



TRANSPORTATION CABINET

Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

April 10, 2014

CALL NO. 302
CONTRACT ID NO. 141218
ADDENDUM # 1

Subject: Russell County, FD04 SPP 104 0127 017-018
Letting April 25, 2014

(1)Added - Special Notes & Drawings - Pages 1-24

Proposal revisions are available at <http://transportation.ky.gov/Construction-Procurement/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in blue ink that reads "Diana Castle Radcliffe".

Diana Castle Radcliffe
Director
Division of Construction Procurement

DR:ks
Enclosures



An Equal Opportunity Employer M/F/D

Special Note for Bridge Demolition, Renovation and Asbestos Abatement

If the project includes any bridge demolition or renovation, the successful bidder is required to notify Kentucky Division for Air Quality (KDAQ) via filing of form (DEP 7036) a minimum of 10 days prior to commencement of any bridge demolition or renovation work.

Any available information regarding possible asbestos containing materials (ACM) on or within bridges to be affected by the project has been included in the bid documents. These are to be included with the Contractor's notification filed with the KDAQ. If not included in the bid documents, the Department will provide that information to the successful bidder for inclusion in the KDAQ notice as soon as possible. If there are no documents stating otherwise, the bidders should assume there are no asbestos containing materials that will in any way affect the work.

SPECIAL NOTES AND DRAWINGS FOR BRIDGE

DRAWINGS

LAYOUT

ABUTMENT BEARING REPAIR AND CONCRETE PATCHING

JOINT CROSS SECTION

JOINT CURB SECTION

SPECIAL NOTES

SPECIAL NOTE LMC

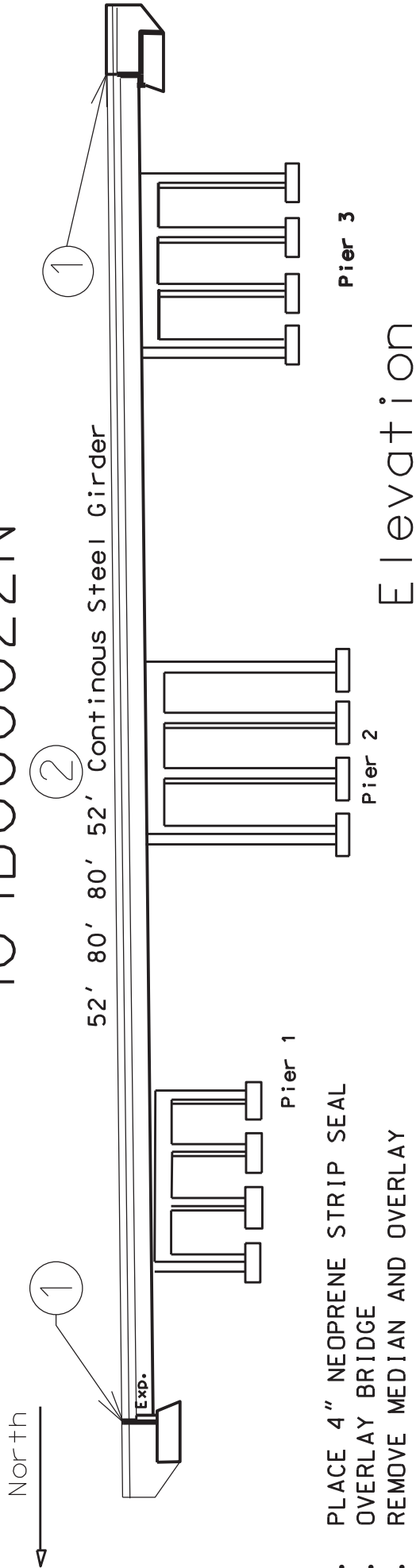
SPECIAL NOTE FOR HYDRO

SPECIAL NOTE FOR JOINTS AND ARMORED EDGES

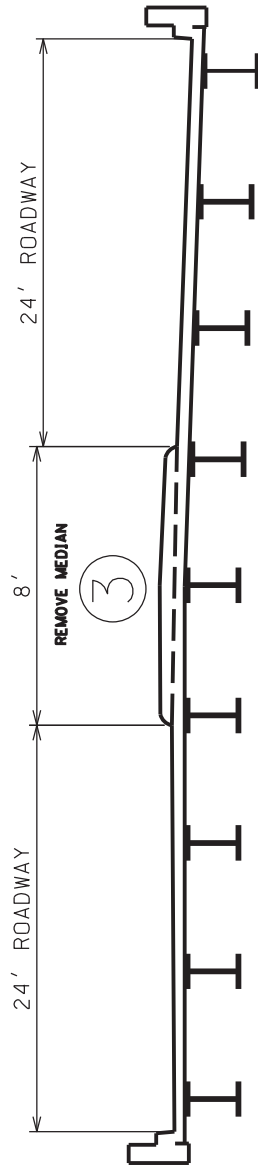
SPECIAL NOTE FOR CONCRETE PATCHING

SPECIAL NOTE FOR BEARING REPAIR

104B000022N



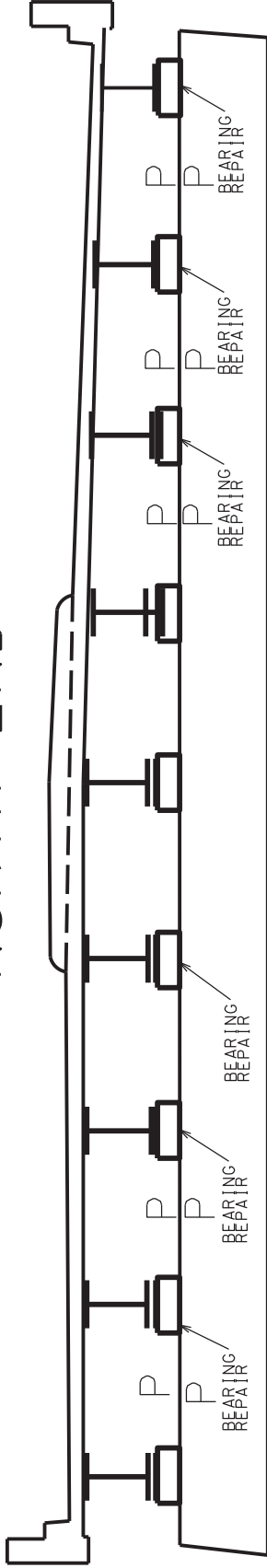
- PLACE 4" NEOPRENE STRIP SEAL
- OVERLAY BRIDGE
- REMOVE MEDIAN AND OVERLAY



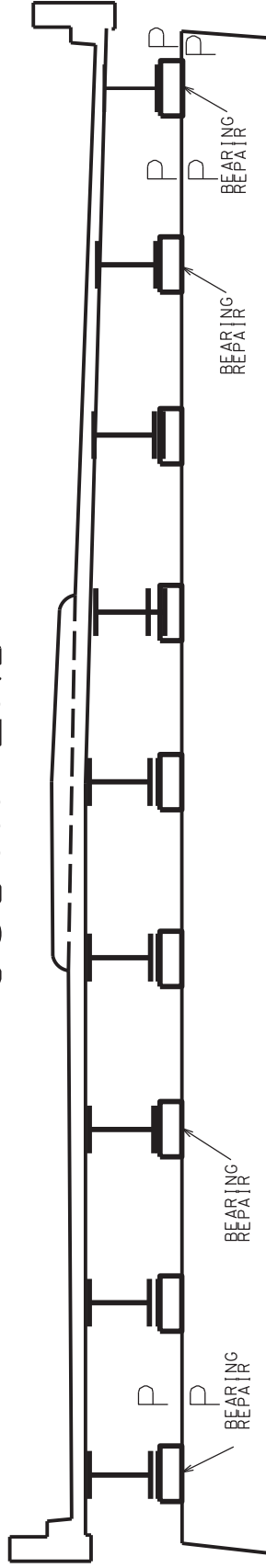
18° 34' 46" Skew Lt.
Not To Scale

Bearing Repair and Concrete Patching

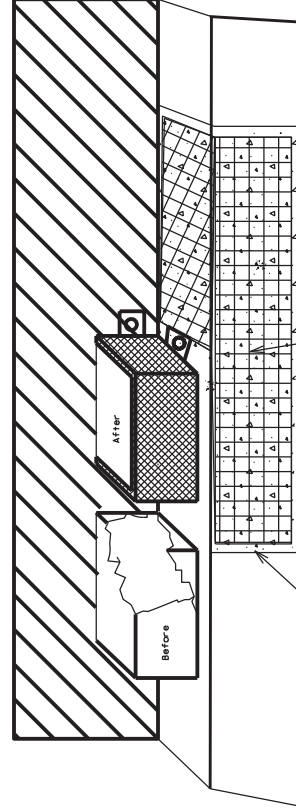
NORTH END



SOUTH END



P= area to be patched



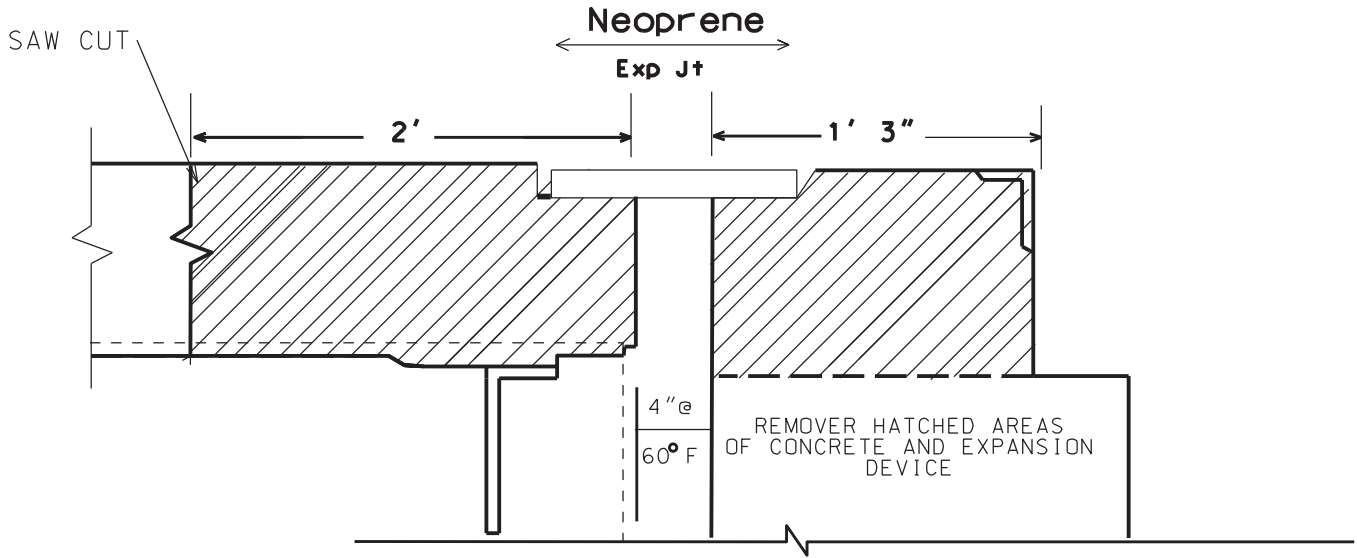
Not To Scale

Class M Patch Min thickness 3"
With Woven Wire

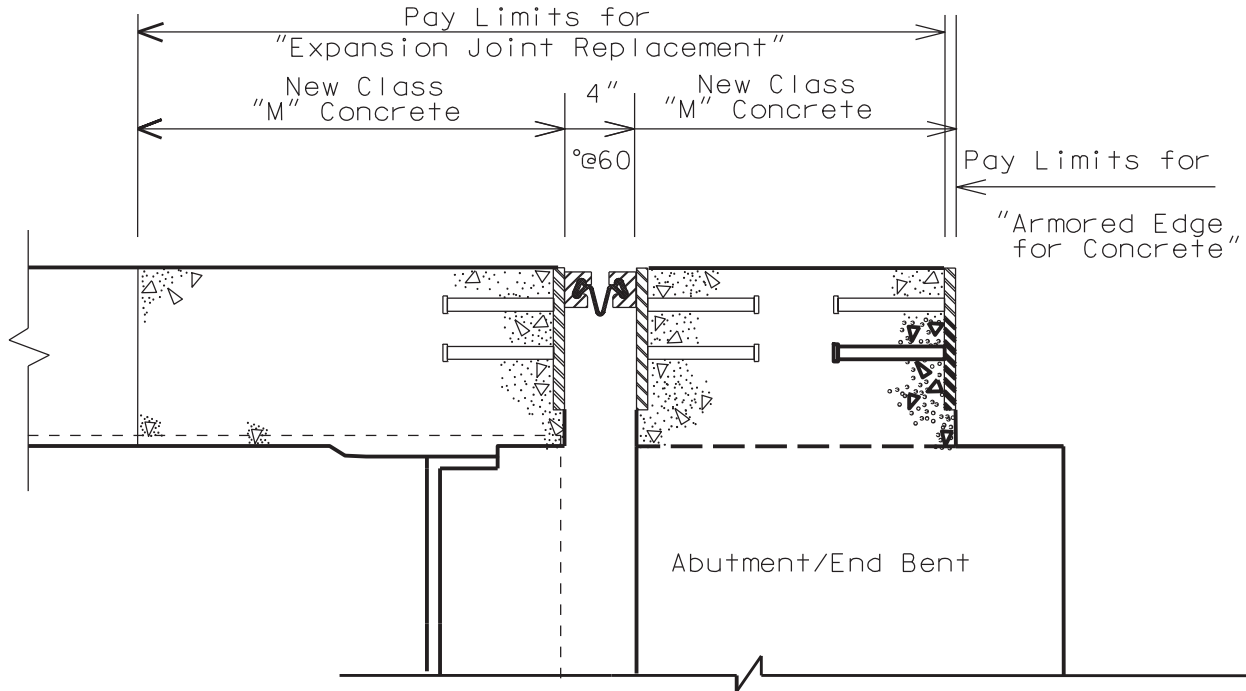
Saw Cut Edges

I04B000022N

JOINT DETAILS



EXISTING AS BUILT SECTIONS



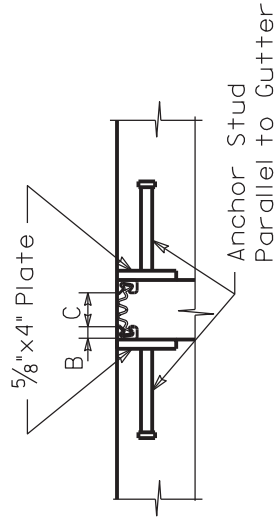
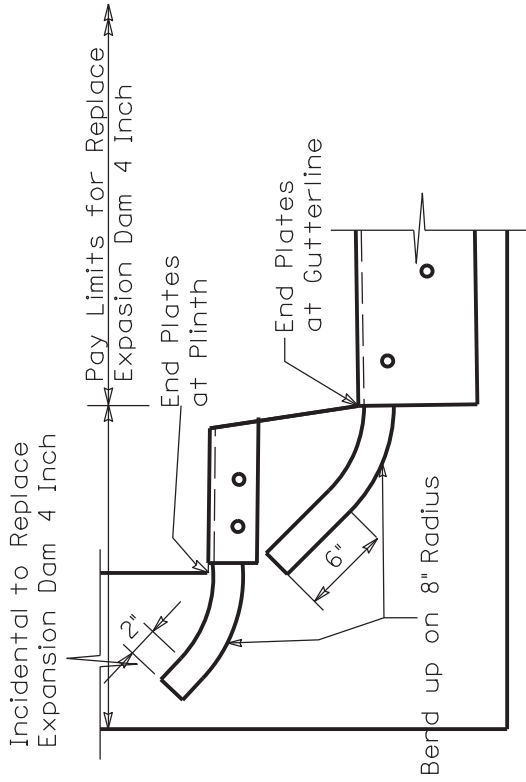
PROPOSED SECTION

See Std. Drwg.
BJE-001-10

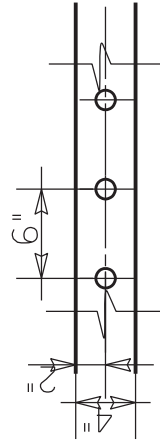
NOT TO SCALE

Concrete Median Section
Will be done the same after removal

104B00022N CURB SECTION

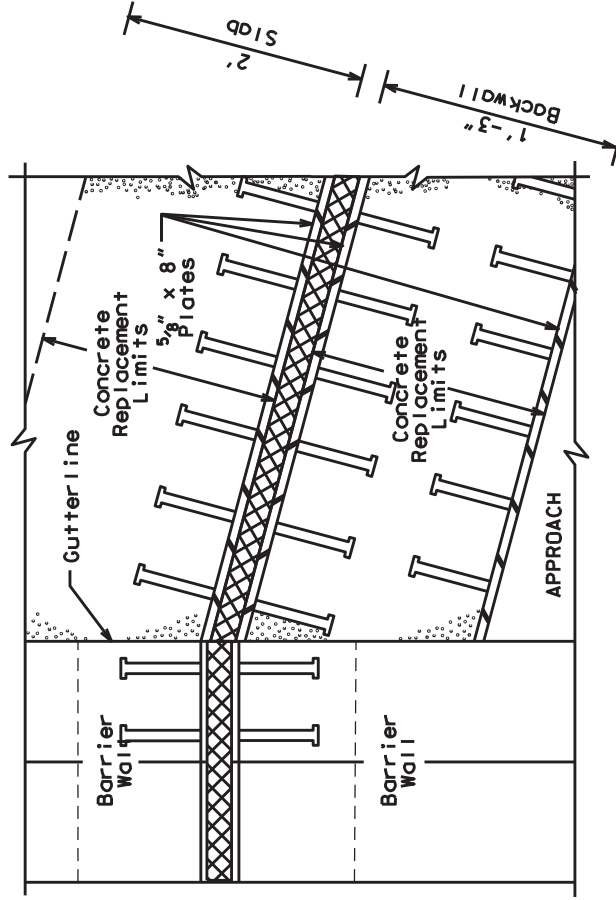


JOINT SECTION @ PLINTH



STUD PATTERN (Plinth)

Not to Scale CURB SECTION



NOT TO SCALE

SPECIAL NOTE FOR BRIDGE RESTORATION AND WATERPROOFING WITH CONCRETE OVERLAYS

- I. DESCRIPTION.** Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2012 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the attached detail drawings. Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Remove the existing overlay, existing concrete median, hydrodemolition the original slab; (3) Complete full-depth and partial depth repairs as directed by the Engineer; (4) Repair/replace damaged and corroded reinforcing bars; (5) Place new concrete overlay and epoxy-sand slurry in accordance with Section 606; (6) Complete asphalt approach pavement; (7) Maintain and control traffic; and (8) Any other work specified as part of this contract.

All construction will be in accordance with Section 606 unless otherwise specified.

II. MATERIALS.

- A. Latex Concrete.** See Section 606.03.17.
- B. Class "M" Concrete.** Use either "M1" or "M2". See Section 601.
- C. Epoxy-Sand Slurry.** See Section 606.03.10.

III. CONSTRUCTION.

- A. Surface Preparation.** Remove existing overlay from existing slab in accordance with the requirements of Section 606 (there will be no direct payment for remove existing overlay). Remove existing concrete median via hydrodemolition or via hand held jackhammers weighing less than 45lbs in accordance with Section 606.02.10 D . Remove existing stirrup bars tying median to slab to the engineers satisfaction this will considered incidental to the median removal. Prepare both surfaces using hydrodemoliton.
- B. Partial Depth Slab Repair.** Remove areas determined to be unsound by the Engineer via hydrodemolition or via hand held jackhammers weighing less than 45lbs in accordance with Section 606.02.10 D. Repair/Replace all damaged or severely corroded reinforcing bars prior to partial depth repair operation. The Department will not measure material removal and will consider this work incidental to the bid item "PARTIAL DEPTH PATCHING".
- C. Surface Texturing.** Texture the concrete surface of the overlay in accordance with Section 609.03.10.
- D. Overlay Approach.** Bridge elevations shall match existing. Bridge is to be completed prior to approaches. Contractor shall place a temporary wedge at no cost till road work is completed.

- IV. MEASUREMENT.** See Section 606 and the following:
- A. Latex Modified Concrete.** The Department will measure the quantity in cubic yards using the theoretical volume as follows for each bridge:
(269x64'x1.25") • 67 cuyd

 - B. Latex Modified Concrete for Partial Depth Patching and variable thickness of Overlay.** The Department will measure the quantity in cubic yards by deducting the theoretical volume of bridge deck overlay (LMC) from the total volume (as indicated by the batch quantity tickets) of Concrete required to obtain the finished grade shown on the Plans or established by the Engineer.
 - C. REMOVE CONCRETE MEDIAN.** The Department will measure the removal of the existing concrete median in square yards, which shall include all labor, equipment, and material needed to complete this work.
 - A. Hydrodemolition.** See special note. Will be measured in square yards. The bid item for hydrodemoliton will include as an incidental the cost to remove existing overlay or prep deck under the median. See special note.
- V. PAYMENT.** See Section 606 and the following:
- B. Latex Modified Concrete.** The Department will make payment for the Latex Modified Concrete under bid item #08534 "CONCRETE OVERLAY – LATEX" for the theoretical quantity.
 - C. Latex Modified Concrete for Partial Depth Patching and variable thickness of Overlay.** The Department will make payment for the Partial Depth Patching under bid item #24094EC "PARTIAL DEPTH PATCHING". Payment will be for the quantity per cubic yard complete in place.
 - D. Hydrodemolition (08550).** The bid item for hydrodemoliton will be measured in square yards. which shall include all labor, equipment, and material needed to complete this work. See special note.
 - E. REMOVE CONCRETE MEDIAN (23839EC).** The Department will PAY FOR the removal of the existing concrete median in square yards, which shall include all labor, equipment, and material needed to complete this work.

SPECIAL NOTE FOR USE OF HYDRODEMOLITION METHOD

To be used if the Contractor chooses to use Hydrodemolition method to complete partial and full depth removal. Also see Section 606.03.03.

Description

This work consists of bridge surface deck preparation using Hydrodemolition to provide a uniform depth, highly bondable surface and to remove all variable depth, unsound material. This item also includes the removal and disposal of all concrete and debris, vacuuming, shielding, water control, additional jack hammering and all other aspects of work necessary to prepare the deck for the placement of the new latex modified concrete overlay.

Equipment

Sawing Equipment. Sawing equipment shall be a concrete saw capable of sawing concrete to the specified depth.

Mechanical Scarifying Equipment. The scarifying equipment shall be a power operated mechanical scarifier capable of uniformly scarifying or removing the old concrete or asphalt wearing surface from the bridge deck to the depths required in the plans or as directed by the Engineer. The equipment shall be self-propelled with sufficient power, traction and stability to maintain accurate depth of cut and slope. The equipment shall be capable of accurately and automatically establishing profile grades along each edge of the machine by referencing the existing bridge deck by means of a ski or matching shoe, or from an independent grade control; in addition, it shall be equipped with an integral loading means to remove the material being cut from the bridge deck and to discharge the cuttings into a truck all in a single operation.

Hydro-Demolition Equipment. The Hydrodemolition equipment shall consist of a filtering and pumping unit operating with a self-propelled computerized robot that utilizes a high pressure water jet capable of removing concrete to the depth specified on the plans or as directed by the Engineer and be capable of removing rust and concrete particles from reinforcing steel. The equipment shall provide a rough and bondable surface and remove all unsound concrete during the initial pass. The minimum water usage shall be 43 gal/min operating at 13,000 psi minimum.

Vacuum Cleanup Equipment. The vacuum cleanup equipment shall be equipped with fugitive dust control devices and be capable of removing wet debris and water all in the same pass. Provide equipment capable of washing the deck with pressurized water prior to the vacuum operation to dislodge all debris and slurry from the deck surface.

Hand Held Blast Cleaning Equipment. Hand held blast shall be either sand or water as necessary to expose fine and coarse aggregates; thoroughly clean all exposed reinforcing steel; and remove any unsound concrete or laitance layers from the proposed concrete overlay surface. If sand blasting equipment is utilized, the equipment shall have oil traps. If water blasting equipment is utilized, the equipment must be capable of delivering a minimum of 5,000 psi.

Power Driven Hand Tools. Power driven hand tools and jackhammers will be permitted, but shall not be heavier than the nominal 40 lb class. Chipping hammers shall not be heavier than the nominal 15 lb class. Only hand chipping tools shall be used when removing concrete within 1 in. of reinforcing steel. Mechanically driven tools shall be operated at a maximum angle of 45 degrees from the bridge floor surface.

Construction Methods

General: Perform Hydrodemolition surface preparation over the entire top surface of the reinforced concrete bridge deck to provide a rough and bondable surface and to remove all unsound concrete during the initial Hydrodemolition surface preparation pass. The use of hand chipping tools, either hand or mechanically driven, shall be limited to trim work and areas inaccessible or inconvenient for the hydro-demolition equipment.

Description: This work shall consist of furnishing the necessary labor, materials and equipment to completely remove the top surface of the Portland cement concrete bridge deck surface in accordance with these Specifications and in reasonably close conformity with the grades, thickness, or sections shown on the Plans or as directed by the Engineer. This work shall include the removal of patches other than sound Portland cement concrete and all loose and unsound concrete by Hydrodemolition; preparation of the sound existing concrete surface; removal, forming and concrete for full depth repairs; blast cleaning or high pressure water cleaning the existing deck prior to placement of the modified concrete overlay; and all other operations necessary to complete this work according to these specifications and to the satisfaction of the Engineer.

Preparation of Existing Deck

No operations without reasonably available engineering controls that limit fugitive dust will be acceptable.

The Contractor shall be aware that there are federal, state, regional, and local government agencies that have requirements regarding the control of fugitive dust generated by concrete removal and blasting operations.

The Contractor is responsible for protecting traffic traveling adjacent to and under the work zone while removing bridge deck concrete.

Where the deck is sound for less than one third of its original depth, the concrete shall be removed full depth for limited areas as designated by the Engineer. Full depth repairs shall be completed as specified for Full Depth Repair.

Removal of Existing Modified Concrete Overlays

Use conventional methods to remove any and all existing concrete overlay prior to commencement of the Hydrodemolition operation. Clean the bridge deck. Use "Total Surface Hydrodemolition" method to provide a rough & highly bondable surface and to remove partial depth deteriorated concrete with a minimum depth of ¼" below the original deck elevation. If Hydrodemolition does not leave a bondable surface resident can require mechanical scarification to his satisfaction at no additional cost to the Cabinet.

Existing overlay material which is sound and bonded may be left in patch areas with approval of the Project Engineer. If determined the existing patches are to be removed, jackhammers, not to be heavier than the nominal 35 lb class shall be used to remove debonded areas.

If the use of mechanical scarifying equipment results in the snagging of the top mat of steel reinforcement, the scarifying equipment shall be immediately stopped and the depth of removal adjusted. Damaged or dislodged reinforcing steel shall be repaired or replaced at the Contractor's expense. Replacement shall include the removal of any additional concrete.

Bridge Decks with No Existing Concrete Overlay

If Hydrodemolition is to be performed on an original bridge deck surface without a bituminous or concrete bridge deck overlay, the Contractor may use mechanical scarification equipment conforming to these specifications to remove an initial portion of the hydro-demolition depth. The scarification depth shall be ¼". Total surface Hydrodemolition is used to provide a highly bondable surface and to remove partial depth deteriorated concrete.

Cost of the scarification shall be included as a portion of the pay item for Hydrodemolition.

If the use of mechanical scarifying equipment results in the snagging of the top mat of steel reinforcement, the scarifying equipment shall be immediately stopped and the depth of removal adjusted. Damaged or dislodged reinforcing steel shall be repaired or replaced at the Contractor's expense. Replacement shall include the removal of any additional concrete required to position the new reinforcing steel at the correct height and required lap splice lengths.

Concrete Removal by Hydro-Demolition

General: The total surface area of the reinforced concrete bridge deck shall be completely prepared by Hydrodemolition as necessary to provide a highly roughened and bondable surface prior to placement of the proposed bridge deck overlay while removing any deteriorated and unsound concrete in the initial pass. Unsound concrete is defined as existing bridge deck concrete that is deteriorated, spalled, or determined by the engineer to be unsound.

With the use of Hydrodemolition surface preparation, the requirement to provide a minimum $\frac{3}{4}$ " clearance around all reinforcing bars that are more than 50% diameter exposed is waived, providing that the existing concrete is sound. The amount of steel exposed shall be kept to a minimum.

Damaged or dislodged reinforcing steel shall be repaired or replaced at the Contractor's expense. Replacement shall include the removal of any additional concrete required to position the new reinforcing steel at the correct height and to provide the required lap splice lengths as required.

Calibration: Prior to commencement of the Hydrodemolition removal operation, the Hydrodemolition equipment shall be calibrated on an existing **sound** concrete surface as designated by the Engineer. The calibration area shall be a minimum of 7 feet wide by 7 feet long to demonstrate the desired result of this specification.

Move the Hydrodemolition equipment to a second area (7'x7') that is unsound as designated by the Engineer to demonstrate the desired result of this specification which is providing a highly rough and bondable surface and removing all unsound concrete during the initial pass is being achieved.

The Engineer shall verify the following settings:

1. Water pressure gauge (13,000 psi minimum)
2. Machine staging control (step)
3. Nozzle size
4. Nozzle speed (travel)
5. Depth of removal
6. Minimum water usage (43 gallons per minute)

During the Hydrodemolition operations, any or all of the above settings may be modified in order to achieve removal of all unsound concrete and to provide a highly bondable surface. The settings may be changed by the Contractor to achieve total removal of unsound concrete, but the Engineer must be notified of all changes. The Engineer may change any or all of the settings in order to achieve the desired results with Hydrodemolition. The removals and depth shall be verified, as necessary, and at least every 30 feet along the cutting path. The readings shall be documented and, if necessary, the equipment re-calibrated to insure the Hydrodemolition process achieves the desired results and removal of unsound concrete.

Calibration shall be required on each structure; each time Hydrodemolition is performed and as required to achieve the results specified by the plan.

Debris and Fluid Containment: Prior to commencement of the Hydrodemolition operation, the Contractor shall submit a plan for approval to the engineer for control and filtering of all water discharged during operation. The Contractor, at a minimum, shall block all drains on the deck and install aggregate dams every 150 feet; 6 inches high by 1 foot wide minimum, to strain runoff. The deck shall be used as a settlement basin within itself unless an alternate method of water control, satisfactory to the Engineer and meeting the environmental requirements of any associated Regulatory Agency, is required.

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

Cleaning

Cleaning shall be performed with a vacuum system capable of removing wet debris and water all in the same pass. The vacuum equipment shall be capable of washing the deck with pressurized water prior to the vacuum operation to dislodge all debris and slurry from the deck surface. Cleaning shall be done in a timely manner, before debris and water is allowed to dry on the deck surface.

Resounding

After the Hydrodemolition operation has completed the removal, and the deck is cleaned and allowed to dry, the deck shall be resounded to assure that the all unsound concrete deck material has been removed. The final sounding of the deck shall be done by the Engineer and shall only be performed when the deck is completely dry and frost-free. Final sounding shall consist of as many successive resounding as required to ensure that all deteriorated and fractured concrete has been removed. Additional removal shall be performed with 40 lb maximum weight jackhammers operated at an angle of no more than 45 degrees from horizontal. Aerosol spray paint for outlining and sounding chains shall be provided by the Contractor.

Full Depth Repair

Where the deck is sound for less than one third of its original depth, the concrete shall be removed full depth except for limited areas as may be designated by the Engineer. Forms shall be provided to support concrete placed in full depth repair areas. The forms for areas of up to 4 square feet may be suspended from wires from the reinforcing steel. For areas greater than 4 square feet, the forms shall be suspended from the primary members of the superstructure or by shoring below. Areas of full depth repair shall have the concrete faces and reinforcing steel cleaned. Only those areas marked in the field by the Engineer as full depth repair will be paid for as full depth repair.

Preparation Prior to Overlay Placement

Vehicles other than approved construction equipment will not be permitted on those sections of the deck where Hydrodemolition has begun. Contamination of the deck by construction equipment or from any other source shall be prevented.

SPECIAL NOTE FOR REPLACING EXPANSION DAMS AND/OR INSTALLING ARMORED EDGES FOR CONCRETE ON BRIDGES

1. DESCRIPTION. Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2012 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the attached detail drawings. Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Remove existing concrete and expansion device and/or bridge ends; (3) Install armored edges and new concrete as specified and in accordance with the attached detail drawings; (4) Install new joint seals (where required); (5) Maintain and control traffic; and (6) Any other work specified as part of this contract.

2. MATERIALS.

A. Class "M" Concrete. Use either "M1" or "M2". See Section 601.

B. Structural Steel. Use new, commercial grade steel suitable for welding. The Engineer will base acceptance on visual inspection. See Standard Drawing BJE-001, current edition.

C. Stud Anchors. The armored edge stud anchors are ¾" x 6" embedded stud shear connectors conforming to ASTM A108, Grade 1015 (Nelson Studs or equal).

D. Steel Reinforcement. Use Grade 60. See Section 602.

E. Epoxy Bond Coat. See Section 511.

F. Neoprene Strip Seal. See Section 807.

3. EQUIPMENT.

A. Hammer. See Section 606.02.10.B.

B. Sawsing Equipment. Section 606.02.10.C.

C. Hydraulic Impact Equipment. Section 606.02.10.D.

4. CONSTRUCTION.

A. Remove Existing Materials. Remove existing Expansion Dam and specified areas of concrete as shown on the attached sketches. Remove debris and/or expansion joint filler as directed by the Engineer. Clean and leave all existing steel reinforcement encountered in place. Damaged steel reinforcement will be repaired/replaced as directed by the Engineer at no additional cost to the Department.

Dispose of all removed material entirely away from the job site. This work is incidental to the contract unit price for "Expansion Joint Replacement".

B. Place New Concrete and Armored Edges. After all specified existing materials have been removed; place new armored to match the original grade (See attached detail drawings). Place the new Class "M" concrete to the scarified grade and finish with broom strokes drawn transversely from curb to curb.

All new structural steel shall be cleaned and painted in accordance with requirements of Section 607.03.23, except that surfaces to come in contact with concrete are not to be painted.

Blast clean all areas of existing concrete and structural steel to come in contact with new concrete until free of all laitance and deleterious substances immediately

prior to the placement of the Class "M" Concrete. The surface areas of existing concrete to come in contact with the new Class "M" Concrete are to be coated with an epoxy bond coat immediately prior to placing new concrete in accordance with Section 511. The interfaces of the new and old concrete shall be as nearly vertical and horizontal as possible.

- C. Additional Steel Reinforcement.** Furnish for replacement, as directed by the Engineer, 400 linear feet of #4 steel reinforcing bars in 20' lengths per joint, joint armored edge, or joint and armored edge. Place these bars in areas deemed by the Engineer to require additional reinforcement. Field cutting and bending is permitted. Do not place any additional steel reinforcement above the height of the top row of Nelson Studs on the armored edges. Ensure that all exposed steel reinforcement is tied in accordance with Section 602.03.04 prior to pouring the new Class "M" concrete. Deliver unused bars to the Local County Maintenance Barn. Payment will be made in accordance with Section 602.
- D. Stage Construction.** Installation of concrete and armored edges in two (or more if specified) stages is necessary. Join the armored edges at or near the centerline of the roadway or lane line, field weld and grind smooth.
- E. Preformed Neoprene Strip Seal.** Place the preformed joint seal in one continuous, unbroken length. Place neoprene Strip seals as recommended by the manufacturer and in accordance with Section 609.03.04 (D).
- F. Shop Plans.** Shop plans will not be required. The Contractor is responsible for obtaining field measurements and supplying properly sized materials to complete the work.

IV MEASUREMENT.

- A. Expansion Joint Replacement - 4".** The Department will measure the quantity in linear feet from gutterline to gutterline along the centerline of the joint.
- B. Steel Reinforcement.** See Section 602.

V. PAYMENT.

- A. Expansion Joint Replacement - 4".** Payment at the contract unit price per linear foot is full compensation for removing specified existing materials, furnishing and installing the new armored edges, concrete, neoprene strip seal, and all incidental items necessary to complete the work within the specified pay limits as specified by this note and as shown on the attached detail drawings.
- B. Steel Reinforcement.** See Section 602.

NOTES FOR BRIDGE CONCRETE PATCHING

These Notes or designated portions thereof, apply where so indicated on the plans, proposals or bidding instruction.

- I. DESCRIPTION.** Perform all work in accordance with the Department's 2012 Standard Specifications, and applicable Supplemental Specifications, the attached sketches, and these Notes. Section references are to the Standard Specifications.

This work consists of: (1) Furnish all labor, materials, tools, and equipment; (2) Remove existing spalled/delaminated concrete; (3) Prepare the existing surface for concrete patching; (4) Place hook fasteners and welded wire fabric over surfaces to be repaired (where applicable); (5) Apply concrete patching as specified by this note and as shown on the attached detail drawings; (6) Finish and cure the new Concrete Patches; (7) Maintain & control traffic; and, (8) Any other work specified as part of this contract.

II. MATERIALS.

- A. Concrete. Class M.**
- B. Welded Steel Wire Fabric (WWF).** Conform to Section 811
- C. Hook Fasteners.** Use commercial grade galvanized hook fasteners. Minimum 3/16" diameter.

III. CONSTRUCTION.

- A. Concrete Removal and Preparation.** The Contractor, as directed by the Engineer shall locate and remove all loose, spalled, deteriorated and delaminated concrete. Sounding shall be used to locate delaminated areas. Care shall be exercised not to damage areas of sound concrete or reinforcing steel during concrete removal operations. Unless specifically *directed by the Engineer*, depth of removal shall not exceed 4 inches. Concrete removal shall be in accordance with a sequence approved by the Engineer.

Concrete removal shall be accomplished by chipping with hand picks, chisels or light duty pneumatic or electric chipping hammers (not to exceed 15 lbs.). If sound concrete is encountered before existing reinforcing steel is exposed, the surface shall be prepared and repaired without further removal of the concrete. When corroded reinforcing steel is exposed, concrete removal shall continue until there is a minimum 3/4 inch clearance around the exposed, corroded reinforcing bar. Care shall be taken to not damage bond to adjacent non-exposed reinforcing steel during concrete removal processes.

The perimeter of all areas where concrete is removed shall be tapered at an approximately 45° angle, except that the outer edges of all chipped areas shall be saw cut to minimum depth of 3/4 inch to prevent featheredging unless otherwise approved by the Engineer.

After all deteriorated concrete has been removed; the repair surface to receive concrete patching shall be prepared by abrasive blast cleaning. Abrasive blast cleaning shall remove all fractured surface concrete and all traces of any unsound

material or contaminants such as oil, grease, dirt, slurry, or any materials which could interfere with the bond of freshly placed concrete.

The Contractor shall dispose all removed material off State Right Of Way in an approved site.

B. Steel Reinforcement.

Welded wire fabric (WWF) shall be provided as shown on the attached sketches and at each repair area larger than 1 square foot if the depth of the repair exceeds 3 inches from the original dimension of the repaired member. Sheets of adjoining WWF shall be lapped by at least one and one-half spaces at all intersections, in both directions, and be securely fastened. WWF fabric shall be supported no closer than ½ inch to the prepared concrete surface and shall have a minimum concrete cover of 1-½ inches. Large knots of tie wire which could result in sand pockets and voids during patching shall be avoided. WWF SHALL BE CONSIDERED INCIDENTAL TO PROJECT.

C. Hook Fasteners. Hook fasteners shall be positioned at the spacing as stated above or as directed by the Engineer. Any given area shall have a minimum of four anchors. The WWF shall not move or deform excessively during concrete patching. Maximum hook fastener spacing shall not exceed 12 inches on a grid pattern over the entire repair area.

Hook fasteners shall be of commercial grade galvanized steel with a minimum diameter of 3/16". They may be mechanically set or grouted, as approved by the Engineer.

The Department will randomly select hook fasteners to be tested to verify pullout force is sufficient. If any anchors fail to meet the minimum acceptable pullout value, corrective measures shall be taken by the Contractor and further testing will be conducted.

D. Concrete Patching. The Engineer shall approve the Contractor's method of placing and consolidating the concrete prior to the beginning of this operation. Contractor shall apply epoxy bond coat between existing and new concrete.

E. Curing. On completion of finishing operation, patching concrete shall immediately be prevented from drying out and cracking by fogging, wetting, and/or any appropriate method approved by the Engineer. Curing shall continue for duration recommended by the product manufacturer.

IV. MEASUREMENT

A. Concrete Patching. The Department will measure the quantity per square feet of each area restored.

V. PAYMENT

- A. Concrete Patching Repair.** Payment at the contract unit price per square feet is full compensation for the following: (1) Furnish all labor, materials, tools, equipment; (2) preparation of specified bents including removing and disposing of specified existing materials; (3) place, finish and cure new concrete patches; and (4) all incidentals necessary to complete the work as specified by this note and as shown on the attached detail drawings.

The Department will consider payment as full compensation for all work required by these notes and detail drawings. Quantities given are approximate. The quantity for "Concrete Patching Repair" shall be bid with the contingency that quantities may be increased, decreased, or eliminated by the Engineer. Dispose of all removed material entirely away from the job site as approved by the Engineer. This work is incidental to the contract unit price for "Concrete Patching Repair".

SPECIAL NOTE FOR BRIDGE BEARING REPAIR

I. DESCRIPTION. Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2012 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the attached detail drawings. Section references are to the Standard Specifications.

This work consists of the removal of all loose and disintegrated concrete, preparation of the surface, and the mixing, placing, finishing and curing of the patches in the areas shown or noted on the plans or as directed by the Engineer.

This bid item consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Preparation of existing piers; (3) Place new repair patch; (4) Maintain and control traffic; and (5) Any other work specified as part of this contract.

For additional information, refer to the "Guide for Surface Preparation for Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion" No. 03730 by the International Concrete Repair Institute.

II. MATERIALS.

- A. CONCRETE CLASS M**
- B. STAY IN PLACE FORM**

III. CONSTRUCTION.

- A. Concrete Removal.** Concrete removal shall be accomplished by chipping with hand picks, chisels or electric chipping hammers (not to exceed 15 lbs.). Do not go under bearing plates. Hand chipping only may be required.
- B. Application of Repair Material.** After removal of unsound concrete place anchored (to the resident's satisfaction) stay in place forms (steel, min thickness .25 inches). Original pedestal dimensions 2' x 2.5' x X (variable). Field measure all dimensions. Place class M concrete.

IV. MEASUREMENT.

- A. Bearing Repair.** The Department will measure the quantity of each for each completed and approved repair patch in square feet.

V. PAYMENT.

- A. Bearing Repair. (23853EC)** Payment for this item of work shall be at the contract unit price each and payment will be full compensation for the following: (1) Furnish all labor, materials, tools, and equipment; (2) Preparation of existing piers; (3) Place new repair patch; (4) Maintain and control traffic; and (5) incidentals necessary to complete the work

The Department will consider payment as full compensation for all work required by this note and the attached detail drawings.



TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

Memorandum

To: David Steele
CC: Robert Pennell
From: O'Dail Lawson
Environmental Scientist II
Division of Environmental Analysis
Date: 3/11/2014
Re: Asbestos Inspection Report for Russell 104B00022N

This report is prepared to accompany the 10-Day NOI for Demolition to the Division of Air Quality. Please include all pages with submittal.

Project and Structure Information

County: Russell

Bridge # B00022N

Description: The concrete samples collected were negative for asbestos. The guard rail mastic was point counted below 1% ACM. No abatement necessary.

Inspection Date: February 28, 2014

Results

The results revealed that there is no ACM abatement required at this time.



MRS, INC. *MRS, Inc. Analytical Laboratory Division*

332 West Broadway, Suite 613
Louisville, Kentucky 40202

(502) 495-1212
Fax: (502) 491-7111

BULK SAMPLE ASBESTOS ANALYSIS

Analysis # 2103075 A Address: Russell County 104 B 00022N
Client Name: KYTC
Sampled By: O'Dail Lawson

| Number | Color | | | % FIBROUS ASBESTOS | | | | % NON-ASBESTOS FIBERS | | | |
|--------|-------|---------|---------|--------------------|---------|----------------|--------|-----------------------|------------|------------|------------|
| | | Layered | Fibrous | Chrysotile | Amosite | crocidolite | Others | Cellulose | Fiberglass | Syn. Fiber | Other/Mat. |
| # R 1 | Gray | Yes | No | | | | | | | | 100% |
| # R 2 | Gray | Yes | No | | | | | | | | 100% |
| # R 3 | Black | Yes | No | | | | | | | | 100% |
| # R 4 | Gray | Yes | No | 2% | (To Be | Point Counted) | | 2% | | | 96% |
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Methodology : EPA Method 600/R-93-116
Date Analyzed : 7-Mar-14
Analyst : Winterford Mensah

Reviewed By: 

The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S Government. Partial Reproduction of any part of this report is strictly prohibited. Samples shall be retained for (30) days.

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Louisville, Kentucky 40202

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Fax: (502) 491-7111

| | | | |
|-----------------|----------------------------------|--------------------|---------------------------------|
| Client: | <u>KY Transportation Cabinet</u> | Project No: | <u>2103075 B</u> |
| Address: | <u>200 Mero Street</u> | Sample ID: | <u># R 4</u> |
| | <u>Frankfort, KY</u> | Sampled: | <u>28-Feb-14</u> |
| | <u>40601</u> | Received: | <u>5-Mar-14</u> |
| | | Analyzed: | <u>7-Mar-14 - Point Count -</u> |
| | <u>Attention O'Dail Lawson</u> | | |

| Bulk Sample Analysis | |
|---|--|
| Sampled by: | <u>O'Dail Lawson</u> |
| Facility/Location: | <u>Russell County - 104 B00022N</u> |
| Field Description: | <u>Guard Rail Mastic</u> |
| Laboratory Description: | <u>Gray Material</u> |
| Asbestos Materials: | <u>Chrysotile = 1/400 = 0.25 % (< 1 %) Sample Is Negative</u> |
| Non-asbestos Fibrous Materials & Matrix Materials: | |
| | <u>Cellulose 0.25 %</u> |
| | <u>Binders 99.50 %</u> |
| Remarks: The sample was analyzed for asbestos content following the EPA Methodology (600/R-93/116). The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government. | |
| Analyst: | <u>Winterford Mensah</u> |
| Reviewed By: | <u><i>Winterford Mensah</i></u> Signature |

Chain of Custody Record

Kentucky Transportation Cabinet

200 Mero Street, 5th Floor West
 Frankfort, Kentucky 40622
 (502) 564-7250 fax (502) 564-5655



O'Dail Lawson odail.lawson@ky.gov
 KYTC
 Address: 200 Mero Street Frankfort KY
 Phone: 502-782-5020 Fax: 502-564-5655
 PO#:

Client Information KY TRANSPORTATION CABINET
 Results Code: ND = None Detected
 FTD = Filter Tampering or Damaged
 N/A = Not Applicable

Project or Subject Reference: **Russell 104B00022N**

Samplers (signature): *[Signature]*

| Sample ID | Sample Description | Collected | | Analysis Requested | Grab/Comp. | No. of Cont. | Cont. Type | Preservative |
|-----------|--------------------|-----------|-------|----------------------|------------|--------------|------------|--------------|
| | | Date | Time | | | | | |
| R1 | Abutment Concrete | 2-28-14 | 11:47 | N/W end of Structure | Concrete | Grey | N/A | |
| R2 | Curb Concrete | ↓ | ↓ | | ↓ | ↓ | | |
| R3 | Joint Compound | ↓ | ↓ | | Rubber | Black | | |
| R4 | Guard Rail Mastix | ↓ | ↓ | | MASTIX | Grey | | |
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Relinquished By: _____ Date/Time: _____

Received By: *[Signature]* Date/Time: **03/05/14 10:30 AM**

Relinquished By: _____ Date/Time: _____

Received at Lab By: _____ Date/Time: _____

The EI Group, Inc.

This certifies that

Tilmon O'Dail Lawson

Student Address: 132 Old Fort Drive, Georgetown, KY 40324

Has attended and satisfactorily passed an examination covering the contents of an EPA/AHERA approved course entitled

Asbestos Inspector Refresher (4-Hour) Training Course

7213080011

Certificate Number

7910

Social Security Number

August 23, 2013

Course Dates

August 23, 2013

Exam Date

August 23, 2014

Expiration Date



Louisville,, KY

Location

Barry A. Maxwell
Barry Maxwell, Training Manager

Kerri Boddy
Kerri Boddy, Principal Instructor

Kerri Boddy
Kerri Boddy, Exam Administrator

3240 Office Point Place, Suite 200
Louisville, KY 40220
888-372-5859

Approved by:
Indiana Department of Environmental Management