



Andy Beshear
GOVERNOR

TRANSPORTATION CABINET

200 Mero Street
Frankfort, Kentucky 40601

Jim Gray
SECRETARY

March 11, 2026

CALL NO. 107
CONTRACT ID NO. 262944
ADDENDUM # 1

Subject: Jefferson County, BRX 0649 (011)
Letting March 26, 2026

- (1) Revised - Proposal Bid Items - Pages 146-151 of 151
- (2) Added - Proposal Special Notes - Pages 1-51 of 51

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 black ink that reads "Rachel Mills".

Rachel Mills, P.E.
Director
Division of Construction Procurement

RM:mr
Enclosures

PROPOSAL BID ITEMS

262944

Page 1 of 6

Report Date 3/11/26

262944

Section: 0001 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	02014		BARRICADE-TYPE III	8.00	EACH		\$	
0020	02562		TEMPORARY SIGNS	1,970.00	SQFT		\$	
0030	02654		TRUCK MOUNTED ATTENUATOR	2.00	EACH		\$	
0040	02671		PORTABLE CHANGEABLE MESSAGE SIGN	8.00	EACH		\$	
0050	02775		ARROW PANEL	5.00	EACH		\$	
0060	20411ED		LAW ENFORCEMENT OFFICER	1,370.00	HOURL		\$	
0070	26136EC		PORTABLE QUEUE WARNING ALERT SYSTEM	15.00	MONT		\$	
0080	26137EC		QUEUE WARNING PCMS	15.00	MONT		\$	
0090	26138EC		QUEUE WARNING PORTABLE RADAR SENSORS	15.00	MONT		\$	

Section: 0002 - K & IT RR TRESTLE (056B00284) - ROADWAY/MOT

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0100	02483		CHANNEL LINING CLASS II	5.00	TON		\$	
0110	02603		FABRIC-GEOTEXTILE CLASS 2	181.00	SQYD		\$	
0120	02607		FABRIC-GEOTEXTILE CLASS 2 FOR PIPE - TYPE FT	291.00	SQYD	\$2.00	\$	\$582.00
0130	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0140	02701		TEMP SILT FENCE	900.00	LF		\$	
0150	02703		SILT TRAP TYPE A	2.00	EACH		\$	
0160	02706		CLEAN SILT TRAP TYPE A	2.00	EACH		\$	
0170	08014		REINF CONC SLOPE WALL-4 IN - TYPE GC	63.00	SQYD		\$	
0180	24665EX		RAILROAD COORDINATION	1.00	LS		\$	

Section: 0003 - K & IT RR & 27TH ST (056B00283) - ROADWAY/MOT

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0190	02483		CHANNEL LINING CLASS II - 8IN	1.00	TON		\$	
0200	02603		FABRIC-GEOTEXTILE CLASS 2	46.00	SQYD		\$	
0210	02607		FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	122.00	SQYD	\$2.00	\$	\$244.00
0220	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0230	02701		TEMP SILT FENCE	700.00	LF		\$	
0240	02703		SILT TRAP TYPE A	2.00	EACH		\$	
0250	02706		CLEAN SILT TRAP TYPE A	2.00	EACH		\$	
0260	08014		REINF CONC SLOPE WALL-4 IN	27.00	SQYD		\$	
0270	24665EX		RAILROAD COORDINATION	1.00	LS		\$	

Section: 0004 - NW PKWY & 22ND ST (056B00281 & 056B00282) - ROADWAY/MOT

PROPOSAL BID ITEMS

262944

Page 2 of 6

Report Date 3/11/26

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0280	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0290	02701		TEMP SILT FENCE	500.00	LF		\$	
0300	02705		SILT TRAP TYPE C	2.00	EACH		\$	
0310	02708		CLEAN SILT TRAP TYPE C	2.00	EACH		\$	

Section: 0005 - 17TH TO 13TH ST (056B00285) - ROADWAY/MOT

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0320	02483		CHANNEL LINING CLASS II	6.00	TON		\$	
0330	02603		FABRIC-GEOTEXTILE CLASS 2	294.00	SQYD		\$	
0340	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0350	24665EX		RAILROAD COORDINATION	1.00	LS		\$	

Section: 0006 - 13TH TO 7TH ST (056B00293) - ROADWAY/MOT

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0360	02483		CHANNEL LINING CLASS II	8.00	TON		\$	
0370	02603		FABRIC-GEOTEXTILE CLASS 2	375.00	SQYD		\$	
0380	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	

Section: 0007 - 7TH TO 2ND ST (056B00292) - ROADWAY/MOT

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0390	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	

Section: 0008 - 3RD TO PRESTON ST (056B00142) - ROADWAY/MOT

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0400	01984		DELINEATOR FOR BARRIER - WHITE	14.00	EACH		\$	
0410	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0420	03171		CONC BARRIER WALL TYPE 9T	280.00	LF		\$	
0430	08900		CRASH CUSHION TY 6 CLASS B TL2	1.00	EACH		\$	

Section: 0009 - K & IT RR TRESTLE (056B00284) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0440	21679EN		FIBERGLASS DRAIN PIPE - 8 IN	2,106.00	LF		\$	
0450	23055N		REMOVE - DRAINAGE	1.00	LS		\$	
0460	23386EC		JOINT SEAL REPLACEMENT - TRANSVERSE	799.00	LF		\$	

PROPOSAL BID ITEMS

262944

Page 3 of 6

Report Date 3/11/26

Section: 0010 - K & IT RR & 27TH ST (056B00283) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0470	21679EN		FIBERGLASS DRAIN PIPE - 8 IN	715.00	LF		\$	
0480	23055N		REMOVE - DRAINAGE	1.00	LS		\$	
0490	23386EC		JOINT SEAL REPLACEMENT - LONGITUDINAL	182.00	LF		\$	
0500	23386EC		JOINT SEAL REPLACEMENT - TRANSVERSE	444.00	LF		\$	

Section: 0011 - NW PKWY & 22ND ST (056B00281 & 056B00282) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0510	08435		JACK & SUPPORT BRIDGE SPAN - PIER R3 AT GIRDERS RA AND RB	1.00	LS		\$	
0520	21679EN		FIBERGLASS DRAIN PIPE - 8 IN	288.00	LF		\$	
0530	22146EN		CONCRETE PATCHING REPAIR	37.00	SQFT		\$	
0540	23055N		REMOVE - DRAINAGE	1.00	LS		\$	
0550	23171EC		CONCRETE REPAIR - PIER R3 AT GIRDER RB	1.00	LS		\$	
0560	23386EC		JOINT SEAL REPLACEMENT - TRANSVERSE	1,017.00	LF		\$	
0570	26232EC		CONCRETE COATING	152.00	SQFT		\$	

Section: 0012 - 17TH TO 13TH ST (056B00285) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0580	21679EN		FIBERGLASS DRAIN PIPE - 8IN	1,815.00	LF		\$	
0590	21969NN		BEARING REPLACEMENT	1.00	EACH		\$	
0600	22146EN		CONCRETE PATCHING REPAIR	230.00	SQFT		\$	
0610	23055N		REMOVE - DRAINAGE	1.00	LS		\$	
0620	23386EC		JOINT SEAL REPLACEMENT - LONGITUDINAL	2,110.00	LF		\$	
0630	23386EC		JOINT SEAL REPLACEMENT - TRANSVERSE	642.00	LF		\$	
0640	24879EC		STEEL REPAIR - TYPE FB	2.00	EACH		\$	
0650	24879EC		STEEL REPAIR - TYPE FP	2.00	EACH		\$	
0660	24879EC		STEEL REPAIR - TYPE FS	2.00	EACH		\$	
0670	24879EC		STEEL REPAIR - TYPE FT	3.00	EACH		\$	
0680	24879EC		STEEL REPAIR - TYPE GC	3.00	EACH		\$	
0690	24879EC		STEEL REPAIR - TYPE GF	2.00	EACH		\$	

PROPOSAL BID ITEMS

262944

Page 4 of 6

Report Date 3/11/26

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0700	24879EC		STEEL REPAIR - TYPE GP	7.00	EACH		\$	

Section: 0013 - 13TH TO 7TH ST (056B00293) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0710	21679EN		FIBERGLASS DRAIN PIPE - 10 IN	74.00	LF		\$	
0720	21679EN		FIBERGLASS DRAIN PIPE - 8 IN	2,561.00	LF		\$	
0730	22146EN		CONCRETE PATCHING REPAIR	366.00	SQFT		\$	
0740	23055N		REMOVE - DRAINAGE	1.00	LS		\$	
0750	23171EC		CONCRETE REPAIR - PIER 34W AT GIRDER G3	1.00	LS		\$	
0760	23386EC		JOINT SEAL REPLACEMENT - LONGITUDINAL	1,572.00	LF		\$	
0770	23386EC		JOINT SEAL REPLACEMENT - TRANSVERSE	908.00	LF		\$	
0780	24879EC		STEEL REPAIR - TYPE CB	1.00	EACH		\$	
0790	24879EC		STEEL REPAIR - TYPE CC	3.00	EACH		\$	
0800	24879EC		STEEL REPAIR - TYPE CS	16.00	EACH		\$	
0810	24879EC		STEEL REPAIR - TYPE CX1	1.00	EACH		\$	
0820	24879EC		STEEL REPAIR - TYPE FB	8.00	EACH		\$	
0830	24879EC		STEEL REPAIR - TYPE FS	4.00	EACH		\$	
0840	24879EC		STEEL REPAIR - TYPE FT	1.00	EACH		\$	
0850	24879EC		STEEL REPAIR - TYPE GC	8.00	EACH		\$	
0860	24879EC		STEEL REPAIR - TYPE GP	7.00	EACH		\$	
0870	24879EC		STEEL REPAIR - TYPE MB1	1.00	EACH		\$	

Section: 0014 - 7TH TO 2ND ST (056B00292) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0880	22146EN		CONCRETE PATCHING REPAIR	40.00	SQFT		\$	
0890	23386EC		JOINT SEAL REPLACEMENT - LONGITUDINAL	2,653.00	LF		\$	
0900	23386EC		JOINT SEAL REPLACEMENT - TRANSVERSE	801.00	LF		\$	
0910	24879EC		STEEL REPAIR - TYPE BB	3.00	EACH		\$	
0920	24879EC		STEEL REPAIR - TYPE BS1	1.00	EACH		\$	

PROPOSAL BID ITEMS

262944

Page 5 of 6

Report Date 3/11/26

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0930	24879EC		STEEL REPAIR - TYPE BS2	17.00	EACH		\$	
0940	24879EC		STEEL REPAIR - TYPE CC	1.00	EACH		\$	
0950	24879EC		STEEL REPAIR - TYPE CS	13.00	EACH		\$	
0960	24879EC		STEEL REPAIR LATERAL BRACING	2.00	EACH		\$	

Section: 0015 - 3RD TO PRESTON ST (056B00142) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0970	08435		JACK & SUPPORT BRIDGE SPAN - END BENT 101W AT GIRDER E	1.00	LS		\$	
0980	08435		JACK & SUPPORT BRIDGE SPAN - PIER R3 AT GIRDERS RA AND R8	1.00	LS		\$	
0990	21679EN		FIBERGLASS DRAIN PIPE 8 IN	6.00	LF		\$	
1000	22146EN		CONCRETE PATCHING REPAIR	250.00	SQFT		\$	
1010	23055N		REMOVE -DRAINAGE	1.00	LS		\$	
1020	23171EC		CONCRETE REPAIR - END BENT 101W AT GIRDER E	1.00	LS		\$	
1030	23279EC		RETROFIT - PIN AND HANGER	2.00	EACH		\$	
1040	23386EC		JOINT SEAL REPLACEMENT - LONGITUDINAL	1,266.00	LF		\$	
1050	23386EC		JOINT SEAL REPLACEMENT - TRANSVERSE	1,287.00	LF		\$	
1060	23744EC		EPOXY INJECTION CRACK REPAIR	2.00	LF		\$	
1070	24879EC		STEEL REPAIR - PIER GIRDER 110	1.00	EACH		\$	
1080	24879EC		STEEL REPAIR - SPAN 127E	1.00	EACH		\$	
1090	24879EC		STEEL REPAIR - TYPE A	11.00	EACH		\$	
1100	24879EC		STEEL REPAIR - TYPE B	1.00	EACH		\$	
1110	24879EC		STEEL REPAIR - TYPE CB	4.00	EACH		\$	
1120	24879EC		STEEL REPAIR - TYPE CF	1.00	EACH		\$	
1130	24879EC		STEEL REPAIR - TYPE CS	9.00	EACH		\$	
1140	24879EC		STEEL REPAIR - TYPE CX1	1.00	EACH		\$	
1150	24879EC		STEEL REPAIR - TYPE CX2	1.00	EACH		\$	
1160	24879EC		STEEL REPAIR - TYPE MB1	37.00	EACH		\$	
1170	24879EC		STEEL REPAIR - TYPE MB2	1.00	EACH		\$	
1180	24981EC		BRIDGE CLEANING -	1.00	LS		\$	
1190	24983EC		BEARING LUBRICATION	7.00	EACH		\$	

PROPOSAL BID ITEMS

262944

Page 6 of 6

Report Date 3/11/26

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1200	26232EC		CONCRETE COATING	677.00	SQFT		\$	

Section: 0016 - 9TH STREET RAMP 1 (056B00300) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1210	22146EN		CONCRETE PATCHING REPAIR	195.00	SQFT		\$	

Section: 0017 - 9TH STREET RAMP 2 (056B00301) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1220	22146EN		CONCRETE PATCHING REPAIR	65.00	SQFT		\$	

Section: 0018 - 9TH STREET RAMP 2A (056B00299) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1230	22146EN		CONCRETE PATCHING REPAIR	15.00	SQFT		\$	

Section: 0019 - 9TH STREET RAMP 3 (056B00302) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1240	22146EN		CONCRETE PATCHING REPAIR	15.00	SQFT		\$	

Section: 0020 - 9TH STREET RAMP 4 (056B00298) - STRUCTURES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1250	22146EN		CONCRETE PATCHING REPAIR	125.00	SQFT		\$	

Section: 0021 - MOB/DEMOB

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1260	02568		MOBILIZATION	1.00	LS		\$	
1270	02569		DEMOBILIZATION	1.00	LS		\$	

**SPECIAL NOTES
DISTRICT NO. 5
JEFFERSON COUNTY
BRIDGE STEEL REPAIRS & MISC. REPAIRS
BRX 0649(011) SYP ITEM 5-10016.00
CID 252942**

FD52 056 0064 003-005

Jefferson County ~ I-64 EB and WB for the following bridges:

3 rd to Preston Street Bridge (056B00142N)	9 th Street Interchange – Ramp 1 (056B00300N)
7 th to 2 nd Street Bridge (056B00292N)	9 th Street Interchange – Ramp 2 (056B00301N)
13 th to 7 th Street Bridge (056B00293N)	9 th Street Interchange – Ramp 2A (056B000299N)
17 th to 13 th Street Bridge (056B00285N)	9 th Street Interchange – Ramp 3 (056B00302N)
NW Pkwy & 22 nd Street (056B00282N)	9 th Street Interchange – Ramp 4 (056B00298N)
K&I RR & 27 th Street (056B00283N)	
K&I RR Trestle (056B00284N)	

General Geographic Coordinates

Latitude: 38° 15' 50''
Longitude: -85° 46' 26''

SPECIAL NOTES

SPECIAL NOTE FOR CONTRACT COMPLETION DATE AND PENALTIES ON BRIDGE REPAIR CONTRACTS

SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS

SPECIAL NOTE FOR CONCRETE PATCHING REPAIR

SPECIAL NOTE FOR CONCRETE COATING

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

SPECIAL NOTE FOR PREVENTATIVE MAINTENANCE

SPECIAL NOTE FOR CLEAN AND PAINT STRUCTURAL STEEL REPAIRS

SPECIAL NOTE FOR EPOXY INJECTION CRACK REPAIR

SPECIAL NOTE FOR JACKING AND SUPPORTING BRIDGE SPAN

SPECIAL NOTE FOR PIN AND HANGER ASSEMBLY RETROFIT

SPECIAL NOTE FOR JOINT AND SEAL REPLACEMENT - LONGITUDINAL

SPECIAL NOTE FOR PORTABLE QUEUE WARNING ALERT SYSTEM

PROJECT SITE MAP

Riverside Expressway (I-64) Jefferson County Louisville, Kentucky



SPECIAL NOTE FOR CONTRACT COMPLETION DATE AND LIQUIDATED DAMAGES ON BRIDGE REPAIR CONTRACT

I. COMPLETION DATE. Upon Notice to Proceed, the Contractor has the option of selecting the Begin Work date. Once selected, notify the Department in writing of the date selected at least two weeks prior to beginning work and provide a proposed project schedule. All work is to be completed by the specified contract completion date of **June 1, 2027**. At a minimum, prior to reopening the lanes to traffic, all strength requirements and curing for materials used shall be completed per Division 600 of the Standard Specifications.

All work must be completed by the contract completion date. Railroad coordination and permitting are required for portions of the project. Any delay caused by the railroad utility on coordination and permitting cannot be used as grounds for delay on items of work outside of the Railroad right-of-way. The work on the Railroad right-of-way shall be considered an independent work item from work outside of Railroad right-of-way. Any delays caused by the railroad will be considered a non-compensable delay in accordance with Standard Specification Section 105.13.03(E).

II. LIQUIDATED DAMAGES. Liquidated damages will be assessed to the Contractor in accordance with the Transportation Cabinet, Department of Highway's current Standard Specifications for Road and Bridge Construction, Section 112.03.15A, when the lane closures are used beyond the allotted number of calendar days. Liquidated Damages will be assessed per the Standard Specification Section 108.09 when the contract time extends beyond the contract date.

Contrary to the Standard Specifications, liquidated damages will be assessed to the Contractor during the months of December, January, February and March when the contract time has expired on any individual bridge. Contract time will be charged during these months. All construction must be completed in accordance with the weather limitations specified in Section 606 and/or Section 601 as applicable. No extension of Contract time will be granted due to inclement weather or temperature limitations that occur due to starting work on the Contract or a structure late in the construction season.

In addition to the project liquidated damages as specified in Section 108.09 of the Department of Highway's 2012 Standard Specifications for Road and Bridge Construction, if the Contractor fails to reopen lane closure(s) to traffic along I-64 by the deadlines specified in the Special Note for Traffic Control on Bridge Repair Contracts, the Contractor will be assessed penalties of \$1000.00 for the first half hour and \$2,500.00 for each additional hour that the lane closure is in effect.

SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS

TRAFFIC CONTROL GENERAL

Except as provided herein, traffic shall be maintained in accordance with Kentucky Transportation Cabinet Department of Highways Standard Specifications for Road and Bridge Construction, Edition of 2019 (Standard Specifications), Section 112.

The Contractor shall follow the MOT scheme shown in the plan set or as described in this special note and/or develop their own maintenance of traffic (MOT) plan that conforms to this special note and is in accordance with the Manual for Uniform Traffic Control Devices (MUTCD). The MOT shall be approved by the Engineer prior to implementation. All lane closures must be approved by the Engineer at least 14 days prior to the closure.

Contrary to Standard Specifications, Section 106.01, traffic control devices used on this project may be new or used in like new condition, at the beginning of the work and maintained in like new condition until completion of the work. Traffic control devices shall remain the property of the Contractor when no longer needed.

The Contractor shall completely cover any signs, either existing, permanent, or temporary, which do not properly apply to the current traffic phasing and shall maintain the covering until the signs are applicable or removed.

In general, all traffic control devices shall be placed starting and proceeding in the direction of the flow of traffic and removed starting and proceeding in the direction opposite the flow of traffic.

The Engineer and the Contractor, or their authorized representatives, shall review the signing plans before traffic is allowed to use any lane closures, crossovers, or detours. All signings shall be approved by the Engineer before work can be started by the Contractor.

If traffic should be stopped due to construction operations and an emergency vehicle on an official emergency run arrives at the scene, the Contractor shall make the provisions for passage of that vehicle as quickly as possible.

Reasonable means of ingress and egress shall be maintained to all properties within the project. Access to fire hydrants shall be maintained at all times.

The Contractor, in accordance with the Engineer, will notify affected property owners, including airspace lessees, a minimum of 48 hours prior to any work that may impact them. For example, parking lots and buildings adjacent to the project area. However, notification to Waterfront Park shall be made one week prior to beginning work.

The Contractor shall coordinate with TRIMARC during road / lane closures for the use of the existing variable message signs.

The background aerial on the MOT plan sheets may not reflect current pavement conditions.

COORDINATION OF WORK

The Contractor is advised that other projects may be in progress within or in the near vicinity of this project. The traffic control of those projects may affect this project, and the traffic control of this project may affect those projects. The Contractor will coordinate the work on this project with the work of the other contractors. In case of conflict, the Engineer will determine the relative priority to give to work phasing on the various projects. See Section 105.06.

WATERFRONT PARK

There are numerous events and activities that occur within Waterfront Park throughout the year. When such activities do occur, no work will be allowed to be performed during the event's time frame and any staging that may be required for the event. The Contractor shall remove all equipment, materials, etc. 24 hours prior to the event or staging beginning, as directed by the Engineer. Coordinate with the Engineer, Waterfront Park, Louisville Metro, and other affected groups accordingly.

PUBLIC INFORMATION PLAN (PIP)

KYTC District 5 Public Information Officer (PIO) will inform the motoring public and area stakeholders of project information including maintenance of traffic. The District PIO will coordinate and disseminate to stakeholders and the media appropriate information regarding the construction per information provided by the Contractor. The Contractor shall coordinate with PIO as needed.

PROJECT TRAFFIC COORDINATOR

Furnish a Project Traffic Coordinator (PTC) in accordance with Standard Specifications Section 112. The PTC shall inspect the project maintenance of traffic, a minimum of once per shift, or as directed by the Engineer, during the Contractor's operations and at any time a lane closure is in place. The personnel shall have access on the project to a radio or telephone to be used in case of emergencies or accidents.

The PTC shall report all incidents throughout the work zone to the Engineer on the project. The Contractor shall furnish the name and telephone number where the PTC can be contacted at all times.

CONTRACTOR VEHICLES

The Contractor vehicles shall always move with and not against the flow of traffic. Vehicles shall enter and leave the work area in a manner which will not be hazardous to or interfere with normal traffic.

MOT RESTRICTIONS

No lane closures shall be allowed on I-64 EB or I-64 WB at any time during the months of June and July 2026. Coordinate with the I-65 Central Corridor Project closure for exact dates

No lane closures shall be allowed during the following events, unless noted otherwise, or as directed by the Engineer:

- (a) Observance of any National Holidays identified in Section 101 of the Standard Specifications
- (b) KY Derby Festival Events
(April 18, 2026 at 5:00am through May 2, 2026 at 11:59pm)
(2027 dates to be determined by the Engineer)

TRAFFIC CONTROL AND DETOUR PLANS

The Contractor shall prepare a traffic control plan for each phase of work and a signed detour route for ramp closures. The traffic control plan and any proposed detours will be delivered to the Engineer 7 days prior to the pre-construction meeting. The proposed detour route shall meet the following:

- (a) An alternate detour route may be submitted to the Engineer for written approval.
- (b) The contractor must coordinate with other projects along a detour route.
- (c) The contractor must coordinate detour and schedule with the Engineer.
- (d) Traffic control plans and any detours shall be in accordance with the KYTC Standard Drawings and MUTCD.

The traffic control plan must be submitted and approved to allow for coordination of the public information officer with the closure notification. The public must be notified of the proposed detour route, 2 weeks before closure. All time and expenses necessary for the development of traffic control and detour plans will be incidental to the lump sum bid item "Maintain and Control Traffic".

Limit the length of detours to only those needed for actual operations or as directed by the Engineer.

BARRICADES

Place Type III Barricades for any road closure as noted in this Special Note or as may be required by the Standard Drawings or Manual of Uniform Traffic Control Devices, or as directed by the engineer.

TEMPORARY SIGNS

The Contractor shall sign all closures in accordance with the MOT drawings, Standard Drawings and in accordance with the current edition of the MUTCD.

The Contractor is to install warning signs for wide loads in advance under the direction of the Engineer. Wide load detours will not be established on this project. Provide for passage of wide loads up to 16 feet. Wide loads may use a portion of the shoulder to allow for passage.

Additional traffic control signs in addition to normal lane closure signing detailed on plans and/or Standard Drawings may be required by the Engineer. Additional signs needed for lane closures may include, but are not limited to, dual mounted LEFT/RIGHT LANE CLOSED 1 MILE, LEFT/RIGHT LANE CLOSED 2 MILES, SLOWED/STOPPED TRAFFIC AHEAD. All installations shall be approved by the Engineer.

Contrary to section 112, individual signs will be measured only once for payment regardless of how many times they are set, reset, removed, and relocated during the duration of the project. Replacements for damaged signs or signs directed to be replaced by the Engineer due to poor legibility or reflectivity will not be measured for payment.

TRUCK MOUNTED ATTENUATORS

Furnish and install MUTCD approved truck mounted attenuators (TMA) in advance of work areas when workers are present less than 12 feet from traffic. If there are less than 500 feet between work sites, only a single TMA will be required at a location directed by the Engineer. Locate the TMAs at the individual work sites and move them as the work zone moves within the project limits. All details of the TMA installations shall be approved by the Engineer. The Department WILL NOT take possession of the TMAs upon completion of the work.

PORTABLE CHANGEABLE MESSAGE SIGNS

The contractor shall provide portable changeable message signs (PCMS) as indicated in this special note or as determined by the Engineer. PCMS shall always be in operation during working operations and for seven (7) days prior to closure. The message required to be provided shall be designated by the Engineer. In the event of damage or mechanical/electrical failure, the Contractor shall repair or replace the PCMS within 24 hours. PCMS will be paid once no matter how many times they are moved or relocated. The Department WILL NOT take possession of the PCMS upon completion of the work.

See the attached "SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS".

ARROW PANELS

Use arrow panels as shown on the Standard Drawings or as directed by the Engineer. Flashing arrows will be paid once, regardless of how many times they are moved or relocated. The Department WILL NOT take possession of the flashing arrows upon completion of the work.

LAW ENFORCEMENT OFFICER (LEO)

Police support shall be a unit consisting of an off-duty police officer from any police force agency having lawful jurisdiction and police car equipped with mounted flashing blue lights. Officers may be asked to issue citations for traffic violations. The officers will be placed at the discretion of the Engineer. Police support will be measured on a per hour basis for each officer and each police vehicle.

LANE CLOSURE

Contrary to section 112, lane closures will NOT be measured for payment and are considered incidental to "Maintain and Control Traffic".

PROJECT PHASING

This project has set completion dates. See Special Note for Contract Completion and Liquidated Damages.

Lane closures are required for the project. Unless noted otherwise, the minimum lane width shall be 12 feet, but the passage of wide loads shall be made possible.

Lane closures are restricted to one location per direction at any given time. However, closures may occur concurrently in both the westbound and eastbound directions.

Night work is required on this project. The method of lighting must be submitted to and approved by the Engineer prior to use.

The following closure restrictions shall apply for this project, as directed by the Engineer.

DAILY CLOSURE:

A daily closure shall be described as the period from 9:00 AM until 3:00 PM the same day.

WEEKNIGHT MOT I-64 CLOSURE:

Allowable weeknight MOT setup shall be described as the period from 7:00 PM until 5:00 AM the following morning.

WEEKEND MOT I-64 CLOSURE:

A weekend MOT setup shall be described as the 58-hour period from 7:00 PM Friday until 5:00 AM the following Monday morning. All work activities, including placement of concrete, must be completed within the first 48-hour period. Work activities not completed within the 48-hour period will be subject to penalties. The remaining 10-hour period will be dedicated to curing the concrete. The Contractor will not be penalized if the time to cure the concrete and reach minimum break strength (3,000 psi) exceeds the allotted 58 hours. The MOT setup will remain in place until the minimum break strength is achieved. Weekend closures are expected for the work at 22nd Street Pier R3 (Bridge 056B00281N – 22nd St Off Ramp), Pier 34W (Bridge 056B00293N – 7th to 13th Street), and at EB 101W (Bridge 056B00142N – Preston to 2nd Street), unless otherwise approved by the Engineer.

GENERAL PHASING FOR BRIDGE DECK DRAINAGE REPLACEMENT

When a lane closure is necessary for work associated with the bridge deck drainage piping, it shall be performed as a daily closure only. Thus, this work is not considered a Long-Term Lane Closure as defined in Standard Specification 112.03.02 and in accordance with Standard Specification

112.04.17, the Department will consider these lane closures incidental to Maintain and Control Traffic.

For cleaning the existing deck scuppers, provide traffic control in accordance with Standard Drawing TTC-115-04. Also refer to MUTCD typical application number 33 for guidance. This work shall be performed as weeknight lane closures along I-64.

BRIDGE 056B00284N (NS RR, 33rd Street)

The Contractor shall coordinate with Norfolk Southern for any work that needs to be performed within their right-of-way. The Contractor shall include all costs associated with coordinating, flagging, etc. in the lump sum bid item “Railroad Coordination”.

BRIDGE 056B00283N (NS RR, 27th Street)

The Contractor shall coordinate with Norfolk Southern for any work that needs to be performed within their right-of-way. The Contractor shall include all costs associated with coordinating, flagging, etc. in the lump sum bid item “Railroad Coordination”.

For work near North 27th Street, provide traffic control and flagger in accordance with Standard Drawing TTC-100-05. Also refer to MUTCD typical application number 10 for guidance. For sidewalk closure, refer to MUTCD application number 28.

BRIDGES 056B00282N (22nd St Mainline) AND 056B00281N (22nd St Off Ramp)

For work along Northwestern Parkway, provide traffic control and flagger in accordance with Standard Drawing TTC-100-05. An eastbound shoulder closure may also be entertained by the Contractor for work adjacent to piers 2 and R2. Also refer to Standard Drawing TTC-135-03 and MUTCD typical application numbers 3 and 10 for guidance. For sidewalk closure, refer to MUTCD application number 28.

For work along 22nd Street, provide traffic control lane closures in accordance with Standard Drawings TTC-115-04 and MUTCD typical application numbers 23 and 30. At minimum, one-lane of traffic shall be maintained in each direction at all times. For sidewalk closure, refer to MUTCD application number 28. The phasing is noted as follows:

- Close the two inside lanes, northbound and southbound, while leaving the outside lanes open to traffic. For the I-64 westbound exit ramp, close inside lane prior to intersection with Northwestern Parkway. For northbound 22nd Street, close the inside lane beyond the I-64 eastbound entrance ramp. Remove existing piping that is located over these two inside lanes and noted as location 10 in the plans. Install new piping where removed.
- Close the northbound outside lane while leaving the southbound lanes open. For northbound 22nd Street, close the outside lane beyond the I-64 eastbound entrance ramp. Remove the remaining existing piping and replace it.
- Provide lane closures as needed to perform drainage system field testing.

BRIDGE 056B00285N (13th to 17th Street)

The Contractor shall coordinate with Norfolk Southern and Louisville and Indiana Railroad for any work that needs to be performed within their right-of-way. The Contractor shall include all costs associated with coordinating, flagging, etc. in the lump sum bid item “Railroad Coordination”.

For work near Northwestern Parkway, provide traffic control closures and flaggers in accordance with Standard Drawings TTC-100-05 and TTC-135-03. Also refer to MUTCD typical application numbers 3 and 10 for guidance. For sidewalk closure, refer to MUTCD application number 28.

BRIDGE 056B00293N (7th to 13th Street)

The Contractor shall coordinate with impacted property owners, including airspace lessees, for work that is within existing parking lots under the bridge. The Contractor shall minimize work area in order to maintain a maximum number of parking spaces.

For work near the intersection of North 10th Street and Rowan Street, provide traffic control in accordance with Standard Drawings TTC-100-05 and TTC-135-03. Also refer to MUTCD typical application numbers 3 and 10 for guidance.

GENERAL PHASING FOR I-64 LONGITUDINAL SEAL REPLACEMENT (Bridge Numbers 056B00283N, 056B00285N, 056B00293N, 056B00292N, and 056B00142N)

For the installation of the new longitudinal seal, lane closures shall be in accordance with Standard Drawing TTC-115-04. Also refer to MUTCD typical application number 33 for guidance. This work may be performed as a weeknight lane closures along I-64. Additional considerations are as follows:

BRIDGE 056B00283N (NS RR, 27th Street)

The Contractor shall coordinate with Norfolk Southern for any work that needs to be performed over their right-of-way. The Contractor shall include all costs associated with coordinating, flagging, etc. in the lump sum bid item “Railroad Coordination”.

BRIDGE 056B00285N (13th to 17th Street)

The Contractor shall coordinate with Norfolk Southern and Louisville and Indiana Railroad for any work that needs to be performed over their right-of-way. The Contractor shall include all costs associated with coordinating, flagging, etc. in the lump sum bid item “Railroad Coordination”.

BRIDGE 056B00142N (Preston to 2nd Street)

The westbound I-64 inside lane next to the concrete barrier will be closed. Close the westbound I-64 inside lane prior to the southbound and northbound I-65 entrance ramps to the westbound I-64 gore. Southbound and northbound I-65 to westbound I-64 will become an added lane which will be the third lane from the outside shoulder.

**GENERAL PHASING FOR I-64 TRANSVERSE STRIP SEAL GLAND REPLACEMENT
(Bridge Numbers 056B00284N, 056B00283N, 056B00281N, 056B00282N, 056B00285N,
056B00293N, 056B00292N, and 056B00142N)**

For transverse strip seal gland replacement, lane closures shall be in accordance with Standard Drawings TTC-115-04 and TTC-125-04. Also refer to MUTCD typical application numbers 33 and 37 for guidance. See MUTCD Tables 6B-3 and 6B-4 for minimum merging and shifting tapers. This work shall be performed as a weeknight MOT I-64 closure only.

BRIDGE 056B00284N (NS RR, 33rd Street)

For the eastbound I-64 strip seal gland replacement at end bent 1 and pier 3, reduce the number of lanes on eastbound I-64 mainline to a single lane providing a minimum 660-foot merging taper. Additional information is as follows:

- Close the westbound I-264 to eastbound I-64 ramp. Provide double lane closure on westbound I-264 prior to the Bank Street entrance ramp. Provide minimum 660-foot merging tapers.
- Close the westbound I-264 and Bank Street entrance ramp.
- Changeable message signs will be used for detour.
- Provide six (6) changeable message signs for notification of the closed westbound I-264 to eastbound I-64 ramp at the following locations:
 - Along westbound I-264 at approximately 0.1 and 0.5 miles prior to the River Park Drive exit ramp.
 - Just north of the Muhammad Ali Boulevard and 32nd Street intersection and before the entrance ramp to westbound I-264.
 - Along westbound I-264 at approximately 0.1 miles south of Bank Street.
 - Along Bank Street just west of I-264. Close the turn right only lane along Bank Street.
 - Along 37th Street just north of Bank Street.
- For maintaining the single lane of traffic on the eastbound I-64 outside lane:
 - Close the eastbound I-64 inside lane prior to the eastbound I-64 and westbound I-264 ramp to eastbound I-64 gore. Then provide a minimum 330-foot shifting taper beyond the gore and provide buffer prior to the strip seal gland.
- For maintaining the single lane of traffic on the eastbound I-64 inside lane:
 - Close the eastbound I-64 outside lane prior to the eastbound I-64 and westbound I-264 ramp to eastbound I-64 gore. Then provide a minimum 330-foot shifting taper beyond the gore and provide buffer prior to the strip seal gland.

For eastbound I-64 strip seal gland replacement at piers 7, 11, 14, 18, 22, 26, and end bent 2, reduce the number of lanes on eastbound I-64 mainline and the ramp from westbound I-264 to eastbound I-64 to a single lane for each roadway prior to the gore. Beyond the gore, merge the two lanes to a single lane prior to the strip seal gland replacement locations. Additional information is as follows:

- For maintaining the single lane of traffic on the eastbound I-64 outside lane:
 - Prior to the eastbound I-64 and westbound I-264 ramp to eastbound I-64 gore, provide the single lane of traffic on the I-64 outside lane.
 - Prior to the eastbound I-64 and westbound I-264 ramp to eastbound I-64 gore, provide the single lane of traffic on the westbound I-264 to eastbound I-64 ramp inside lane.
 - Beyond the eastbound I-64 and westbound I-264 ramp to eastbound I-64 gore, merge the inside lane to the outside lane with a minimum 660-foot merging taper and provide buffer prior to the strip seal gland locations.
- For maintaining the single lane of traffic on the eastbound I-64 inside lane:
 - Prior to the eastbound I-64 and westbound I-264 ramp to eastbound I-64 gore, provide the single lane of traffic on the I-64 inside lane.
 - Prior to the eastbound I-64 and westbound I-264 ramp to eastbound I-64 gore, provide the single lane of traffic on the westbound I-264 to eastbound I-64 ramp outside lane.
 - Beyond the eastbound I-64 and westbound I-264 ramp to eastbound I-64 gore, merge the outside lane to the inside lane with a minimum 660-foot merging taper and provide buffer prior to the strip seal gland locations.
 - The Contractor shall utilize the gore area as needed for the westbound I-264 to eastbound I-64 ramp movement to maximize the buffer.

For westbound I-64, reduce westbound I-64 to two lanes prior to the 22nd Street entrance ramp. Then provide merging taper to one lane beyond the entrance ramp and provide buffer prior to the strip seal gland locations. The Contractor shall provide minimum 660-foot merging tapers. For the entrance ramp, see MUTCD typical application number 44 for guidance.

BRIDGE 056B00283N (NS RR, 27th Street)

For eastbound I-64, The Contractor shall provide minimum 660-foot merging tapers and provide buffer prior to the strip seal gland replacement locations.

For westbound I-64, reduce westbound I-64 to one lane prior to the 22nd Street entrance ramp. The Contractor shall provide minimum 660-foot merging tapers and provide buffer prior to the strip seal gland replacement locations. For the 22nd Street exit and entrance ramps, see MUTCD typical application numbers 42 and 44, respectively, for guidance.

BRIDGE 056B00281N (22nd St Off Ramp)

For transverse strip seal gland replacement on Ramp A of Bridge #056B00281N over Northwestern Parkway at 22nd Street:

- Close the eastbound I-64 exit ramp to 22nd Street and provide a detour via 9th Street; then go south to W. Market Street; then go west to 22nd Street. Detour shall be in accordance with MUTCD typical application numbers 8, 9, 19 and 20.

- Provide portable changeable message signs approximately 0.1 and 0.7 miles prior to the 22nd Street eastbound exit ramp for notification of ramp closure and detour via 9th Street.

The Contractor shall perform the transverse strip seal gland replacement for eastbound bridge #056B00282N and Ramp A Bridge #056B00281N independently.

BRIDGE 056B00282N (22nd St Mainline)

For eastbound I-64, reduce eastbound I-64 to one lane prior to the 22nd Street exit ramp. The Contractor shall provide minimum 660-foot merging tapers. The 22nd Street exit ramp shall remain open and see MUTCD typical application number 42 for guidance.

The Contractor shall perform the transverse strip seal gland replacement for eastbound bridge #056B00282N and Ramp A Bridge #056B00281N independently.

For westbound I-64, reduce to one lane prior to the 22nd Street exit ramp. The Contractor shall provide a minimum of 660-foot merging tapers and provide a buffer prior to the strip seal gland replacement locations.

- When traffic is utilizing the westbound I-64 innermost lane:
 - The westbound I-64 to 22nd Street exit ramp shall be closed and provide detour via 9th Street; then south to W. Jefferson Street; then west to 22nd Street.
 - Detour shall be in accordance with MUTCD typical application numbers 8, 9, 19 and 20.
 - Provide three portable changeable message signs approximately 1.0 mile prior to the 9th Street westbound exit ramp for notification of the 22nd Street ramp closure and detour via 9th Street.
 - Portable changeable message signs shall be placed along both sides of mainline I-64 and in the gore of the southbound and northbound I-65 entrance ramps.
- When traffic is utilizing the westbound I-64 most outside lane:
 - The 22nd Street exit ramp shall be open.

BRIDGE 056B00285N (13th to 17th Street)

For eastbound I-64, reduce eastbound I-64 to one lane prior to the 22nd Street entrance ramp. The Contractor shall provide minimum 660-foot merging tapers and provide buffer prior to the strip seal gland replacement locations. For the 22nd Street exit and entrance ramps, see MUTCD typical application numbers 42 and 44, respectively, for guidance.

For westbound I-64, reduce westbound I-64 to one lane prior to the 9th Street entrance ramp. The Contractor shall provide minimum 660-foot merging tapers feet and provide buffer prior to the strip seal gland replacement locations. For the 9th Street exit and entrance ramps, see MUTCD typical application numbers 42 and 44, respectively, for guidance.

BRIDGE 056B00293N (7th to 13th Street)

For eastbound I-64, reduce eastbound I-64 to one lane prior to the 9th Street exit ramp. The Contractor shall provide 660-foot minimum merging tapers and provide buffer prior to the strip seal gland replacement locations. Additional information is as follows:

- For transverse strip seal gland replacement at Piers 33EB and 36EB and when eastbound I-64 traffic is utilizing the most inside lane:
 - Close the eastbound 9th Street exit ramp and provide a detour via 22nd Street; then go south to West Market Street; then east to 9th Street.
 - Detour shall be in accordance with MUTCD typical application numbers 8, 9, 19 and 20.
 - Provide portable changeable message signs approximately 0.1 and 0.7 miles prior to the 22nd Street eastbound exit ramp for notification of ramp closure and detour via 22nd Street.
- For transverse strip seal gland replacement at Piers 48EB and 55EB and when eastbound I-64 traffic is using the eastbound I-64 most inside lane:
 - Close the westbound Main Street entrance ramp at 9th Street Interchange to eastbound I-64 and provide detour via Main Street to South 10th Street; then south to Market Street; then east to Preston Street; then south to the northbound I-65 entrance ramp at East Muhammad Ali Boulevard; then northbound on I-65 to the I-64 eastbound ramp.
 - Close the northbound 9th Street to eastbound I-64 entrance ramp at 9th Street Interchange and provide detour via Market Street; then east to Preston Street; then south to the northbound I-65 entrance ramp at East Muhammad Ali Boulevard; then northbound on I-65 to the I-64 eastbound ramp.
 - Detours shall be in accordance with MUTCD typical application numbers 8, 9, 19, and 20.
 - Provide a portable changeable message sign along Main Street near the entrance ramp and another along 9th Street between West Market Street and West Jefferson Street for notification of each ramp closure and detour.
- For transverse strip seal gland replacement at the other locations not indicated above and when eastbound I-64 traffic is utilizing the most inside lane:
 - The 9th Street entrance and exit ramps shall be open. See MUTCD typical application numbers 42 and 44, respectively, for guidance.
- When the eastbound I-64 traffic is utilizing the most outside lane:
 - The 9th Street entrance and exit ramps shall be open.

For westbound I-64, reduce westbound I-64 to one lane prior to the 9th Street exit ramp. The Contractor shall provide minimum merging tapers of 660 feet and provide buffer prior to the strip seal gland replacement locations.

- For transverse strip seal gland replacement at Pier 55WB and when westbound I-64 traffic is utilizing the westbound I-64 inside lane:
 - Close the westbound 9th Street exit ramp.
 - Provide a detour via 22nd Street; then south to West Jefferson Street; then east to South 9th Street.

- Provide three (3) portable changeable message signs approximately 1 mile prior to the 9th Street exit ramp for notification of the ramp closure and detour via 22nd Street. Portable changeable message signs shall be placed along both sides of mainline I-64 and on the northbound and southbound I-65 entrance ramp gore to westbound I-64.
- Provide an additional portable changeable message sign in the westbound I-64 and 9th Street exit ramp gore for notification of detour at 22nd Street.
- For transverse strip seal gland replacement at Piers 28WB and 31WB and when westbound I-64 traffic is utilizing the westbound I-64 inside lane:
 - Close the northbound 9th Street to westbound I-64 entrance ramp and provide a detour via West Jefferson Street westerly to Dr. W. J. Hodge Street; then north to North 22nd Street; then north to the westbound I-64 entrance ramp.
 - Provide two (2) portable changeable message signs. Place one along South 9th Street between West Jefferson Street and West Liberty Street and place the other one along West Jefferson Street between South 9th Street and South 8th Street for notification of the ramp closure and detour.
- For transverse strip seal gland replacement at the other locations not indicated above and when westbound I-64 traffic is utilizing the most inside lane:
 - The 9th Street entrance and exit ramps shall be open. See MUTCD typical application numbers 42 and 44 for guidance.
- When the westbound I-64 traffic is utilizing the most outside lane:
 - The 9th Street entrance and exit ramps shall be open.

BRIDGE 056B00292N (2nd to 7th Street)

For eastbound I-64, reduce eastbound I-64 to one lane prior to the 9th Street Interchange entrance ramp. The Contractor shall provide 660-foot minimum merging tapers of 660 feet and provide buffer prior to the strip seal gland replacement locations. For the 9th Street exit ramp, see MUTCD typical application number 42 for guidance. Additional information is as follows:

- For transverse strip seal gland replacement at Pier 58 and when westbound I-64 traffic is utilizing the most inside lane:
 - Close the westbound Main Street entrance ramp at 9th Street Interchange to eastbound I-64 and provide detour via Main Street to South 10th Street; then south to Market Street; then east to Preston Street; then south to the northbound I-65 entrance ramp at East Muhammad Ali Boulevard; then northbound on I-65 to the I-64 eastbound ramp.
 - Close the northbound 9th Street to eastbound I-64 entrance ramp at 9th Street Interchange and provide detour via Market Street; then east to Preston Street; then south to the northbound I-65 entrance ramp at East Muhammad Ali Boulevard; then northbound on I-65 to the I-64 eastbound ramp.
 - Detours shall be per MUTCD typical application numbers 8, 9, 19, and 20.
 - Provide a portable changeable message sign along Main Street near the entrance ramp and another along 9th Street between West Market Street and West Jefferson Street for notification of each ramp closure and detour.

- For transverse strip seal gland replacement at the other locations not indicated above and when eastbound I-64 traffic is utilizing the most inside lane:
 - The 9th Street entrance ramps shall be open. See MUTCD typical application number 44 for guidance.
- When the eastbound I-64 traffic is utilizing the most outside lane:
 - The 9th Street entrance ramps shall be open.

For westbound I-64, reduce westbound I-64 to one lane prior to the 3rd Street exit ramp. Additional information is as follows:

- For utilizing the westbound I-64 inside lane:
 - Prior to the westbound I-64 and the northbound and southbound I-65 ramp to westbound I-64 gore, close the two westbound I-64 outside lanes providing minimum 660-foot merging tapers. The single westbound I-64 lane will then merge with the lane from the southbound and northbound I-65 exit ramps via a minimum 540-foot merging taper. The westbound I-64 to 3rd Street exit ramp shall remain open and see MUTCD typical application number 42 for guidance.
 - The Contractor shall provide speed reduction signage for the 45-mph merging taper.
- For utilizing the westbound I-64 outside lane:
 - Prior to the westbound I-64 and the northbound and southbound I-65 ramp to westbound I-64 gore, close the westbound I-64 inside lane leaving two lanes open to traffic with the outermost lane being the exit only lane for 3rd Street. The northbound and southbound I-65 to westbound I-64 ramp lane will then merge with westbound I-64 mainline innermost lane prior to the 3rd Street exit ramp via a 540-foot merging taper. The 3rd Street exit shall remain open.
 - The Contractor shall provide speed reduction signage for the 45-mph merging taper.

BRIDGE 056B00142N (Preston to 2nd Street)

For eastbound I-64, reduce eastbound I-64 to two lanes prior to the 9th Street entrance ramp. Then provide merging taper to one lane beyond the 9th Street entrance ramp. The Contractor shall provide minimum 660-foot merging tapers and provide buffer prior to the strip seal gland replacement locations. Additional information is as follows:

For eastbound I-64:

- For transverse strip seal gland replacement at piers 124EB, 128EB and 131EB and end bent 101EB and when the eastbound I-64 traffic is utilizing the eastbound I-64 outside lane:
 - Close the I-64 exit ramps to northbound and southbound I-65 and provide detour via northbound I-71 to Zorn Avenue; then northbound on Zorn Avenue to the southbound I-71 entrance ramp; then southbound on I-71 to the northbound or southbound I-65 entrance ramps.

- Provide four (4) portable changeable message signs. Provide two that are approximately 0.7 and 1.4 miles prior to the 9th Street exit ramp, one in the eastbound I-64 and 9th Street exit ramp gore, and one in the eastbound I-64 and northbound and southbound exit ramps to I-65 gore for notification of the northbound and southbound I-65 ramp closures and detour via I-71 to Zorn Avenue.
- For transverse strip seal gland replacement at piers 124EB, 128EB and 131EB and end bent 101EB and when the eastbound I-64 traffic is utilizing the eastbound I-64 inside lane:
 - Provide access to eastbound I-64 and northbound and southbound I-65 exit ramps. Use the gore area as needed between the ramps and I-64 for maintaining traffic.
- For transverse strip seal gland replacement at the other locations not indicated above and when eastbound I-64 traffic is utilizing either the inside or outside lane:
 - The eastbound I-64 to northbound and southbound I-65 exit ramps shall be open. See MUTCD typical application number 42 for guidance.
- For transverse strip seal gland replacement of eastbound entrance ramp A (2nd Street on ramp) to eastbound I-64:
 - Close ramp A and provide detour via River Road to Bingham Way; then east on Witherspoon Street to North Preston Street; then south to northbound I-65 entrance ramp at East Muhammad Ali Boulevard.
 - Detour shall be in accordance with MUTCD typical application numbers 8, 9, 19 and 20.
 - Provide a portable changeable message sign near the entrance ramp and North 2nd Street providing notification of the ramp closure and detour.

For westbound I-64 and when traffic is being maintained on the outermost lane(s):

- For transverse strip seal gland replacement at piers 119, 123WB, 127WB, 130WB and end bent 101WB and when the westbound I-64 traffic is using the outermost lane:
 - Prior to the westbound I-64 and southbound and northbound I-65 entrance ramps gore, reduce westbound I-64 to one lane. The Contractor shall provide a minimum of 660-foot merging tapers.
 - Close the northbound and southbound I-65 exit ramps to westbound I-64 and provide detour via northbound I-71 to Zorn Avenue; north on Zorn Avenue to the southbound I-71 entrance ramp; then southbound on I-71.
 - For notification of the westbound I-64 ramp closures and detour via northbound I-71 to Zorn Avenue, provide portable changeable message signs at approximately 0.5 miles north of the southbound I-65 to westbound I-64 exit ramp and approximately 0.1 and 0.4 miles south of the northbound I-65 to westbound I-64 exit ramp. Locate the northbound I-65 changeable message signs within the gore areas.
- For transverse strip seal gland replacement at piers 112 and 115 and when the westbound I-64 traffic is using the two outermost lanes:

- Prior to the westbound I-64 and southbound and northbound I-65 entrance ramps gore, reduce westbound I-64 to two lanes. The Contractor shall provide a minimum 660-foot merging taper.
- Close the northbound and southbound I-65 exit ramps to westbound I-64 and provide detour via northbound I-71 to Zorn Avenue; north on Zorn Avenue to the southbound I-71 entrance ramp; then southbound on I-71.
- For notification of the westbound I-64 ramp closures and detour via northbound I-71 to Zorn Avenue, provide portable changeable message signs at approximately 0.5 miles north of the southbound I-65 to westbound I-64 exit ramp and approximately 0.1 and 0.4 miles south of the northbound I-65 to westbound I-64 exit ramp. Locate the northbound I-65 changeable message signs within the gore areas.
- For transverse strip seal gland replacement at pier 109 and when the westbound I-64 traffic is using the two outermost lanes:
 - Prior to the westbound I-64 and southbound and northbound I-65 entrance ramps gore, reduce westbound I-64 to one lane. The Contractor shall provide a minimum 660-foot merging taper.
 - The northbound and southbound I-65 exit ramps to westbound I-64 will be open. Provide a minimum 540-foot merging taper for traffic from I-65 merging with I-64 traffic and provide buffer prior to the strip seal gland replacement location.
 - The Contractor shall provide speed reduction signage for the 45-mph merging taper.

For westbound I-64 and when traffic is being maintained on the innermost lane:

- For transverse strip seal gland replacement at piers 119, 123WB, 127WB, 130WB and end bent 101WB and when the westbound I-64 traffic is utilizing the inside lane:
 - The northbound and southbound I-65 entrance ramps shall be open.
 - Prior to the westbound I-64 and the northbound and southbound I-65 ramp to westbound I-64 gore, close the two westbound I-64 outside lanes providing minimum 660-foot merging tapers. The single westbound I-64 lane will then merge with the lane from the southbound and northbound I-65 exit ramps via a minimum 540-foot merging taper and provide buffer prior to the strip seal gland replacement at pier 119.
 - The Contractor shall provide speed reduction signage for the 45-mph merging taper.
 - The 3rd Street exit will be open and see MUTCD typical application number 42 for guidance.
- For transverse strip seal gland replacement at piers 112 and 115 and when the westbound I-64 traffic is utilizing the inside lane:
 - The northbound and southbound I-65 entrance ramps shall be open.
 - Prior to the westbound I-64 and the northbound and southbound I-65 ramp to westbound I-64 gore, close the two westbound I-64 outside lanes providing minimum 660-foot merging tapers. The single westbound I-64 lane will then merge with the lane from the southbound and northbound I-

- 65 exit ramps via a minimum 540-foot merging taper and provide buffer prior to the strip seal gland replacement locations.
- The Contractor shall provide speed reduction signage for the 45-mph merging taper.
- The westbound I-64 to 3rd Street exit ramp shall be closed and provide a detour via 9th Street exit ramp; then southbound to West Liberty Street; then eastbound to South 3rd Street.
- Provide three portable changeable message signs approximately 0.4 miles prior to the 3rd Street westbound exit ramp for notification of the 3rd Street ramp closure and detour via 9th Street. Portable changeable message signs shall be placed along both sides of mainline I-64 and in the northbound and southbound I-65 entrance ramp gore to westbound I-64.
- For transverse strip seal gland replacement at pier 109 and when the westbound I-64 traffic is utilizing the inside lane:
 - The northbound and southbound I-65 entrance ramps shall be open.
 - Prior to the westbound I-64 and the northbound and southbound I-65 ramp to westbound I-64 gore, close the two westbound I-64 outside lanes providing minimum 660-foot merging tapers. The single westbound I-64 lane will then merge with the lane from the southbound and northbound I-65 exit ramps via a minimum 540-foot merging taper and provide buffer prior to the strip seal gland replacement locations.
 - The Contractor shall provide speed reduction signage for the 45-mph merging taper.
 - The westbound I-64 to 3rd Street exit ramp shall be open and see MUTCD typical application number 42 for guidance.

For transverse strip seal gland replacement of westbound I-64 exit ramp B to 3rd Street:

- Provide traffic control lane closure in accordance with Standard Drawing TTC-115-04. Also refer to MUTCD typical application number 33 for guidance.
- Close ramp B and provide a detour via 9th Street; south on 9th Street to West Liberty Street; then east back to 3rd Street.
- Detour shall be in accordance with MUTCD typical application numbers 8, 9, 19 and 20.
- Provide three portable changeable message signs approximately 0.5 miles prior to the 3rd Street westbound exit ramp for notification of the 3rd Street ramp closure and detour via 9th Street. Portable changeable message signs shall be placed along mainline I-64 and both ramps from I-65 to westbound I-64.

GENERAL PHASING FOR I-64 MISCELLANEOUS REPAIRS

BRIDGE 056B00281N (22nd St Off Ramp)

For concrete pedestals repair on pier R3, Contractor shall close the eastbound I-64 to 22nd Street exit ramp (Ramp A). This work shall be performed as weekend MOT I-64 closure only. Contractor shall provide shoulder closure, as needed, along Northwestern Parkway. Refer to MUTCD typical application number 3 for guidance.

- For the ramp closure, provide a detour via 9th Street; then go south to W. Market Street; then go west to 22nd Street. Detour shall be in accordance with MUTCD typical application numbers 8, 9, 19 and 20.
- Provide portable changeable message signs approximately 0.1 and 0.7 miles prior to the 22nd Street eastbound exit ramp for notification of ramp closure and detour via 9th Street.

BRIDGE 056B00293N (7th to 13th Street)

For work occurring at pier 34WB for the deck retrofit, see lane closure sheet. This work shall be performed as a weekend MOT I-64 closure only.

For the concrete patching of pier column R4-7, westbound I-64 exit ramp to 9th Street, the Contractor shall close the inside lane of westbound I-64 in accordance with Standard Drawing TTC-115-04. This work shall be performed as a weeknight MOT I-64 closure only.

BRIDGE 056B00142N (Preston to 2nd Street)

For the three miscellaneous repairs listed below, close the outside lane of River Road as indicated on the proposed lane closure sheet. Coordinate the work to minimize the duration of the lane closure on River Road.

For work occurring at End Bent 101W, see information below and proposed lane closure sheet. This work shall be performed as weekend MOT I-64 closure only.

- For concrete repair under the girder E bearing at end bent 101W, Contractor shall:
 - Close the westbound I-64 inside shoulder
 - Close the southbound I-65 to westbound I-64 exit ramp and provide detour via northbound I-71 to Zorn Avenue; north on Zorn Avenue to the southbound I-71 entrance ramp; then southbound on I-71 to I-64.
 - Detour shall be in accordance with MUTCD typical application numbers 8, 9, 19 and 20.
 - For notification of the westbound I-64 ramp closure and detour via northbound I-71 to Zorn Avenue, provide portable changeable message sign at approximately 0.5 miles north of the southbound I-65 to westbound I-64 exit ramp.
 - Shift traffic on the northbound I-65 to westbound I-64 ramp prior to end bent utilizing existing ramp inside shoulder.

For pin and hanger rehabilitation work occurring at Pier 131E, girder W, see information below and proposed lane closure sheet. This work shall be performed as a weeknight MOT I-64 closure only.

- Contractor shall:
 - Close the eastbound I-64 inside lane per and provide buffer prior to the work area in accordance with Standard Drawing TTC-115-04.

- Close the eastbound I-64 to southbound I-65 exit ramp and provide detour via northbound I-71 to Zorn Avenue; north on Zorn Avenue to the southbound I-71 entrance ramp; then southbound on I-71 to I-65.
- Detour shall be in accordance with MUTCD typical application numbers 8, 9, 19 and 20.
- Provide four (4) portable changeable message signs approximately 0.7 and 1.4 miles prior to the 9th Street exit ramp, one in the eastbound I-64 and 9th Street exit ramp gore, and one in the eastbound I-64 and northbound and southbound exit ramps to I-65 gore for notification of the northbound and southbound I-65 ramp closures and detour via I-71 to Zorn Avenue.

For pin and hanger rehabilitation work occurring at Pier 131E, girder P, see information below. This work shall be performed as a weeknight MOT I-64 closure only.

- Contractor shall:
 - Close the 2nd Street entrance ramp to eastbound I-64 and provide detour via River Road to Bingham Way; then east on Witherspoon Street to North Preston Street; then south to northbound I-65 entrance ramp at East Muhammad Ali Boulevard.
 - Detour shall be in accordance with MUTCD typical application numbers 8, 9, 19 and 20.
 - Provide a portable changeable message sign near the entrance ramp and North 2nd Street providing notification of the ramp closure and detour.

PIER COLUMN CONCRETE REPAIR

For pier column concrete repair, provide lane closures as needed in accordance with Standard Drawing TTC-115-04. Also refer to MUTCD typical application number 33 for guidance.

PAYMENT

Unless listed as a bid item, payment will only be made for the following items:

1. Barricade-Type III – Each
2. Temporary Signs – SQFT
3. Maintain and Control Traffic – Lump Sum (Each Bridge)
4. Truck Mounted Attenuator – Each
5. Portable Changeable Message Sign – Each
6. Arrow Panel – Each
7. Law Enforcement Officer – Hour
8. Portable Queue Warning Alert System – Month
9. Conc. Barrier Wall Type 9T – LF
10. Crash Cushion Type VI - Each

All other items needed to maintain traffic in accordance with these contract documents and the approved traffic control plan shall be considered incidental to Maintain and Control Traffic.

SPECIAL NOTE FOR CONCRETE PATCHING REPAIR

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 current Standard Specifications for Roads and Bridges, 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. Class "AA" Concrete.** See Section 601.
- B. Aggregate.** See Section 601. Use appropriate aggregate size to meet the dimensional requirements of the patching location, as approved by the Engineer.
- C. Latex Modified Concrete.** See Section 606.
- D. Steel Reinforcement.** Use Grade 60. See Section 602
- E. Welded Steel Wire Fabric (WWF).** Conform to Section 811
- F. Hook Fasteners.** Use commercial grade galvanized hook fasteners. Minimum 3/16" diameter.
- G. Epoxy Bond Coat.** See Section 511.

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. 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.). Remove all deteriorated loose concrete a minimum depth of 3/4" behind bar, and at least 1/4" greater than the largest size of aggregate in the repair mix. Care shall be taken to not damage bond to adjacent non-exposed reinforcing steel during concrete

removal processes. Unless specifically *directed by the Engineer*, depth of removal shall not exceed 6 inches. The outer edges of all chipped areas shall be saw cut to a minimum depth of 1 inch to prevent featheredging unless otherwise approved by the Engineer.

The perimeter of all areas where concrete is removed shall be sawcut at a 90° angle.

After all deteriorated concrete has been removed; the repair surface to receive concrete patching shall be prepared by abrasive blast cleaning or water blast cleaning (greater than 5,000 psi). 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 abrasive blast cleaning shall produce a Concrete Surface Profile (CSP) of a 6 or greater as per the current guidelines established by the International Concrete Repair Institute (ICRI), Technical Guideline 310.2R-2013.

The Contractor shall dispose all removed material in an approved site.

- B. Steel Reinforcement.** All corroded reinforcing steel exposed during concrete removal shall have corrosion products removed by abrasive grit blasting or wire brush whichever is more appropriate. Furnish for replacement, as directed by the Engineer, additional linear feet of steel reinforcing bars ½” diameter by 20-foot lengths. Place these bars in areas deemed by the Engineer to require additional reinforcement. Field cutting and bending is permitted. Deliver unused bars to the nearest County Maintenance Barn.

Reinforcing steel displaying deep pitting or loss of more than 20 percent of cross-sectional area shall be removed and replaced. Reinforcement shall be placed such that the minimum spacing around each bar is three times the maximum aggregate size to allow for proper encapsulation with concrete patching.

Intersecting reinforcing bars shall be tightly secured to each other using tie wire and adequately supported to minimize movement during concrete placement.

- C. Concrete Repairs.** Place and finish the new concrete for the patching area in accordance with the manufacturer’s recommendations, as shown on the attached detail drawings, and as directed by the Engineer. The contractor must use a form-and-pour technique (hand application is not allowed). The Engineer shall approve the Contractor’s method of placing and consolidating the concrete prior to the beginning of this operation.

The surface areas of existing concrete to come in contact with the new Class AA 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.

- D. 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 the duration recommended by the product manufacturer and approved by the Engineer.

- H. Quality Control/Testing.** After completion of the curing, tensile bond testing shall be performed. The testing shall be in accordance with ICRI Technical Guideline 210.3R and ASTM C1583/C1583M. Up to one location per substructure unit and one location per span shall be performed, as directed by the Engineer. Repair of the test areas is to follow the guidance in this note. No additional payment will be made for testing or for the repair of testing locations.

Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department. 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".

IV. MEASUREMENT

- A. Concrete Patching Repair.** The Department will measure the quantity per square feet of each area restored. Double payment will not be made on both faces of corner repairs.

- B. Steel Reinforcement.** See Section 602. Steel reinforcement will not be measured for payment but shall be considered incidental to "Concrete Patching Repair".

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 areas 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.

SPECIAL NOTE FOR CONCRETE COATING

I. DESCRIPTION

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highways current Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the Contract Documents. Section references are to the Standard Specifications.

This work consists of the following:

1. Furnish all labor, materials, tools, equipment, and incidental items necessary to complete the work.
2. Provide safe access to the bridge, in accordance with Section 107.01.01, for the Engineer to sound possible repair areas and for workers to complete the construction.
3. Repair cracks as applicable in accordance with the Special Note for Epoxy Injection Crack Repair.
4. Repair delaminated or spalled areas as applicable in accordance with the Special Note for Concrete Patching.
5. Apply Ordinary Surface Finish
6. Prepare the surfaces to receive coating.
7. Apply concrete coating.
8. Any other work as specified as part of this contract.

II. MATERIALS

Concrete Coatings

See The Division of Material’s list of approved materials for concrete coatings and Section 821.

The finish product shall be opaque and satin or semi-gloss. The contractor must apply sufficient coats as required to achieve this goal. The finish coat shall be gray and will meet the following values:

	<u>Fed. Standard 595B No.</u>	<u>L*</u>	<u>a*</u>	<u>b*</u>
Gray	X6492	74.94	-1.54	3.92

Furnish to the Engineer copies of the manufacturer’s technical data sheets, installation guidelines, material safety data sheets, and other pertinent data at least two (2) days prior to beginning the work.

III. CONSTRUCTION

- A. **Perform Concrete Repairs.** Repair concrete surface in accordance with the Special Note for Epoxy Injection Crack Repair and/or the Special Note for Concrete Patching Repair if included in the contract documents.

- B. Apply Ordinary Surface Finish.** In addition to new concrete, areas receiving epoxy injection, concrete patching, and other surface imperfections, including areas of minor cracking, should receive Ordinary Surface Finish in accordance with Section 601.03.18 of the Standard Specifications. Use mortar of the same cement and fine aggregate as the concrete patching, or as directed by the Engineer. Payment will be incidental to Concrete Sealing.
- C. Areas to Receive Concrete Coating:**
1. Substructure Units under open, closed, and/or sealed transverse deck joints:
Every exposed surface above a point 6” below ground or fill line of abutments, wing walls, end bent and pier caps, pedestals, back walls, columns, and exposed footings.
 2. Other areas of the bridge as specified in the drawings.
- D. Prepare Concrete Surfaces for Repair.** All areas specified shall be pressure washed. Equip the pressure washers with calibrated gages and pressure regulators to ascertain and regulate water pressure. All equipment for pressure washing shall be operated at a minimum pressure of up 3,500 to 4,500 psi with 0-degree spinner tip and/or fan tips as determined by the engineer at the working location with a minimum flow rate of 3.5 gal/minute provided that these pressures do not damage any components of the structure. Pressure and flow rates shall be reduced to a level satisfactory to the Engineer should any damage occur due to power washing procedures. The washing wand must be approximately perpendicular to the washed surface and within a maximum of 12 inches of the surface. Wand extensions greater than 36 inches will be subject to Division of Construction approval. Pressure washing of any bridge element will proceed from top of wash area to bottom of wash area. Perform all pressure washing at temperatures above 40 degrees Fahrenheit.
- E. Apply Concrete Coating.** All areas specified shall have concrete coating applied to as specified after debris removal and power washing. New concrete shall be allowed to properly cure in accordance with the manufacturer’s recommendations prior to application. Use compressed air to remove any loose debris from the surfaces that are to be coated after power washing. All coatings shall be applied within manufacturers recommended dry film thickness range. Comply with KYTC “Standard Specifications for Road and Bridge Construction” Section 614.03.02 and coatings supplier recommended conditions for application. Allow the surfaces to be coated to dry a minimum of 24 hours before any coating is applied. The coating must be applied with 72 hours of pressure washing. The coating must be applied to a clean and dry surface. All coating application shall be executed using brushes, rollers, etc. No spray application will be permitted. The Department requires acceptance testing of samples obtained on a per-lot basis per-shipment. The Division of Materials shall perform acceptance testing. Test samples shall be taken at the Contractor’s paint storage site. Department personnel shall perform sampling. Allow (10) working days for testing and approval of the sampled paint. It is the Contractor’s responsibility to maintain an adequate inventory of approved paint. The Department shall assume no responsibility for lost work due to rejection of paint or approved paint subsequently found to be defective during the application process. Perform all concrete coating application at temperatures above 40 degrees Fahrenheit or in accordance with manufactures specifications.

IV. MEASUREMENT

The Department will measure the quantity per square feet of each area coated. The Department will not measure preparation of the site for the Engineer’s access or removal and reapplication of coatings that do not satisfy the Engineer’s approval for payment and will consider them incidental to “Concrete Coating”.

V. PAYMENT.

The Department will make payment for the completed and accepted quantities of concrete coating under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
26232EC	Concrete Coating	SQ FT

The Department will consider payment as full compensation for all work required as described in this note.

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

This Special Note will apply when indicated on the plans or in the proposal.

1.0 DESCRIPTION. Furnish, install, operate, and maintain variable message signs at the locations shown on the plans or designated by the Engineer. Remove and retain possession of variable message signs when they are no longer needed on the project.

2.0 MATERIALS.

2.1 General. Use LED Variable Message Signs Class I, II, or III, as appropriate, from the Department's List of Approved Materials.

Unclassified signs may be submitted for approval by the Engineer. The Engineer may require a daytime and nighttime demonstration. The Engineer will make a final decision within 30 days after all required information is received.

2.2 Sign and Controls. All signs must:

- 1) Provide 3-line messages with each line being 8 characters long and at least 18 inches tall. Each character comprises 35 pixels.
- 2) Provide at least 40 preprogrammed messages available for use at any time. Provide for quick and easy change of the displayed message; editing of the message; and additions of new messages.
- 3) Provide a controller consisting of:
 - a) Keyboard or keypad.
 - b) Readout that mimics the actual sign display. (When LCD or LCD type readout is used, include backlighting and heating or otherwise arrange for viewing in cold temperatures.)
 - c) Non-volatile memory or suitable memory with battery backup for storing pre-programmed messages.
 - d) Logic circuitry to control the sequence of messages and flash rate.
- 4) Provide a serial interface that is capable of supporting complete remote-control ability through land line and cellular telephone operation. Include communication software capable of immediately updating the message, providing complete sign status, and allowing message library queries and updates.
- 5) Allow a single person easily to raise the sign to a satisfactory height above the pavement during use and lower the sign during travel.
- 6) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
- 7) Provide operation in ambient temperatures from -30 to +120 degrees Fahrenheit during snow, rain and other inclement weather.
- 8) Provide the driver board as part of a module. All modules are interchangeable and have plug and socket arrangements for disconnection and reconnection. Printed circuit boards associated with driver boards have a conformable coating to protect against moisture.

- 9) Provide a sign case sealed against rain, snow, dust, insects, etc. The lens is UV stabilized clear plastic (polycarbonate, acrylic, or other approved material) angled to prevent glare.
- 10) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
- 11) Provide a photocell control to provide automatic dimming.
- 12) Allow an on-off flashing sequence at an adjustable rate.
- 13) Provide a sight to aim the message.
- 14) Provide a LED display color of approximately 590 nm amber.
- 15) Provide a controller that is password protected.
- 16) Provide a security device that prevents unauthorized individuals from accessing the controller.
- 17) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

/KEEP/RIGHT/⇒⇒⇒/	/MIN/SPEED/**MPH/
/KEEP/LEFT/⇐⇐⇐/	/ICY/BRIDGE/AHEAD/ /ONE
/LOOSE/GRAVEL/AHEAD/	LANE/BRIDGE/AHEAD/
/RD WORK/NEXT/**MILES/	/ROUGH/ROAD/AHEAD/
/TWO WAY/TRAFFIC/AHEAD/	/MERGING/TRAFFIC/AHEAD/
/PAINT/CREW/AHEAD/	/NEXT/***/MILES/
/REDUCE/SPEED/**MPH/	/HEAVY/TRAFFIC/AHEAD/
/BRIDGE/WORK/***0 FT/	/SPEED/LIMIT/**MPH/
/MAX/SPEED/**MPH/	/BUMP/AHEAD/
/SURVEY/PARTY/AHEAD/	/TWO/WAY/TRAFFIC/

*Insert numerals as directed by the Engineer.
Add other messages during the project when required by the Engineer.

2.3 Power.

- 1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide direct wiring for operation of the sign or arrow board from an external power source to provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.

3.0 CONSTRUCTION. Furnish and operate the variable message signs as designated on the plans or by the Engineer. Ensure the bottom of the message panel is a minimum of 7 feet above the roadway in urban areas and 5 feet above in rural areas when operating. Use Class I, II, or III signs on roads with a speed limit less than 55 mph. Use Class I or II signs on roads with speed limits 55 mph or greater.

Maintain the sign in proper working order, including repair of any damage done by others, until completion of the project. When the sign becomes inoperative, immediately repair or replace

the sign. Repetitive problems with the same unit will be cause for rejection and replacement.

Use only project related messages and messages directed by the Engineer, unnecessary messages lessen the impact of the sign. Ensure the message is displayed in either one or 2 phases with each phase having no more than 3 lines of text. When no message is needed, but it is necessary to know if the sign is operable, flash only a pixel.

When the sign is not needed, move it outside the clear zone or where the Engineer directs. Variable Message Signs are the property of the Contractor and shall be removed from the project when no longer needed. The Department will not assume ownership of these signs.

SPECIAL NOTE FOR PREVENTIVE MAINTENANCE

1. DESCRIPTION.

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, (current editions), this Note and Attached Detailed Drawings. Section references are to the Standard Specifications. This work consists of the following: (1) Furnish all labor, materials, tools, and equipment, (2) Bridge Cleaning, (3) Concrete Coatings (4) Bearing Lubrication (5) Any other work specified as part of this contract.

2. MATERIALS.

A. Wash Water

Use clean potable water for all pressure washing.

B. Concrete Coatings

See The Division of Material's list of approved materials for concrete coatings and Section 821.

C. Rust Inhibitor

Use the follow rust inhibitor or approve equivalent:

Manufacture	Lubricant
Rhomar,	Black Max

D. Bearing Lubricant

Use one of the lubricants from the following manufactures:

Manufacture	Lubricant
Bostik Inc.,	Never Seez - Mariner's Choice
Mobil Oil	Mobil Centaur Moly NLGI Grades 1 or 2
Certified Labs	Premalube #1 WG

3. CONSTRUCTION.

A. Bridge Cleaning.

Remove all debris from the bridge components at End Bent 101W (B142), including the eight (8) bearings per the details on the attached detailed drawings. In addition, clean all deck drains, remove debris and any vegetation along the bridge decks for Preston to 2nd Street (B142), the 2nd to 7th Street Bridge (B292) and the 9th Street Interchange Ramps (B298, B299, B300, B301 and B302).

Equipment for removing debris shall be determined by the Contractor, subject to the approval of the Engineer. The Contractor shall prevent any debris from entering any body of water, bridge drainage system, or traffic lanes. All debris removed shall be disposed of at a suitable off-site disposal facility.

Prior to all cleaning work, the Contractor shall confirm that any bridge drainage system is not blocked by un-removable debris. A blocked drainage system is considered to be one from which debris cannot be removed using the means specified in this note. If the Engineer has been notified and concurs that the drainage system is blocked prior to performing other cleaning work, then proceed at the direction of the engineer. If the Contractor does not inspect the bridge drainage system and notify the engineer prior to beginning work any

blocked drains will be considered to be the result of the Contractor's operations, and all clearing and cleaning of the drainage system shall be done as part of the work of the specification. All vegetation present at areas of the bridge that are to be addressed in this proposal shall be removed as determined by the Engineer.

All cost to complete Debris Removal, Clean Deck Drains and Remove Vegetation shall as specified shall be included in the Lump Sum price for "Bridge Cleaning".

B. Stratified and Pack Rust Removal.

Stratified and pack rust shall be removed from all bearing devices and specified limits of beams at End Bent 101W (B142), seven (7) bearings. All existing bearing lubrication shall be removed. See attached detailed drawings for each bridge showing location and quantity of the bearing devices. Hand tools including wire brushes, scrapers or impact devices (hand hammers or power chisels) are to be used for removing stratified and pack rust. All surfaces to have stratified and pack rust removed shall be cleaned to an SSPC SP-2 level. All debris collected shall be disposed of in a suitable off-site disposal facility. **All cost to complete Stratified and Pack Rust shall be considered incidental to the unit price bid for "Lubricate Bearing".**

C. Pressure Washing.

Pressure wash End Bent 101W (B142), including the seven (7) bearings and at Pier R3 (B281) cap and pedestals. All equipment for pressure washing shall be operated at a minimum pressure of up 4,000 psi with 0-degree spinner tip and/or fan tips as determined by the engineer at the working location with a minimum flow rate of 3.5 gal/minute provided that these pressures do not damage any components of the structure. Pressure and flow rates shall be reduced to a level satisfactory to the Engineer should any damage occur due to power washing procedures. Pressure washing shall be operated at distance of approximately six inches from and perpendicular to the surface. All pressure washing wands shall be equipped with a gauge to accurately determine the amount pressure used. Pressure washing of any bridge element will proceed from top of wash area to bottom of wash area. Wash water will not be released to a bridge element previously washed. Perform all pressure washing at temperatures above 40 degrees Fahrenheit. **All cost to complete Pressure Washing as specified shall be included in the Lump Sum price for Lump Sum price for "Bridge Cleaning".**

D. Concrete Coatings Application.

Apply a concrete coating at End Bent 101W (B142) abutment and backwall, and at Pier R3 (B281) cap and pedestals. Specified bridge components shall have concrete coating applied to as specified after bridge cleaning. See attached detailed drawings for addressing the bridge components. Use compressed air to remove any loose debris from the surfaces that are to be coated after power washing. See concrete coating diagram. All coatings shall be applied within manufacturers recommended dry film thickness range. For recommended conditions for application, see Section 614.03.02 and coatings supplier specifications. Allow the surfaces to be coated to dry before any coating is applied. The coating must be applied to a clean and dry surface. All coating application shall be executed using brushes, rollers, etc. No spray application

will be permitted. The Department requires acceptance testing of samples obtained on a per-lot basis per-shipment. The Division of Materials will perform acceptance testing. See Section 821.04. The finish coat shall be Light Gray for Concrete. See Section 821.02. **All cost to complete Concrete Coating Application as specified shall be included in the Lump Sum price for “Concrete Coatings”.**

E. Rust Inhibitor Application.

Apply a rust inhibitor at End Bent 101W (B142) after all stratified rust is removed from the member surface. The specified rust inhibitor shall be applied to the rusted areas of the structural steel within 4 feet of the joint or centerline of pier. This includes all primary steel members (beams, stringers, floor beams, diaphragms, etc.) in the specified limits. **All cost to complete Rust Inhibitor Application as specified shall be included in the unit price Each for “Bearing Lubrication”.**

F. Bearing Lubrication Application.

Bearing devices shall be lubricated at End Bent 101W (B142), seven (7) bearings after all stratified rust and pack rust is removed and power washing is complete, bearing devices shall have lubricant applied to all surfaces of the bearing including bearing plates and points of movement. See attached detailed drawings for each bridge showing location and quantity of the bearing devices. Allow bearing devices to dry before lubricant is applied. Perform all bearing lubrication application at temperatures above 40 degrees Fahrenheit or in accordance with manufactures specifications. **All cost to complete Bearing Lubrication Application as specified shall be included in the unit price Each for “Lubricate Bearing”**

G. Sequence of Work.

Complete work in the sequence listed below:

1. Debris Removal
2. Stratified Rust Removal
3. Pressure Washing
4. Concrete Coating Application
5. Rust Inhibitor Application
6. Bearing Lubrication Application

H. Inspection.

The Cabinet will provide inspection for all items required in this contract. Visual inspection will be required upon completion of each work item for each structure component or at the discretion of the Engineer at any time. All visual inspection shall be performed within arm’s length distance.

1. **Debris Removal:** Visual Inspection.
2. **Stratified Rust or Pack Rust Removal:** Visual Inspection and Scraper
Test any surface cleaned to SSPC SP2 will be inspected by a dull scraper test to ascertain adherence of existing coating and a hammer test for tightness of pack rust.
3. **Pressure Washing:** Visual Inspection.
4. **Concrete Coating:**
Prime Coat Application Check for wet film thickness*, and defects in the Paint.

Finish Coat Application Check for wet film thickness*, paint appearance, color and quality of application.

5. Rust Inhibitor Application: Visual Inspection.

6. Bearing Lubrication. Visual Inspection.

I. Verifying Field Conditions.

The Contractor shall be familiar with all conditions at each bridge site. The Cabinet will not consider any claims due to the Contractor having not familiarized themselves with requirements of this work.

J. Residual Lead.

Residual lead paint may still be on bridge. The Contractor is advised to take all necessary protective measures including worker safety and environmental regulations when performing surface preparation. The Department will not consider any claims based on residual lead paint.

K. Damage to the structure.

The Contractor shall bear all responsibility and expense for any and all damage to the structure during the repair work, even to the removal and replacement of a fallen span, should the fallen span result from the Contractors actions.

4. MEASUREMENT.

A. Bridge Cleaning: At End Bent 101W (B142) and at Pier R3 (B281)

Remove debris, clean drains and vegetation from bridge decks: At bridges B142, B292, B298, B299, B300, B301, B302

The Cabinet will measure this item by Lump Sum, completed and accepted.

B. Concrete Coating: End Bent 101W (B142) and Pier R3 (B281)

The Cabinet will measure this item by Square Foot, completed and accepted.

C. Bearing Lubrication: End Bent 101W (B142)

The Cabinet will measure this item by Each, completed and accepted.

5. PAYMENT.

A. Bridge Cleaning (24981EC).

Payment at the contract unit price for "Lump Sum" is full compensation for Debris Removal, Deck Drain Cleaning, Pressure Washing and all incidental items required to complete this with as specified in this note and attached detailed drawings.

B. Concrete Coating (26232EC).

Payment at the contract unit price for "Square Foot" is full compensation for applying the concrete coatings and all incidental items required to complete this work as specified in this note and attached detailed drawings.

C. Bearing Lubrication (24983EC): Payment at the contract unit price "Each" is full compensation for applying bearing lubrication and all incidental items required to complete this work as specified in this note and attached detailed drawings.

SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS

I. DESCRIPTION

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highways current Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the Contract Documents. Section references are to the Standard Specifications.

This work consists of the following:

1. Furnish all labor, materials, tools, equipment, and incidental items necessary to complete the work.
2. Provide safe access to the bridge, in accordance with Section 107.01.01, for the Engineer to sound possible repair areas and for workers to complete the construction.
3. Clean and prime the existing structural steel in accordance with this note and the attached detail drawings.
4. Prepare and prime the new structural steel in accordance with this note and the attached detail drawings.
5. Apply the intermediate and finish paint coatings.
6. Any other work specified as part of this contract.

Residual lead paint may still be on bridge. The Contractor is advised to take all necessary protective measures including worker safety and environmental regulations when performing surface preparation. The Department will not consider any claims based on residual lead paint.

II. MATERIALS

A. Paint. Conform to Section 607.

III. CONSTRUCTION

A. Clean and Prime existing structural steel. All existing faying surfaces where new or existing steel is to be installed/reused shall be cleaned and receive the prime coat as specified in Section 607.03.23 of the Standard Specifications. Level of cleaning shall be to an **SSPC-SP 15** (Commercial Grade Power Tool Cleaning). All Power tools shall be equipped with vacuum shrouds and fitted with HEPA filters at their air exhausts. Maintain and operate all vacuum shrouded power tools to collect generated debris.

B. Prepare and Prime new structural steel. New structural steel shall receive shop surface preparation and shop applied prime coat in accordance with Section 607. Faying surfaces shall receive only the prime coat specified. Necessary touch up/repair of the shop applied prime coat on the new steel may be performed in the field.

C. Structural Steel Finish Coats. Field apply the intermediate and finish coatings. Finish coating to closely match existing color.

IV. MEASUREMENT

All items of work necessary to complete cleaning and painting as specified in this Note shall be considered incidental to the unit prices bid for the repairs being completed.

V. PAYMENT

The Department will make payment for the completed and accepted quantities of cleaning and painting structural steel repairs as part of the unit prices bid for the repairs being completed. The Department will consider payment as full compensation for all work required.

SPECIAL NOTE FOR EPOXY INJECTION CRACK REPAIR

I. DESCRIPTION

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highways current Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the Contract Documents. Section references are to the Standard Specifications.

This work consists of the following:

1. Furnish all labor, materials, tools, equipment, and incidental items necessary to complete the work.
2. Provide safe access to the bridge, in accordance with Section 107.01.01, for the Engineer to sound possible repair areas and for workers to complete the construction.
3. Drill injection port holes.
4. Epoxy injection.
5. Finish the repaired surface.
6. Obtain core samples for the Engineer's visual inspection.
7. Repair core holes.
8. Any other work specified as part of this contract.

II. MATERIALS, EQUIPMENT, PERSONNEL

A. Type IV Epoxy Resin. Use either Category I or II suitable for epoxy injection applications. See Section 826. All cracks shall be injected using an adhesive suitable for the field conditions (crack width, temperature, humidity, etc.) recommended by the adhesive manufacture as shown on material data sheets.

B. Equipment. Equipment used to inject the epoxy shall meet the recommendations of the epoxy injection material manufacturer.

C. Personnel. Arrange to have a manufacturer's representative at the job site to familiarize him and the Engineer with the epoxy materials, application procedures and recommended pressure practice. The representative shall direct at least one complete crack or area injection and be assured prior to his departure from the project that the personnel are adequately informed to satisfactorily perform the remaining repairs.

Furnish the Engineer a copy of the manufacturer's comprehensive preparation, mixing and application instructions which have been developed especially for use with the proposed epoxy injection system. Ensure that any significant changes to these instructions which are recommended by the representative for an unanticipated situation have been approved by the Engineer prior to the adoption of such changes.

III. CONSTRUCTION

- A. Investigate Remedial Action.** If the crack is larger than or equal to 0.025" wide or has rust stains, repair the crack by epoxy injection. If the crack is less than 0.025" wide, the crack shall be sealed in accordance with the Special Note for Concrete Sealing. Areas of map cracking are to be sounded by the Engineer with a hammer. If the areas are delaminated or spalled, they shall be repaired in accordance with the Special Note for Concrete Patching Using Epoxy Mortar or Class M Concrete. Otherwise, the cracks shall be repaired in accordance with this Note.
- B. Drill Injection Port Holes.** Install injection ports or tees in cracks to be injected. Space injection ports or tees at 6 to 12 inches vertically and 6 to 18 inches horizontally but in no case closer together than the thickness of the concrete member if full depth penetration is desired unless otherwise specified or directed. Set ports or tees in dust free holes made either with vacuum drills or chipping hammers.
- C. Epoxy Injection.** Seal all surface cracks in the area to be repaired, after injection ports or tees have been inserted into the holes, with paste epoxy between ports to insure retention of the pressure injection within the confines of the member. An alternate procedure of sealing the cracks before the injection holes have been made can be submitted to the Engineer for approval. Limit the application of paste epoxy to clean and dry surfaces. Limit substrate temperatures to not less than 45°F during epoxy applications.
- Begin the epoxy injection at the bottom of the fractured area and progress upward using a port or tee filling sequence that will ensure the filling of the lowermost injection ports or tees first.
- Establish injection procedures and the depths and spacings of holes at injection ports or tees. Use epoxy with flow characteristics and injection pressure that ensure no further damage will be done to the member being repaired. Ensure that the epoxy will first fill the innermost portion of the cracked concrete and that the potential for creating voids within the crack or epoxy will be minimized.
- D. Finish the Repaired Surface.** Remove the injection ports or tees flush with the concrete surface after the fractured area has been filled and the epoxy has partially cured (24 hours at ambient temperature not less than 60°F, otherwise not less than 48 hours). Roughen the surfaces of the repaired areas to achieve uniform surface texture. Remove any injection epoxy runs or spills from concrete surfaces.
- E. Obtain Core Samples.** Obtain two 4-inch diameter core samples in the first 25 linear feet of crack repaired and one core for each 25 linear feet thereafter. Take the core samples from locations determined by the Engineer and for the full crack depth. Cores will be visibly examined by the Engineer to determine the extent of epoxy penetration.
- F. Repair Core Holes.** Repair core holes in the concrete with non-shrink grout in accordance with Section 601.03.03(B) within 24 hours.

IV. MEASUREMENT

The Department will measure the quantity in linear feet along the centerline of the cracks. The Department will not measure preparation of the site for the Engineer's access or removal and reapplication of repairs that do not satisfy the Engineer's approval for payment and will consider them incidental to "Epoxy Injection Crack Repair".

V. PAYMENT.

The Department will make payment for the completed and accepted quantities of concrete cracks repaired with epoxy injection under the following:

<u><i>Code</i></u>	<u><i>Pay Item</i></u>	<u><i>Pay Unit</i></u>
23744EC	Epoxy Injection Crack Repair	Linear Feet

The Department will consider payment as full compensation for all work required.

SPECIAL NOTE FOR JACKING AND SUPPORTING BRIDGE SPAN

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

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Submit for approval jacking plans, procedures, drawings, and details prepared by a Professional Engineer licensed to practice in the Commonwealth of Kentucky; (3) Jack the portion as shown on the detail drawings and provide temporary supports for the duration of the remaining work; (4) Remove jacking and temporary supports when no longer required; (5) Maintain and control traffic; and (6) Any other work specified as part of this contract.

II. CONSTRUCTION.

- A. Working Drawings.** Prior to preparation of jacking plans and working drawings, verify conditions and dimensions in the field as necessary to perform the work. Submit jacking plans, working drawings and design calculations for the jacking and temporary supports for approval to the Engineer. Such plans, drawings, and design calculations shall be prepared, sealed, and signed by an engineer who is licensed to practice in the Commonwealth of Kentucky. The content, number of sets of drawings, design calculations and times for review for temporary supports shall conform to the requirements in the Standard Specifications for falsework working drawings.

The jacking plan is to provide for a jacking scheme that will limit the load in the jacks to specified loads plus or minus 5%. Jacks are to be sized to provide a safe working load of 200% of proposed jacking or working load listed. In addition to a minimum horizontal force of 2% of the dead load reaction of the structure, the jacking plan is to include provisions for resisting horizontal loads that may occur caused by the jacking operations and clearly show methods to resist those loads. The jacking plan is to take into consideration the longitudinal movement of the centerline of bearings as the superstructure is raised.

The jacking locations and loads, if shown on the detail drawings, may be revised by the contractor. If not shown on the detail drawings, the contractor shall select jacking locations and/or loads consistent with their proposed jacking plans and procedures. Show jacking loads and jack locations required by the jacking method on the jacking and supporting plan submitted for approval.

The contractor is permitted to temporarily remove existing bracing as necessary and to replace said bracing with contractor provided jacking frames, to install contractor provided jacking stiffeners, or otherwise modify the structure, as necessary to implement their jacking plan, with the written approval of the Engineer. If loads are transferred to or if the spans are supported at locations other than those already having appropriate stiffeners or as shown in the detail drawings, the contractor shall provide steel plate or angle jacking stiffeners designed by a

Professional Engineer which meets current AASHTO requirements for bearing stiffeners and which may remain in place at the conclusion of the construction. Jacking schemes which require modifications to the structure shall be considered permanent and shall remain in the structure unless otherwise shown in the contract documents or directed by the Engineer. All steel which will remain in the finished structure shall be painted in accordance with the Specifications and notes excepting that paint coats may be shop applied.

- B. Jacking and Temporary Support.** Perform the jacking operation in such a way that the vertical position of the members supported by the bearings will remain in approximately the same relative position throughout the jacking operation. A maximum of $\frac{1}{4}$ inch relative difference in position is allowed in a lift between any of the jacks and between jacked and un-jacked girders.

The temporary support will need to support live load when installed ahead of the full weekend closure. Remove traffic on the portion of the structure being lifted during jacking operations unless otherwise approved by the Engineer. Provide a redundant system of supports during the entire jacking operation for backup should any of the jacks fail. The redundant system shall include stacks of steel plates or other steel sections added as necessary to maintain the redundant supports at each jack location within $\frac{1}{4}$ inch of the jacking sill or corbels.

Equip each jack with either a pressure gauge or a load cell for determining the jacking force. Pressure gauges shall have an accurately reading dial at least 6" in diameter. Each jack shall be calibrated by a private laboratory within 6 months prior to use. Calibrate each jack and its gauge as a unit with the cylinder extension in the approximate position that it will be in at final jacking force and shall be accompanied by a certified calibration chart. Calibrate load cells and provide an indicator by which the jacking force is determined.

A force equal to the initial jacking load or the dead load shown on the plans shall be applied to the structure by the temporary support system and the force held until all initial compression and settlement of the system is complete. The structure shall then be lifted by the jacks to the final position and the force held until the temporary support system is installed and the system is stable, before remaining work at the location being supported is begun.

Jacking operations shall be carefully controlled and monitored to ensure that the jacking loads are applied in a manner to prevent distortion and excessive stresses that would damage the structure. The superstructure shall be jacked as necessary to maintain the total vertical displacements at control points to less than $\frac{1}{4}$ " from the elevations recorded prior to jacking plus the desired jacking height as shown on the plans or as modified by the Engineer. For bearing replacements and when no other desired jacking height is shown in the plans, detail drawings, or notes, the superstructure shall be jacked only as necessary to facilitate removal and replacement of the bearings and in no case more than $\frac{1}{4}$ " if traffic is to remain on the structure during the work.

Should unanticipated displacements, cracking or other damage occur, the construction shall be discontinued until corrective measures satisfactory to the Engineer are performed. Damage to the structure as a result of the Contractor's operations shall be repaired by the Contractor at no expense to the Department.

Following completion of the reconstruction, the monitored control points shall not deviate from the vertical position by more than 1/4" from the initial survey elevations or the elevations as modified by the Engineer or detail drawing(s).

IV MEASUREMENT.

A. Jacking and Supporting Bridge Span. The Department will not measure the quantity. Any and all jacking operations required are to be included in the lump sum bid for "Jack and Support Bridge Span".

V. PAYMENT.

A. Jacking and Supporting Bridge Span. Payment at the contract lump sum price is for all labor, materials, manufactured assemblies, furnishing and operating jacks, plates, jacking stiffeners, jacking beams, painting, etc. and all incidental items necessary to complete the work for this bridge in accordance with this Note, the Standard Specifications, and as shown on the attached detail drawing(s) or as directed by the Engineer.

SPECIAL NOTE FOR PIN & HANGER ASSEMBLY RETROFIT

I. DESCRIPTION

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highways current 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) Jack and temporarily support the girder(s) in accordance with the “Special Note for Jacking and Supporting Bridge Spans”.
- (3) Remove Live Load in accordance with I-64 Lane Closures. See Maintenance of Traffic General Notes.
- (4) Remove the existing pin and hanger assembly as specified in this note and shown on the attached detail drawings.
- (5) Install new pin and hanger assembly as specified in this note and shown on the attached detail drawings.
- (6) Maintain and control traffic.
- (7) Any other work specified as part of this contract.

II. MATERIALS

- A. Structural Steel.** Use new, commercial grade AASHTO M270 Grade 36 (ASTM A709 Grade 36) steel suitable for welding. See Section 812.
- B. Paint.** Match the color of the existing paint. All paint supplied must be in the current List of Approved Materials. See Section 821.

III. CONSTRUCTION

- A. Existing Dimensions.** Field verify all dimensions prior to ordering any materials or performing any work.
- B. Jacking Plan.** Submit a Jacking Plan, stamped by a professional engineer licensed in the State of Kentucky, for review by the Engineer, prior to starting work. Shore the girder to allow for removal and installation of the new pin and hanger assembly. The total estimated jacking loads to be supported are as shown in the plans. Design the jacking system to support a minimum of 200% of these loads. See the Special Note for Jacking and Supporting Bridge Span for additional information.
- C. Remove Existing Materials.** Remove the existing pin and hanger assembly as shown on the attached detailed drawings.

- D. Install Pin & Hanger Assembly.** Remove and replace the north side hanger (Girder W) and south side hanger (Girder P) on Pier Girder 131E. Remove and replace the top and bottom pins; install recessed nuts with cotter pins on the pins.
- E. Mill Test Reports.** Furnish notarized test reports in triplicate to the Department showing that all the materials used for these repairs conform to the requirements of the Specifications.
- F. Damage to the Structure.** The Contractor shall bear full responsibility and expense for all damage to the structure, should such damage result from the Contractor's actions.
- G. Painting.** All new structural steel may be primed and painted in the shop and touched up in the field in accordance with Section 607.03.23 "Cleaning and Painting Structural Steel Bridges". Apply field coatings to new steel and steel to be overcoated in accordance with Section 614. Shop and field painting of all new and existing structural steel will be considered incidental.
- H. 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.
- I. Prohibited Field Welding.** No welding of any nature shall be performed on the bridge except as shown on the attached drawings without the written consent of the Engineer, and then only in the manner and at the locations designated in the authorization.

IV. MEASUREMENT

- A. Jack and Support Bridge Span.** See the Special Note for Jacking and Supporting Bridge Span
- B. Pin and Hanger Repair .** Measurement will be for the pin and hanger assembly at Pier Girder 131E shall be EACH.

V. PAYMENT

- A. Jack and Support Bridge Span.** See the Special Note for Jacking and Supporting Bridge Span .
- B. Pin and Hanger Retrofit.** Payment at the contract unit price is full compensation for removal and disposing of specified materials, furnishing and installing pin and hanger assembly, and all other materials, labor, equipment, tools, and incidentals necessary to complete the work as specified by this note.

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

SPECIAL NOTE FOR JOINT SEAL REPLACEMENT – LONGITUDINAL

DESCRIPTION

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highways current Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, and the contract documents. Section references are to the standard specifications.

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

The work involves sealing the mainline I-64 longitudinal 1-inch joint between the westbound and eastbound bridge decks to mitigate the corroding of steel elements below caused by runoff of rain and snow melt/deicing salts.

Provide all materials, labor, equipment and incidentals necessary to the surface preparation and the installation of a structural sealing joint system comprised of a compression seal profile bonded in place with a strong epoxy adhesive in accordance with the details shown on the plans and the recommendations of the manufacturer.

SUBMITTALS

Submit the following written items to the department for review and approval prior to beginning work:

1. Manufacturer product data and recommended details and sequence of work.
2. Manufacturer recommended surface preparation, adhesive application, and seal installation instruction specific to the work conditions.
3. Manufacturer certification that materials comply with specified requirements and are suitable for the intended application.

MATERIALS

The following list of manufacturers are believed to be capable of supplying a durable watertight joint seal along with rotational movement resistance:

D.S.Brown, “J” series sealing joint system

Watson Bowman Acme Corp., Jeene “W” series sealing joint system

The joint sealing system shall be watertight. The epoxy to seal profile and joint wall must achieve complete adhesion to seal against the intrusion of runoff as well as resist rotational forces caused by differential joint wall deflection due to live load.

All materials used shall be guaranteed by the manufacturer to be suitable for use on concrete under severe exposure and water conditions. All sealing application shall be executed in accordance with the manufacturer recommendations.

CONSTRUCTION

Perform surface preparation and apply joint seal only when weather conditions meet the manufacturer recommendations. Surfaces shall be clean, dry, and free of bond-inhibiting contaminants.

Apply adhesive to coat the joint seal ribbed area sidewalls and the joint sidewalls. The profile cross section shall exert a constant pressure to the joint sidewalls during installation to achieve complete adhesion of the epoxy to the profile and joint wall. Ensure the seal size can sustain constant pressure compatible with the adhesive cure time.

Minimize splice points by installing joint seals in longest possible continuous lengths.

MEASUREMENT

The department will measure the quantity of longitudinal joint system horizontally along the centerline of the joint system of each segment between the outer limits indicated on the contract plans.

PAYMENT

The accepted quantity of longitudinal joint system will be paid for at the contract unit price per linear foot. Payment will be made under the bid item "Joint Seal Replacement - Longitudinal". Payment will be full compensation for all work necessary to complete the work including furnishing and installing the structural sealing joint system, and all necessary miscellaneous patching.

Special Note for Portable Queue Warning Alert System

1.0 Description

This item shall consist of furnishing, installing, relocating, operating, servicing, and removing various components of a portable, quickly deployable, real-time automated ITS queue warning alert system (PQWAS), in accordance with the standard specifications and this special provision. The Contractor shall also provide the maintenance of the complete system for the duration of the project or as directed by the Project Engineer. The Department is willing to look at different technologies (i.e. allow the use of crowd sourcing data to be used in lieu of the portable radar sensors). Any changes to the below requirements must be submitted and approved by the Engineer.

2.0 Materials

Materials shall be in accordance as follows:

All materials used shall meet the manufacturer's specifications and recommendations.

All PQWAS materials installed on the project shall be provided by the Contractor in excellent quality condition, shall be corrosion resistant and in strict accordance with all of the details shown within Contractor's Plans approved by KYTC. The Contractor shall maintain an adequate inventory of parts and replacement units to support maintenance and repair of the PQWAS. Pre-deployment is a condition of the system's acceptance and is based on the successful performance demonstration for a (5) day continuous period in accordance to this specification and as set forth in the plans. Ensure compliance to all FCC and Department specifications.

The Contractor shall maintain this system and shall be locally available to service and maintain system components, move portable devices as necessary and respond to emergency situations. The Contractor has oversight responsibility for directing placement of devices in the project area. The Contractor is to be accessible seven (7) days a week and twenty-four (24) hours a day while the system is deployed. The Contractor shall provide contact information for the system's coordinator and others responsible for maintenance of the system prior to installation of the system. Furnish a System Coordinator for monitoring the PQWAS throughout all periods of deployment.

A. General Capabilities and Performance Requirements

1. Overall PQWAS capabilities and performance requirements include the following:
 - a. Furnish a system capable of providing advance traffic information to motorists when there is a queueing of traffic due to congestion resulting from lane reductions, emergency events or other conditions. The condition-responsive notification to the motorist occurs with the use of Portable Changeable Message Signs (PCMS) in accordance to the below capabilities and performance requirements, activated through real-time traffic data collected downstream of the PCMS locations. This equipment must

be a packaged system, pre-programmed and operates as a stand-alone PQWAS meeting this specification. Conditions might exist that require relocation of the portable sensors at any given time, the sensors shall be portable and shall not require re-calibration in the field for fast deployments. Due to the potential need to replace damaged sensors or to change the position of one or more sensors at any given time, sensors must be interchangeable and relocatable by an unskilled laborer. The system must continue to function if as many as half the sensors fail to function.

- b. Provide a PQWAS that consists of the following field equipment: portable radar sensors and portable changeable message signs (PCMS). Provide a system capable of withstanding inclement weather conditions while continuing to provide adequate battery power. The portable radar sensor battery, in a stand-alone state and without a solar panel for recharging, shall be capable of keeping power and capable of sending data for (10) consecutive days or longer. The system shall notify drivers of real-time queue events via specifically placed PCMS units up stream of the work zone. All predetermined/preprogrammed messages are to be approved by KYTC. The number and location of portable radar sensors and PCMS units shall be as directed by the Project Engineer. The decision to deploy or relocate field equipment is made by the Project Engineer and instrumented through the System Coordinator. The decision for equipment removal is made by the Project Engineer after work is complete. The sensors and PCMS units shall be identifiable via global positioning system (GPS) and shall contain an accelerometer to detect and alert of unauthorized movement.
- c. The portable radar sensor shall be capable of collecting traffic speed data. The processed data is used to remotely control PCMS units to display user definable, Engineer approved and locally stored messages. The message trigger state thresholds for slow and stopped speeds shall be user configurable and revisable in less than {1} hour from the Project Engineer's request. Weekly Traffic Data Reports shall be presented to the Project Engineer and shall include speed data per sensor location, travel times, and queue lengths in graphical and numerical formats. In the event the Project Engineer requires a report, other than a weekly report, for any reason; then the Contractor shall provide report within (48) hours of request. Unlimited data reports shall be included within price of system. Sensors shall require no calibration adjustments in the field. Sensor should begin transmitting data within (30) seconds of being turned on. Satellite (SAT) communications will be required when cellular service does not provide continuous communications. Contractor shall identify the most trustworthy cellular provider within the project area.
- d. Data shall be accessible through a website and the Contractor shall provide a username and password for protection. The website shall be accessible seven (7) days a week and twenty - four (24) hours a day. The website shall provide historical & real-time data in graphical and numerical formats and shall have the capability of being integrated within the Department's Traffic Management Center (if requested). The website should be compatible to most hand held devices. Data shall be saved on the manufacturer's network for up to (5) years from the deployment date of system and shall be provided at the request

of the Department at any time within the (5) year window. The use of the website shall be included within the price of system.

- e. Warning Alerts: queue events, low battery voltage warnings, sensor movement alerts, high and low speed alerts shall be provided via cellular text messaging and/or via email messaging at the request of select Contractor personnel and KYTC officials.
- f. The PQWAS system shall have the capabilities to provide alternate route messaging on specifically placed portable changeable message units and/or fixed Variable Message Systems (VMS). The intent of this service is to provide alternate route messaging to motorists before entering the project limits from all directions and giving them appropriate time to adjust their routes. Alternative routes shall be predefined and approved by KYTC. Additional PCMS units may be required for alternate route messaging and will be as per Section 5.0 of this note. KYTC's Traffic Management Center will provide detour messages via fixed VMS units during the term of the project.

B. Portable Radar Sensor Capabilities and Performance Requirements

The PQWAS shall include portable radar sensors (PRD) to monitor and detect queue events.

1. The Radar Sensor shall be FHWA accepted to meet NCHRP 350 test requirements
2. The Radar Sensor shall be locatable at all times via an internal Global Positioning System (GPS) and shall be capable of Cellular or SAT Communications.
3. The Radar Sensor shall have a dry-cell battery capable of powering the system for (10) consecutive days or longer
4. The Radar sensor shall be K-Band technology and have a line of sight up to 200 linear feet without obstruction
5. The Radar sensor shall have the ability to be charged in the field through adaptable solar recharging technology in the case the sensor is utilized for more than 10 consecutive days

C. PCMS Capabilities and Performance Requirements

The PQWAS shall include portable changeable message signs (PCMS) designated to relay automated messaging of queue events, alternate route messages, and caution for the work area defined by the project limits. PCMS placements shall meet the requirements set forth by the Cabinet in each direction of the National Highway System (NHS).

1. The PCMS unit shall be a Full Matrix 24 rows x 50 columns and shall be capable of 1 line, 2line or 3 line messages
2. The PCMS unit shall be legible from a distance over twelve hundred feet (1200')
3. The height and size of characters shall be 18" to 58"
4. The PCMS shall be capable of storing up to 199 pre-programmed messages and up to 199 user-defined messages
5. The PCMS shall have a weather tight control cabinet with back lit LCD handheld controller.
6. The PCMS shall utilize a hydraulic lift to raise the unit to display height
7. The PCMS unit shall include solar recharging ports to allow for recharging of the portable radar sensors when they are not deployed.
8. The PCMS shall be NTCIP compliant and shall have an active Modem with active cellular service.

9. The user shall have the ability to communicate and override the PCMS remotely in the event of an emergency, Amber Alert, etc.
10. The PCMS unit shall have a docking station to include safety rails that allow a commercial safety strap to tie down the portable radar sensors while in transport. The docking station shall hold-up to (4) sensors safely and securely at all times

3.0 Construction Requirements

All communication costs include cellular telephone services, FCC licensing, wireless data networks, satellite and internet subscription charges, and battery charging and maintenance. Additional to these requirements, the Contractor shall assume all responsibility for any and all damaged equipment due to crashes, vandalism, and adverse weather that may occur during the contract period.

The PQWAS shall operate continuously (24 hours/ 7 Days) when deployed on the project. The system is in a constant "data collection" mode when deployed. The Contractor shall provide technical support for the PQWAS for all periods of operation.

In the event communication is lost with any component of the PQWAS, provide a means and staff to manually program a PCMS message. If communication is lost for more the 10 consecutive minutes, the system shall revert to a fail-safe ROADWORK/# MILES/AHEAD message displayed on the PCMS units until communication is restored.

System Operator, local control function and remote management operation must be password protected.

The PQWAS shall be capable of acquiring traffic information and selecting messages automatically without operator intervention after system utilization. The lag time between changes in threshold ranges and the posting of the appropriate PCMS message(s) shall be no greater than (60) seconds. The system operation and accuracy must not be appreciably degraded by inclement weather or degraded visibility conditions including precipitation, fog, darkness, excessive dust, and road debris.

The system shall be capable of storing ad-hoc messages created by the System Coordinator and logging this action when overriding any default or automatic advisory message.

The PQWAS communication system shall incorporate an error detection/correction mechanism to insure the integrity of all traffic conditions data and motorists information messages. Any required configuration of the PQWAS communication system shall be performed automatically during system initialization.

The system's acceptance is based on the successful performance demonstration of PQWAS for a (5) day continuous period in accordance to this specification and as set forth in the plans. Ensure compliance to all FCC and Department specifications.

4.0 Equipment Maintenance.

Maintain system components in good working condition at all times. Repair or replace damaged or malfunctioning components, at no cost to the Department, as soon as possible and within (12) hours of notification by the Engineer. Periodically clean PCMS units if necessary.

5.0 Measurement. The Department will measure each item below in Months. For partial months the Department will pay in 0.25 increments based on the number of calendar days in the below table.

Partial Month Payment Schedule

Days	Increment
0-7 days	0.25
8-14 days	0.50
15-21 days	0.75
22-31 days	1.00

5.1 Portable Queue Warning Alert System includes cellular (SAT communications will be required if cellular is not available), all supporting field equipment, website, and unlimited data reports accessible by the Engineer. It will be measured by the number of months authorized by the Engineer for use on the project.

5.2 Queue Warning PCMS will be measured by each individual unit multiplied by the number of months authorized by the Engineer for use on the project.

5.3 Queue Warning Portable Radar Sensors will be measured by each individual unit multiplied by the number of months authorized by the Engineer for use on the project. Queue Warning Portable Radar Sensors will not be measured for payment if the Contractor utilizes a system operating on crowd sourcing data. Crowd sourcing data systems will only be allowed as approved by the engineer and will be considered incidental to Portable Queue Warning Alert System.

6.0 Payment.

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
26136EC	Portable Queue Warning Alert System	Month
26137EC	Queue Warning PCMS	Month
26138EC	Queue Warning Portable Radar Sensors	Month