION JOB NO. BB0109 - HYDRODEMOLITION

METHOD OF MEASUREMENT: Hydrodemolition shall be measured by the square yard of the total deck area removed regardless of the depth of removal.

BASIS OF PAYMENT: The accepted quantity of hydrodemolition will be paid for at the contract unit price per square yard, which price will be full compensation for all materials, equipment and labor necessary to remove and dispose of all concrete and other debris to the depth shown on the plans or as directed by the Engineer. This item shall also include calibration of equipment, cold milling, vacuuming, shielding, containment and disposal of wastewater, additional jack hammering, any repair required due to Contractor damage, as determined by the Engineer, and all other aspects of work necessary to remove bridge deck concrete in preparation for repair or overlay.

Payment will be made under:

Pay Item	Pay Unit
Hydrodemolition	Square Yard

ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. BB0109

BRIDGE DECK REPAIR

BRIDGE NOS. A3131 & B3131

DESCRIPTION: This item shall consist of removing unsound portions of the bridge deck concrete below the designated depth of removal by hydrodemolition, disposing of the removed concrete, preparing the surface, and the work for replacing the removed volume with repair concrete meeting the requirements of the Job Special Provision "Very Early Strength Latex Modified Concrete Overlay" or "Latex Modified Concrete Overlay", prior to subsequent overlay. This work shall be completed in accordance with the plans, the Standard Specifications, and job Special Provisions; and as directed by the Engineer.

MATERIALS: Repair concrete shall conform to the requirements of the Job Special Provision "Very Early Strength Latex Modified Concrete Overlay" or "Latex Modified Concrete Overlay" as directed in the plans. The Contractor may submit an alternate repair concrete for approval.

Replacement reinforcing steel, if required, shall conform to the requirements of Section 804.

EQUIPMENT: The equipment used shall be subject to the approval of the Engineer. Removal should be accomplished with power-driven hand tools such as chipping hammers or pneumatic hammers, 45 lb. class maximum. Mechanical chipping tools shall generally not be operated at an angle in excess of 45° measured from the surface of the deck. Surface cleaning equipment shall be capable of properly cleaning the exposed reinforcement and existing concrete surface as defined herein.

The operation or placement of equipment and, or materials on the subject bridges shall be subject to the provisions of SS-105-2 "Equipment and Material Storage on Bridge Structures". Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

PREPARATION OF SURFACE: (a) Removal: After cold milling, hydrodemolition, or other scarifying of the deck surface, the surface shall be sounded and any areas of unsound, delaminated, or otherwise deteriorated concrete to be repaired shall be marked and measured by the Engineer. The area shall be made rectangular with sides parallel or perpendicular to the reinforcing steel. All concrete within the marked area shall be removed with vertical sides to the depth necessary to remove unsound concrete as directed by the Engineer. If the bottom mat of reinforcing is exposed, then the removal and repair shall be made full depth. Care shall be taken to avoid damage to reinforcing steel, steel joint components, drains, or other appurtenances to remain. These items shall be repaired or replaced at the Contractor's expense if any damage occurs to them.

The structural integrity and stability of the deck and the structure shall be maintained by limiting the removal to the least area possible and avoiding unnecessary loading near unrepaired removals. Exposed reinforcing steel shall be supported as necessary to protect it from bending by vehicles or equipment loadings.

PHONE (901) 767-6312
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CHRIS-HILL CONSTRUCTION CO., LLC
General Contractors
4749 PLEASANT RUN ROAD
MEMPHIS, TENNESSEE 38118

July 26, 2013

APAC, Memphis
1210 Harbor Avenue
Memphis, TN 38019

Attn: Mr. Jim Smith
Re: AHTD Job No. BB0109-FAP No. BIM-B55-0(201)
Chris-Hill Job # 4201

Dear Mr. Smith:

Chris-Hill has been informed by the Department of the method of measurement which payment for the various items of work which will be paid relative to the VESLMC overlay on the project. In review of the Contract documents, Chris-Hill's interpretation is that this described method does not compensate as per the Special Provision for work directed by the Department.

Chris-Hill requests payment under the item "Bridge Deck Repair" for removal of existing bridge deck concrete as measured, identified, marked and quantified at the direction of the Engineer after hydrodemolition process, and removed by Chris-Hill using pneumatic hammers. Most of the repair areas identified were a result of reinforcing steel being exposed during hydrodemolition. Since the concrete being removed around and below reinforcing steel is sound enough to require the use of pneumatic hammers and is not simply removing loose or unsound materials from beneath reinforcing steel with compressed air or shovels, these repairs should qualify as bridge deck repairs. The material to fill these areas as understood is to be paid for as VESLMC (Variable Depth). However, the removal of these areas based on an interpretation of what constitutes whether the reinforcing steel is bonded to the existing concrete was not fully detailed and the amount nor effort required could not have been anticipated during the bid process. This additional effort was anticipated to be paid for as Bridge Deck Repair which had an estimated 5682 SF set up for all unknown repairs.

The hydrodemolition robot acts as a cement mortar eroding machine that finds the weaker portions of a bridge deck using intense water pressure. Oftentimes, due to the hardness of reinforcing steel compared to softer concrete, the hydrodemolition process will leave sound rebar perched atop weaker concrete 'pedestals' that were protected from 15,000 PSI water pressure. These pedestals can generally be removed with shovels and small hand tools to ensure that the rebar is surrounded with at least ¾" VESLMC.

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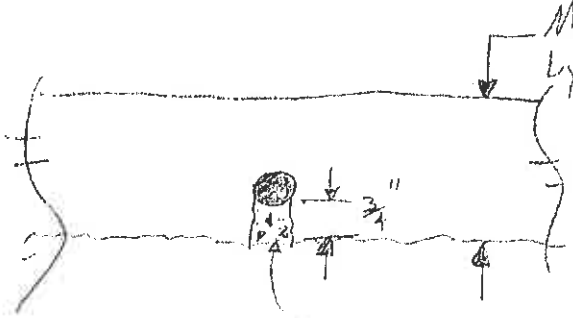
However, if the concrete deck is sound and the reinforcing steel is within the maximum removal by hydrodemolition area, then the hydrodemolition process only exposes the rebar tops without cutting the good concrete deeper beside the rebar. Such is the case at I-55 & HWY 64 bridge (bridges A & B 3131) with its high mat of rebar located within the 1.5" of VESLMC overlay. (See attached sketch)

Chris-Hill requests payment for equipment and labor required to perform this additional removal of sound concrete directed by the Department to provide the required clearance for unbonded reinforcing steel under the Contract item of "Bridge Deck Repair"

Sincerely,

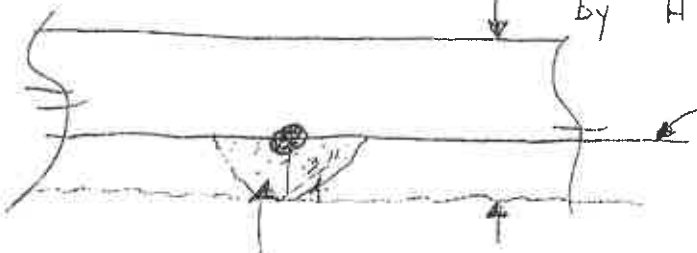
Craig Christenbury

Chris-Hill Construction Company, LLC



This piece of deck is often left after Hydrodemolition, protected by the rebar from high pressure water. Sometimes called "Shadowing".

Example 1



This piece of deck requires removal of sound concrete by pneumatic Hammers.

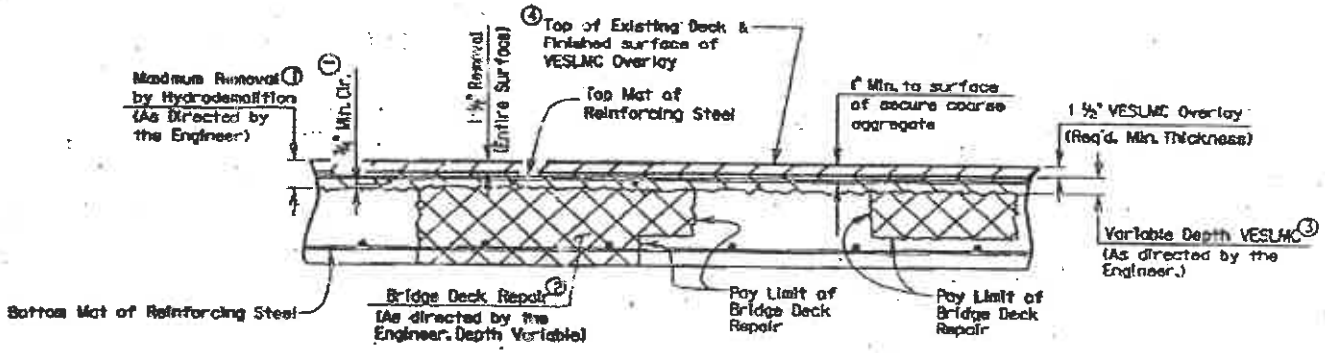
Example 2

CHRIS-HILL
CONSTRUCTION COMPANY
(901) 767-6312
FAX (901) 767-1323
4749 PLEASANT RUN ROAD
MEMPHIS, TENNESSEE 38118

SUBJECT

CALC. BY | DATE 7/27 | PROJECT NO. BB0109

CHECKED BY | DATE | SHEET 1 OF 1



DETAILS OF HYDRODEMOLITION AND LATEX MODIFIED CONCRETE OVERLAY

① Removal of unsound concrete beyond 1½" below the original surface shall be at the direction of the Engineer. If the bond between existing concrete and the top mat of reinforcing steel is destroyed, then the concrete shall be removed to a minimum of ¾" clearance below the bar.

② Areas requiring additional repair, as determined by the Engineer, shall be repaired in accordance with the Job Special Provision "Bridge Deck Repair".

③ Depth Varies to achieve minimum clearance below top mat of reinforcing steel

④ Finished Surface of VESLMC Overlay shall match existing concrete deck surfaces unless increase is required to maintain minimum required VESLMC Overlay thickness and a minimum of 1½" cover to reinforcing steel.

STATE CLAIMS COMMISSION DOCKET
OPINION

Amount of Claim $ 745,770.98

Claim No. 14-0651-CC

APAC-Tennessee — **Claimant**

vs.

AR Highway & Transportation Department
~~AR State Highway Commission~~ — **Respondent**
State of Arkansas

Attorneys

Jack East III, Attorney — **Claimant**

Mark Umeda, Attorney — **Respondent**

Date Filed February 24, 2014

Type of Claim Breach of Contract

FINDING OF FACTS

This claim was filed for breach of contract in the amount of $745,770.98 against the Arkansas Highway and Transportation Department. Present at a hearing September 12, 2014, was the Claimant, represented by Jack East III, Attorney and the Respondent, represented by Mark Umeda, Attorney.

The Arkansas State Claims Commission unanimously finds liability on the part of the Respondent. The Respondent breached the contract it had with the Claimant and caused the Claimant to incur unexpected and unnecessary expenses. The Respondent's original written contract specifications for a required concrete mix were totally incorrect and, if used, would not have allowed a successful completion of the contract by the Claimant.

The Respondent unreasonably delayed the approval of the Claimant's proposed changes to the mix. It should be noted that the new mix designed by the Claimant is now in regular use by the Respondent.

Having unanimously found liability on the part of the Respondent the Arkansas State Claims Commission **hereby unanimously awards the Claimant the amount of $745,770.98 and will include the claim in a claims bill to be submitted to the 90th General Assembly, Arkansas State Legislature 2015 for subsequent approval and payment.**

IT IS SO ORDERED

(See Back of Opinion Form)

CONCLUSION

Upon consideration of all the facts, as stated above, **the Claims Commission hereby unanimously awards this claim in the amount of $745,770.98 and will include the claim in a claims bill to be submitted to the 90th General Assembly, Arkansas State Legislature 2015 for subsequent approval and payment.**

Date of Hearing September 12, 2014

Date of Disposition September 12, 2014

Chairman

Commissioner

Commissioner

***Appeal of any final Claims Commission decision is only to the Arkansas General Assembly as provided by Act #33 of 1997 and as found in Arkansas Code Annotated §19-10-211.*