



**CALL NO. 300**

**CONTRACT ID. 191250**

**JEFFERSON COUNTY**

**FED/STATE PROJECT NUMBER FD04 056 0064 013-014**

**DESCRIPTION I-64 SOUND BARRIER WALL (JEFFERSON COUNTY)**

**WORK TYPE SOUND BARRIER WALL**

**PRIMARY COMPLETION DATE 8/15/2020**

**LETTING DATE: November 22,2019**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN STANDARD TIME November 22,2019. Bids will be publicly announced at 10:00 AM EASTERN STANDARD TIME.

**PLANS AVAILABLE FOR THIS PROJECT.**

**REQUIRED BID PROPOSAL GUARANTY:** Not less than 5% of the total bid.

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**PART I**  
**SCOPE OF WORK**

## ADMINISTRATIVE DISTRICT - 05

**CONTRACT ID - 191250**

**FD04 056 0064 013-014**

**COUNTY - JEFFERSON**

**PCN - DE05600641950**

**FD04 056 0064 013-014**

I-64 SOUND BARRIER WALL (JEFFERSON COUNTY) (MP 13.700) DESIGN AND CONSTRUCT A SOUND BARRIER WALL ON I-64 WESTBOUND (MP 14.200), A DISTANCE OF 0.50 MILES.SOUND BARRIER WALL SYP NO. 05-08951.00.

GEOGRAPHIC COORDINATES LATITUDE 38:13:42.00 LONGITUDE 85:35:37.00

**COMPLETION DATE(S):**

COMPLETED BY 08/15/2020

APPLIES TO ENTIRE CONTRACT

## **CONTRACT NOTES**

### **PROPOSAL ADDENDA**

All addenda to this proposal must be applied when calculating bid and certified in the bid packet submitted to the Kentucky Department of Highways. Failure to use the correct and most recent addenda may result in the bid being rejected.

### **BID SUBMITTAL**

Bidder must use the Department's electronic bidding software. The Bidder must download the bid file located on the Bid Express website ([www.bidx.com](http://www.bidx.com)) to prepare a bid packet for submission to the Department. The bidder must submit electronically using Bid Express.

### **JOINT VENTURE BIDDING**

Joint venture bidding is permissible. All companies in the joint venture must be prequalified in one of the work types in the Qualifications for Bidders for the project. The bidders must get a vendor ID for the joint venture from the Division of Construction Procurement and register the joint venture as a bidder on the project. Also, the joint venture must obtain a digital ID from Bid Express to submit a bid. A joint bid bond of 5% may be submitted for both companies or each company may submit a separate bond of 5%.

### **UNDERGROUND FACILITY DAMAGE PROTECTION**

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. When prescribed in said directives, the contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom shall be contacted through their individual Protection Notification Center. Non-compliance with these directives can result in the enforcement of penalties.

### **REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY**

Pursuant to KRS 176.085(1)(b), an agency, department, office, or political subdivision of the Commonwealth of Kentucky shall not award a state contract to a person that is a foreign entity required by [KRS 14A.9-010](#) to obtain a certificate of authority to transact business in the Commonwealth ("certificate") from the Secretary of State under [KRS 14A.9-030](#) unless the person produces the certificate within fourteen (14) days of the bid or proposal opening. If the foreign entity is not required to obtain a certificate as provided in [KRS 14A.9-010](#), the foreign entity should identify the applicable exception. Foreign entity is defined within [KRS 14A.1-070](#).

**For all foreign entities required to obtain a certificate of authority to transact business in the Commonwealth, if a copy of the certificate is not received by the contracting agency within the time frame identified above, the foreign entity's solicitation response shall be deemed non-responsive or the awarded contract shall be cancelled.**

Businesses can register with the Secretary of State at <https://secure.kentucky.gov/sos/ftbr/welcome.aspx>.

### **SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT**

Questions about projects during the advertisement should be submitted in writing to the Division of Construction Procurement. This may be done by fax (502) 564-7299 or email to [kytc.projectquestions@ky.gov](mailto:kytc.projectquestions@ky.gov). The Department will attempt to answer all submitted questions. The Department reserves the right not to answer if the question is not pertinent or does not aid in clarifying the project intent.

The deadline for posting answers will be 3:00 pm Eastern Daylight Time, the day preceding the Letting. Questions may be submitted until this deadline with the understanding that the later a question is submitted, the less likely an answer will be able to be provided.

The questions and answers will be posted for each Letting under the heading "Questions & Answers" on the Construction Procurement website ([www.transportation.ky.gov/contract](http://www.transportation.ky.gov/contract)). The answers provided shall be considered part of this Special Note and, in case of a discrepancy, will govern over all other bidding documents.

### **HARDWOOD REMOVAL RESTRICTIONS**

The US Department of Agriculture has imposed a quarantine in Kentucky and several surrounding states, to prevent the spread of an invasive insect, the emerald ash borer. Hardwood cut in conjunction with the project may not be removed from the state. Chipping or burning on site is the preferred method of disposal.

### **INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES**

Identification of excess material sites and borrow sites shall be the responsibility of the Contractor. The Contractor shall be responsible for compliance with all applicable state and federal laws and may wish to consult with the US Fish and Wildlife Service to seek protection under Section 10 of the Endangered Species Act for these activities.

### **ACCESS TO RECORDS**

The contractor, as defined in KRS 45A.030 (9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Records and other prequalification information confidentially

disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884.

In the event of a dispute between the contractor and the contracting agency, Attorney General, or the Auditor of Public Accounts over documents that are eligible for production and review, the Finance and Administration Cabinet shall review the dispute and issue a determination, in accordance with Secretary's Order 11-004.

April 30, 2018

## **SPECIAL NOTE FOR RECIPROCAL PREFERENCE**

### **RECIPROCAL PREFERENCE TO BE GIVEN BY PUBLIC AGENCIES TO RESIDENT BIDDERS**

By reference, KRS 45A.490 to 45A.494 are incorporated herein and in compliance regarding the bidders residency. Bidders who want to claim resident bidder status should complete the Affidavit for Claiming Resident Bidder Status along with their bid in the electronic bidding software. Submittal of the Affidavit should be done along the bid in Bid Express.

April 30, 2018



JEFFERSON COUNTY  
SOUND BARRIER WALL, I-64 WB, SECTION 2  
From MP 13.7 to MP 14.2  
**Item No. 5-8951.00**  
**Project No. FD04-056-0064-013-014**

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## **SOUND BARRIER WALL PROJECT DESCRIPTION**

**Project No. FD04-056-0064-013-014**

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The purpose of this project is to construct a sound barrier wall on the north side of I-64 between I-64 and Linn Station Road from MP 13.7 to MP 14.2 and as shown on the plan set. The project includes the following items:

- Installation of a precast concrete sound barrier wall which includes the design of the sound barrier wall and coring and design of the foundation for the wall;
- Maintaining and controlling traffic; and
- Other miscellaneous items defined in the plans, notes, and estimated bid item quantities.

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## GENERAL NOTES

Project No. FD04-056-0064-013-014

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### **EXISTING STORM DRAINAGE FACILITIES AND UNDERGROUND UTILITIES:**

The Contractor shall use all possible care in his operations to avoid damaging existing pipes and any underground existing utilities. He shall be responsible for any damages to the above mentioned items and shall repair or restore at his own expense any items damaged as the result of his operations.

The existing storm drainage facilities and underground utilities shown on the plans are based on record drawings provided by the respective agencies. It is the responsibility of the contractor to verify the accuracy (both location and elevation) of the facilities prior to fabrication of the sound wall panels due to the potential impact with the proposed drilled shafts. This work is incidental to "Site Preparation".

### **OVERHEAD UTILITIES:**

The minimum vertical clearance of existing overhead utilities should be 18 feet on state roads and 24 feet when crossing interstate or other limited access highway roadways and ramps. Clearance must also adhere to the requirements of the National Electric Safety Code, American Standards Institute, and Institute of Electrical and Electronic Engineers, Inc. Any questions concerning working around the existing facilities in the area can be addressed at the preconstruction meeting.

### **UTILITIES (HAZARDOUS OR FLAMMABLE MATERIAL):**

The Contractor is advised to exercise caution in his operations in areas of gas line or other lines carrying hazardous material.

### **CONSTRUCTION MATERIAL DISPOSAL:**

All material that is required to be removed shall be disposed of off the Right-of-Way at sites acquired by the Contractor and approved by the Engineer, at no additional cost to the department, per section 204.03.08 of current KYTC Standard Specifications.

### **EXISTING SIGNS:**

It is the Contractor's responsibility to "remove and re-install signs" as needed for construction. This work includes removing and installing signs, adjusting the height, etc. as directed by the Engineer.

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### **AVOIDANCE OF UNDERGROUND TRAFFIC DEVICES:**

It is the Contractor's responsibility to coordinate with Central Office traffic through the Engineer when working near or affecting underground traffic control devices located within the project limits. Locations of existing traffic devices may not be completely reflected on the plans and should be addressed before beginning construction. The Contractor shall contact the KYTC District 5 Traffic Office ten business days prior to beginning work to mark the existing roadway lighting conduits. The Contractor shall be responsible for any damages to the above mentioned items and shall repair or restore at their own expense any items damaged as a result of his operations.

### **BEFORE YOU DIG:**

THE CONTRACTOR IS INSTRUCTED TO CALL 1-800-752-6007 TO REACH KY 811, THE ONE-CALL SYSTEM FOR INFORMATION ON THE LOCATION OF EXISTING UNDERGROUND UTILITIES. THE CALL IS TO BE PLACED A MINIMUM OF TWO (2) AND NO MORE THAN TEN (10) BUSINESS DAYS PRIOR TO EXCAVATION. THE CONTRACTOR SHOULD BE AWARE THAT OWNERS OF UNDERGROUND FACILITIES ARE NOT REQUIRED TO BE MEMBERS OF THE KY 811 ONE-CALL BEFORE-U-DIG (BUD) SERVICE. THE CONTRACTOR MUST COORDINATE EXCAVATION WITH THE UTILITY OWNERS, INCLUDING THOSE WHOM DO NOT SUBSCRIBE TO KY 811. IT MAY BE NECESSARY FOR THE CONTRACTOR TO CONTACT THE COUNTY COURT CLERK TO DETERMINE WHAT UTILITY COMPANIES HAVE FACILITIES IN THE AREA.

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## **SPECIAL NOTES FOR SOUND BARRIER WALL CONSTRUCTION**

**Project No. FD04-056-0064-013-014**

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<p><b>THIS PROJECT IS A FULLY CONTROLLED ACCESS HIGHWAY</b></p>
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### **GENERAL**

All work shall be performed in accordance with the Department's Standard Specifications, current Standard Drawings, and the Manual on Uniform Traffic Control Devices (MUTCD), latest edition adopted by the Department, except as specified in these notes or elsewhere in this proposal. Section references are to the Standard Specifications.

### **SITE PREPARATION**

The contractor shall be responsible for all site preparation, including, but not limited to, clearing and grubbing; incidental excavation, grading, backfilling, embankment, cleaning existing ditch, grading existing ditch to drain; saw cutting trees, stump grinding and herbicide treatment, tree trimming, tree removal; removal of obstructions or any other items; disposal of materials, waste and debris; temporary and permanent erosion control; restoration, final dressing, and seeding and protection. The Department has not determined the area of clearing and grubbing. In the area identified on the plans as the Highway Beautification Tract, the Contractor shall do the minimal amount of tree trimming and/or removal, only that which is necessary for installation of the sound barrier wall.

Construct silt traps and temporary silt fence and clean as directed by the Engineer. KYTC has not determined the disturbed area and it is the responsibility of the Contractor to make this determination and file a Kentucky Pollutant Discharge Elimination System (KPDES) Electronic Notice of Intent (eNOI) if necessary.

Perform all site preparation only as approved or directed by the Engineer. All work described above or identified in the plan set as incidental to site preparation will not be measured or paid for but shall be incidental to the lump sum bid for Site Preparation.

### **ON-SITE INSPECTION**

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.

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### **RIGHT-OF-WAY LIMITS**

The Department has not established the exact limits of right-of-way. Limit activities to obvious Right-of-Way and work areas, if any, secured by the Department through consent and release of the adjacent property owners. Be responsible for all encroachments onto private lands.

### **PROPERTY DAMAGE AND RESTORATION**

The Contractor shall be responsible for all damage to public and/or private property resulting from the work. All disturbed features shall be restored in like kind materials and designed at no additional cost to the Department.

### **SOUND BARRIER WALLS**

See “**Special Notes for Sound Barrier Walls**” and the Plans.

### **MAINTAINING AND CONTROLLING TRAFFIC**

See “**Traffic Management General Notes**” in the Roadway Plan Set.

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## **SPECIAL NOTES FOR SOUND BARRIER WALLS**

**Project No. FD04-056-0064-013-014**

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### **I. DESCRIPTION**

All work shall be performed in accordance with the Department's latest Standards and Supplemental Specifications and applicable Special Provisions and Standard and Sepia Drawings, except as specified in these notes or elsewhere in this proposal. Section references are to the Standard Specifications. This work shall consist of design of the sound barrier wall, foundation, and connections, construction plans for the foundation, shop drawing preparation, and construction of precast concrete sound barrier walls, including construction of the drilled shaft foundations, in reasonably close conformity with the lines and grades shown on the contract plans and the Contractor's approved plans.

All references to AASHTO are to the AASHTO LRFD Bridge Design Specifications for Highway Bridges, Current Edition with Interims.

### **II. DESIGN**

#### **A. General**

Furnish plans for sound barrier walls and foundations designed by a Registered Professional engineer licensed to practice in the Commonwealth of Kentucky. Design according to the AASHTO LRFD Bridge Design Specifications, and the Contract plans and documents.

The Contractor's design shall comply with all restrictions imposed by the site conditions and the proposal notes and plan sheets such as drainage, accommodation of existing and proposed utilities, limitations on dimensions or sound barrier wall location, fire hydrant access, and other conditions noted or found in the field. The top and bottom of the sound barrier wall elevation throughout shall be as shown on the contract plans.

#### **B. Site Conditions**

Be advised that Section 102.07 of the Specifications applies to this project. It shall be distinctly understood that any references in the contract plans and other contract documents to rock, rock disintegration zone, earth, or any other subsurface material whether in numbers, words, letters, or lines is solely for the Department's information. The Bidder draws his own conclusions as to the field conditions to be encountered.

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Tops of drilled shafts are to be a minimum of 6 inches below finished grade and the bottoms of sound barrier walls are to be a minimum of two feet below finished grade unless otherwise shown on the contract plans.

### **C. Utilities**

Take into consideration existing and proposed utilities and the Department's electrical service for interchange lighting in the vicinity of the sound barrier walls when developing sound barrier wall details. Show on the Contractor's plans and shop drawings additional work or materials necessary to construct the sound barrier wall without disturbing the utilities. The Contractor shall contact the KYTC District 5 Traffic Office ten business days prior to beginning work to mark the existing roadway lighting conduits. Repair or replace features damaged during construction in like kind materials and design at no additional cost to the Department.

### **D. Contractor Submittals**

Submit design calculations and plans to the Engineer for review within thirty calendar days of the "Notice to Begin Work". Submit adequate documentation of proprietary designs and/or products to the Engineer for review.

Obtain sufficient subsurface information in order to design the drilled shaft foundations for axial and lateral loading conditions. Show field measured top of rock elevations, as appropriate, on the Contractor's plans.

Submit electronic files in PDF format of calculations and plans for the sound barrier wall to the Engineer for approval. Design calculations shall include the design for each component of the wall and the wall as a unit. Include the design for the horizontal connection between panels. Include the design of the connection to the existing barrier wall where shown on the plans. Include drilled shaft foundation design for axial and lateral loading. Show on the plans the drilled shaft foundations. One set of design calculations and plans, with any corrections noted will be returned to the Contractor. Each time corrections are made, three copies of the revised calculation sheets and/or five copies of the revised plan sheets shall be submitted.

The Department will review the design calculations and plans for general conformance with AASHTO, this Special Note, and the Contract Documents. The design calculations, plans, details and dimensions may not be completely checked by the Department. The Contractor shall be responsible for the accuracy of his design calculations and for compatibility with the contract plans. The Department's review will not relieve the Contractor of responsibility for the accuracy and completeness of the design calculations and plans.



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Upon final approval by the Department, furnish electronic files in PDF format of the Contractor's approved plans to the Engineer. The Department will provide copies of the approved plans to the Contractor.

Do not produce shop drawings before the Department's approval of the design calculations and Contractor's plans is completed. The Contractor's wall design engineer providing the design calculations and plans shall be responsible for shop drawing review. The Contractor's wall design engineer shall provide the Engineer electronic files in PDF format for the wall and provide the Department with a statement of assurance that the shop drawings are accurate and that they satisfy the project requirements. Each sheet of the shop drawings shall be dated, sealed, and signed by the wall design engineer providing the Contractor's design for the wall. Place the Drawing Number on the lower right-hand side of all shop drawings.

Do not order materials or begin fabrication or construction before the Department's review of the shop drawings is completed. The Contractor may request permission from the Engineer to begin foundation construction at his own risk. Written permission from the engineer is required.

After acceptance by the Department, submit requests for changes to the design calculations, Contractor's approved plans and shop drawings to the Engineer. Obtain written acceptance from the Engineer before incorporating any of the requested changes into the work.

Allow thirty working days for the Department's review of each submission of the design calculations, Contractor's plans, and shop drawings for the sound barrier wall. The thirty-day period begins when the design calculations, Contractor's plans, or shop drawings are received by the Engineer. Additional time required by the Department to review re-submissions shall not be cause for extending the specified completion date. Provide additional re-submissions as requested at no additional cost to the Department and with no extension of the specified completion date.

### **III. SOUND BARRIER WALLS**

#### **Precast Concrete Walls**

Where shown on the plans, design a free standing sound barrier wall finished on both sides. The maximum precast panel length shall be 40 feet. Design all sound barrier walls for the same appearance and materials. Design drilled shafts for foundations; other type foundation designs will not be accepted.

Precast Concrete panels may be pilaster (post), and panel design or connected panels.

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Precast concrete panels, pilasters, and other precast elements shall comply with Section 605 of the Standard Specifications. Precast concrete shall be Class D with a minimum 28-day compressive strength of 5000 p.s.i. All materials and reinforcement shall conform to the Department's Standard Specifications.

Precast panels, pilasters, and other precast elements may be prestressed. Prestress fabrication shall be in accordance with Section 605 of the Standard Specifications. Prestressing tendons may be either bar or strand. Prestressing bars shall conform to ASTM A722, 'High Strength Steel Bars for Prestressed Concrete'. Prestressing strands shall be seven wire strands conforming to ASTM A416, 'Low-Relaxation, Seven-Wire Steel Strand for Prestressed Concrete'.

Use drilled shafts as foundation. The Contractor's design should be in accordance to the Special Note for Drilled Shafts (11C) of the Standard Specifications. The Contractor's plans shall indicate whether or not permanent casings will be required. Drilled Shaft Common, Drilled Shaft Solid Rock, Rock Sounding, and Rock Coring will be incidental to the Sound Barrier Wall and will not be measured for separate payment.

Use preformed joint filler complying with AASHTO M153 for Types I, II, or III or AASHTO M213.

Provide positive means of alignment between panels. Use tongue and groove joints with a minimum protrusion of 1”.

Seal all joints between panels and between pilasters and panels with silicone sealer to prevent sound leaks. Obtain the Engineer's approval of the sealant before use. See notes for finish requirements below.

Step elevation changes at the top of the sound barrier wall except for end panels. Construct the top of sound barrier level between steps. Make steps only at the pilasters. Construct the top of the sound barrier wall at the elevation of the top of the sound barrier shown on the contract plans. The top of the pilaster elevation should match the elevation of the highest adjacent panel.

Construct reinforced concrete pilasters. Cast using metal forms. Construct pilasters that protrude a maximum of twelve inches from the front face of the precast panels. Connect pilasters to drilled shaft foundations above the finish grade. Use bolted galvanized steel for the connections; the Engineer will not allow or permit field welding.

Tie the sound barrier wall to the existing wall at Station 226+40.

Obtain the Engineer's approval of joint materials and details before use.

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#### Finish Requirements:

The finish and color of all exposed concrete is to match the existing wall on the north side of I-64 between the Hurstbourne ramp on to I-64 WB and Linn Station Road.

Precast Panels – Provide an architectural formed finish representing an ashlar stone form lined surface on both sides of the wall as approved by the Resident Engineer.

Pilasters - Pilasters shall be concrete and shall be cast using metal forms.

Color – All concrete surfaces of the precast panels and pilasters shall be stained as approved by the Resident Engineer, using outdoor grade coloring agents applied according to the manufacturer's instructions. Provide a uniform color throughout the entire length of the sound barrier wall.

Joints – Horizontal joints are to be filled with silicone sealer and stained to match the color of the wall as approved by the Resident Engineer.

Provide two samples of the precast concrete panels, a minimum of four feet by eight feet, cast using same form liners as proposed for production for the Department's approval. Retain one sample at the casting yard for a standard of comparison for the production panels. Deliver the second sample to the project site. Casting and delivering the samples to the job site will not be measured for separate payment, but shall be incidental to Sound Barrier Wall.

#### **IV. MATERIALS APPROVAL**

All materials shall be sampled and tested in accordance with the Department's Sampling Manual and the materials shall be available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing. Unless otherwise specified in these Notes, obtain acceptance of materials from the Engineer before use.

#### **V. CONSTRUCTION**

Perform site preparation necessary to construct the sound barrier wall in accordance with the Standard Specifications, contract plans, Contractor's approved plans and notes in the proposal.

Construct sound barrier walls in accordance with the contract plans, the Contractor's approved plans, and the approved shop drawings. Construct vertical and horizontal joints so that the sound barrier wall is structurally sound and with no sound leaks. Construct the face of the completed sound barrier wall without deviation from the vertical of more

Sound Barrier Wall  
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than ½ inch in ten feet and with horizontal alignment conforming to the neat line shown on the contract plans.

Alternate drilled shaft foundation designs are permitted if solid rock is encountered above the solid rock line shown on the Contractor's approved plans; however contact the Engineer before revising the drilled shaft foundations. Revised calculations and Contractor's plans will be required. Obtain the Engineer's acceptance of revised drilled shaft foundation designs before constructing. Construct the tops of drilled shaft foundations a minimum of six inches below finish grade on both sides of the sound barrier wall. There will be no deduction in area to be measured for payment when drilled shaft foundations protrude into the sound barrier bottom pay limit.

Revising the drilled shaft foundation designs shall not be cause for an extension in contract time or change the contract price.

Transport, store, handle, and erect precast units in accordance with Section 605 of the Standard Specifications.

Protect all masonry materials from the weather from the time of manufacture until they are in the finished sound barrier walls.

Construction of the ditches shown on the plans will not be measured for payment but shall be incidental to Site Preparation.

After constructing the wall, clean all sound barrier wall surfaces. Clean from the top of the wall to twelve inches below finished grade on both sides. Use a cleaner selected by the Contractor and approved by the Engineer.

## **VI. MEASUREMENT**

### **SOUND BARRIER WALL**

**Sound Barrier Walls** will be measured in square feet of surface area in a vertical plane between the vertical and horizontal limits, top of wall elevations, and lateral limits shown on the Contractor's approved plans or approved changes; however, tops of footings may be above the minimum depth of burial with no reduction in area to be measured.

Any area of the sound barrier wall outside the approved vertical and horizontal plan limits as shown on the approved plans or changes approved or directed by the Engineer will not be measured for payment. Approved adjustments in the area will be measured in square feet and the final quantity will be increased or decreased as applicable.

The Department will not measure caps, copings, joint sealants, void fill material, weep holes, connectors, trim, surface finish, concrete stain, cleaning, sample panels, and incidental items that are a normal part of the sound barrier wall construction, but shall be incidental to Sound Barrier Wall.

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## FOUNDATION PREPARATION

Contrary to Section 603.04.03, **Foundation Preparation** will be measured as lump sum. Structure Excavation Common, Structure Excavation Solid Rock, Structure Excavation Unclassified, Foundation Undercut, Drilled Shaft Common, Drilled Shaft Solid Rock, Rock Sounding, and Rock Coring for removal of unsuitable foundation materials will not be measured for separate payment but shall be incidental to **Foundation Preparation or Site Preparation**.

## SITE PREPARATION

See the Special Notes for Sound Barrier Wall Construction on page 5.

## VII. PAYMENT

Payment at the contract unit price per square foot shall be full complete compensation for all labor, materials, equipment, and incidentals to design and construction of the sound barrier walls.

<u>CODE</u>	<u>PAY ITEM</u>	<u>PAY UNIT</u>
21590EN	Sound Barrier Wall	Square Feet
08003	Foundation Preparation	Lump Sum
20257NC	Site Preparation	Lump Sum

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## **SPECIAL NOTE FOR LIQUIDATED DAMAGES**

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Liquidated Damages in the amount of \$25,000 will be assessed for each hour or part of an hour that a temporary lane and/or shoulder closure remains in place during periods prohibited by the Traffic Management Plan. All liquidated damages will be applied accumulatively.

All other applicable portions of KYTC Standard Specification Section 108 shall apply.

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## PROJECT COMPLETION DATE

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The specified completion date for this project is **August 15, 2020.** See “**Special Note for Liquidated Damages**”.

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## STANDARD DRAWINGS

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RDH-020-03	SLOPED AND FLARED HEADWALLS FOR 12"-27" PIPE
RDD-040-05	CHANNEL LINING CLASS II AND III
RDI-001-10	CULVERT, ENTRANCE & STORM SEWER PIPE TYPES & COVER HEIGHTS
RDI-020-09	PIPE BEDDING FOR CULVERT, ENTRANCE, AND STORM SEWER PIPE
RDI-035-02	COATINGS, LININGS AND PAVING FOR NON- STRUCTURAL PLATE PIPE
RDI-041-01	EROSION CONTROL BLANKET CHANNEL INSTALLATION
RDX-210-03	TEMPORARY SILT FENCE
RDX-220-05	SILT TRAP TYPE A
RDX-225-01	SILT TRAP TYPE B
<b>RFG-001-08</b>	WOVEN WIRE GATES
TTC-115-03	LANE CLOSURE MULTI-LANE HIGHWAY CASE I
TTC-135-02	SHOULDER CLOSURE
TTD-120-02	DOUBLE FINES ZONE SIGNS



### **SPECIAL NOTE FOR PRESERVATION OF BEAUTIFICATION TRACT**

In an effort to observe the requirements of the Beautification Tract as defined in DB 4187 x PG 250, and to protect the existing fiber optics line as shown in the plans, the Contractor shall adhere to the following specific requirements:

- Only light equipment and hand tools shall be used on the north side of the proposed sound barrier wall.
- Construction staging and operation of heavy equipment shall be limited to the south side of the proposed sound barrier wall.
- Prior Engineer approval is needed to remove any trees from the beautification tract.
- Trees, shrubs, and other vegetation within 10-feet of proposed sound barrier may be removed if directly required for the construction of sound barrier walls and/or foundations, with Engineer approval.
- Prior Engineer approval is needed to work outside of the following area of disturbance:
  - Western disturb limit is STA 205+00;
  - Northern disturb limit is from approximately 30-feet left of STA 205+00 to 30-feet left of STA 226+40; and
  - Eastern disturb limit is the west end of the existing sound barrier wall at STA 226+40.
- Drainage behind the existing sound barrier wall east of STA 226+40 shall be diverted as directed by the Engineer.



Kentucky Transportation Cabinet  
Division of Highway Design  
**TRAFFIC MANAGEMENT PLAN**

12/2010  
Page 1 of 10

County: Jefferson Item No.: 5-8951.00

Federal Project No.: \_\_\_\_\_

**Project Description:**

Install a sound barrier wall on the north side of I-64 (westbound) from approximately the west end of Linn Station Road (MP 13.7) to the existing sound barrier wall located approximately 450-feet west of Hogarth Drive (MP 14.2). State Project No.: FD04 SPP 056 0064 013-014

Roadway Classification:  Urban  Rural  
 Local  Collector  Arterial  Interstate

ADT (current) 137,448 AM Peak Current \_\_\_\_\_ PM Peak Current \_\_\_\_\_ % Trucks \_\_\_\_\_

Project Designation:  Significant  Other: \_\_\_\_\_

**Traffic Control Plan Design:**

Taper and Diversion Design Speeds   \*

Minimum Lane Width   \* Minimum Shoulder Width N/A

Minimum Bridge Width N/A

Minimum Radius N/A Maximum Grade N/A

Minimum Taper Length N/A Minimum Intersection Level of Service N/A

Existing Traffic Queue Lengths N/A Projected Traffic Queue Lengths N/A

**Comments:**

\* See Maintenance of Traffic Plan



Kentucky Transportation Cabinet  
Division of Highway Design  
**TRAFFIC MANAGEMENT PLAN**

12/2010  
Page 2 of 10

Item No. 5-8951.00

**Discussion:**

<b>1) Public Information Plan</b>			
a) Prepare with assistance from <input checked="" type="checkbox"/> KYTC or <input type="checkbox"/> _____			
b) Identify Trip Generators	N/A	f) Railroad Involvement	N/A
c) Identify Types of Road Users	Referenced	g) Address Pedestrians, Bikes Mass Transit	N/A
d) Public Information Message	Referenced	h) Address Timing, Frequency, Updates, Effectiveness of Plan	Referenced
e) Public Information Strategies to be used	Referenced	i) Police & Other Emergency Services	Referenced



Kentucky Transportation Cabinet  
Division of Highway Design  
**TRAFFIC MANAGEMENT PLAN**

Item No. 5-8951.00

<b>2) Temporary Traffic Control Plan</b>	
<b>Exposure Control Measures</b>	<b>Positive Protection Measures</b>
a) Is Road Closure Allowed Type: Referenced	a) Address Drop Off Protection Criteria N/A
b) Detour Conditions N/A	b) Temporary Barrier Requirements Referenced
c) Working Hour Restrictions Referenced	c) Evaluation of Existing Guardrail Conditions N/A
d) Holiday or Special Event Work Restrictions Referenced	d) Address Temporary Drainage Referenced
e) Evaluation of Intersection LOS N/A	<b>Uniformed Law Enforcement Officers</b> N/A
f) Evaluation of Queue Lengths N/A	<b>Payment for Traffic Control*</b>
g) Evaluation of User Costs and Incentives/Disincentives Referenced**	a) Method of Project Bidding Referenced
h) Address Pedestrians, Bikes, Mass Transit N/A	b) Special Notes Referenced
<b>Work Vehicles and Equipment</b> Referenced	*Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, unless otherwise noted.
Comments:	
** Referenced in Plan Sheet and Proposal Documents.	



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Division of Highway Design  
**TRAFFIC MANAGEMENT PLAN**


12/2010  
Page 4 of 10

Item No. 5-8951.00

**APPROVAL:**

  
\_\_\_\_\_  
Project Manager 10.11.19  
Date

  
\_\_\_\_\_  
Project Delivery and Preservation Manager 10-11-19  
Date

  
\_\_\_\_\_  
Engineering Support Manager 10-11-19  
Date

\_\_\_\_\_  
FHWA Representative Date

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Revisions to the TMP require review/approval by the signatories.



Kentucky Transportation Cabinet  
Division of Highway Design  
**TRAFFIC MANAGEMENT PLAN**

**INTERSTATE 64 WB SOUND BARRIER INSTALLATION  
M.P. 13.7 to 14.2 (WEST OF HURSTBOURNE LANE)  
ITEM # 5-8951.00  
PUBLIC INFORMATION PLAN**

The primary goal of the Public Information Plan (PIP) is to inform the motoring public and area stakeholders of project information including Maintenance of Traffic (MOT) which includes shoulder and lane closures. The KYTC District 5 Public Information Officer (PIO) will coordinate and disseminate to stakeholders and the media appropriate information regarding the construction plans.

**LOCAL STAKEHOLDERS**

- Elected Officials
  - State Senator Julie Adams – 502-564-2450; [Julie.Adams@lrc.ky.gov](mailto:Julie.Adams@lrc.ky.gov)
  - State Representative Tina Bojanowski – 502-564-8100; [Tina.Bojanowski@lrc.ky.gov](mailto:Tina.Bojanowski@lrc.ky.gov)
  - Mayor Greg Fischer – 502-574-2003; [greg.fischer@louisvilleky.gov](mailto:greg.fischer@louisvilleky.gov)
  - Metro Councilwoman Marilyn Parker – 502-574-1118; [Marilyn.Parker@louisvilleky.gov](mailto:Marilyn.Parker@louisvilleky.gov)
  - Jim Leidgen City of Hurstbourne, City Administrative Officer– 502-426-4808; [jim@hurstbourne.org](mailto:jim@hurstbourne.org)
  
- Local Agencies
  - Donald Robinson, Director of Transportation for Jefferson County Public Schools – 502-574-3420; [donald.robinson@louisvilleky.gov](mailto:donald.robinson@louisvilleky.gov)
  - Michelle Bartoszek, Director of Transportation at Transit Authority of the River City (TARC) – (502) 561-5163; [mbartoszek@ridetarc.org](mailto:mbartoszek@ridetarc.org)
  - Lt. Micah Scheu, Louisville Metro Police Department Traffic Division – 502-664-8794; [Micah.Scheu@louisvilleky.gov](mailto:Micah.Scheu@louisvilleky.gov)
  - Metro Safe; [mscomm@louisvilleky.gov](mailto:mscomm@louisvilleky.gov)
  - Stacey Yates, Louisville Visitors and Convention Bureau – (502) 584-2121; [syates@gotolouisville.com](mailto:syates@gotolouisville.com)
  
- Utility Companies
  - Local utility companies are kept apprised of this project at the monthly utility coordination meetings hosted by District 5
  
- Neighborhoods and their Mayors
  - See above



Kentucky Transportation Cabinet  
Division of Highway Design  
**TRAFFIC MANAGEMENT PLAN**

12/2010  
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**TRUCKING FIRMS AND OUT OF STATE STAKEHOLDERS**

Information will be distributed electronically to trucking firms via the Melissa Zink of the Kentucky Trucking Association [mzink@kytrucking.net](mailto:mzink@kytrucking.net) . Information will also be posted on the GoKY website ([www.goky.ky.gov](http://www.goky.ky.gov)).

**PRESENTATIONS**

A project description including anticipated schedule will be provided to the media, stakeholders and other emergency service agencies via e-mail prior to construction. Information will be provided to these groups via traffic advisories, press releases, the District 5 website and the weekly District 5 Road Show of Construction and Maintenance Activities.

**MEDIA RELATIONS**

The District PIO will prepare an initial news release regarding the contract award for the project. The PIO will conduct interviews with the media throughout the project duration to keep the public informed of construction progress. Traffic advisories will be submitted to the media when a change in the MOT occurs. The contractor must provide to the PIO via the Resident Engineer notification of any change in the MOT at least five (5) days prior to the change.



Kentucky Transportation Cabinet  
Division of Highway Design  
**TRAFFIC MANAGEMENT PLAN**

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KENTUCKY TRANSPORTATION CABINET  
DEPARTMENT OF HIGHWAYS  
**TRAFFIC MANAGEMENT PLAN**  
Item No. 5-8951.00

**2) Temporary Traffic Control Plan (Supplement to Sheet 3)**

**Exposure Control Measures**

- a) **Is Road Closure Allowed:** Single lane closure on I-64 is allowed during specified hours. See Maintenance of Traffic Plan.
- b) **Detour Conditions:** None required.
- c) **Working Hour Restrictions:** See Maintenance of Traffic Plan.
- d) **Holiday or Special Event Work Restrictions:** See Maintenance of Traffic Plan.
- e) **Evaluation of Intersection LOS:** None required.
- f) **Evaluation of Queue Lengths:** None required.
- g) **Evaluation of User Costs and Incentives/Disincentives:** As stipulated in the Standard Specifications for Road and Bridge Construction and Special Note for Disincentives.
- h) **Address Pedestrians, Bikes, and Mass Transit:** Not affected.

**Work Vehicles and Equipment:** As per Standard Specifications for Road and Bridge Construction, current edition.

**Positive Protection Measures**

- a) **Address Drop-Off Protection Criteria:** N/A
- b) **Temporary Barrier Requirements:** See Maintenance of Traffic Plan.
- c) **Evaluation of Existing Guardrail Conditions:** N/A
- d) **Address Temporary Drainage:** Temporary Drainage, if required, is to be as noted on the plans.

**Uniform Law Enforcement Officers:** None required.

**Payment for Traffic Control:** Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, unless otherwise noted.

- a) **Method of Project Bidding:** Open.
- b) **Special Notes:** See Proposal.





Kentucky Transportation Cabinet  
Division of Highway Design  
**TRAFFIC MANAGEMENT PLAN**

TRAFFIC CONTROL GENERAL

Except as provided herein, maintain traffic in accordance with the MUTCD, Section 112 of the Standard Specifications and the Standard Drawings, current editions. Except for the roadway and traffic control bid items listed below, all items of work necessary to maintain and control traffic during construction shall be incidental to “Maintain and Control Traffic.”

CONSTRUCTION PROCEDURES

Lane closures will not be allowed during the following days and hours:

5:00 a.m. - 8:00 p.m.	Monday through Friday
5:00 a.m. - 8:00 p.m.	Saturday and Sunday
November 28 – December 1, 2019	Thanksgiving Weekend
December 23, 2019 - January 3, 2020	Christmas/New Year’s Week
April 11 – April 12, 2020	Easter Weekend
April 17 – April 19, 2020	Thunder Over Louisville
May 1 - May 3, 2020	Kentucky Oaks/Derby
May 23 – May 25, 2020	Memorial Day Weekend
July 3 - July 5, 2020	Independence Day Weekend

At the discretion of the Engineer, additional days and hours may be added when lane closures will not be allowed.

During allowable hours, the shoulder and Westbound lane on I-64 adjacent to the proposed sound barrier walls may be closed when required by the actual work in progress. Maintain a minimum of three traffic lanes on I-64 at all times during construction except as noted below. Unless otherwise specified or directed by the Engineer, the clear lane widths shall be 12 feet. Close the adjacent lane when workers or equipment are present within 10 feet of traffic.

Long term lane closures will not be allowed. Do not leave short term lane closures in place during non-working hours. The lengths of lane closures shall be only that needed for actual operations, or as directed by the Engineer.

Prior to beginning construction, provide for approval by the Engineer a written plan for maintaining lane and shoulder closures during construction. Specifically identify locations where shoulder closures shall be in place and the anticipated duration for these shoulder closures. Include plans for signing required to implement and maintain the lane and shoulder closures.

**See “Special Note for Disincentives” in the Proposal.**



Kentucky Transportation Cabinet  
**Division of Highway Design**  
**TRAFFIC MANAGEMENT PLAN**

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TEMPORARY SIGNS

Additional traffic control signs, in addition to normal lane closure signing detailed on the Standard Drawings may be required by the Engineer. Additional signs needed for lane closures may include, but are not limited to, dual mounted RIGHT LANE CLOSED 1 MILE, RIGHT LANE CLOSED 2 MILES, RIGHT LANE CLOSED 3 MILES and SLOWED/STOPPED TRAFFIC AHEAD. Maintenance of Traffic 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.

PORTABLE CHANGEABLE MESSAGE SIGNS

Provide a minimum of two Portable Changeable Message Signs on the project at locations to be determined by the Engineer. The locations designated may vary as the work progresses. The Engineer will designate the messages to be provided. Operate the Portable Changeable Message Signs as directed by the Engineer. In the event of damage or mechanical/electrical failure, repair or replace the Portable Changeable Message Sign within 24 hours. Upon completion of the work, the Portable Message Signs will remain the property of the Contractor.

ARROW PANELS

Use Arrow Panels as shown on the Standard Drawings or as directed by the Engineer. Replacements for damaged Arrow Panels directed by the Engineer to be replaced due to poor condition or readability will not be measured for payment. Upon completion of the work, Arrow Panels will remain the property of the Contractor.

TRUCK MOUNTED ATTENUATORS

Furnish and install Truck Mounted Attenuators (TMA) in advance of all stationary equipment or work areas within less than 10 feet from traffic. Locate TMAs at the individual work sites and move them as the work zone moves within the project limits. Obtain the Engineer's approval of all details of the TMA installations.

Upon completion of the work, the TMAs shall remain the property of the Contractor. Contrary to Section 112.04.13, TMAs will not be measured for payment but shall be incidental to "Maintain and Control Traffic".

BARRICADES

Provide a minimum of two (2) Type III barricades for temporary lane closure at locations to be determined by the Engineer. Replacements for damaged barricades directed to be replaced by the Engineer will not be measured for payment. Barricades will remain the property of the Contractor. Drums will be used for all channelization or delineation.



Kentucky Transportation Cabinet  
Division of Highway Design  
**TRAFFIC MANAGEMENT PLAN**

12/2010  
Page 10 of 10

COORDINATION OF WORK

Be 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. Coordinate the work on this project with the work of the other Contractors. In case of conflict, the Engineer will determine the relative priority of work phasing on the various projects.

PAVEMENT MARKINGS

It is not anticipated that the work will require temporary or permanent striping. However if the Contractor's Lane and Shoulder Closure Plan calls for closures that would require striping revisions according to the Standard Drawings or if the Contractor's operations damage the existing striping to the point that restriping is required, as determined by the Engineer, temporary striping tape and permanent striping paint shall be 6 inches wide. Temporary and permanent striping, if required, will not be measured for payment, but shall be incidental to "Maintain and Control Traffic".

COURTY OF	ITEM NO.	SHEET
JEFFERSON	5-8951.00	RT-14

TRAFFIC MANAGEMENT GENERAL NOTES

TRUCK MOUNTED ATTENUATORS

Furnish and install Truck Mounted Attenuators (TMA) in advance of all stationary equipment or work areas within less than 10 feet from traffic. Locate TMAs at the individual work sites and move them as the work zone moves within the project limits. Obtain the Engineer's approval of all details of the TMA installations. Contrary to the Manual on Uniform Traffic Control Devices (MUTCD), the TMA shall remain on the property of the Contractor and Control Traffic. Upon completion of the work, the TMAs shall remain the property of the Contractor.

BARRICADES

Barricades will not be allowed in lieu of drums for channelization or delineation.

COORDINATION OF WORK

Be advised that other projects may be in progress within or in the near vicinity of this project. Work on this project shall be coordinated with the work of other contractors. In case of conflict, the Engineer will determine the relative priority of work phasing on the various projects.

GUARDRAIL CONSTRUCTION

Contractor may temporarily remove guardrail as needed. New guardrail is to be installed prior to work in the area behind it. The cost to remove and replace the guardrail shall be considered incidental to other bid items.

LIQUIDATED DAMAGES

Liquidated damages in the amount of \$25,000 will be assessed for each hour or part of an hour that a lane or shoulder closure remains in place during periods prohibited by the Traffic Management Plan. All liquidated damages shall be accumulated. All other applicable portions of the KYC Standard Specification Section 108 shall apply.

PROJECT PHASING

Work is allowed at night and on the weekends on this project.

PHASE I

Install erosion control, prepare site for construction, construct proposed drainage ditches, drill shafts and install pilasters.

PHASE II

Install sound barrier wall panels. Upon completion of panel installation, backfill, grade and line proposed ditches, seed and protect all exposed surfaces.

TRAFFIC CONTROL GENERAL

Except as provided herein, maintain traffic in accordance with the Standard Specifications For Road And Bridge Construction Edition Of 2019, Section 112 - Maintenance And Control Of Traffic During Construction and The Manual on Uniform Traffic Control Devices (MUTCD), current edition.

Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic during construction shall be incidental to the item "Maintain and Control Traffic".

LANE AND SHOULDER CLOSURES

Long term lane closures shall not be used on this project. Long term shoulder closures shall not be used on this project. Temporary lane and shoulder closures shall be allowed as noted below.

Temporary lane and shoulder closures will be allowed when required by the actual work in progress. The lengths of temporary lane and shoulder closures shall only be that required for actual operations with the progression of work. Channelization devices for temporary lane and shoulder closures shall be drums.

Temporary lane and shoulder closures shall not be allowed during the following days:

- November 28 - December 1, 2019 Thanksgiving Weekend
- December 23, 2019 - January 3, 2020 Christmas/New Years Week
- April 17-19, 2020 Easter Weekend
- April 17-19, 2020 Easter Weekend
- May 1-3, 2020 Kentucky Oaks/Derby
- May 23-25, 2020 Memorial Day Weekend
- July 3-5, 2020 Independence Day Weekend

Temporary lane closure of the adjacent lane to the work zone and within the project limits shall not be allowed from 5 AM to 8 PM. Contrary to section 112, lane closures will not be considered for payment regardless of the duration of closure, but are considered incidental to "maintain and control traffic," lump sum.

Liquidated damages shall apply for temporary lane and shoulder closures that are in place for the days and hours noted above.

PORTABLE CHANGEABLE MESSAGE SIGNS

Provide a minimum of two Portable Changeable Message Signs in advance of or on the project at locations to be determined by the Engineer. The locations designated may vary as the work progresses. The Engineer will designate the messages to be provided. Operate the Portable Changeable Message Signs as directed by the Engineer. The signs shall be used for a maximum of 24 hours. The department will measure the maximum number of signs in concurrent use at the same time on a single day during the contract. 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.

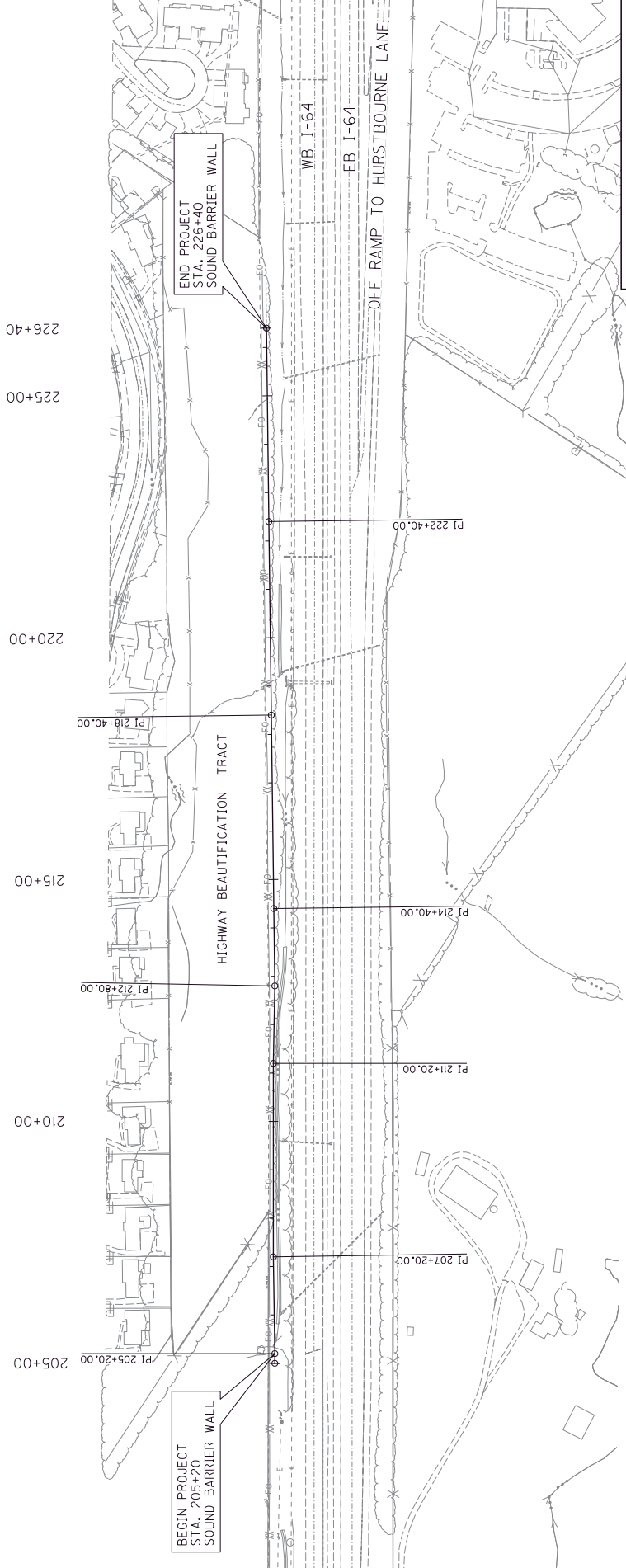
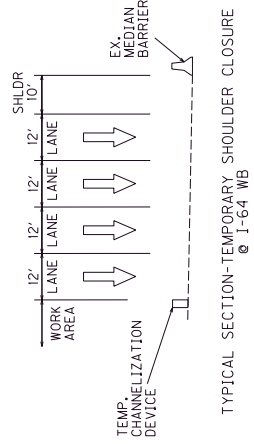
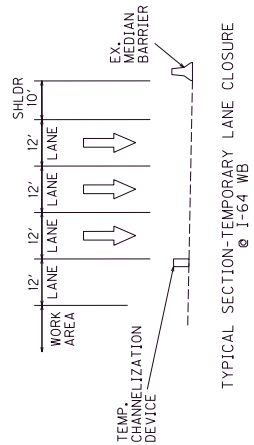
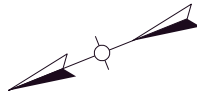
ARROW PANELS

Use Arrow Panels as shown on the Standard Drawings or as directed by the Engineer. The Department will measure for payment the individual Arrow Panels. Contractors use arrow panels on the same project for many times they are set, reset, removed, and relocated during the duration of the project. Replacements for damaged Arrow Panels directed by the Engineer to be replaced due to poor condition or readability will not be measured for payment. Arrow Panels will remain the property of the Contractor after construction is complete.

USFS COUNTY	DATE PLOTTED	FILE NAME
October 1, 2019	2019\CD\VERTALS\TRAFFICNOTES.DGN	G:\ENR\01176\11\PHASE II - 2019\CD\VERTALS\TRAFFICNOTES.DGN

TRAFFIC MANAGEMENT  
GENERAL NOTES

COUNTY OF	ITEM NO.	SHEET
JEFFERSON	5-8951.00	RB-4



TRAFFIC MANAGEMENT PLAN



Kentucky Transportation Cabinet  
Division of Highway Design  
**TRAFFIC MANAGEMENT PLAN**

**INTERSTATE 64 WB SOUND BARRIER INSTALLATION  
M.P. 13.7 to 14.2 (WEST OF HURSTBOURNE LANE)  
ITEM # 5-8951.00  
PUBLIC INFORMATION PLAN**

The primary goal of the Public Information Plan (PIP) is to inform the motoring public and area stakeholders of project information including Maintenance of Traffic (MOT) which includes shoulder and lane closures. The KYTC District 5 Public Information Officer (PIO) will coordinate and disseminate to stakeholders and the media appropriate information regarding the construction plans.

**LOCAL STAKEHOLDERS**

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  - State Representative Tina Bojanowski – 502-564-8100; [Tina.Bojanowski@lrc.ky.gov](mailto:Tina.Bojanowski@lrc.ky.gov)
  - Mayor Greg Fischer – 502-574-2003; [greg.fischer@louisvilleky.gov](mailto:greg.fischer@louisvilleky.gov)
  - Metro Councilwoman Marilyn Parker – 502-574-1118; [Marilyn.Parker@louisvilleky.gov](mailto:Marilyn.Parker@louisvilleky.gov)
  - Jim Leidgen City of Hurstbourne, City Administrative Officer– 502-426-4808; [jim@hurstbourne.org](mailto:jim@hurstbourne.org)
  
- Local Agencies
  - Donald Robinson, Director of Transportation for Jefferson County Public Schools – 502-574-3420; [donald.robinson@louisvilleky.gov](mailto:donald.robinson@louisvilleky.gov)
  - Michelle Bartoszek, Director of Transportation at Transit Authority of the River City (TARC) – (502) 561-5163; [mbartoszek@ridetarc.org](mailto:mbartoszek@ridetarc.org)
  - Lt. Micah Scheu, Louisville Metro Police Department Traffic Division – 502-664-8794; [Micah.Scheu@louisvilleky.gov](mailto:Micah.Scheu@louisvilleky.gov)
  - Metro Safe; [mscomm@louisvilleky.gov](mailto:mscomm@louisvilleky.gov)
  - Stacey Yates, Louisville Visitors and Convention Bureau – (502) 584-2121; [syates@gotolouisville.com](mailto:syates@gotolouisville.com)
  
- Utility Companies
  - Local utility companies are kept apprised of this project at the monthly utility coordination meetings hosted by District 5
  
- Neighborhoods and their Mayors
  - See above

**TRUCKING FIRMS AND OUT OF STATE STAKEHOLDERS**



Kentucky Transportation Cabinet  
Division of Highway Design  
**TRAFFIC MANAGEMENT PLAN**

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Information will be distributed electronically to trucking firms via the Melissa Zink of the Kentucky Trucking Association [mzink@kytrucking.net](mailto:mzink@kytrucking.net) . Information will also be posted on the GoKY website ([www.goky.ky.gov](http://www.goky.ky.gov)).

### **PRESENTATIONS**

A project description including anticipated schedule will be provided to the media, stakeholders and other emergency service agencies via e-mail prior to construction. Information will be provided to these groups via traffic advisories, press releases, the District 5 website and the weekly District 5 Road Show of Construction and Maintenance Activities.

### **MEDIA RELATIONS**

The District PIO will prepare an initial news release regarding the contract award for the project. The PIO will conduct interviews with the media throughout the project duration to keep the public informed of construction progress. Traffic advisories will be submitted to the media when a change in the MOT occurs. The contractor must provide to the PIO via the Resident Engineer notification of any change in the MOT at least five (5) days prior to the change.



KENTUCKY TRANSPORTATION CABINET  
Department of Highways  
DIVISION OF RIGHT OF WAY & UTILITIES  
  
RIGHT OF WAY CERTIFICATION

TC 62-226  
Rev. 01/2016  
Page 1 of 1

<input checked="" type="checkbox"/>	<b>Original</b>	<input type="checkbox"/>	<b>Re-Certification</b>	<b>RIGHT OF WAY CERTIFICATION</b>			
<b>ITEM #</b>		<b>COUNTY</b>		<b>PROJECT # (STATE)</b>		<b>PROJECT # (FEDERAL)</b>	
5-8951.00		Jefferson		1100 FD04 056 109020			
<b>PROJECT DESCRIPTION</b>							
Design and Construct a Sound Barrier Wall on I-64 Westbound between Milepoints 13.7 and 14.2. (16CCN)(18CCN)							
<input checked="" type="checkbox"/>	<b>No Additional Right of Way Required</b>						
Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.							
<input type="checkbox"/>	<b>Condition # 1 (Additional Right of Way Required and Cleared)</b>						
All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.							
<input type="checkbox"/>	<b>Condition # 2 (Additional Right of Way Required with Exception)</b>						
The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract							
<input type="checkbox"/>	<b>Condition # 3 (Additional Right of Way Required with Exception)</b>						
The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.							
Total Number of Parcels on Project		EXCEPTION (S) Parcel #		ANTICIPATED DATE OF POSSESSION WITH EXPLANATION			
Number of Parcels That Have Been Acquired							
Signed Deed							
Condemnation							
Signed ROE							
<b>Notes/ Comments (Use Additional Sheet if necessary)</b>							
LPA RW Project Manager				Right of Way Supervisor			
Printed Name				Printed Name		Tom Boykin	
Signature				Signature		Tom Boykin <small>Digitally signed by Tom Boykin Date: 2019.09.09 15:19:30 -04'00'</small>	
Date				Date			
Right of Way Director				FHWA			
Printed Name				Printed Name			
Signature		DM Loy <small>Digitally signed by DM Loy Date: 2019.09.10 07:36:06 -04'00'</small>		Signature			
Date				Date			



## UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County  
FD04 056 10902 01C  
CONSTRUCT A SOUND BARRIER WALL  
NORTH SIDE OF I-64 WESTBOUND  
ITEM NUMBER 05-8951.00

### PROJECT NOTES ON UTILITIES

Please Note: The information presented in this Utility Note is informational in nature and the information contained herein is not guaranteed.

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs. The utility facilities as noted within this document have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation.

For all projects under 2000 Linear feet which require a normal excavation locate request pursuant to KRS 367.4901-4917, the awarded contractor shall field mark the proposed excavation or construction boundaries of the project (also called white lining) using the procedure set forth in KRS 367.4909(9)(k). For all projects over 2000 linear feet, which are defined as a "Large Project" in KRS 367.4903(18), the awarded contractor shall initially mark the first 2000 linear feet minimally of proposed excavation or construction boundaries of the project to be worked using the procedure set forth in KRS 367.4909(9)(k). This temporary field locating of the project excavation boundary shall take place prior to submitting an excavation location request to the underground utility protection Kentucky Contact Center. For large projects, the awarded contractor shall work with the impacted utilities to determine when additional white lining of the remainder of the project site will take place. This provision shall not alter or relieve the awarded contractor from complying with requirements of KRS 367.4905 to 367.4917 in their entirety.

The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

## UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County  
FD04 056 10902 01C  
CONSTRUCT A SOUND BARRIER WALL  
NORTH SIDE OF I-64 WESTBOUND  
ITEM NUMBER 05-8951.00

**NOTE: DO NOT DISTURB THE FOLLOWING FACILITIES LOCATED WITHIN THE PROJECT DISTURB LIMITS**

**AT&T Legacy:** From Sta. 205+20 to Sta. 226+40, with a left offset of 10 to 14 feet, a buried fiber optic duct runs north and parallel to the proposed sound barrier wall. **This facility is not to be disturbed and will remain in place.**

**TRIMARC:** TRIMARC has existing facilities located in the I-64 corridor and are outside of the project limits. The Company has an 80' pole mounted camera approximately 130' west of the project, and truss mounted variable message sign approximately 600' west of the project, both of which are fed from a service line from the Oxmoor Farm Road overpass.

**THE FOLLOWING FACILITY OWNERS ARE RELOCATING/ADJUSTING THEIR FACILITIES WITHIN THE PROJECT LIMITS AND WILL BE COMPLETE PRIOR TO CONSTRUCTION**

Not Applicable

**THE FOLLOWING FACILITY OWNERS HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE OWNER OR THEIR SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT**

Not Applicable

**THE FOLLOWING FACILITY OWNERS HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE ROAD CONTRACTOR AS INCLUDED IN THIS CONTRACT**

Not Applicable

**RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED**

No Rail Involvement    Rail Involved    Rail Adjacent

## UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County  
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CONSTRUCT A SOUND BARRIER WALL  
NORTH SIDE OF I-64 WESTBOUND  
ITEM NUMBER 05-8951.00

### AREA FACILITY OWNER CONTACT LIST

<u>Utility Company/Agency</u>	<u>Contact Name</u>	<u>Contact Information</u>
1. Atmos Energy 105 Hudson Blvd Shelbyville, KY 40065	Jake Basham Cell (270) 779-7381 <a href="mailto:Jake.Basham@AtmosEnergy.com">Jake.Basham@AtmosEnergy.com</a> Silas Bohlen <a href="mailto:Silas.Bohlen@atmosenergy.com">Silas.Bohlen@atmosenergy.com</a> Cell (270) 570-0445	
2. AT&T KY 1340 E. John Rowan Blvd Bardstown, KY 40004	Scott Roche <a href="mailto:SR8832@att.com">SR8832@att.com</a> Office (502) 348-4528 Cell (502) 827-4703	
3. AT&T Legacy 7555 E. Pleasant Valley Rd. – Suite 140 Independence, OH 44131	Mike Diederich <a href="mailto:MD4145@att.com">MD4145@att.com</a> Office (216) 750-0135 Cell (216) 212-8556 Don Garr <a href="mailto:DRGarr@Hughes.net">DRGarr@Hughes.net</a> Cell (502) 741-8374	
4. CenturyLink 260 Winn Ave Winchester, KY 40391  CenturyLink National Network Construction 3625 Brookside Parkway Suite 400 Alpharetta, GA 30022	Jim Trapnell <a href="mailto:Jim.Trapnell@centurylink.com">Jim.Trapnell@centurylink.com</a> Cell (859) 806-5833 John Pellegrino <a href="mailto:John.Pellegrino@centurylink.com">John.Pellegrino@centurylink.com</a> Mark Sewell <a href="mailto:Mark.Sewell@centurylink.com">Mark.Sewell@centurylink.com</a> Cell (502) 295-0939	

## UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County  
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5. Charter Communications  
10168 Linn Station Road  
Suite 120  
Louisville, KY 40223
- Nathen L Howerton  
[Nathen.Howerton@charter.com](mailto:Nathen.Howerton@charter.com)  
Cell (502) 639-6838  
James Whitehouse  
(502) 643-0863  
[James.Whitehouse@charter.com](mailto:James.Whitehouse@charter.com)  
Kevin Mercer  
Office (502) 357-4724  
Cell (502) 817-5055  
[Kevin.Mercer@charter.com](mailto:Kevin.Mercer@charter.com)  
Richard Bast  
Office (502) 357-4118  
Cell (502) 817-0734  
[Richard.Bast@charter.com](mailto:Richard.Bast@charter.com)
6. City of Taylorsville Sewer & Water  
70 Taylorsville Rd., P O Box 279  
Taylorsville, KY 40071  
Consultant: Kevin Sisler  
220 Reynolds Rd  
Lexington, KY 40517
- Harold Compton  
[HCompton@TaylorsvilleWater.org](mailto:HCompton@TaylorsvilleWater.org)  
(502) 477-3235  
Fax (502) 477-1310  
[Kevin@SislerMaggard.com](mailto:Kevin@SislerMaggard.com)  
(859) 271-2978  
(859) 509-3799  
Steve Biven-City Clerk  
[SBiven@taylorsvillewater.org](mailto:SBiven@taylorsvillewater.org)  
(502) 477-3235 ext. 106
7. Crown Castle Network Operations  
10300 Ormsby Park Place  
Suite 501  
Louisville, KY 40223
- Edna Roy  
[Edna.Roy@crowncastle.com](mailto:Edna.Roy@crowncastle.com)  
Office (704) 405-6561  
Cell (540) 222-1533  
Wendy Burkholder  
[Wendy.Burkholder@crowncastle.com](mailto:Wendy.Burkholder@crowncastle.com)  
Tessa Linde  
[Tessa.Linde@crowncastle.com](mailto:Tessa.Linde@crowncastle.com)  
Patrick Massie  
[Patrick.Massie@crowncastle.com](mailto:Patrick.Massie@crowncastle.com)
8. Crown Castle Fiber  
3310 Ruckreigel Parkway  
Jeffersontown, KY 40299
- Mike Prather  
Office (585) 445-5823  
Cell (502) 542-5181  
[Michael.Prather@crowncastle.com](mailto:Michael.Prather@crowncastle.com)

## UTILITIES AND RAIL CERTIFICATION NOTE

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9. Google Fiber  
101 N. 7th Street, Ste 400  
Louisville, KY 40202
- Lewis Roberts  
(423) 430-9853  
[LewisRobertsjr@google.com](mailto:LewisRobertsjr@google.com)  
Jesse Quirion  
(650) 214-3032  
[JQuirion@google.com](mailto:JQuirion@google.com)
10. Indiana Gas Company Inc  
dba Vectren Energy Delivery of Indiana, Inc  
or  
Ohio River Pipeline Corporation  
2520 Lincoln Drive  
Clarksville, Indiana 47129
- Line Maintained By  
Texas Gas Transmission, LLC  
3800 Frederica Street  
Owensboro, Kentucky 42302  
Cell: (270) 485-1152
11. Indiana Utilities Corporation  
123 West Chestnut Street  
Corydon, Indiana 47112  
(812) 738-3235
- Scott Schmitt  
Office (812) 738-3235  
Cell (812) 972-0539  
[ScottS@indianautilitiescorp.com](mailto:ScottS@indianautilitiescorp.com)  
Corey Thatcher, Field Technician  
Office (812) 738-3235  
Cell (812) 267-6936  
[CoreyT@indianautilitiescorp.com](mailto:CoreyT@indianautilitiescorp.com)  
Kevin Kinney  
Ron Timberlake
12. Jefferson County Public Schools (JCPS)  
C B Young  
Building 7  
3001 Crittenden Dr.  
Louisville, KY 40209
- Jeff Hardy  
(502) 379-9315  
Scott McMahan (Team Fishel)  
Office (502) 456-2900  
Cell (502) 664-9312

## UTILITIES AND RAIL CERTIFICATION NOTE

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13. Kentucky Wired  
209 St. Clair Street, 4th Floor  
Frankfort, KY 40601

Mike Hayden,  
Chief Operating Officer  
Office (502) 782-2535  
[Mike.Hayden@ky.gov](mailto:Mike.Hayden@ky.gov)

Black & Veatch

Chad Blevins  
OSP/ISP Field CRO Engineering Specialist  
Office (913) 458-4921  
Cell (606) 316-6450  
[BlevinsCM@bv.com](mailto:BlevinsCM@bv.com)  
Lead Fiber Design Engineer  
Mark Crawford  
Lead Fiber Design Engineer  
Office (913) 458-3506  
Cell (816) 813-4526  
[CrawfordM@bv.com](mailto:CrawfordM@bv.com)

14. LG&E KU (Electric)  
820 West Broadway  
Louisville, KY 40202  
LG&E Emergency Number (502) 589-1444  
LG&E and KU Emergency Number 1-800-331-7370

Caroline Justice  
Office (502) 627-3708  
[Caroline.Justice@LGE-KU.com](mailto:Caroline.Justice@LGE-KU.com)

15. LG&E (Gas)  
820 West Broadway  
Louisville, KY 40202  
Gas Emergency Number (502) 589-5511  
LG&E and KU Emergency Number 1-800-331-7370

Caroline Justice  
Office (502) 627-3708  
[Caroline.Justice@LGE-KU.com](mailto:Caroline.Justice@LGE-KU.com)

16. Louisville Water Company  
550 South Third Street  
Louisville, KY 40202

Daniel Tegene, PE  
(502) 569-3649  
[DTegene@LWCky.com](mailto:DTegene@LWCky.com)

17. Marathon Pipeline, LLC  
539 South Main Street, Room X-05-018  
Findlay, OH 45840  
or  
20-C Industrial Drive  
Lexington, OH 44904

Dennis Durnal  
Office (502) 448-8311  
Cell (419) 581-0038  
[DDurnal@marathonpetroleum.com](mailto:DDurnal@marathonpetroleum.com)  
Greg Newman  
[GcNewman@marathonpetroleum.com](mailto:GcNewman@marathonpetroleum.com)  
Office (419) 884-0800 x 236  
Cell (419) 564-8826  
Aron Velasquez  
Office (419) 421-3704  
[AdVelasquez@marathonpetroleum.com](mailto:AdVelasquez@marathonpetroleum.com)

## UTILITIES AND RAIL CERTIFICATION NOTE

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18. Metropolitan Sewer District  
700 West Liberty Street  
Louisville, KY 40203-1911

Brandon Flaherty  
[Brandon.Flaherty@LouisvilleMSD.org](mailto:Brandon.Flaherty@LouisvilleMSD.org)  
Office (502) 540-6632  
Cell (502) 381-0804  
Greg Powell  
[Greg.Powell@LouisvilleMSD.org](mailto:Greg.Powell@LouisvilleMSD.org)

19. Mid - Valley Pipeline Company  
4910 Limaburg Road  
Burlington, KY 41005

Richard (Todd) Calfee  
Office (859) 371-4469 x14  
Cell (859) 630-8271  
Fax (866) 699-1185  
[RTCAlfee@SunocoLogistics.com](mailto:RTCAlfee@SunocoLogistics.com)  
Justin White  
[Justin.White@energytransfer.com](mailto:Justin.White@energytransfer.com)  
Office (859) 371-4469  
Cell (859) 630-1823  
Bill Eppheimer  
[William.Eppheimer@energytransfer.com](mailto:William.Eppheimer@energytransfer.com)

20. Shelby Energy Cooperative  
P.O. Box 311, 620 Old Finchville Road  
Shelbyville, KY 40065

Jason Ginn  
[Jason@ShelbyEnergy.com](mailto:Jason@ShelbyEnergy.com)  
Cell (502) 643-2778  
(502) 633-4420  
Zach Mischler  
[Zach@shelbyenergy.com](mailto:Zach@shelbyenergy.com)

21. Sprint - Fiber Optics  
11370 Enterprise Park Dr.  
Sharonville, OH 45241

Steven T. Hughes  
[Steven.Hughes@sprint.com](mailto:Steven.Hughes@sprint.com)  
Office (513) 459-5796  
Cell (513) 462-7221

22. Texas Gas Transmission, LLC  
2332 Hwy 60 West  
Hardinsburg, KY 40143

Kevin Carman  
[Kevin.Carman@bwpmlp.com](mailto:Kevin.Carman@bwpmlp.com)  
Cell (270) 779-3893

610 W 2nd Street  
PO Box 20008  
Owensboro, KY 42301

Amanda Isom  
[Amanda.Isom@bwpmlp.com](mailto:Amanda.Isom@bwpmlp.com)  
(270) 688-5854  
(270) 231-7629

10327 Gaslight Way  
Louisville, KY 40299

Thomas Spargo  
[Trey.Spargo@bwpmlp.com](mailto:Trey.Spargo@bwpmlp.com)  
502-438-2408

## UTILITIES AND RAIL CERTIFICATION NOTE

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23. TRIMARC  
Public Safety & Transportation Systems  
901 West Main Street  
Louisville, KY 40202  
Todd Hood  
[Todd.Hood@ngc.com](mailto:Todd.Hood@ngc.com)  
Office (502) 290-7201  
Cell (270) 307-7456
24. Verizon/MCI (Owns WUTEL)  
730 West Henry Street  
Indianapolis, IN 46225  
2421 Holloway Rd  
Louisville, KY 40299  
Dean Boyers  
[Dean.Boyers@verizon.com](mailto:Dean.Boyers@verizon.com)  
Office (615) 777-7855  
Cell (615) 507-5287  
Moeed Ahmed  
[Moeed.Ahmed2@verizonwireless.com](mailto:Moeed.Ahmed2@verizonwireless.com)  
(502) 663-3219  
Dave Wiley (Field)  
(502) 439-8783  
[Dave.Wiley@verizon.com](mailto:Dave.Wiley@verizon.com)
25. Windstream  
111 S. Main St.  
Elizabethtown, KY 42071  
James Galvin  
Office (270) 765-1818  
Cell (270) 748-9249  
[James.Galvin@windstream.com](mailto:James.Galvin@windstream.com)  
Mark Ware  
[Mark.Ware@windstream.com](mailto:Mark.Ware@windstream.com)  
Timothy Gibson  
[Timothy.Gibson@Windstream.com](mailto:Timothy.Gibson@Windstream.com)  
**Emergency contact ONLY**
26. Zayo  
9209 Castlegate Drive  
Indianapolis, IN 46256  
Ryan Burns  
[Ryan.Burns@zayo.com](mailto:Ryan.Burns@zayo.com)  
Office (317) 296-6048  
Cell (812) 589-9314





MATTHEW G. BEVIN  
GOVERNOR

CHARLES G. SNAVELY  
SECRETARY

**ENERGY AND ENVIRONMENT CABINET**  
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

ANTHONY R. HATTON  
COMMISSIONER

300 SOWER BOULEVARD  
FRANKFORT, KENTUCKY 40601

October 28, 2019

Matthew Bullock  
KYTC District 5  
8310 Westport Rd  
Louisville, KY 402423042

Re: KYR10 Coverage Acknowledgment  
KPDES No.: KYR10N957  
Sound Barrier Wall, I-64 WB, Section 2  
Permit Type: Construction  
AI ID: 106527  
Jefferson County, Kentucky

Dear Matthew Bullock,

The discharges associated with the Notice of Intent you submitted have been approved for coverage under the "Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Storm Water Discharges Associated with Construction Activities (KYR100000)" master general permit. Your coverage becomes effective on the date of this letter, and will automatically terminate two years from the effective date of your coverage unless an extension is requested prior to the termination date, until the KYR100000 master general permit expires on November 30, 2019, or the Division of Water revokes coverage, whichever comes first. During this period of coverage all discharges shall comply with the conditions of the KYR100000 master general permit. This permit and links to the eNOI (and permit coverage extension) and eNOT forms can be found on our website:

<https://eec.ky.gov/Environmental-Protection/Water/PermitCert/KPDES/Documents/KYR10PermitPage.pdf>.

Any person aggrieved by the issuance of a permit final decision may demand a hearing pursuant to KRS 224.10-420(2) within thirty (30) days from the date of the issuance of this letter. Any demand for a hearing on the permit shall be filed in accordance with the procedures specified in KRS 224.10-420, 224.10-440, 224.10-470, and the regulations promulgated thereto. The request for hearing should be submitted in writing to the Energy and Environment Cabinet, Office of Administrative Hearings, 211 Sower Boulevard, Frankfort, Kentucky 40601 and the Commonwealth of Kentucky, Energy and Environment Cabinet, Division of Water, 300 Sower Boulevard, Frankfort, Kentucky 40601. For your record keeping purposes, it is recommended that these requests be sent by certified mail. The written request must conform to the appropriate statutes referenced above.

Any questions concerning the general permit and its requirements should be directed to me at 502-782-7123 or email me at [Karina.Villanueva@ky.gov](mailto:Karina.Villanueva@ky.gov)

Construction Site GPS Coordinates: 38.2285, -85.593639  
Receiving Water: Beargrass Creek

Sincerely,

A handwritten signature in black ink, appearing to read "Karina Villanueva".

**Karina Villanueva**  
Surface Water Permits Branch  
Division of Water



cc: Todd Giles, Louisville Regional Office  
Paul Davis, KYTC District 5

KyTC BMP Plan for Project CID ## - #####



**Kentucky Transportation Cabinet**

**Highway District 5**

**And**

**\_\_\_\_\_ (2), Construction**

**Kentucky Pollutant Discharge Elimination System**

**Permit KYR10**

**Best Management Practices (BMP) plan**

**Groundwater protection plan**

**For Highway Construction Activities**

**For**

**Sound Barrier Wall, I-64 Westbound, Section 2**

**Project: CID ## - #####**

**Item #5-8951.00**

KPDES BMP Plan Page 1 of 14

Revised 3/4/2016

## KyTC BMP Plan for Project CID ## - #####

### Project information

Note – (1) = Design (2) = Construction (3) = Contractor

1. Owner – Kentucky Transportation Cabinet, District 5
2. Resident Engineer: (2)
3. Contractor name: (2)  
Address: (2)  
  
Phone number: (2)  
Contact: (2)  
Contractors agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number (2)
5. Route (Address) I-64 Westbound (west of KY-1747 interchange)
6. Latitude/Longitude (project mid-point) dd/mm/ss, dd/mm/ss: 38/13/43, 85/35/37
7. County (project mid-point): Jefferson
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

## KyTC BMP Plan for Project CID ## - #####

### A. Site description:

1. Nature of Construction Activity (from letting project description): Install a sound barrier wall on the north side of I-64 (westbound) from approximately the west end of Linn Station Road (MP 13.7) to the existing sound barrier wall located approximately 450-feet west of Hogarth Drive (MP 14.2).
2. Order of major soil disturbing activities (2) and (3)
3. Projected volume of material to be moved: None
4. Estimate of total project area (acres): 2-Acres
5. Estimate of area to be disturbed (acres): 1-Acre
6. Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information: N/A
7. Data describing existing soil condition: Refer to geotechnical report forthcoming (2)
8. Data describing existing discharge water quality (if any): None (2)
9. Receiving water name: None
10. TMDLs and Pollutants of Concern in Receiving Waters: (DEA)
11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.

## KyTC BMP Plan for Project CID ## - #####

### 12. Potential sources of pollutants:

The primary source of pollutants is solids that are mobilized during storm events. Other sources of pollutants include oil/fuel/grease from servicing and operating construction equipment, concrete washout water, sanitary wastes and trash/debris. (3)

## **B. Sediment and Erosion Control Measures:**

1. Plans for highway construction projects will include erosion control sheets that depict Disturbed Drainage Areas (DDAs) and related information. These plan sheets will show the existing project conditions with areas delineated by DDA within the right of way limits, the discharge points and the areas that drain to each discharge point. Project managers and designers will analyze the DDAs and identify Best Management Practices (BMPs) that are site specific. The balance of the BMPs for the project will be listed in the bid documents for selection and use by the contractor on the project with approval by the resident engineer.

Projects that do not have DDAs annotated on the erosion control sheets will employ the same concepts for development and managing BMP plans.

2. Following award of the contract, the contractor and resident engineer will annotate the erosion control sheets showing location and type of BMPs for each of the DDAs that will be disturbed at the outset of the project. This annotation will be accompanied by an order of work that reflects the order or sequence of major soil moving activities. The remaining DDAs are to be designated as "Do Not Disturb" until the contractor and resident engineer prepare the plan for BMPs to be employed. The initial BMP's shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA's as the work progresses. All DDA's will have adequate BMP's in place before being disturbed.
3. As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:
  - Construction Access – This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with gravel and temporary mulch and/or vegetation.

## KyTC BMP Plan for Project CID ## - #####

- At the beginning of the project, all DDAs for the project will be inspected for areas that are a source of storm water pollutants. Areas that are a source of pollutants will receive appropriate cover or BMPs to arrest the introduction of pollutants into storm water. Areas that have not been opened by the contractor will be inspected periodically (once per month) to determine if there is a need to employ BMPs to keep pollutants from entering storm water.
- Clearing and Grubbing – The following BMP's will be considered and used where appropriate.
  - Leaving areas undisturbed when possible.
  - Silt basins to provide silt volume for large areas.
  - Silt Traps Type A for small areas.
  - Silt Traps Type C in front of existing and drop inlets which are to be saved
  - Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
  - Brush and/or other barriers to slow and/or divert runoff.
  - Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
  - Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
  - Non-standard or innovative methods.
- Cut & Fill and placement of drainage structures - The BMP Plan will be modified to show additional BMP's such as:
  - Silt Traps Type B in ditches and/or drainways as they are completed
  - Silt Traps Type C in front of pipes after they are placed
  - Channel Lining
  - Erosion Control Blanket
  - Temporary mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
  - Non-standard or innovative methods
- Profile and X-Section in place – The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probably changes include:
  - Silt Trap Type A, Brush and/or other barriers, Temporary Mulch, and any other BMP which had to be removed for final grading to take place.
  - Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
  - Additional Channel Lining and/or Erosion Control Blanket.
  - Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
  - Special BMP's such as Karst Policy

## KyTC BMP Plan for Project CID ## - #####

- Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probably changes include:
  - Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMP's which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
  - Permanent Seeding and Protection
  - Placing Sod
  - Planting trees and/or shrubs where they are included in the project
- BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are : Project does not include storm water BMPs or flow controls

### **C. Other Control Measures**

1. No solid materials, including building materials, shall be discharged to waters of the commonwealth, except as authorized by a Section 404 permit.
2. Waste Materials

All waste materials that may leach pollutants (paint and paint containers, caulk tubes, oil/grease containers, liquids of any kind, soluble materials, etc.) will be collected and stored in appropriate covered waste containers. Waste containers shall be removed from the project site on a sufficiently frequent basis as to not allow wastes to become a source of pollution. All personnel will be instructed regarding the correct procedure for waste disposal. Wastes will be disposed in accordance with appropriate regulations. Notices stating these practices will be posted in the office.

3. Hazardous Waste

All hazardous waste materials will be managed and disposed of in the manner specified by local or state regulation. The contractor shall notify the Section Engineer if there any hazardous wastes being generated at the project site and how these wastes are being managed. Site personnel will be instructed with regard to proper storage and handling of hazardous wastes when required. The Transportation Cabinet will file for generator, registration when appropriate, with the Division of Waste Management and advise the contractor regarding waste management requirements.



## KyTC BMP Plan for Project CID ## - #####

### 4. Spill Prevention

The following material management practices will be used to reduce the risk of spills or other exposure of materials and substances to the weather and/or runoff.

#### ➤ **Good Housekeeping:**

The following good housekeeping practices will be followed onsite during the construction project.

- An effort will be made to store only enough product required to do the job
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure
- Products will be kept in their original containers with the original manufacturer's label
- Substances will not be mixed with one another unless recommended by the manufacturer
- Whenever possible, all of the product will be used up before disposing of the container
- Manufacturers' recommendations for proper use and disposal will be followed
- The site contractor will inspect daily to ensure proper use and disposal of materials onsite

#### ➤ **Hazardous Products:**

These practices will be used to reduce the risks associated with any and all hazardous materials.

- Products will be kept in original containers unless they are not resealable
- Original labels and material safety data sheets (MSDS) will be reviewed and retained
- Contractor will follow procedures recommended by the manufacturer when handling hazardous materials
- If surplus product must be disposed of, manufacturers' or state/local recommended methods for proper disposal will be followed

**The following product-specific practices will be followed onsite:**

#### ➤ **Petroleum Products:**

## KyTC BMP Plan for Project CID ## - #####

Vehicles and equipment that are fueled and maintained on site will be monitored for leaks, and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products onsite will be stored in tightly sealed containers, which are clearly labeled and will be protected from exposure to weather.

The contractor shall prepare an Oil Pollution Spill Prevention Control and Countermeasure plan when the project that involves the storage of petroleum products in 55 gallon or larger containers with a total combined storage capacity of 1,320 gallons. This is a requirement of 40 CFR 112.

This project (will / will not) (3) have over 1,320 gallons of petroleum products with a total capacity, sum of all containers 55 gallon capacity and larger.

### ➤ **Fertilizers:**

Fertilizers will be applied at rates prescribed by the contract, standard specifications or as directed by the resident engineer. Once applied, fertilizer will be covered with mulch or blankets or worked into the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

### ➤ **Paints:**

All containers will be tightly sealed and stored indoors or under roof when not being used. Excess paint or paint wash water will not be discharged to the drainage or storm sewer system but will be properly disposed of according to manufacturers' instructions or state and local regulations.

### ➤ **Concrete Truck Washout:**

Concrete truck mixers and chutes will not be washed on pavement, near storm drain inlets, or within 75 feet of any ditch, stream, wetland, lake, or sinkhole. Where possible, excess concrete and wash water will be discharged to areas prepared for pouring new concrete, flat areas to be paved that are away from ditches or drainage system features, or other locations that will not drain off site. Where this approach is not possible, a shallow earthen wash basin will be excavated away from ditches to receive the wash water

### ➤ **Spill Control Practices**

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

## KyTC BMP Plan for Project CID ## - #####

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include as appropriate, brooms, dust pans, mops, rags, gloves, oil absorbents, sand, sawdust, and plastic and metal trash containers.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.
- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- Spills of products will be cleaned up promptly. Wastes from spill clean up will be disposed in accordance with appropriate regulations.

### **D. Other State and Local Plans**

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials.

### **E. Maintenance**

1. The BMP plan shall include a clear description of the maintenance procedures necessary to keep the control measures in good and effective operating condition.
- Maintenance of BMPs during construction shall be a result of weekly and post rain event inspections with action being taken by the contractor to correct deficiencies.
  - Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for

## KyTC BMP Plan for Project CID ## - #####

the purpose of post construction storm water management with specific guidance for any non-routine maintenance.

### F. Inspections

Inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.
- Inspections will be conducted by individuals that have successfully completed the KEPSC-RI course as required by Section 213.02.02 of the Standard Specifications for Road and Bridge Construction, current edition.
- Inspection reports will be written, signed, dated, and kept on file.
- Areas at final grade will be seeded and mulched within 14 days.
- Areas that are not at final grade where construction has ceased for a period of 21 days or longer and soil stock piles shall receive temporary mulch no later than 14 days from the last construction activity in that area.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported.
- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.
- Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 50 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

## KyTC BMP Plan for Project CID ## - #####

### G. Non – Storm Water discharges

It is expected that non-storm water discharges may occur from the site during the construction period. Examples of non-storm water discharges include:

- Water from water line flushings.
- Water form cleaning concrete trucks and equipment.
- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
- Uncontaminated groundwater and rain water (from dewatering during excavation).

All non-storm water discharges will be directed to the sediment basin or to a filter fence enclosure in a flat vegetated infiltration area or be filtered via another approved commercial product.

### H. Groundwater Protection Plan (3)

This plan serves as the groundwater protection plan as required by 401 KAR 5:037.

- Contractors statement: (3)

The following activities, as enumerated by 401 KAR 5:037 Section 2 that require the preparation and implementation of a groundwater protection plan, will or may be may be conducted as part of this construction project:

\_\_\_\_\_ 2. (e) land treatment or land disposal of a pollutant;

\_\_\_\_\_ 2. (f) Storing, ..., or related handling of hazardous waste, solid waste or special waste, ..., in tanks, drums, or other containers, or in piles, (This does not include wastes managed in a container placed for collection and removal of municipal solid waste for disposal off site);

\_\_\_\_\_ 2. (g) .... Handling of materials in bulk quantities (equal or greater than 55 gallons or 100 pounds net dry weight transported held in an individual container) that, if released to the environment, would be a pollutant;

\_\_\_\_\_ 2. (j) Storing or related handling of road oils, dust suppressants, ....., at a central location;

KyTC BMP Plan for Project CID ## - #####

\_\_\_\_\_ 2. (k) Application or related handling of road oils, dust suppressants or deicing materials, (does not include use of chloride-based deicing materials applied to roads or parking lots);

\_\_\_\_\_ 2. (m) Installation, construction, operation, or abandonment of wells, bore holes, or core holes, (this does not include bore holes for the purpose of explosive demolition);

Or, check the following only if there are no qualifying activities

\_\_\_\_\_ There are no activities for this project as listed in 401 KAR 5:037 Section 2 that require the preparation and implementation of a groundwater protection plan.

The contractor is responsible for the preparation of a plan that addresses the

401 KAR 5:037 Section 3. (3) Elements of site specific groundwater protection plan:

- (a) General information about this project is covered in the Project information;
- (b) Activities that require a groundwater protection plan have been identified above;
- (c) Practices that will protect groundwater from pollution are addressed in section C. Other control measures.
- (d) Implementation schedule – all practices required to prevent pollution of groundwater are to be in place prior to conducting the activity;
- (e) Training is required as a part of the ground water protection plan. All employees of the contractor, sub-contractor and resident engineer personnel will be trained to understand the nature and requirements of this plan as they pertain to their job function(s). Training will be accomplished within one week of employment and annually thereafter. A record of training will be maintained by the contractor with a copy provide to the resident engineer.
- (f) Areas of the project and groundwater plan activities will be inspected as part of the weekly sediment and erosion control inspections
- (g) Certification (see signature page.)








**MEMORANDUM**

**SA-016-2019**

**TO:** Bart Asher, P.E., P.L.S.  
Director, Division of Structural Design

**FROM:** Michael Carpenter, P.E.  
TEBM, Geotechnical Branch

**BY:** Robert McDonald, P.E.   
Geotechnical Branch, Structure Foundation Section

cc: J. VanZee  
C. VanZee  
T. Lovell (D5)  
T. Wright (D5)  
P. Perry  
R. Gossom  
P. Matheny (D5)  
D. McElmurray

**DATE:** October 14<sup>th</sup>, 2019

**SUBJECT:** Jefferson County  
FD04 056 0064 013-015 01 D  
Mars #: 10902 01 D  
Interstate-64  
Noise Barrier Wall (2640') Sta. 200+00 to 226+40, Westbound Side of Rd.  
Item #: 5-8951.00  
Geotechnical Engineering Addendum Structure Foundation Report

**1.0 LOCATION AND DESCRIPTION**

The geotechnical investigation for this structure has been completed. The DGN file for the subsurface data sheet has been made available on ProjectWise and through email for use in development of structure plans. The drilling for the project was performed by one of the KYTC, Geotechnical Branch, Central Office Drill Crews

This abbreviated geotechnical engineering structural foundation report addresses the geotechnical issues for the proposed design and construction of a sound barrier along the north side of I-64 between mileposts 13.7 and 14.2. This wall will be approximately 2640 feet long. This noise barrier wall will be an extension to the structure proposed in Geotechnical Engineering Structure Foundation Report S-071-2013. The additional proposed noise barrier wall location is from Lat: 38.230188° Long: -85.598623° to Lat: 38.227353°, Long: -85.589995°.

**2.0 SITE GEOLOGIC CONDITIONS**

The structure is located in the Jeffersonville (#999) Geologic Quadrangle. The geologic mapping indicates that the bedrock at this site is part of the Jeffersonville Limestone Formation.

**3.0 FIELD INVESTIGATION**

A total of nine (9) bore holes were drilled at this structure's location. Two (2) of the drilled borings were sample and core holes and seven (7) were mechanical rockline soundings. The drill crew delivered the rock core and soil samples to the KYTC Geotechnical Branch in Frankfort, where a geologist logged the rock core and the soils were tested in the Branch's soils laboratory.

**4.0 SUBSURFACE CONDITIONS**

The soil samples obtained from the borings consisted of stiff brown to red moist clays.

Depths to refusal varied from 5.5 ft to 9.5 ft. Rock cores obtained for this location revealed limestone. The RQD values for the rock cores ranged from 72% to 100% and core recoveries ranged from 92% to 100%. The variations in auger refusal elevations ranged from 623.5 ft to 659.1 ft.

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 Jefferson Co., Interstate-64  
 Item #: 5-8951.00  
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**5.0 ENGINEERING ANALYSIS**

Drilled shafts are proposed for the noise barrier wall foundations. The shafts will be founded into bedrock. The Idealized Soil and Bedrock Profile Sheet and the Drilled Shaft Axial Tables are attached. Because of the structure type and pre-existing site conditions embankment stability and settlement analyses were not required.

Use **Drilled Shafts**. Table 1 contains relevant elevations needed to both complete the design and determine plan quantities for the drilled shafts. Some of the “Estimated Bottom of Permanent Casing” and “Highest Allowable Shaft Tip” elevations are due to rockline variations.

Drilled shafts were evaluated for axial loading, and the attached tables provide the resulting capacities and resistances for the Load & Resistance Factor Design (LRFD) design method.

<b>Table 1 Estimated Drilled Shaft Elevations</b>			
Station Range	Elevations (ft.) *		
	Est. Top of Shaft	Est. Top of Rock Socket	Highest** Allowable Shaft Tip
200+00 to 202+00	632.5	622.5	620.5
202+00 to 205+00	632.5	623.5	621.5
205+00 to 208+00	637.0	623.5	621.5
208+00 to 211+00	640.5	631.0	629.0
211+00 to 214+00	651.5	633.5	631.5
214+00 to 217+00	654.5	641.5	639.5
217+00 to 220+00	665.0	644.5	642.5
220+00 to 223+00	665.0	655.5	653.5
223+00 to 226+40	669.0	655.5	653.5
<p>* Elevations for all shafts will be verified after construction-phase drilling has been performed. The final shaft tip elevations and quantities may be adjusted based on the actual conditions encountered in the field.</p> <p>** The Shaft tip shall extend a minimum of two feet below the estimated base of weathered rock</p>			

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## 6.0 RECOMMENDATIONS

- 6.1 Drilled shafts with the highest recommended tip embedded a minimum of 2 feet into sound bedrock. Lower tip elevations may be necessary in order to satisfy lateral capacity or other structural requirements.
- 6.1 The drilled shafts shall be constructed in accordance with the Special Note for Drilled Shafts, current edition.
- 6.2 Perform lateral load analyses using the geotechnical parameters provided in the attached Idealized Soil and Bedrock Profile. These parameters may be used to perform analyses using LPILE Plus. Some of the parameters may not be required to be input, depending on the version of the program being used.
- 6.3 At the designers discretion the overburden soils may be utilized for lateral support however a minimum rock embedment depth of 2' is required.
- 6.4 Evaluate the allowable axial capacities using the attached Drilled Shaft Axial Capacity Tables.
- 6.5 Permanent casing is not required. The contractor may elect to use temporary casing in deeper soil areas. Temporary casing may be omitted if the contractor can demonstrate the ability to maintain an open excavation without collapse of the side walls, fall back of material into the excavation, or fall back into and contamination of freshly placed concrete.
- 6.6 Require a 6-inch minimum rebar cover in the rock sockets.
- 6.7 For Load & Resistance Factor Design (LRFD), evaluate the **total factored axial resistances** using the attached Drilled Shaft Axial Capacity Table considering the capacity developed in the uncased rock sockets. The allowable capacities must equal or exceed the factored loads at the strength limit state. The highest allowable shaft tip elevations are provided in Table 1. Highest allowable shaft tip elevations for larger diameter shafts are indicated on corresponding attached Drilled Shaft Axial Capacity Table. Longer uncased sockets may be required to satisfy axial or lateral load design criteria.
- 6.8 Use the elevations in Table 1 to determine plan quantities as follows:
- Drilled Shaft - \*-inch (Common) Top of Shaft to Top of Rock Socket
  - Drilled Shaft - \*\*-inch (Solid Rock) Top of Rock Socket to Shaft Tip
- \*Insert diameter 6 inches larger than shaft diameter chosen  
\*\*Shaft diameter chosen
- 5.9 Minimal evidence of karst features were found in the core samples obtained during drilling. However, the project is located in a site considered to be karst intense. If solution features are encountered during construction there is a potential to encounter unsound bedrock or for concrete loss during pouring. The contractor should be prepared to address these complications. Remedies could include: extended shaft lengths, extended casing, and pouring of lean concrete and re-drilling for structural concrete after setup.

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The designer should feel free to contact the Geotechnical Branch at 502-564-2374 for further recommendations or if any questions arise pertaining to this project.

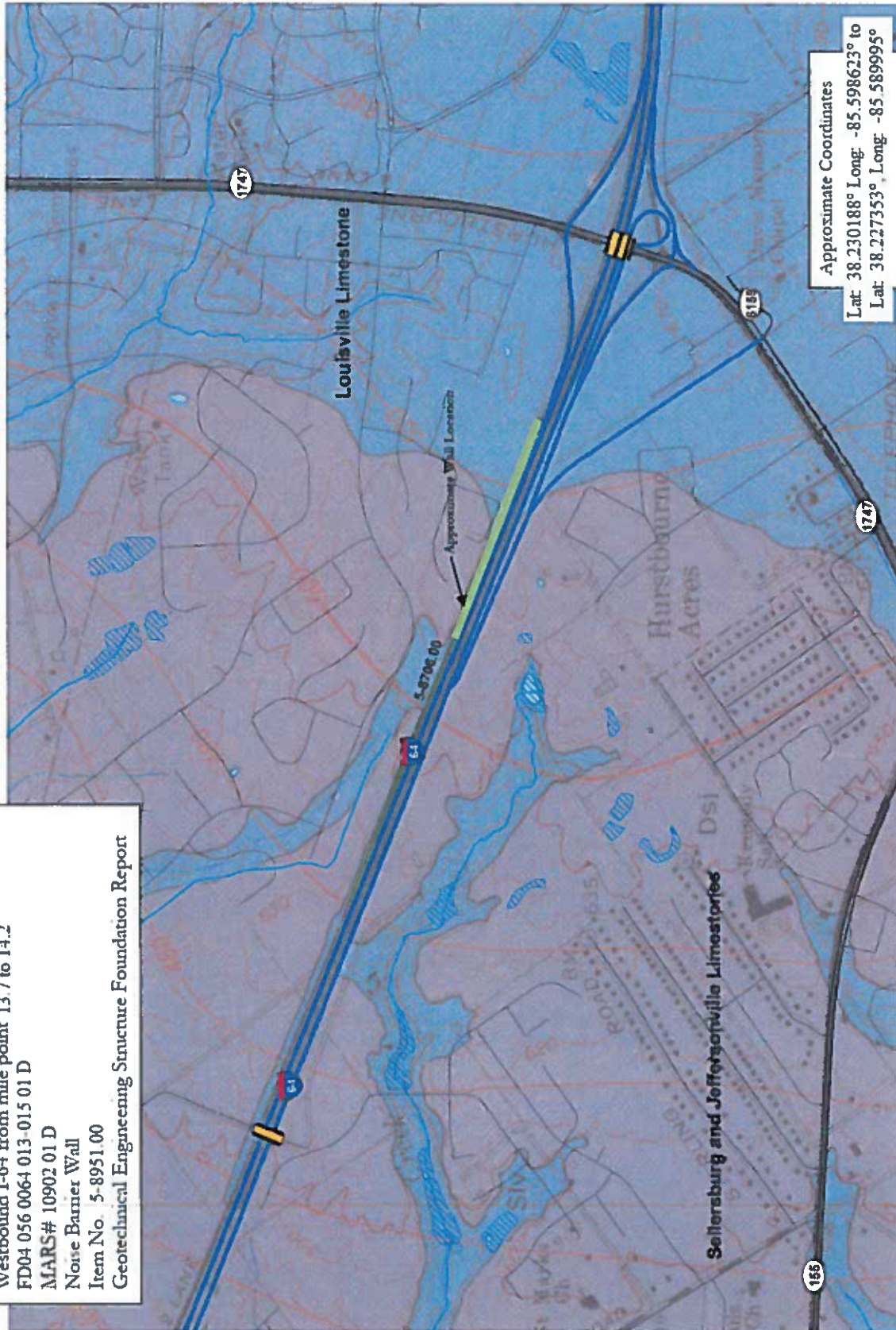
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**October 14<sup>th</sup>, 2019**

**Attachments:**

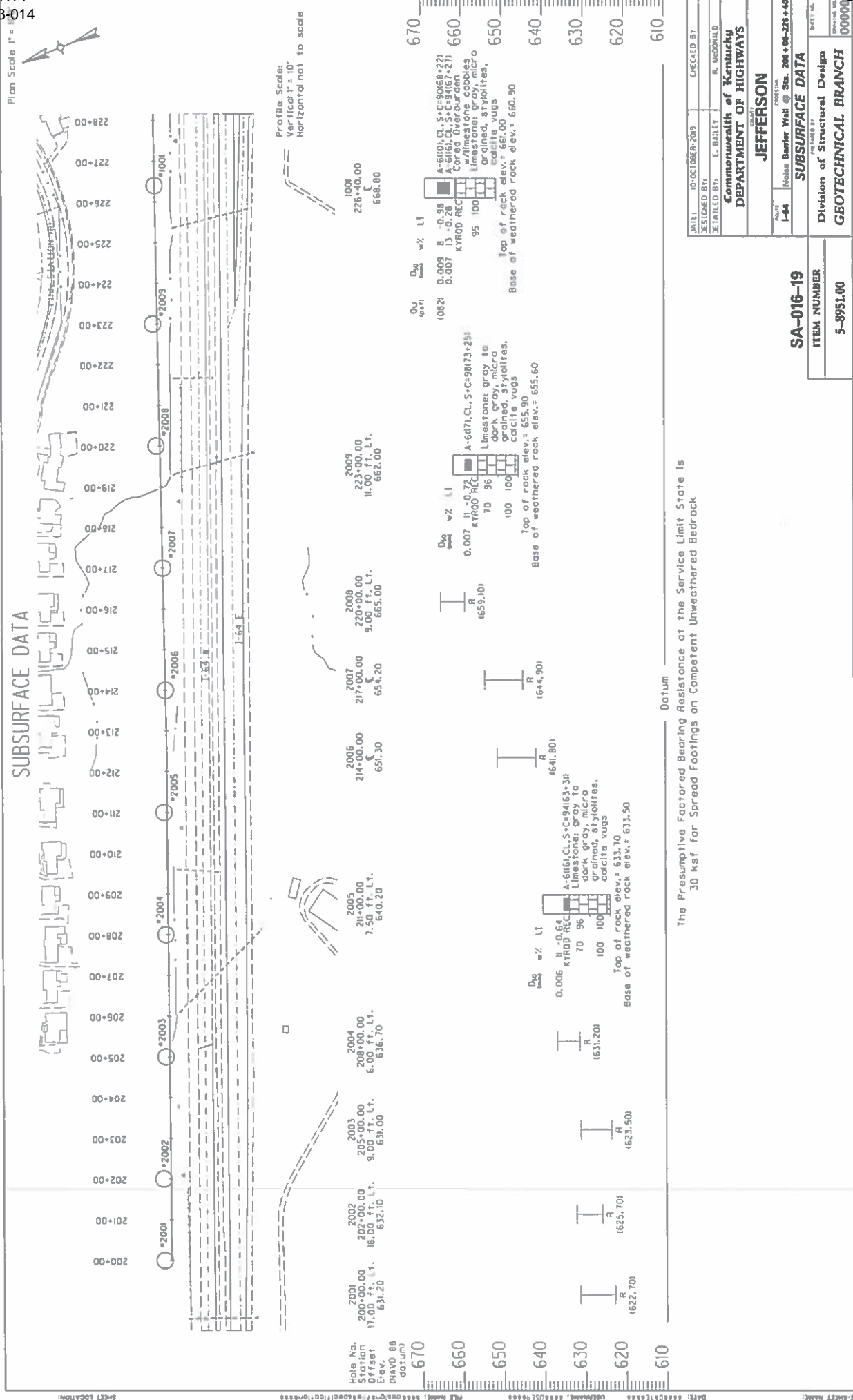
- **Project Location Map**
- **Subsurface Data Sheets**
- **Idealized Soil and Bedrock Profile Sheets**
- **Drilled Shaft Axial Resistance Tables**
- **Coordinate Data Sheet**

SA-016-2019  
Jefferson Co., Interstate-64  
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October 14<sup>th</sup>, 2019

Jefferson County  
Westbound I-64 from mile point 13.7 to 14.2  
FD04 056 0064 013-015 01 D  
MARS# 10902 01 D  
Noise Barrier Wall  
Item No. 5-8951.00  
Geotechnical Engineering Structure Foundation Report



Approximate Coordinates  
Lat: 38.230188° Long: -85.598623°  
Lat: 38.227353° Long: -85.589995°  
GQ: Jeffersontown (#999)



DATE:	10-OCTOBER-2019	CHECKED BY:	R. McDONALD
DESIGNED BY:	E. BAILEY	DRAWN BY:	R. McDONALD
<b>Commonwealth of Kentucky</b> <b>DEPARTMENT OF HIGHWAYS</b>			
<b>JEFFERSON</b>			
PROJECT:	Nobles Banner Wall @ Sta. 200+00-228+40		
NO.:	1-44		
<b>SUBSURFACE DATA</b>			
PREPARED BY			
<b>Division of Structural Design</b>			
<b>GEOTECHNICAL BRANCH</b>			
SHEET NO.			
000000			

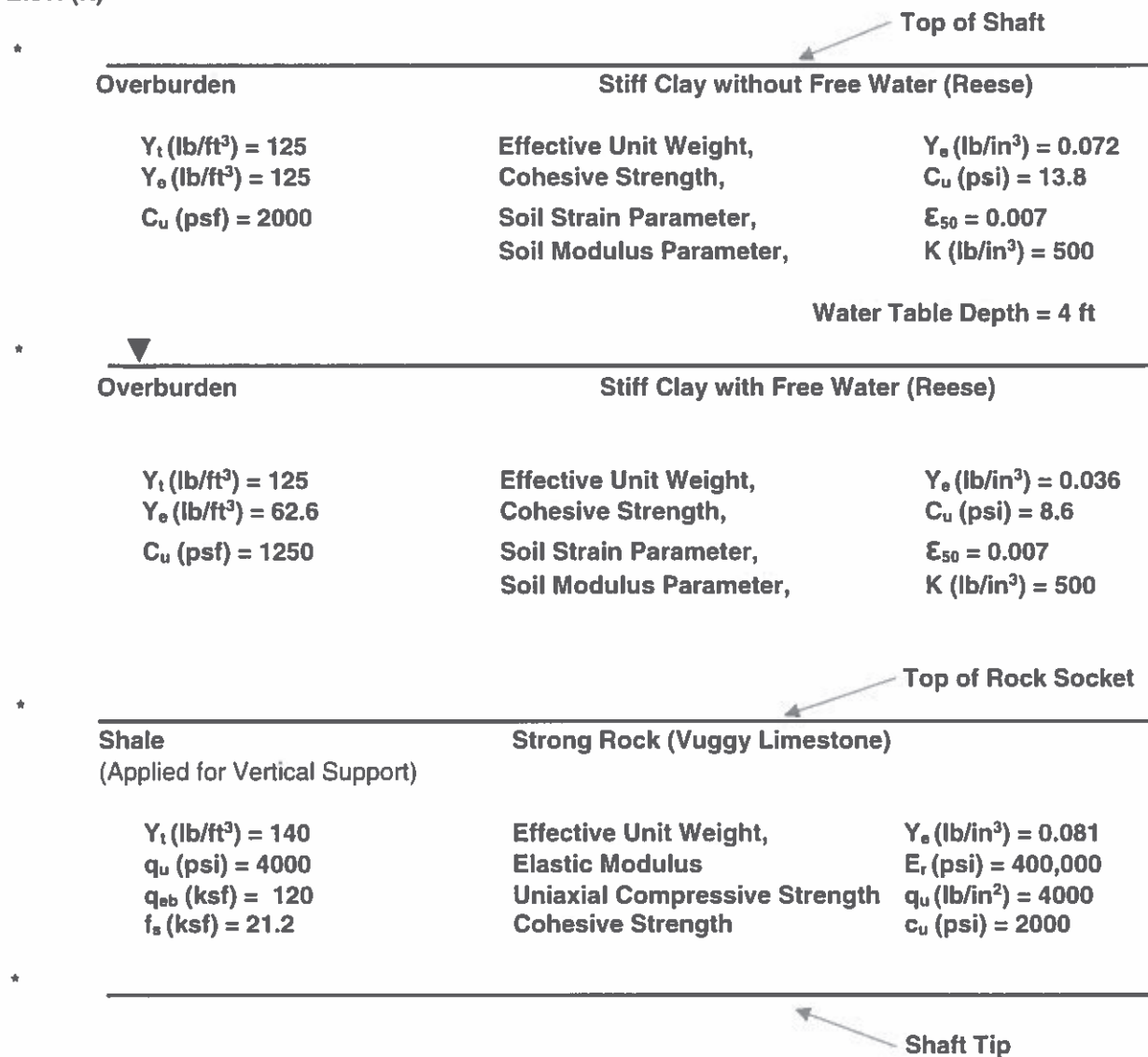
<b>SA-016-19</b>
ITEM NUMBER
5-8951.00

# IDEALIZED SOIL AND BEDROCK PROFILE

Jefferson Co., Item #: 5-8951.00, SA-016-2019  
Noise Barrier Wall, Interstate-64 MP 13.7 to 14.2  
Stationing Ranges Available in Table 1

RDM 10/9/2019

Approximate  
Elev. (ft)\*\*



\* Elevations vary and are provided in the body of the report.

\*\* For design: At each shaft location apply actual elevations using Table 1, subsurface data sheets, and available cross section information.

ADDITIONAL DATA FOR GEOTECHNICAL CALCULATIONS ONLY:	
min $f'_c$ (psi) =	3500
$p_a$ (psi) =	14.7

# Load and Resistance Factor Design (LRFD)

## DRILLED SHAFT AXIAL RESISTANCE TABLE

Jefferson Co., Item #: 5-8951.00, SA-016-2019

Noise Barrier Wall, Interstate-64, MP 13.7 to 14.2

Rock Socket Diameter = 1.5 feet

Rock Socket Diameter = 18 inches

RDM 10/9/19

Rock Socket Length (ft.)	Nominal Unit Side Shear $q_{ss}$ (ksf)	Nominal Unit End Bearing $q_{eb}$ (ksf)	Nominal Side Resistance $R_{sr}$ (kips)	Nominal End Bearing Resistance $R_{eb}$ (kips)	Factored Side Resistance $\phi R_{sr}$ (kips)	Factored End Bearing Resistance $\phi R_{eb}$ (kips)	Total Factored Axial Resistance $\phi R_t$ (kips)	Total Factored Uplift Resistance $\phi R_{tu}$ (kips)	
0.0									
1.0	21.2	120	100	212	50	106	156	40	
>>>	21.2	120	200	212	100	106	206	80	
3.0	21.2	120	300	212	150	106	256	120	
4.0	21.2	120	400	212	200	106	306	160	
5.0	21.2	120	500	212	250	106	356	200	
6.0	21.2	120	599	212	300	106	406	240	
7.0	21.2	120	699	212	350	106	456	280	
8.0	21.2	120	799	212	400	106	506	320	
9.0	21.2	120	899	212	450	106	556	360	
10.0	21.2	120	999	212	500	106	606	400	
11.0	21.2	120	1099	212	549	106	655	440	
12.0	21.2	120	1199	212	599	106	705	480	
13.0	21.2	120	1299	212	649	106	755	519	
14.0	21.2	120	1399	212	699	106	805	559	
15.0	21.2	120	1499	212	749	106	855	599	
16.0	21.2	120	1598	212	799	106	905	639	
17.0	21.2	120	1698	212	849	106	955	679	
18.0	21.2	120	1798	212	899	106	1005	719	
19.0	21.2	120	1898	212	949	106	1055	759	
20.0	21.2	120	1998	212	999	106	1105	799	
AASHTO Table 10.5.5.2.4-1					Resistance Factor, $\phi$		0.50	0.50	0.40
>>> = Min. Socket Length							D (ft.) =	1.5	



# Load and Resistance Factor Design (LRFD)

## DRILLED SHAFT AXIAL RESISTANCE TABLE

Jefferson Co., Item #: 5-8951.00, SA-016-2019  
Noise Barrier Wall, Interstate-64, MP 13.7 to 14.2

Rock Socket Diameter = 2.0 feet  
Rock Socket Diameter = 24 inches

RDM 10/9/19

Rock Socket Length (ft.)	Nominal Unit Side Shear $q_{ss}$ (ksf)	Nominal Unit End Bearing $q_{eb}$ (ksf)	Nominal Side Resistance $R_{sr}$ (kips)	Nominal End Bearing Resistance $R_{eb}$ (kips)	Factored Side Resistance $\phi R_{sr}$ (kips)	Factored End Bearing Resistance $\phi R_{eb}$ (kips)	Total Factored Axial Resistance $\phi R_t$ (kips)	Total Factored Uplift Resistance $\phi R_{tu}$ (kips)	
0.0									
1.0	21.2	120	133	377	67	188	255	53	
>>>	2.0	120	266	377	133	188	322	107	
3.0	21.2	120	400	377	200	188	388	160	
4.0	21.2	120	533	377	266	188	455	213	
5.0	21.2	120	666	377	333	188	522	266	
6.0	21.2	120	799	377	400	188	588	320	
7.0	21.2	120	932	377	466	188	655	373	
8.0	21.2	120	1066	377	533	188	721	426	
9.0	21.2	120	1199	377	599	188	788	480	
10.0	21.2	120	1332	377	666	188	855	533	
11.0	21.2	120	1465	377	733	188	921	586	
12.0	21.2	120	1598	377	799	188	988	639	
13.0	21.2	120	1732	377	866	188	1054	693	
14.0	21.2	120	1865	377	932	188	1121	746	
15.0	21.2	120	1998	377	999	188	1188	799	
16.0	21.2	120	2131	377	1066	188	1254	853	
17.0	21.2	120	2264	377	1132	188	1321	906	
18.0	21.2	120	2398	377	1199	188	1387	959	
19.0	21.2	120	2531	377	1265	188	1454	1012	
20.0	21.2	120	2664	377	1332	188	1521	1066	
AASHTO Table 10.5.5.2.4-1					Resistance Factor, $\phi$		0.50	0.50	0.40
>>> = Min. Socket Length							D (ft.) =	2.0	

# Load and Resistance Factor Design (LRFD)

## DRILLED SHAFT AXIAL RESISTANCE TABLE

Jefferson Co., Item #: 5-8951.00, SA-016-2019

Noise Barrier Wall, Interstate-64, MP 13.7 to 14.2

Rock Socket Diameter =

2.5 feet

Rock Socket Diameter =

30 inches

RDM 10/9/19

Rock Socket Length (ft.)	Nominal Unit Side Shear $q_{ss}$ (ksf)	Nominal Unit End Bearing $q_{eb}$ (ksf)	Nominal Side Resistance $R_{sr}$ (kips)	Nominal End Bearing Resistance $R_{eb}$ (kips)	Factored Side Resistance $\phi R_{sr}$ (kips)	Factored End Bearing Resistance $\phi R_{eb}$ (kips)	Total Factored Axial Resistance $\phi R_t$ (kips)	Total Factored Uplift Resistance $\phi R_{tu}$ (kips)	
0.0									
1.0	21.2	120	167	589	83	295	378	67	
>>>	21.2	120	333	589	167	295	461	133	
3.0	21.2	120	500	589	250	295	544	200	
4.0	21.2	120	666	589	333	295	628	266	
5.0	21.2	120	833	589	416	295	711	333	
6.0	21.2	120	999	589	500	295	794	400	
7.0	21.2	120	1166	589	583	295	877	466	
8.0	21.2	120	1332	589	666	295	961	533	
9.0	21.2	120	1499	589	749	295	1044	599	
10.0	21.2	120	1665	589	833	295	1127	666	
11.0	21.2	120	1832	589	916	295	1210	733	
12.0	21.2	120	1998	589	999	295	1294	799	
13.0	21.2	120	2165	589	1082	295	1377	866	
14.0	21.2	120	2331	589	1166	295	1460	932	
15.0	21.2	120	2498	589	1249	295	1543	999	
16.0	21.2	120	2664	589	1332	295	1627	1066	
17.0	21.2	120	2831	589	1415	295	1710	1132	
18.0	21.2	120	2997	589	1499	295	1793	1199	
19.0	21.2	120	3164	589	1582	295	1876	1265	
20.0	21.2	120	3330	589	1665	295	1960	1332	
AASHTO Table 10.5.5.2.4-1					Resistance Factor, $\phi$		0.50	0.50	0.40
>>> = Min. Socket Length							D (ft.) =	2.5	

# Load and Resistance Factor Design (LRFD)

## DRILLED SHAFT AXIAL RESISTANCE TABLE

Jefferson Co., Item #: 5-8951.00, SA-016-2019  
Noise Barrier Wall, Interstate-64, MP 13.7 to 14.2

Rock Socket Diameter =  
Rock Socket Diameter =

3.0 feet  
36 inches

RDM 10/9/19

Rock Socket Length (ft.)	Nominal Unit Side Shear $q_{ss}$ (ksf)	Nominal Unit End Bearing $q_{eb}$ (ksf)	Nominal Side Resistance $R_{sr}$ (kips)	Nominal End Bearing Resistance $R_{eb}$ (kips)	Factored Side Resistance $\phi R_{sr}$ (kips)	Factored End Bearing Resistance $\phi R_{eb}$ (kips)	Total Factored Axial Resistance $\phi R_t$ (kips)	Total Factored Uplift Resistance $\phi R_{tu}$ (kips)	
0.0									
1.0	21.2	120	200	848	100	424	524	80	
>>>	2.0	21.2	120	400	848	200	424	624	160
3.0	21.2	120	599	848	300	424	724	240	
4.0	21.2	120	799	848	400	424	824	320	
5.0	21.2	120	999	848	500	424	924	400	
6.0	21.2	120	1199	848	599	424	1024	480	
7.0	21.2	120	1399	848	699	424	1123	559	
8.0	21.2	120	1598	848	799	424	1223	639	
9.0	21.2	120	1798	848	899	424	1323	719	
10.0	21.2	120	1998	848	999	424	1423	799	
11.0	21.2	120	2198	848	1099	424	1523	879	
12.0	21.2	120	2398	848	1199	424	1623	959	
13.0	21.2	120	2597	848	1299	424	1723	1039	
14.0	21.2	120	2797	848	1399	424	1823	1119	
15.0	21.2	120	2997	848	1499	424	1923	1199	
16.0	21.2	120	3197	848	1598	424	2023	1279	
17.0	21.2	120	3397	848	1698	424	2122	1359	
18.0	21.2	120	3596	848	1798	424	2222	1439	
19.0	21.2	120	3796	848	1898	424	2322	1519	
20.0	21.2	120	3996	848	1998	424	2422	1598	
AASHTO Table 10.5.5.2.4-1					Resistance Factor, $\phi$		0.50	0.50	0.40
>>> = Min. Socket Length							D (ft.) =	3.0	



**PART II**  
**SPECIFICATIONS AND STANDARD DRAWINGS**

### **SPECIFICATIONS REFERENCE**

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2019* and *Standard Drawings, Edition of 2016*.

## **SUPPLEMENTAL SPECIFICATIONS**

The contractor shall use the Supplemental Specifications that are effective at the time of letting.  
The Supplemental Specifications can be found at the following link:

<http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx>

### **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.

**4.0 MEASUREMENT.** The final quantity of Variable Message Sign will be

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the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

**5.0 PAYMENT.** The Department will pay for the Variable Message Signs at the unit price each. The Department will not pay for signs replaced due to damage or rejection. Payment is full compensation for furnishing all materials, labor, equipment, and service necessary to, operate, move, repair, and maintain or replace the variable message signs. The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

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### SPECIAL NOTE FOR DRILLED SHAFTS

**1.0 DESCRIPTION.** Furnish all equipment, materials and labor necessary for constructing reinforced concrete drilled shafts in cylindrically excavated holes according to the details shown on the plans or as the Engineer directs. Construct the shaft to the lines and dimensions shown on the plans, or as the Engineer directs. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition.

#### 2.0 MATERIALS.

**2.1 Concrete.** Use Class A Modified concrete unless otherwise shown on the plans. The slump at the time of placement shall be 6.5 to 9.5 inches, the coarse aggregate shall be size 67, 68, 78, 8 or 9M, and the water/cementitious material ratio shall not exceed 0.45. Include water reducing and retarding admixtures. Type F high range water reducers used in combination with retarding admixtures or Type G high range water reducers fully meeting trial batch requirements are permitted and Class F fly ash is permitted in conformance with Section 601. Design the mix such that the concrete slump exceeds 4 inches at 4 hours after batching. If the estimated concrete transport, plus time to complete placement, exceeds 4 hours, design the concrete to have a slump that exceeds 4 inches or more for the greater time after batching and demonstrate that the slump requirement can be achieved after the extended time period using a trial batch.

Perform trial batches prior to beginning drilled shaft construction in order to demonstrate the adequacy of the proposed concrete mix. Demonstrate that the mix to be used will meet the requirements for temperature, slump, air content, water/cementitious material ratio, and compressive strength. Use the ingredients, proportions and equipment (including batching, mixing, and delivery) to be used on the project. Make at least 2 independent consecutive trial batches of 3 cubic yards each using the same mix proportions and meeting all specification requirements for mix design approval. Submit a report containing these results for slump, air content, water/cement ratio, temperature, and compressive strength and mix proportions for each trial batch to the Engineer for review and approval. Failure to demonstrate the adequacy of the concrete mix, methods, or equipment to the Engineer is cause for the Engineer to require appropriate alterations in concrete mix, equipment, and/or method by the Contractor to eliminate unsatisfactory results. Perform additional trial batches required to demonstrate the adequacy of the concrete mix, method, or equipment.

**2.2 Steel Reinforcement.** Provide Grade 60 deformed bars conforming to Section 811 of the Standard Specifications. Rail steel is permitted for straight bars only. Place according to Section 602 of the Standard Specifications, this Special Note, and the plans. Use non-corrosive centering devices and feet to maintain the specified reinforcement clearances.

**2.3 Casings.** Provide casing meeting the requirements of ASTM A 252 Grade 2 or better unless otherwise specified. Ensure casing is smooth, clean, watertight, true and straight, and of ample strength to withstand handling, installation, and extraction stresses and the pressure of both concrete and the surrounding earth materials. Ensure the outside diameter of casing is not less than the specified diameter of shaft.

Use only continuous casings. Cut off the casing at the prescribed elevation and trim to within tolerances prior to acceptance. Extend casing into bedrock a sufficient distance to stabilize the shaft excavation against collapse, excessive deformation, and/or flow of water if required and/or shown on the plans.

Install from the work platform continuous casing meeting the design thickness requirements, but not less than 3/8 inch, to the elevations shown on the plans. When drilled

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shafts are located in open water areas, extend casings above the water elevation to the plan tip elevation to protect the shaft concrete from water action during concrete placement and curing. All casing is permanent unless temporary casing is specified in the contract drawings or documents. Permanent casing is incidental to the applicable drilled shaft unit bid price unless noted otherwise in the contract. Temporary casing may be required for drilled shafts not socketed into bedrock. If temporary surface casings are used, extend each casing up to the work platform. Remove all temporary surface casing prior to final acceptance unless otherwise permitted by the Central Office Construction Engineer.

Ensure casing splices have full penetration butt welds conforming to the current edition of AWS D1.1 with no exterior or interior splice plates and produce true and straight casing.

**2.4 Slurry.** When slurry is to be used for installation of the Drilled Shaft, submit a detailed plan for its use and disposal. The plan should include, but not be limited to the following:

- 1) Material properties
- 2) Mixing requirements and procedures
- 3) Testing requirements
- 4) Placement procedures
- 5) Disposal techniques

Obtain the Central Office Division of Construction's approval for the slurry use and disposal plan before installing drilled shafts.

**2.5 Tremies.** Provide tremies of sufficient length, weight, and diameter to discharge concrete at the shaft base elevation. Ensure the tremie diameter is least 6 times the maximum size coarse aggregate to be used in the concrete mix and no less than 10 inches. Provide adequate wall thickness to prevent crimping or sharp bends that restrict concrete placement. Support tremies used for depositing concrete in a dry drilled shaft excavation so that the free fall of the concrete does not cause the shaft excavation to cave or slough. Maintain a clean and smooth tremie surface to permit both flow of concrete and unimpeded withdrawal during concrete placement. Do not allow any aluminum parts to contact the concrete. Construct tremies used to deposit concrete for wet excavations so that they are watertight and will readily discharge concrete.

**2.6 Concrete Pumps.** Provide pump lines with a minimum diameter of 5 inches and watertight joints.

**2.7 Drop Chutes.** Do not use aluminum drop chutes.

### **3.0 CONSTRUCTION.**

#### **3.1 Preconstruction.**

**3.1.1 Prequalification.** The Department will require prequalification by the Division of Construction Procurement before accepting a bid for the construction of Drilled Shafts.

**3.1.2 Pre-Bid Inspection.** Inspect both the project site and all subsurface information, including any soil or rock samples, prior to submitting a bid. Contact the Geotechnical Branch (502-564-2374) to schedule a viewing of the subsurface information. Failure to inspect the project site and view the

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subsurface information will result in the forfeiture of the right to file a claim based on site conditions and may result in disqualification from the project.

**3.1.3 Drilled Shaft Installation Plan.** Upon request, the Department will review a Drilled Shaft Installation Plan. Submit the plan no later than 45 calendar days prior to constructing drilled shafts. Items covered in this plan should include, but not be limited to the following:

- 1) Name and experience record of jobsite drilled shaft superintendent and foremen in charge of drilled shaft operations for each shift.
- 2) List and size of proposed equipment including cranes, drills, augers, bailing buckets, final cleaning equipment, de-sanding equipment, slurry pumps, core sampling equipment, tremies or concrete pumps, casings, etc.
- 3) Details of overall construction operation sequence and the sequence of shaft construction in the bents or groups.
- 4) Details of shaft excavation methods including methods to over-ream or roughen shaft walls, if necessary.
- 5) Details of slurry when the use of slurry is anticipated. Include methods to mix, circulate, and de-sand the proposed slurry. Provide details of proposed testing, test methods, sampling methods, and test equipment.
- 6) Details of proposed methods to clean shaft and inside of casing after initial excavation.
- 7) Details of reinforcement handling, lifting, and placement including support and method to center in shaft. Also include rebar cage support during concrete placement and temporary casing removal.
- 8) Details of concrete placement including procedures for concrete tremie or pump. Include initial placement, raising during placement, and overfilling of the shaft to expel contaminated concrete.
- 9) Required submittals including shop drawings and concrete design mixes.
- 10) Other information shown in the plans or requested by the Engineer.
- 11) Special considerations for wet construction.
- 12) Details of environmental control procedures to protect the environment from discharge of excavation spoil, slurry (natural and mineral), and concrete over-pour.

The Division of Construction will review the submitted procedure and provide comments and recommendations. The Contractor is responsible for satisfactory construction and ultimate performance of the Drilled Shaft.

**3.2 General Construction.** Construct drilled shafts as indicated in the plans or described in this Special Note by either the dry or wet method. When the plans describe a particular method of construction, use this method unless the Engineer permits otherwise. When the plans do not describe a particular method, propose a method on the basis of its suitability to the site conditions. Approval of this proposed method is contingent upon the satisfactory results of the technique shaft.

The construction of the first drilled shaft or technique shaft will be used to determine if the methods and equipment used by the contractor are sufficient to produce a completed shaft meeting the requirements of the plans and specifications. Ability to control dimensions and alignment of excavations within tolerances; to seal the casing into impervious materials; to prevent caving or deterioration of subsurface materials by the use of slurry or other means; to

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properly clean the completed shaft excavation; to construct excavations in open water areas when required by the plans; to establish methods for bellling or over-reaming when required by the plans; to determine the elevation of ground water; to satisfactorily handle, lift, place, and support the reinforcement cage; to satisfactorily place concrete meeting the specifications within the prescribed time frame; and to satisfactorily execute any other necessary construction operations will be evaluated during construction of the first shaft(s). Revise the methods and equipment as necessary at any time during the construction of the first shaft when unable to satisfactorily carry out any of the necessary operations described above or unable to control the dimensions and alignment of the shaft excavation within tolerances. Accurately locate technique so they may be used in the finished structure unless directed otherwise in the contract document or by the Engineer.

If at any time the Contractor fails to satisfactorily demonstrate, to the satisfaction of the Engineer, the adequacy of methods or equipment and alterations are required, additional technique shafts will be required at no additional cost to the Department and with no extension of contract time. Additional technique shafts shall be located as near as possible to the proposed production shafts but in a location as not to interfere with other construction activities. Once approval has been given to construct production shafts, no changes will be permitted in the methods or equipment used to construct the satisfactory shaft without written approval of the Engineer.

Do not make a claim against the Department for costs of construction delays, or any materials, labor, or equipment that may be necessary due to the Contractor's failure to furnish drilled shafts of a length sufficient to obtain the required bearing values, or for variations in length due to subsurface conditions that may be encountered. Soundings, boring logs, soil profiles, or other subsurface data included in the Contract documents are used by the Department for design and making preliminary estimates of quantities and should be used only at the risk of the Contractor for determining equipment, materials, or labor necessary for drilling shafts as required by the contract.

When necessary, set temporary removable surface casing. Use surface casing of sufficient length to prevent caving of the surface soils and to aid in maintaining shaft position and alignment. Pre-drilling with slurry and/or over-reaming to the outside diameter of the casing may be required to install the surface casing at some sites.

Provide equipment capable of constructing shafts to the deepest shaft depth shown in the plans plus 15 feet, 20 percent greater than the longest shaft (measured from the ground or water surface to the tip of the shaft), or 3 times the shaft diameter, whichever is greater. Blasting excavation methods are not permitted.

Use permanent casing unless otherwise noted in the Contract. Place casing as shown on the plans before beginning excavation. If full penetration cannot be attained, the Engineer may direct that excavation through the casing be accomplished and the casing advanced until reaching the plan tip elevation. In some cases, over-reaming to the outside diameter of the casing may be required before placing the casing. Cut off the casing at the prescribed elevation and leave the remainder of the casing in place. Do not use vibratory hammers for casing installation within 50 feet of shafts that have been completed less than 24 hours.

**3.2.1 Dry Construction Method.** Use the dry construction method only at sites where the ground water table and soil conditions (generally stiff to hard clays or rock above the water table) make it feasible to construct the shaft in a relatively dry excavation and where the sides and bottom of the shaft are stable and may be visually inspected by the Engineer prior to placing the concrete. The dry construction method consists of drilling the shaft excavation, removing accumulated seepage water and loose material from the excavation, and placing the shaft concrete in a relatively dry excavation.

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**3.2.2 Wet Construction Method.** Use the wet construction method at all sites where it is impractical to excavate by the dry method. The wet construction method consists of drilling the shaft excavation below the water table, keeping the shaft filled with water (including natural slurry formed during the drilling process) or slurry as defined in part 2.4 of this Special Note, desanding and cleaning the slurry as required, final cleaning of the excavation by means of a bailing bucket, air lift, submersible pump or other approved devices and placing the shaft concrete (with a tremie or concrete pump beginning at the shaft bottom) which displaces the water or slurry as concrete is placed.

Where drilled shafts are located in open water areas, construct the shafts by the wet method using casings extending from above water elevation to the plan casing tip elevation to protect the shaft concrete from water action during placement and curing. Install the casing in a manner that will produce a positive seal at the bottom of the casing.

**3.3 Slurry.** When the Contractor elects to use slurry, adjust construction operations so that the slurry is in contact with the bottom 5 feet of the shaft for less than 4 hours unless the Engineer approves otherwise. If the 4-hour limit is exceeded, over-ream the bottom 5 feet of shaft.

**3.4 Cleaning.** Over-reaming, cleaning, or wire brushing the sidewalls of the shaft excavation and permanent casings may be necessary to remove the depth of softening or to remove excessive slurry cake buildup as indicated by sidewall samples or other test methods employed by the Engineer. Over-ream around the perimeter of the excavation a minimum depth of 1/2 inch and maximum depth of 3 inches.

**3.5 Subsurface Exploration.** Take subsurface exploration borings when shown on the plans or as the Engineer directs to determine the character of the material that the shaft extends through and the material directly below the shaft excavation. Complete subsurface exploration borings prior to beginning excavation for any drilled shaft in a group. Unless directed otherwise, extend subsurface exploration borings a minimum depth of 3 shaft diameters but not less than 10 feet below the bottom of the anticipated tip of drilled shaft excavation as shown on the plans. For subsurface exploration borings where soil sampling is required use thin-wall tube samples and perform standard penetration tests according to the Department's current Geotechnical Manual. When shafts extend into bedrock, soil samples are not required unless otherwise specified. Perform rock core drilling according to the Department's Geotechnical Manual. When the Engineer directs, perform additional subsurface exploration borings prior to drilled shaft construction. Measure soil samples and/or rock cores and visually identify and describe them on the subsurface log according to the Department's current Geotechnical Manual. Subsurface exploration borings must be performed by contractors/consultants prequalified by the Department's Division of Professional Services for Geotechnical Drilling Services at the time that field work begins.

The Engineer or geotechnical branch representative may be on-site during the subsurface exploration process to evaluate the soil and/or rock core samples. The Engineer or geotechnical branch representative will determine the need to extend the borings to depths greater than the depths previously specified. Handle, label, identify, and store soil and/or rock samples according to the Department's current Geotechnical Manual and deliver them with the subsurface logs to the geotechnical branch's rock core lab in Frankfort within 24-hours of completing the borings, unless directed otherwise.

The Engineer will inspect the soil samples and/or cores and determine the final depth of required excavation (final drilled shaft tip elevation) based on evaluation of the material's suitability. The Engineer will establish the final tip elevations for shaft locations, other than

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those for which subsurface exploration borings have been performed, based on the results of the subsurface exploration. Within 15 calendar days after completion of the subsurface exploration borings, the Engineer will notify the contractor of the final tip elevations for shaft locations.

**3.6 Excavations.** The plans indicate the expected depths, the top of shaft elevations, and the estimated bottom of shaft elevations between which the drilled shaft are to be constructed. Drilled shafts may be extended deeper when the Engineer determines that the material encountered while drilling the shaft excavation is unsuitable and/or is not the same as anticipated in the design of the drilled shaft. Drilled shafts may be shortened when the Engineer determines the material encountered is better than that anticipated.

Begin drilled shaft excavation the excavation, excavation inspection, reinforcement placement, and concrete placement can be completed as one continuous operation. Do not construct new shafts within 24 hours adjacent to recently completed shafts if the center-to-center spacing is less than 3 shaft diameters.

Dispose of excavated material removed from the shaft according to the Standard Specifications or the contract documents.

Do not allow workmen to enter the shaft excavation for any reason unless both a suitable casing has been installed and adequate safety equipment and procedures have been provided to the workmen entering the excavation. Recommended Procedures for the Entry of Drilled Shaft Foundation Excavations, prepared by ADSC: The International Association of Foundation Drilling provides guideline recommendations for down-hole entry of drilled excavations.

**3.7 Obstructions.** Remove subsurface obstructions at drilled shaft locations. Such obstructions may include man-made materials such as old concrete foundations or natural materials such as boulders. Blasting is not permitted.

**3.8 Inspections of Excavations.** Provide equipment for checking the dimensions and alignment of each shaft excavation. Determine the dimensions and alignment of the shaft excavation under the observation and direction of the Engineer. Provide equipment necessary to verify shaft cleanliness for the method of inspection selected by the Engineer.

Measure final shaft depths with a weighted tape or other approved methods after final cleaning. Ensure the base of each shaft has less than ½ inch of sediment at the time of concrete placement. For dry excavations, do not allow the depth of water to exceed 3 inches for tremie or pump methods of concrete placement. Verify shaft cleanliness to the Engineer using direct visual inspection or other method the Engineers determines acceptable. Video camera or underwater inspection procedures may be used if specified in the plans. Inspect the side surfaces of rock sockets to ensure they are rough and of such condition to ensure bond between the shaft concrete and the rock. Calipers, bent rods, or other devices may be used to inspect the diameter and roughness of rock sockets. When the Engineer directs, mechanically roughen surfaces found to be smooth.

**3.9 Reinforcing Steel Cage Fabrication and Placement.** Assemble the reinforcing steel cage, consisting of longitudinal bars, ties, spirals, cage stiffener bars, spacers, centering devices, and other necessary appurtenances and place as a prefabricated unit immediately after the shaft excavation is inspected and accepted, and just prior to concrete placement.

Tie the reinforcing steel with 100 percent double-wire ties and provide support so that it will remain within allowable tolerances for position. Locate splices as shown on the plans. Splice no more than 50 percent of the longitudinal reinforcing within 2-lap splice lengths of any location or within 3 feet of the splice location if approved mechanical connectors are used. All splices are to be in accordance with plan details. Use bands, temporary cross ties,



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etc. as required to provide a reinforcement cage of sufficient rigidity to prevent racking, permanent deformations, etc. during installation.

Use concrete centering devices or other approved non-corrosive centering devices at sufficient intervals along the length of the reinforcement cage to ensure concentric spacing for the entire cage length. As a minimum, provide a set of non-corrosive centering devices at intervals not exceeding 5 feet throughout the length of the shaft. When the size of the longitudinal reinforcement exceeds one inch in diameter the minimum spacing may be increased to 10 feet. As a minimum, provide a set of centering devices within 2 feet of the top and 2 feet of the bottom of the shaft. In addition provide one set of centering devices 2 feet above and 2 feet below each change in shaft diameter. Provide feet (bottom supports) at the bottom of the shaft on vertical bars. As a minimum, provide non-corrosive centering devices at 60 degree intervals around the circumference of the shaft to maintain the required reinforcement clearances. Ensure the centering devices maintain the specified annular clearance between the outside of the reinforcing cage and the side of the excavated hole or casing.

Concrete centering devices and feet will be constructed of concrete equal in quality and durability to the concrete specified for the shaft. Use epoxy coated centering devices fabricated from reinforcing steel. Use feet (bottom supports) of adequate size and number to assure the rebar cage is the proper distance above the bottom as determined by part 3.11 3) of this Special Note. The feet are not intended to support the weight of the cage. In the event that the shaft has been excavated below the anticipated tip elevation, extend the reinforcing cage at the tip (low) end by lap splices, mechanical connectors, or welded splices conforming to the Standard Specifications. In this instance, splices need not be staggered and 100 percent of the reinforcing bars may be spliced at a given location. The bottom 12 inches of the shaft may not be reinforced when below plan tip elevation.

During concrete placement, support the reinforcing cage at or near the top of shaft such that the concrete feet are positioned approximately one inch above the bottom of shaft excavation. Not sooner than 24 hours after the completion of concrete placement, remove temporary supports. Provide the needed equipment, including extra cranes if necessary, to provide this cage support.

Prior to placing the reinforcement cage, demonstrate to the satisfaction of the Engineer that the fabrication and handling methods to be used will result in a reinforcing cage placed in the proper position, with the proper clearances, and without permanent bending, squashing, or racking of the reinforcement cage. During this demonstration bring the cage to an upright position, lower into a shaft excavation, and support as if for concrete placement.

Check the elevation of the top of the reinforcing cage before and after the concrete is placed. If the reinforcing cage is not maintained within the specified tolerances, correct to the satisfaction of the Engineer. Do not construct additional shafts until the contractor has modified his reinforcing cage support to obtain the required tolerances.

**3.10 Concrete Placement.** Place concrete according to the applicable portions of the Standard Specifications and with the requirements set forth herein. Do not apply the provisions of the Special Note 6U for Structural Mass Concrete.

Place concrete as soon as practical after reinforcing steel placement but no later than 4 hours after completion of the shaft excavation. Place concrete continuously from the bottom to above the top elevation of the shaft. For shafts that extend above ground or water surface, place concrete continuously after the shaft is full until good quality concrete is evident at the top of the shaft. Form any portion of the shaft above ground with a removable form or other approved method to the dimensions shown on the plans.

For shafts constructed in the wet with the top of the shaft below the water surface and below top of casing, place concrete to approximately one shaft diameter but no less than 2 feet above the top of shaft elevation. Remove contaminated concrete and deleterious material, as

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determined by the Engineer, accumulated above the top of shaft elevation immediately after completing concrete placement. Deleterious material and contaminated concrete may be airlifted under a head of water or slurry provided that the head is maintained at or near the exterior water surface elevation. Carefully remove any concrete remaining above plan top of shaft after curing and excess casing removal.

Place concrete either by free fall, through a tremie, or concrete pump. Use the free fall placement method in dry holes only. The maximum height of free fall placement is 20 feet. Do not allow concrete placed by free fall to contact either the reinforcing cage or hole sidewall. Drop chutes may be used to direct concrete to the base during free fall placement.

Place concrete in the shaft in one continuous operation. Maintain a minimum slump of 4 inches or more throughout the placement for 4 hours after batching. Adjust approved admixtures in the concrete mix for the conditions encountered on the job so that the concrete remains in a workable plastic state throughout the placement. Perform slump loss tests to demonstrate that the concrete will maintain a 4-inch or greater slump for a period of time equal to the estimated transport plus the 2-hour placement time, but not less than 4 hours.

When the Engineer determines the concrete placement methods and/or equipment during construction of any technique and/or production shafts to be inadequate, make appropriate alterations to eliminate unsatisfactory results.

Drilled shafts not meeting the concrete placement requirements of this Special Note or contract plans are unacceptable. Correct all unacceptable completed shafts to the satisfaction of the Engineer.

**3.10.1 Tremie Placement.** Tremies may be used for concrete placement in either wet or dry holes. Extend the tremie to the shaft base elevation before starting underwater placement. Valves, bottom plates, or plugs may be used only if concrete discharge can begin approximately 2 inches above the excavation bottom. Remove plugs from the excavation unless otherwise approved by the Engineer. Maintain tremie discharge at or near the bottom of excavation as long as practical during concrete placement. Immerse tremie discharge end as deep as practical in the concrete but not less than 10 feet.

If at any time during the concrete pour the tremie line orifice is removed from the fluid concrete column and discharges concrete above the rising concrete surface, the entire drilled shaft is considered defective. In such case, remove the reinforcing cage and concrete, complete any necessary sidewall cleaning or over-reaming as directed by the Engineer, and repour the shaft.

**3.10.2 Pumped Concrete.** Concrete pumps and lines may be used for concrete placement in either wet or dry excavations. Do not begin concrete placement until the pump line discharge orifice is at the shaft base elevation.

For wet excavations, use a plug or similar device to separate the concrete from the fluid in the hole until pumping begins. Remove the plug unless otherwise approved by the engineer.

Ensure the discharge orifice remains at least 10 feet below the surface of the fluid concrete. When lifting the pump line during concrete placement, reduce the line pressure until the orifice has been repositioned at a higher level in the excavation.

If at any time during the concrete pour the pump line orifice is removed from the fluid concrete column and discharges concrete above the rising concrete level, the Department will consider the shaft defective. In such case, remove the reinforcing cage and concrete, complete any necessary sidewall cleaning or over-reaming as the Engineer directs, and repour the shaft.

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**3.10.3 Drop Chutes.** Drop chutes may be used to direct placement of free fall concrete in excavations where the maximum depth of water does not exceed one inch. Do not use the free fall method of placement in wet excavations. Concrete may be placed through either a hopper at the top of the tube or side openings as the drop chute is retrieved during concrete placement. Reduce the height of free fall and/or reduce the rate of concrete flow into the excavation if the concrete placement causes the shaft excavation to cave or slough, or if the concrete strikes the reinforcing cage or sidewall. When the Engineer determines free fall placement cannot be accomplished satisfactorily, use either tremie or pumping to accomplish the pour.

**3.11 Construction Tolerances.** The following construction tolerances apply to drilled shafts unless otherwise stated in the contract document:

- 1) Construct drilled shaft within 3 inches of plan position in the horizontal plane at the top of the shaft.
- 2) Do not vary the vertical alignment of a shaft excavation from the plan alignment by more than 1/4 inch per foot of depth or 6 inches total.
- 3) Maintain the top of the reinforcing steel cage no more than 6 inches above and no more than 3 inches below plan position.
- 4) All casing diameters shown on the plans refer to O.D. (outside diameter) dimensions. The casing dimensions are subject to American Pipe Institute tolerances applicable to regular steel pipe. A casing larger in diameter than shown in the plans may be used, at no additional cost, with prior approval by the Department.
- 5) Maintain the top of shaft concrete within  $\pm 3$  inches from the plan top of shaft elevation, measured after excess shaft concrete has been removed.
- 6) Design excavation equipment and methods so that the completed shaft excavation will have a planar bottom. Maintain the cutting edges of excavation equipment normal to the vertical axis of the equipment within a tolerance of  $\pm 3/8$  inch per foot of diameter. The tip elevation of the shaft has a tolerance of  $\pm 6$  inches from final shaft tip elevation unless otherwise specified in the plans.

Drilled shaft excavations and completed shafts not constructed within the required tolerances are unacceptable. Correct all unacceptable shaft excavations and completed shafts to the satisfaction of the Engineer. When a shaft excavation is completed with unacceptable tolerances, present corrective measures designed by a registered Professional Engineer for approval.

#### **4.0 MEASUREMENT.**

**4.1 Drilled Shafts.** The Department will not measure for payment any trial batches required to demonstrate the adequacy of the concrete mix, method, or equipment; concrete required to fill an oversized casing or oversized excavation; obstruction removal; over-reaming or sidewall cleaning; inspection work or inspection equipment; materials or work necessary, including engineering analyses and redesign, to alter unacceptable work methods or to complete corrections for unacceptable work; and will consider them incidental to the Drilled Shaft. Unless noted otherwise in the contract documents, casing is incidental to the drilled shaft.

**4.1.1 Drilled Shaft, Common.** The Department will measure the length, in linear feet, of drilled shaft above the top of rock elevation shown on the plans. The

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Department will consider this quantity Drilled Shaft, Common regardless of the character of material actually encountered.

**4.1.2 Drilled Shafts, Solid Rock.** The Department will measure the length, in linear feet, of drilled shaft below the top of rock elevation shown on plans. The Department will consider this quantity Drilled Shafts, Solid Rock regardless of the character of material actually encountered during excavation.

**4.2 Technique Shaft.** The Department will pay for technique shaft at the contract unit price per each as detailed on the plans or as directed by the Engineer. This will constitute full compensation for all costs incurred during installation as described herein for 'Drilled Shaft' or in the contract documents. No additional compensation beyond the number of technique shafts allowed for in the plans will be permitted for additional technique shafts required because of failure to demonstrate adequacy of methods.

**4.3 Rock Coring and Rock Sounding.** The Department will measure Rock Sounding and Rock Coring shown on the plans, as specified in part 3.5 of this Special Note, and as the Engineer directs, in linear feet to the nearest 0.1-foot. If soil samples are specified in the contract documents they will be incidental to the unit price bid for Rock Sounding. The Department will not measure or pay for subsurface exploration performed deeper than the elevations indicated on the plans and/or in this Special Note, unless directed by the Engineer, and will consider it incidental to these items of work. Additionally, the Department will consider all mobilization, equipment, labor, incidental items, and operations necessary to complete the boring operations incidental to these items of work.

**5.0 PAYMENT.** The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
----	Drilled Shaft, Diameter*, Common	Linear Foot
----	Drilled Shaft, Diameter*, Solid Rock	Linear Foot
----	Technique Shaft	Each
20745ED	Rock Sounding	Linear Foot
20746ED	Rock Coring	Linear Foot

\* See Plan Sheets for sizes of shafts.

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

June 15, 2012

## SPECIAL NOTE FOR ROCK BLASTING

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition.

**1.0 DESCRIPTION.** This work consists of fracturing rock and constructing stable final rock cut faces using presplit blasting and production blasting techniques.

**2.0 MATERIALS.** Deliver, store, and use explosives according to the manufacturer's recommendations and applicable laws. Do not use explosives outside their recommended use date. Verify date of manufacture and provide copies of the technical data sheets (TDS) and material safety data sheets (MSDS) to the Engineer. Explosives and initiating devices include, but are not necessarily limited to, dynamite and other high explosives, slurries, water gels, emulsions, blasting agents, initiating explosives, detonators, blasting caps, and detonating cord.

**3.0 CONSTRUCTION.** Furnish copies or other proof of all-applicable permits and licenses. Comply with Federal, State, and local regulations on the purchase, transportation, storage, and use of explosive material. Regulations include but are not limited to the following:

- 1) KRS 351.310 through 351.9901.
- 2) 805 KAR 4:005 through 4:165
- 3) Applicable rules and regulations issued by the Office of Mine Safety and Licensing.
- 4) Safety and health. OSHA, 29 CFR Part 1926, Subpart U.
- 5) Storage, security, and accountability. Bureau of Alcohol, Tobacco, and Firearms (BATF), 27 CFR Part 181.
- 6) Shipment. DOT, 49 CFR Parts 171-179, 390-397.

**3.1 Blaster-in-Charge.** Designate in writing a blaster-in-charge and any proposed alternates for the position. Submit documentation showing the blaster-in-charge, and alternates, have a valid Kentucky blaster's license. Ensure the blaster-in-charge or approved alternate is present at all times during blasting operations.

**3.2 Blasting Plans.** Blasting plans and reports are for quality control and record keeping purposes. Blasting reports are to be signed by the blaster-in-charge or the alternate blaster-in-charge. The general review and acceptance of blasting plans does not relieve the Contractor of the responsibility whatsoever for conformance to regulations or for obtaining the required results. All blasting plans shall be submitted to the Engineer. The Engineer will be responsible for submitting the plan to the Central Office Division of Construction and the Division of Mine Reclamation and Enforcement, Explosives and Blasting Branch at the following address: 2 Hudson Hollow, Frankfort, Kentucky, 40601.

**A) General Blasting Plan.** Submit a general blasting plan for acceptance at least 15 working days before drilling operations begin. Include, as a minimum, the following safety and procedural details:

- 1) Working procedures and safety precautions for storing, transporting, handling, detonating explosives. Include direction on pre and post blast audible procedures, methods of addressing misfires, and methods of addressing inclement weather, including lightning.
  - 2) Proposed product selection for both dry and wet holes. Furnish Manufacturer's TDS and MSDS for all explosives, primers, initiators, and other blasting devices.
  - 3) Proposed initiation and delay methods.
  - 4) Proposed format for providing all the required information for the site specific blasting shot reports.
- B) Preblast Meeting.** Prior to drilling operations, conduct a preblast meeting to discuss safety and traffic control issues and any site specific conditions that will need to be addressed. Ensure, at a minimum, that the Engineer or lead inspector, Superintendent, blaster-in-charge, and all personnel involved in the blasting operation are present. Site specific conditions include blast techniques; communication procedures; contingency plans and equipment for dealing with errant blast material. The conditions of the General Blasting plan will be discussed at this meeting. Record all revisions and additions made to the blasting plan and obtain written concurrence by the blaster-in-charge. Provide a copy of the signed blast plan to the Engineer along with the sign in sheet from the preblast meeting.

**3.3 Preblast Condition Survey and Vibration Monitoring and Control.** Before blasting, arrange for a preblast condition survey of nearby buildings, structures, or utilities, within 500 feet of the blast or that could be at risk from blasting damage. Provide the Engineer a listing of all properties surveyed and any owners denying entry or failing to respond. Notify the Engineer and occupants of buildings at risk at least 24 hours before blasting.

Limit ground vibrations and airblast to levels that will not exceed limits of 805 KAR 4:005 through 4:165. More restrictive levels may be specified in the Contract.

Size all blast designs based on vibration, distance to nearest building or utility, blast site geometry, atmospheric conditions and other factors. Ground vibrations are to be controlled according to the blasting standards and scaled distance formulas in 805 KAR 4:020 or by the use of seismographs as allowed in 805 KAR 4:030. The Department will require seismographs at the nearest allowable location to the protected site when blasting occurs within 500 feet of buildings, structures, or utilities.

**3.4 Blasting.** Drill and blast at the designated slope lines according to the blasting plan. Perform presplitting to obtain smooth faces in the rock and shale formations. Perform the presplitting before blasting and excavating the interior portion of the specified cross section at any location. The Department may allow blasting for fall benches and haul roads prior to presplitting when blasting is a sufficient distance from the final slope and results are satisfactory to the Engineer. Use the types of explosives and blasting accessories necessary to obtain the required results.

Free blast holes of obstructions for their entire depth. Place charges without caving the blast hole walls. Stem the upper portion of all blast holes with dry sand or other granular material passing the 3/8-inch sieve. Dry drill cuttings are acceptable for stemming when blasts are more than 800 feet from the nearest dwelling.

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Stop traffic during blasting operations when blasting near any road and ensure traffic does not pass through the Danger Zone. The blaster-in-charge will define the Danger Zone prior to each blast. Ensure traffic is stopped outside the Danger Zone, and in no case within 800 feet of the blast location.

Following a blast, stop work in the entire blast area, and check for misfires before allowing worker to return to excavate the rock.

Remove or stabilize all cut face rock that is loose, hanging, or potentially dangerous. Leave minor irregularities or surface variations in place if they do not create a hazard. Drill the next lift only after the cleanup work and stabilization work is complete.

When blasting operations cause fracturing of the final rock face, repair or stabilize it in an approved manner at no cost to the Department.

Halt blasting operations in areas where any of the following occur:

- 1) Slopes are unstable;
- 2) Slopes exceed tolerances or overhangs are created;
- 3) Backslope damage occurs;
- 4) Safety of the public is jeopardized;
- 5) Property or natural features are endangered;
- 6) Fly rock is generated; or
- 7) Excessive ground or airblast vibrations occur in an area where damage to buildings, structures, or utilities is possible.
- 8) The Engineer determines that materials have become unsuitable for blasting

Blasting operations may continue at a reasonable distance from the problem area or in areas where the problems do not exist. Make the necessary modifications to the blasting operations and perform a test blast to demonstrate resolution of the problem.

**A) Drill Logs.** Maintain a layout drawing designating hole numbers with corresponding drill logs and provide a copy of this information to the blaster prior to loading the hole. Ensure the individual hole logs completed by the driller(s) show their name; date drilled; total depth drilled; and depths and descriptions of significant conditions encountered during drilling that may affect loading such as water, voids, changes in rock type.

**B) Presplitting.** Conduct presplitting operations in conformance with Subsection 204.03.04 of the Standard Specifications for Road and Bridge Construction.

**3.5 Shot Report.** Maintain all shot reports on site for review by the Department. Within one day after a blast, complete a shot report according to the record keeping requirements of 805 KAR 4:050. Include all results from airblast and seismograph monitoring.

**3.6 Unacceptable Blasting.** When unacceptable blasting occurs, the Department will halt all blasting operations. Blasting will not resume until the Department completes its investigation and all concerns are addressed. A blast is unacceptable when it results in fragmentation beyond the final rock face, fly rock, excessive vibration or airblast, overbreak, damage to the final rock face or overhang. Assume the cost for all resulting damages to private and public property and hold the Department harmless.

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When an errant blast or fly rock causes damage to or blocks a road or conveyance adjacent to the roadway, remove all debris from the roadway as quickly as practicable and perform any necessary repairs. Additionally, when specified in the Contract, the Department will apply a penalty.

Report all blasting accidents to the Division of Mine Reclamation and Enforcement, Explosives and Blasting Branch at 502-564-2340.

**4.0 MEASUREMENT AND PAYMENT.** The Department will not measure this work for payment and will consider all items contained in this note to be incidental to either Roadway Excavation or Embankment-in-Place, as applicable. However, if the Engineer directs in writing slope changes, then the Department will pay for the second presplitting operation as Extra Work.

The Department will measure for payment material lying outside the typical section due to seams, broken formations, or earth pockets, including any earth overburden removed with this material, only when the work is performed under authorized adjustments.

The Department will not measure for payment any extra material excavated because of the drill holes being offset outside the designated slope lines.

The Department will not measure for payment any material necessary to be removed due to the inefficient or faulty blasting practices.

June 15, 2012



## **PART III**

### **EMPLOYMENT, WAGE AND RECORD REQUIREMENTS**

**TRANSPORTATION CABINET  
DEPARTMENT OF HIGHWAYS**

**LABOR AND WAGE REQUIREMENTS  
APPLICABLE TO OTHER THAN FEDERAL-AID SYSTEM PROJECTS**

- I. Application
- II. Nondiscrimination of Employees (KRS 344)

**I. APPLICATION**

1. These contract provisions shall apply to all work performed on the contract by the contractor with his own organization and with the assistance of workmen under his immediate superintendence and to all work performed on the contract by piecework, station work or by subcontract. The contractor's organization shall be construed to include only workmen employed and paid directly by the contractor and equipment owned or rented by him, with or without operators.

2. The contractor shall insert in each of his subcontracts all of the stipulations contained in these Required Provisions and such other stipulations as may be required.

3. A breach of any of the stipulations contained in these Required Provisions may be grounds for termination of the contract.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administrating agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

**II. NONDISCRIMINATION OF EMPLOYEES**

**AN ACT OF THE KENTUCKY  
GENERAL ASSEMBLY TO PREVENT  
DISCRIMINATION IN EMPLOYMENT  
KRS CHAPTER 344  
EFFECTIVE JUNE 16, 1972**

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (forty and above); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age forty (40) and over. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, is a bona fide occupational qualification for employment.

## EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months following termination of his office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017

### **Kentucky Equal Employment Opportunity Act of 1978**

The requirements of the Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) shall apply to this Contract. The apparent low Bidder will be required to submit EEO forms to the Division of Construction Procurement, which will then forward to the Finance and Administration Cabinet for review and approval. No award will become effective until all forms are submitted and EEO/CC has certified compliance. The required EEO forms are as follows:

- EEO-1: Employer Information Report
- Affidavit of Intent to Comply
- Employee Data Sheet
- Subcontractor Report

These forms are available on the Finance and Administration's web page under ***Vendor Information, Standard Attachments and General Terms*** at the following address:  
**<https://www.eProcurement.ky.gov>**.

Bidders currently certified as being in compliance by the Finance and Administration Cabinet may submit a copy of their approval letter in lieu of the referenced EEO forms.

For questions or assistance please contact the Finance and Administration Cabinet by email at **[finance.contractcompliance@ky.gov](mailto:finance.contractcompliance@ky.gov)** or by phone at 502-564-2874.

# EMPLOYEE RIGHTS UNDER THE FAIR LABOR STANDARDS ACT

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

## FEDERAL MINIMUM WAGE

# \$7.25

 PER HOUR

BEGINNING JULY 24, 2009

**OVERTIME PAY** At least 1½ times your regular rate of pay for all hours worked over 40 in a workweek.

**CHILD LABOR** An employee must be at least **16** years old to work in most non-farm jobs and at least **18** to work in non-farm jobs declared hazardous by the Secretary of Labor.

Youths **14** and **15** years old may work outside school hours in various non-manufacturing, non-mining, non-hazardous jobs under the following conditions:

**No more than**

- **3** hours on a school day or **18** hours in a school week;
- **8** hours on a non-school day or **40** hours in a non-school week.

Also, work may not begin before **7 a.m.** or end after **7 p.m.**, except from June 1 through Labor Day, when evening hours are extended to **9 p.m.** Different rules apply in agricultural employment.

**TIP CREDIT** Employers of “tipped employees” must pay a cash wage of at least \$2.13 per hour if they claim a tip credit against their minimum wage obligation. If an employee’s tips combined with the employer’s cash wage of at least \$2.13 per hour do not equal the minimum hourly wage, the employer must make up the difference. Certain other conditions must also be met.

**ENFORCEMENT** The Department of Labor may recover back wages either administratively or through court action, for the employees that have been underpaid in violation of the law. Violations may result in civil or criminal action.

Employers may be assessed civil money penalties of up to \$1,100 for each willful or repeated violation of the minimum wage or overtime pay provisions of the law and up to \$11,000 for each employee who is the subject of a violation of the Act’s child labor provisions. In addition, a civil money penalty of up to \$50,000 may be assessed for each child labor violation that causes the death or serious injury of any minor employee, and such assessments may be doubled, up to \$100,000, when the violations are determined to be willful or repeated. The law also prohibits discriminating against or discharging workers who file a complaint or participate in any proceeding under the Act.

### ADDITIONAL INFORMATION

- Certain occupations and establishments are exempt from the minimum wage and/or overtime pay provisions.
- Special provisions apply to workers in American Samoa and the Commonwealth of the Northern Mariana Islands.
- Some state laws provide greater employee protections; employers must comply with both.
- The law requires employers to display this poster where employees can readily see it.
- Employees under 20 years of age may be paid \$4.25 per hour during their first 90 consecutive calendar days of employment with an employer.
- Certain full-time students, student learners, apprentices, and workers with disabilities may be paid less than the minimum wage under special certificates issued by the Department of Labor.

For additional information:



# 1-866-4-USWAGE

(1-866-487-9243) TTY: 1-877-889-5627



# WWW.WAGEHOUR.DOL.GOV

**PART IV**  
**INSURANCE**

Refer to  
*Kentucky Standard Specifications for Road and Bridge Construction,*  
current edition

**PART V**  
**BID ITEMS**

## PROPOSAL BID ITEMS

191250

Page 1 of 1

Report Date 10/25/19

### Section: 0001 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00464		CULVERT PIPE-24 IN	31.00	LF		\$	
0020	01208		PIPE CULVERT HEADWALL-24 IN	4.00	EACH		\$	
0030	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	56.00	SQYD	\$2.00	\$	\$112.00
0040	20597EC		DITCH EXCAVATION	74.00	CUYD		\$	

### Section: 0002 - MISCELLANEOUS - SOUND BARRIER WALL

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0050	02265		REMOVE FENCE	2,120.00	LF		\$	
0060	02282		PEDESTRIAN WOVEN WIRE GATE	1.00	EACH		\$	
0070	02429		RIGHT-OF-WAY MONUMENT TYPE 1	2.00	EACH		\$	
0080	02432		WITNESS POST	2.00	EACH		\$	
0090	02483		CHANNEL LINING CLASS II	291.00	TON		\$	
0100	02562		TEMPORARY SIGNS	400.00	SQFT		\$	
0110	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0120	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		\$	
0130	02726		STAKING	1.00	LS		\$	
0140	02775		ARROW PANEL	1.00	EACH		\$	
0150	05950		EROSION CONTROL BLANKET	1,410.00	SQYD		\$	
0160	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0170	20257NC		SITE PREPARATION	1.00	LS		\$	
0180	21590EN		SOUND BARRIER WALL	43,080.00	SQFT		\$	

### Section: 0003 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0190	02569		DEMOBILIZATION	1.00	LS		\$	