



**CALL NO. 202**

**CONTRACT ID. 215207**

**HARLAN COUNTY**

**FED/STATE PROJECT NUMBER 121GR21D007 - HSIP & STP**

**DESCRIPTION KY 72**

**WORK TYPE GRADE & DRAIN WITH BRIDGE**

**PRIMARY COMPLETION DATE 8/30/2022**

**LETTING DATE: July 23,2021**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 am EASTERN DAYLIGHT TIME July 23,2021. Bids will be publicly announced at 10:00 am EASTERN DAYLIGHT TIME.

**PLANS AVAILABLE FOR THIS PROJECT.**

**DBE CERTIFICATION REQUIRED - 6%**

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

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

**ADMINISTRATIVE DISTRICT - 11**

**CONTRACT ID - 215207**

**121GR21D007 - HSIP & STP**

**COUNTY - HARLAN**

**PCN - 1104800382101**

**HSIP 5284 (008)**

KY HIGHWAY 38 (KY 38) (MP 0.000) CONSTRUCT ROUNDABOUT AT THE INTERSECTION OF KY 38 AND KY 72 (MP 0.100) ASPHALT SURFACE WITH GRADE & DRAIN SYP NO. 11-09016.30.  
GEOGRAPHIC COORDINATES LATITUDE 36:50:40.00 LONGITUDE 83:19:23.00

**PCN - BR04800722100**

**STP BRZ 9030 (307)**

KY 72 (MP 11.773) ADDRESS DEFICIENCIES OF KY-72 BRIDGE OVER CLOVER FK CUMBERLAND RVR. (MP 11.821), A DISTANCE OF 0.05 MILES. BRIDGE REPLACEMENT SYP NO. 11-10012.00.  
GEOGRAPHIC COORDINATES LATITUDE 36:50:41.00 LONGITUDE -83:19:23.00

**COMPLETION DATE(S):**

COMPLETED BY 08/30/2022                      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

### **FEDERAL CONTRACT NOTES**

The Kentucky Department of Highways, in accordance with the Regulations of the United States Department of Transportation 23 CFR 635.112 (h), hereby notifies all bidders that failure by a bidder to comply with all applicable sections of the current Kentucky Standard Specifications, including, but not limited to the following, may result in a bid not being considered responsive and thus not eligible to be considered for award:

- |                                |  |
|--------------------------------|--|
| 102.02 Current Rating          | 102.08 Preparation and Delivery of Proposals |
| 102.13 Irregular Bid Proposals | 102.14 Disqualification of Bidders           |
| 102.09 Proposal Guaranty       |  |

### **CIVIL RIGHTS ACT OF 1964**

The Kentucky Department of Highways, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252) and the Regulations of the Federal Department of Transportation (49 C.F.R., Part 21), issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the ground of race, color, or national origin.

### **NOTICE TO ALL BIDDERS**

To report bid rigging activities call: 1-800-424-9071.

The U.S. Department of Transportation (DOT) operates the above toll-free “hotline” Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the “hotline” to report such activities.

The “hotline” is part of the DOT’s continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

### **SECOND TIER SUBCONTRACTS**

Second tier subcontracts are acceptable per Section 108.01 of the Standard Specifications for Road and Bridge Construction. There are special rules to DBE subcontractors satisfying DBE goals on federal-aid projects. 1<sup>st</sup>-Tier DBE Subcontractors may only enter into a 2<sup>nd</sup>-Tier subcontract with another DBE contractor.

### **DISADVANTAGED BUSINESS ENTERPRISE PROGRAM**

It is the policy of the Kentucky Transportation Cabinet (“the Cabinet”) that Disadvantaged Business Enterprises (“DBE”) shall have the opportunity to participate in the performance of highway construction projects financed in whole or in part by Federal Funds in order to create a level playing field for all businesses who wish to contract with the Cabinet. To that end, the Cabinet will comply with the regulations found in 49 CFR Part 26, and the definitions and requirements contained therein shall be adopted as if set out verbatim herein.

The Cabinet, contractors, subcontractors, and sub-recipients shall not discriminate on the basis of race, color, national origin, or sex in the performance of work performed pursuant to Cabinet contracts. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of federally assisted highway construction projects. The contractor will include this provision in all its subcontracts and supply agreements pertaining to contracts with the Cabinet.

Failure by the contractor to carry out these requirements is a material breach of its contract with the Cabinet, which may result in the termination of the contract or such other remedy as the Cabinet deems necessary.

### **DBE GOAL**

The Disadvantaged Business Enterprise (DBE) goal established for this contract, as listed on the front page of the proposal, is the percentage of the total value of the contract.

The contractor shall exercise all necessary and reasonable steps to ensure that Disadvantaged Business Enterprises participate in a least the percent of the contract as set forth above as goals for this contract.

### **OBLIGATION OF CONTRACTORS**

Each contractor prequalified to perform work on Cabinet projects shall designate and make known to the Cabinet a liaison officer who is assigned the responsibility of effectively administering and promoting an active program for utilization of DBEs.

If a formal goal has not been designated for the contract, all contractors are encouraged to consider DBEs for subcontract work as well as for the supply of material and services needed to perform this work.

Contractors are encouraged to use the services of banks owned and controlled by minorities and women.

### **CERTIFICATION OF CONTRACT GOAL**

Contractors shall include the following certification in bids for projects for which a DBE goal has been established. BIDS SUBMITTED WHICH DO NOT INCLUDE CERTIFICATION OF DBE PARTICIPATION WILL NOT BE ACCEPTED. These bids will not be considered for award by the Cabinet and they will be returned to the bidder.

“The bidder certifies that it has secured participation by Disadvantaged Business Enterprises (“DBE”) in the amount of \_\_\_\_\_ percent of the total value of this contract and that the DBE participation is in compliance with the requirements of 49 CFR 26 and the policies of the Kentucky Transportation Cabinet pertaining to the DBE Program.”

**The certification statement is located in the electronic bid file. All contractors must certify their DBE participation on that page. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted.**

### **DBE PARTICIPATION PLAN**

Lowest responsive bidders must submit the *DBE Plan/ Subcontractor Request*, form TC 14-35 DBE, within **5** days of the letting. This is necessary before the Awards Committee will review and make a recommendation. **The project will not be considered for award prior to submission and approval of the apparent low bidder’s DBE Plan/Subcontractor Request.**

The DBE Participation Plan shall include the following:

1. Name and address of DBE Subcontractor(s) and/or supplier(s) intended to be used in the proposed project;
2. Description of the work each is to perform including the work item, unit, quantity, unit price and total amount of the work to be performed by the individual DBE. The Proposal Line Number, Category Number, and the Project Line Number can be found in the “material listing” on the Construction Procurement website under the specific letting;
3. The dollar value of each proposed DBE subcontract and the percentage of total project contract value this represents. DBE participation may be counted as follows;
  - a. If DBE suppliers and manufactures assume actual and contractual responsibility, the dollar value of materials to be furnished will be counted toward the goal as follows:
    - The entire expenditure paid to a DBE manufacturer;
    - 60 percent of expenditures to DBE suppliers that are not manufacturers provided the supplier is a regular dealer in the product involved. A regular dealer must be engaged in, as its principal business and in its own name, the sale of products to the public, maintain an inventory and own and operate distribution equipment; and
    - The amount of fees or commissions charged by the DBE firms for a bona fide service, such as professional, technical, consultant, or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials, supplies, delivery of materials and supplies or for furnishing bonds, or insurance, providing such fees or commissions are determined to be reasonable and customary.

- b) The dollar value of services provided by DBEs such as quality control testing, equipment repair and maintenance, engineering, staking, etc.;
- c) The dollar value of joint ventures. DBE credit for joint ventures will be limited to the dollar amount of the work actually performed by the DBE in the joint venture;
- 4. Written and signed documentation of the bidder's commitment to use a DBE contractor whose participation is being utilized to meet the DBE goal; and
- 5. Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment.

#### **UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED**

Contractors must submit the signed subcontract between the contractor and the DBE contractor, along with the DBE's certificate of insurance. If the DBE is a supplier of materials for the project, a signed purchase order must be submitted to the Division of Construction Procurement.

Changes to DBE Participation Plans must be approved by the Cabinet. The Cabinet may consider extenuating circumstances including, but not limited to, changes in the nature or scope of the project, the inability or unwillingness of a DBE to perform the work in accordance with the bid, and/or other circumstances beyond the control of the prime contractor.

#### **CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS**

If the DBE participation submitted in the bid by the apparent lowest responsive bidder does not meet or exceed the DBE contract goal, the apparent lowest responsive bidder must submit a Good Faith Effort Package to satisfy the Cabinet that sufficient good faith efforts were made to meet the contract goals prior to submission of the bid. Efforts to increase the goal after bid submission will not be considered in justifying the good faith effort, unless the contractor can show that the proposed DBE was solicited prior to the letting date. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted. One complete set (hard copy along with an electronic copy) of this information must be received in the Division of Contract Procurement no later than 12:00 noon of the tenth calendar day after receipt of notification that they are the apparent low bidder.

Where the information submitted includes repetitious solicitation letters it will be acceptable to submit a sample representative letter along with a distribution list of the firms solicited. Documentation of DBE quotations shall be a part of the good faith effort submittal as necessary to demonstrate compliance with the factors listed below which the Cabinet considers in judging good faith efforts. This documentation may include written subcontractors' quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

The Good Faith Effort Package shall include, but may not be limited to information showing evidence of the following:

1. Whether the bidder attended any pre-bid meetings that were scheduled by the Cabinet to inform DBEs of subcontracting opportunities;
2. Whether the bidder provided solicitations through all reasonable and available means;
3. Whether the bidder provided written notice to all DBEs listed in the DBE directory at the time of the letting who are prequalified in the areas of work that the bidder will be subcontracting;
4. Whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with certainty whether they were interested. If a reasonable amount of DBEs within the targeted districts do not provide an intent to quote or no DBEs are prequalified in the subcontracted areas, the bidder must notify the Disadvantaged Enterprise Business Liaison Officer (DEBLO) in the Office of Civil Rights and Small Business Development to give notification of the bidder's inability to get DBE quotes;
5. Whether the bidder selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise perform these work items with its own forces;
6. Whether the bidder provided interested DBEs with adequate and timely information about the plans, specifications, and requirements of the contract;
7. Whether the bidder negotiated in good faith with interested DBEs not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached;
8. Whether quotations were received from interested DBE firms but were rejected as unacceptable without sound reasons why the quotations were considered unacceptable. The fact that the DBE firm's quotation for the work is not the lowest quotation received will not in itself be considered as a sound reason for rejecting the quotation as unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a DBE quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy DBE goals;
9. Whether the bidder specifically negotiated with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be subcontracted includes potential DBE participation;
10. Whether the bidder made any efforts and/or offered assistance to interested DBEs in obtaining the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal; and
11. Any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include DBE participation.



### **FAILURE TO MEET GOOD FAITH REQUIREMENT**

Where the apparent lowest responsive bidder fails to submit sufficient participation by DBE firms to meet the contract goal and upon a determination by the Good Faith Committee based upon the information submitted that the apparent lowest responsive bidder failed to make sufficient reasonable efforts to meet the contract goal, the bidder will be offered the opportunity to meet in person for administrative reconsideration. The bidder will be notified of the Committee's decision within 24 hours of its decision. The bidder will have 24 hours to request reconsideration of the Committee's decision. The reconsideration meeting will be held within two days of the receipt of a request by the bidder for reconsideration.

The request for reconsideration will be heard by the Office of the Secretary. The bidder will have the opportunity to present written documentation or argument concerning the issue of whether it met the goal or made an adequate good faith effort. The bidder will receive a written decision on the reconsideration explaining the basis for the finding that the bidder did or did not meet the goal or made adequate Good Faith efforts to do so.

The result of the reconsideration process is not administratively appealable to the Cabinet or to the United States Department of Transportation.

The Cabinet reserves the right to award the contract to the next lowest responsive bidder or to rebid the contract in the event that the contract is not awarded to the low bidder as the result of a failure to meet the good faith requirement.

### **SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT**

Failure by the prime contractor to fulfill the DBE requirements of a project under contract or to demonstrate good faith efforts to meet the goal constitutes a breach of contract. When this occurs, the Cabinet will hold the prime contractor accountable, as would be the case with all other contract provisions. Therefore, the contractor's failure to carry out the DBE contract requirements shall constitute a breach of contract and as such the Cabinet reserves the right to exercise all administrative remedies at its disposal including, but not limited to the following:

- Disallow credit toward the DBE goal;
- Withholding progress payments;
- Withholding payment to the prime in an amount equal to the unmet portion of the contract goal; and/or
- Termination of the contract.

### **PROMPT PAYMENT**

The prime contractor will be required to pay the DBE within seven (7) working days after he or she has received payment from the Kentucky Transportation Cabinet for work performed or materials furnished.

### **CONTRACTOR REPORTING**

All contractors must keep detailed records and provide reports to the Cabinet on their progress in meeting the DBE requirement on any highway contract. These records may include, but shall not be limited to payroll, lease agreements, cancelled payroll checks, executed subcontracting agreements, etc. Prime contractors will be required to complete and submit a **signed and notarized** Affidavit of Subcontractor Payment (TC 18-7) and copies of checks for any monies paid to each DBE subcontractor or supplier utilized to meet a DBE goal. These documents must be completed and signed within 7 days of being paid by the Cabinet.

Payment information that needs to be reported includes date the payment is sent to the DBE, check number, Contract ID, amount of payment and the check date. Before Final Payment is made on this contract, the Prime Contractor will certify that all payments were made to the DBE subcontractor and/or DBE suppliers.

#### **\*\*\*\*\* IMPORTANT \*\*\*\*\***

**Please mail the original, signed and completed TC (18-7) Affidavit of Subcontractor Payment form and all copies of checks for payments listed above to the following address:**

Office of Civil Rights and Small Business Development  
6<sup>th</sup> Floor West 200 Mero Street  
Frankfort, KY 40622

The prime contractor should notify the KYTC Office of Civil Rights and Small Business Development seven (7) days prior to DBE contractors commencing work on the project. The contact in this office is Mr. Melvin Bynes. Mr. Bynes' current contact information is email address – [melvin.bynes2@ky.gov](mailto:melvin.bynes2@ky.gov) and the telephone number is (502) 564-3601.

### **DEFAULT OR DECERTIFICATION OF THE DBE**

If the DBE subcontractor or supplier is decertified or defaults in the performance of its work, and the overall goal cannot be credited for the uncompleted work, the prime contractor may utilize a substitute DBE or elect to fulfill the DBE goal with another DBE on a different work item. If after exerting good faith effort in accordance with the Cabinet's Good Faith Effort policies and procedures, the prime contractor is unable to replace the DBE, then the unmet portion of the goal may be waived at the discretion of the Cabinet.

### **PROHIBITION ON TELECOMMUNICATIONS EQUIPMENT OR SERVICES**

In accordance with the FY 2019 National Defense Authorization Act (NDAA), 2 CFR 200.216, and 2 CFR 200.471, Federal agencies are prohibited, after August 13, 2020, from obligating or expending financial assistance to obtain certain telecommunications and video surveillance services and equipment from specific producers. As a result of these regulations, contractors and subcontractors are prohibited, on projects with federal funding participation, from providing telecommunication or video surveillance equipment, services, or systems produced by:

- Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities)
- Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities)

**LEGAL REQUIREMENTS AND RESPONSIBILITY TO THE PUBLIC – CARGO PREFERENCE ACT (CPA).**

**(REV 12-17-15) (1-16)**

SECTION 7 is expanded by the following new Article:

102.10 **Cargo Preference Act – Use of United States-flag vessels.**

Pursuant to Title 46CFR Part 381, the Contractor agrees

- To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

- To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph 1 of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

- To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

### **ASPHALT MIXTURE**

Unless otherwise noted, the Department estimates the rate of application for all asphalt mixtures to be 110 lbs/sy per inch of depth.

### **DGA BASE**

Unless otherwise noted, the Department estimates the rate of application for DGA Base to be 115 lbs/sy per inch of depth.

### **INCIDENTAL SURFACING**

The Department has included in the quantities of asphalt mixtures established in the proposal estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, curve widening, ramp gores and tapers, and road and street approaches, as applicable. Pave these areas to the limits as shown on Standard Drawing RPM-110-06 or as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, pave the crossroads to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. Surface or resurface these areas as directed by the Engineer. The Department will not measure placing and compacting for separate payment but shall be incidental to the Contract unit price for the asphalt mixtures.

### **OPTION B**

Be advised that the Department will control and accept compaction of asphalt mixtures furnished on this project under OPTION B in accordance with Sections 402 and 403.

## **Special Notes Applicable to Project – General Notes & Description of Work**

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### **CAUTION**

The information in this proposal and the type of work listed herein are approximate only and are not to be taken as an exact evaluation of the materials and conditions to be encountered during construction; the bidder must draw his/her own conclusions when developing the Unit Bid Prices for each bid item. As such, if the conditions encountered are not in accordance with the information shown, the Department does not guarantee any changes to the Unit Bid Prices nor extension of the contract will be considered. The Department will pay for bid item quantity overruns, but only if pre-approved by the Engineer.

### **STATIONING**

The contractor is advised that stationing has been established for the construction of the Mini-Roundabout at the intersection of KY 38 and KY 72. See the Coordinate Control Sheet for that stationing.

### **LIDAR**

Limited survey data was obtained in the area of the KY 38 and KY 72 intersection and was supplemented with available KYTC Aerial LIDAR. All information should be field-verified as appropriate during construction and prior to incorporating the various project work items. Refer to the Special Note for Staking concerning staking operations required to control and construct the work.

### **ON-SITE INSPECTION**

Before submitting a bid for the work, make a thorough inspection of the site and determine existing conditions so that the work can be expeditiously performed after a contract is awarded. The Department will consider submission of a bid to be evidence of this inspection having been made. The Department will not honor any claims for money or time extension resulting from site conditions.

### **RIGHT OF WAY LIMITS**

The Department has not established the exact limits of the Right-of-Way. Unless a consent and release form is obtained from the adjoining property owner, limit work activities to the obvious Right-of-Way and staging areas secured by the Contractor at no additional cost to the Department. In the event that private improvements (i.e. fences, buildings, etc.) encroach upon the Right-of-Way, the contractor shall notify the Engineer and limit work activities in order to NOT disturb the improvements. If they become necessary, the Department will secure consent and releases from property owners through the Engineer. Be responsible for all encroachments onto private lands.

### **CONTROL**

Perform all work under the absolute control of the Department of Highways. Obtain the Engineer's approval of all designs required to be furnished by the Contractor prior to incorporation into the work. The Department reserves the right to have other work performed by other contractors and its own forces and to permit public utility companies and others to do work during the construction within the limits of, or adjacent to, the project. Conduct operations and cooperate with such other parties so that interference with such other work will be reduced to a minimum. The Department will not honor any claims for money or time extension created by the operations of such other parties. Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to, the project, the Engineer will decide as to the respective rights of the various parties involved in order to assure the completion of the Department's work in general harmony and in a satisfactory manner, and his/her decision shall be final and binding upon the Contractor.

General Notes & Description of Work  
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**DESCRIPTION OF WORK**

Except as specified herein, perform all work in accordance with the Department's Standard Specifications, Supplemental Specifications, applicable Special Notes and Special Provisions, and applicable Standard and Sepia Drawings, current editions. Furnish all materials, labor, equipment, and incidentals for the following work:

**Mini-Roundabout.** The existing 2-way stop at the intersection of KY 38 and KY 72 will be reconstructed into a Mini-Roundabout. Work will include shoulder milling/trenching for pavement widening, level & wedging for pavement regrading, surface paving and marking, and the installation of signage. All intersection approaches have a mountable splitter island. The central island is also to be mountable. All islands are to be monolithic. All islands and the truck aprons are to be formed using dyed (Baja Red, 2-bag, RG-2827R Interstar) concrete. The tops of all islands and truck aprons are to be stamped with a stone pattern or comparable options to be provided by Contractor to Engineer for approval. The Detail Sheets included in this proposal include location and elevation information throughout the Mini-Roundabout footprint. Achieving the proposed grades is to involve level & wedging and constructing lifts of asphalt base. A 1.25" thick layer of asphalt surface is to top the paved footprint bringing the intersection to final grade. Construction of the asphalt surface will require an edge key on each approach.

**Striping & Pavement Markings.** Install the proposed Striping and Pavement Markings, as detailed on the Striping Plan.

**Guardrail.** Remove existing guardrail and end treatments and install new guardrail and end treatments as shown in the plans and summaries.

**Signing.** Install the proposed signing, as detailed on the Signing Plan. The Contractor shall coordinate with the District Traffic Engineer to ensure that the District Traffic Engineer approves of the final sign locations.

**Remove Signal Equipment.** Remove the existing signal at the intersection of KY 38 and KY 72. Removal will be paid under the bid item "Remove Signal Equipment" and will cover all work required to complete removal. All salvageable material from signal removal shall be returned to the District maintenance facility.

**Temporary Striping.** A quantity of Pave Striping – Temp Paint – 4 IN has been included in the contract for potential use as directed by the Engineer. The Contractor and Engineer should work together to determine any locations throughout the project requiring temporary pavement striping. The Engineer will make the final determination as to the quantities and placement of temporary pavement striping.

## **SPECIAL NOTE FOR SHOULDER MILLING/TRENCHING**

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Trench areas as shown on the Typical Section, Plan Sheets, and/or as Directed by the Engineer. DO NOT trench areas without the Engineer's approval. If trenching is achieved by means other than milling, saw cut the pavement 1.25 to 20 inches deep to create a smooth edge prior to excavating the trench. Excavate the material and maintain the proposed cross-slope as shown on the Typical Sections. The intent is to mill, or excavate, the entire trench so that the proposed slope is retained at the end of the paving operation.

Retain possession of excess materials and/or materials the Engineer deems unsuitable for reuse, and waste the materials off the right-of-way at sites obtained by the Contractor at no additional cost to the Department. See Special Provision for Waste and Borrow.

Accept payment at the contract unit price per square yard for SHOULDER MILLING/TRENCHING as full compensation for all labor, materials, equipment, and incidentals for excavating the trench and disposal and/or reuse of the excavated material.

## **SPECIAL NOTE FOR SIGNAGE**

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All sign sheeting shall be from the Cabinet's List of Approved Materials.

All permanent signs and sign components shall be fabricated using Type XI sheeting.

The following signs and sign components shall be fabricated using Type XI fluorescent yellow sheeting:

- Horizontal Alignment Signs and Plaques, including signs shown in Figure 2C-1 of the MUTCD
- All Advisory Speed (W13-1P) plaques

The following signs shall be fabricated using Type XI fluorescent yellow-green sheeting:

- School and school bus warning signs, including the fluorescent yellow-green signs shown in Figures 7B-1 and 7B-6 of the MUTCD and other school-related warning signs that are not included in the MUTCD.
- Bicycle Warning (W11-1) signs and SHARE THE ROAD (W16-1P) plaques or diagonal downward pointing arrow (W16-7P) plaques that supplement Bicycle Warning signs.
- Pedestrian Warning signs and diagonal downward pointing arrow plaques that supplement Pedestrian Warning signs.
- In-Street Pedestrian Crossing (R1-6) signs and Overhead pedestrian Crossing (R1-9) signs
- Supplemental plaques to any of the previously listed signs



## SPECIAL NOTE FOR SIGNING

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### I. DESCRIPTION

Except as provided herein, this work shall be performed in accordance with the current edition of the Manual on Uniform Traffic Control Devices (MUTCD), the Department's current Standard Specifications and Interim Supplemental Specifications, applicable Standard and Sepia Drawings, and applicable Special Provisions. Article references are to the Standard Specifications. This project shall consist of furnishing all labor, equipment, materials, and incidentals for the following:

- (1) Maintaining and Controlling Traffic; (2) Furnish, Fabricate, and Erect Signs; and
- (3) All other work specified in the Contract.

### II. MATERIALS

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.

**A. Maintain and Control Traffic.** See Traffic Control Plan.

**B. Erosion Control.** See Special Note for Erosion Control.

### III. CONSTRUCTION METHODS

**A. Maintain and Control Traffic.** See Traffic Control Plan.

**B. Site Preparation.** Be responsible for all site preparation including, but not limited to: clearing and grubbing, staking, excavation, backfill, and removal of obstructions or any other material not covered by other items. Perform all site preparation only as approved, or directed, by the Engineer.

**C. Staking.** See Special Note for Staking.

**D. Signs and Posts.** Before beginning installation, the Contractor shall furnish to the Engineer drawings, descriptions, manufacturer's cuts, etc. covering all material to be used. Mill test reports for beams, steel panels, and each different gauge of aluminum or steel sheeting used must be submitted to the Division of Construction and approved prior to erection.

Fabricate sheet signs from .080 or .125 gauge aluminum alloy 5052-H38 or 6061-T6, in accordance with ASTM B-209, and to the size and shape specified. Prepare the side of the sheet to be used as the sign face to receive the retroreflective background material

## Signing Page 2 of 6

according to the recommendations of the sheeting and retroreflective material manufacturer(s). Sheeting used as background material for sign faces is to be the color specified and visually in accordance with the standard requirements of ASTM D-4956, and meet the requirements of Section 830 of the Standard Specifications. Contrary to Section 830.02.06, only the types and colors of sheeting as specified in the proposal will be accepted. All retroreflective material shall be fabricated and assembled in accordance with the specifications and/or recommendations of the manufacturer(s).

All hardware for the erection of sheeting signs shall be rust resistant: stainless steel, zinc coated, aluminum, or an Engineer approved material. All beams and posts shall be of sufficient lengths to extend from the top of the sign to the required embedment in the anchor. Splicing of the sign post shall NOT be allowed. For installations in soil, Type I steel posts shall be mounted on either a standard anchor, with soil stabilizer plate, or on a Type D breakaway sign support. Refer to Sheeting Sign Detail Sheet 1 of 2 for installation details for a standard anchor with soil stabilizer plate. When installing a standard anchor with soil stabilizer plate, if solid rock is encountered, the Contractor shall drill a hole to the required depth into the rock, install the anchor into the hole, and backfill the anchor post with concrete, or other method approved by the Engineer. The cost shall be incidental to Type I steel post, and a soil stabilizer plate will not be required. Refer to Standard Drawing RGX-065, current edition, for installation details of Type D breakaway sign supports. Approved manufacturers for Type D breakaway sign supports have been placed on the list of approved materials. For installations on existing concrete, such as a sidewalk, concrete median, etc., or installations on existing asphalt, such as flush medians, Type I steel posts shall be mounted on a Type D Surface Mount. For Type D Surface Mounts use only Kleen Break Model 425 by Xcessories Squared of Auburn, IL. If the Surface Mount is to be installed on sufficiently cured concrete, use part number XKBSM42520-G. If the Surface Mount is to be installed on asphalt surface, use part numbers XKB42520-G and AXT225-36-G. Prior to installation, the Contractor shall submit to the Engineer shop drawings of the Type D Surface Mount(s). Install the Type D Surface Mount(s) according to all the applicable requirements of the manufacturer (see shop drawings). All steel post shall meet the requirements of Section 832. All hardware including, but not limited to, sign post anchors, soil stabilizer plates, nuts, bolts, washers, fasteners, fittings, and bracing, or any other incidentals necessary to erect the signs shall be furnished by the Contractor and will be incidental to the work.

New concrete bases, posts, support anchors, signs, etc. are to be installed prior to dismantling any existing sign(s). The removal of existing signs, posts, and support anchors is to be performed concurrently with the installation of new signs, posts, and support anchors, under the same lane closure during the same work shift. Completely remove existing sign support anchors or remove them to a minimum depth of six (6) inches below existing ground line and backfill the disturbed area to the existing ground line.

When listed in the summaries, Reflective Sign Post Panels shall be 2" wide x 60" tall (or 84" tall for urban installations) and shall have three 3/8" holes (one hole in the top 3", one

## Signing Page 3 of 6

hole near the center, and one hole in the bottom 3") that align with the holes on the Type I steel post. Sheeting for the Reflective Sign Post Panels shall be the same Type and color as the sign installed on the post. Examples include:

- Red, fluorescent yellow, and fluorescent yellow-green (Type XI Sheeting)
- White and yellow (Type XI Sheeting).

All manufactured sheeting signs shall be free of visual defects including, but not limited to: cracks, tears, ridges, humps, discoloration, etc., and defective signs shall be replaced at no additional cost to the Department.

All sign blanks shall be hole punched by the manufacturer for either horizontal or vertical installation. Attach all aluminum sheeting signs to square post with 3/8" all steel rivets and nylon washers.

Post will be attached to the anchor with 5/16" corner bolts and 5/16" flanged nuts, and all post and anchor cuts shall be treated with a Cold Galvanizing Compound spray.

Sign posts shall be erected vertically by using a bubble level. The tolerance shall be a two (2) degree angle in any direction. For locations where there are more than one sign is mounted beside each other, the posts shall be spaced to provide approximately six inches (6") of spacing between signs.

**E. Property Damage.** The Contractor shall be responsible for all damage to public and/or private property resulting from the Contractor's activities. Repair or replace damaged roadway features in like kind materials and design as directed by the Engineer at no additional cost to the Department. Repair or replace damaged private property in like kind materials and design to the satisfaction of the owner and the Engineer at no additional cost to the Department.

**F. Coordination with Utility Companies.** Locate all underground, above ground, and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities. Be responsible for repairing all utility damage that occurs due to the Contractor's operations at no additional cost to the Department. NOTIFY THE ENGINEER AND THE UTILITY OWNER(S) IMMEDIATELY WHEN IT IS DISCOVERED OR ANTICIPATED THAT ANY UTILITY CONFLICT COULD DELAY THE CONTRACTOR'S OPERATIONS. If the total delay exceeds ten working days, an extension of the specified completion date will be negotiated with the Contractor for delay to the Contractor's work; however, no extension will be granted for any delay caused by the Contractor's failure to notify the

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Page 4 of 6

Engineer and/or the utility company as specified above when a conflict is discovered or anticipated as specified.

**G. Caution.** The information in this proposal and the type of work listed herein are approximate only and are not to be taken as an exact evaluation of the materials and conditions to be encountered during construction; the bidder must draw his/her own conclusions when developing the Unit Bid Prices for each bid item. As such, if the conditions encountered are not in accordance with the information shown, the Department does not guarantee any changes to the Unit Bid Prices nor extension of the contract will be considered. The Department will pay for bid item quantity overruns, but only if pre-approved by the Engineer.

**H. Control.** Perform all work under the absolute control of the Department. Obtain the Engineer's approval of all designs required to be furnished by the Contractor prior to incorporation into the work. The Department reserves the right to have other work performed by other contractors and its own forces, and to permit public utility companies and others to do work during the construction within the limits of, or adjacent to, the project. Conduct operations and cooperate with such other parties so that interference with such other work will be reduced to a minimum. The Department will not honor any claims for money or time extension created by the operations of such other parties.

Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to, the project, the Engineer will decide as to the respective rights of the various parties involved in order to assure the completion of the Department's work in general harmony and in a satisfactory manner, and the Engineer's decision shall be final and binding upon the Contractor.

**I. Clean Up, Disposal of Waste.** Clean up the project area as work progresses. Dispose of all removed concrete, debris, and other waste as per Section 204.03.08. The Department will incur no cost to obtain the disposal sites. The Department will NOT make direct payment for disposal of waste and debris from the project. Existing anchors, signs, posts, and any other hardware or material removed from the site are to become the property of the Contractor. See Special Provision for Waste and Borrow Sites.

**J. Final Dressing, Seeding and Protection.** Grade all disturbed areas to blend with the adjacent roadways features and to provide a suitable seed bed. Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

**K. Erosion Control.** See Special Note for Erosion Control.

#### IV. METHOD OF MEASUREMENT

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Page 5 of 6

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. Site Preparation.** Other than the bid items listed, the Department will NOT measure Site Preparation for payment, but shall be incidental to the project bid items.
- C. Signs.** The Department will measure the finished in-place area of signs in Square Feet.
- D. Sign Posts.** The Department will measure the finished in-place length of sign posts in Linear Feet, from the top of the anchor, or top of the sign support, to the top of the sign post. Laps, cutoffs, excess, and waste will NOT be measured for payment.
- E. Type D Breakaway Sign Supports.** The Department will measure Type D sign supports as Each support installed.
- F. Type D Surface Mounts.** The Department will measure Type D Surface Mounts as Each surface mount installed.
- G. Class A Concrete for Signs.** The Department will measure the Class A Concrete used in conjunction with Type D breakaway sign support installations in Cubic Yards. Any concrete that is required as backfill due to hitting rock during a standard installation shall be incidental to the bid item STEEL POST TYPE I, and soil stabilizers will not be required.
- H. Clean Up, Disposal of Waste, Final Dressing, Seeding and Protection.** The Department will NOT measure for payment the following activities: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental. Seeding and Protection shall be measured according to Section 212.
- I. Erosion Control.** See Special Note for Erosion Control.
- J. Remove Sign.** The Department will consider all signs attached to one or more connected posts as a single sign. The Department will measure as Each sign assembly removed and NOT each individual sign removed.
- K. Items Provided by KYTC.** The Department will NOT measure for payment the installation of signs and/or surface mounts provided by KYTC. These activities shall be incidental to the bid item STEEL POST TYPE I.

**V. BASIS OF PAYMENT**

- A. Maintain and Control Traffic.** See Traffic Control Plan.

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Page 6 of 6

- B. Signs.** The Department will make payment for the completed and accepted quantities under the bid item SBM ALUM SHEET SIGNS .125 IN or .080 IN. The Department will consider payment full compensation for all work and incidentals necessary to install the signs, as required by these notes and the details found elsewhere in the proposal, at the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.
- C. Sign Posts.** The Department will make payment for the completed and accepted quantities under the bid item STEEL POST TYPE I. The Department will consider payment full compensation for all work and incidentals necessary to install the sign posts as required by these notes and the details found elsewhere in the proposal.
- D. Type D Breakaway Sign Supports.** The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D. The Department will consider payment full compensation for all work and incidentals necessary to install the Type D breakaway sign supports as required by Standard Drawing RGX-065, current edition.
- E. Type D Surface Mounts.** The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D Surface Mount. The Department will consider payment full compensation for all work and incidentals necessary to install the Type D surface mounts according to all applicable manufacturer requirements.  
NOTE: The permissible Type D Surface Mount alternative is: Kleen Break Model 425 for Surface Mount Concrete Installations by Xcessories Squared of Auburn, IL
- F. Class A Concrete for Signs.** The Department will make payment for the completed and accepted quantities, used in conjunction with Type D breakaway sign support installations, under the bid item CLASS A CONCRETE FOR SIGNS. The Department will consider payment full compensation for all work and incidentals necessary to install the concrete as required by Standard Drawing RGX-065, current edition.
- G. Remove Sign.** The Department will make payment for the completed and accepted quantities under the bid item REMOVE SIGN. The Department will consider payment full compensation for all work and incidentals necessary to remove the existing signs, posts, anchors, and any other sign material or hardware, from the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.
- H. Erosion Control.** See Special Note for Erosion Control.

**SPECIAL NOTE FOR BRIDGING KENTUCKY PROJECT STENCIL**  
**048B00095N HARLAN COUNTY 11-10012.00**

This Special Note will apply to the bridge or bridges in this proposal. Section references herein are to the Department's Current Standard Specifications for Road and Bridge Construction.

**1.0 DESCRIPTION.** This specification covers an additional concrete stencil for structures in the Bridging Kentucky Program.

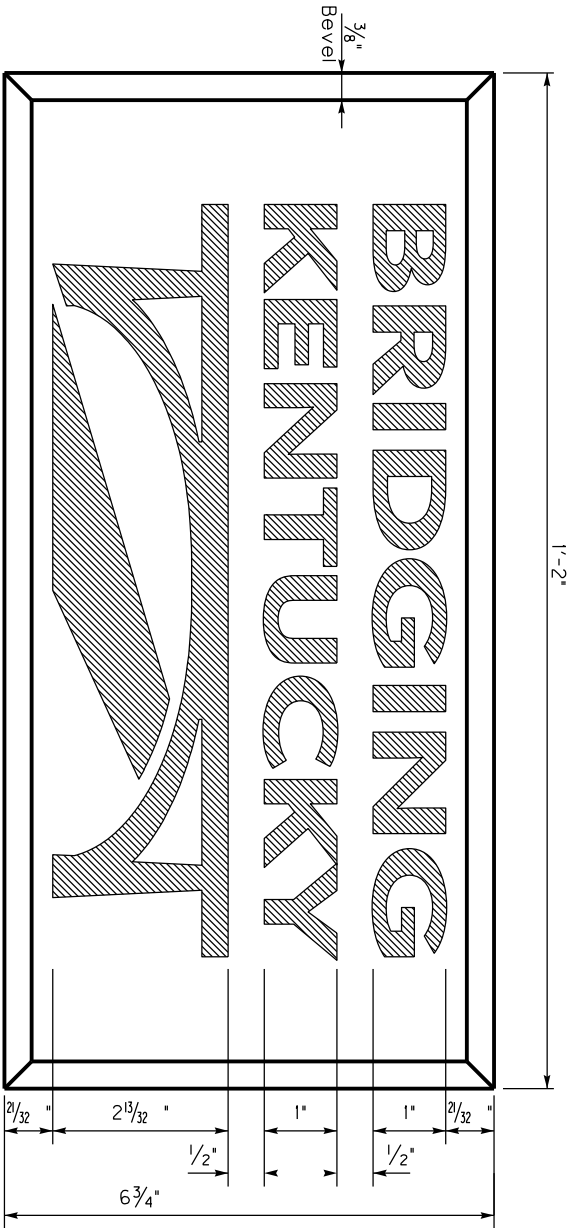
**2.0 CONSTRUCTION.**

**2.1 Construction Date and Identification.** On all concrete bridges and box culverts, stencil the year the Contract was executed, the structure drawing number on the concrete at the locations designated, and the Bridging Kentucky Logo as depicted in the drawing in this special note. Make the figures on the stencil according to details specified in the drawing. For bridges having a clear span of 20 feet or more, stencil the year the Contract was executed and load capacity of the structure on the outside face of the plinth or barrier wall as shown on the drawing. On all box culverts, place stenciled figures giving the year in which the Contract is executed on the inlet end of the culvert on the outside face and center of the parapet or headwall. Do not use permanent plates or markers of any kind, other than those shown, on any structure. On all bridges, imprint the name of the prime contractor in the concrete at the location shown. Furnish stencils, all equipment, tools, labor, materials, and other incidentals necessary.

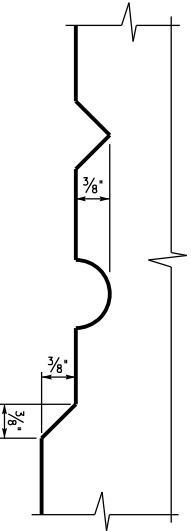
**3.0 MEASUREMENT.** The Department will not measure bridge stencils for payment per section 601 of the Kentucky Transportation Cabinet Standard Specifications for Road and Bridge and Construction, latest edition.

**4.0 PAYMENT.** The Department will not make payment for bridge stencils, materials, and associated work. All work, materials, and associated costs shall be incidental to the item listed:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
08100, 08102-08106, 02555	Concrete, Class	Cubic Yard



STENCIL FOR BRIDGING KENTUCKY LOGO



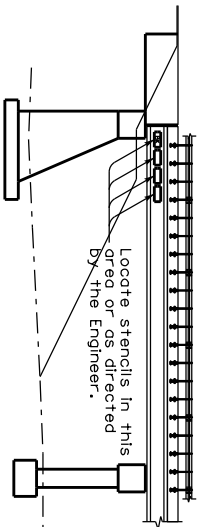
TYPE OF LETTERS

### GENERAL NOTES

STENCILS: For concrete applications, fabricate all stencils from recessed panels with beveled edges with raised letters and figures in accordance with Subsection 601.03.19 of the Specifications. For steel girders, point stencil using flat block point and the recommended dimensions. When using point, borders shown in the above detail are to be excluded.

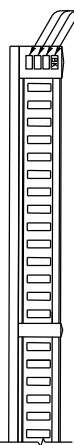
BRIDGING KENTUCKY LOGO STENCIL: Place on all program bridges when applicable. In proximity to other stencils required.

### LOCATION OF STENCILS ON BRIDGES



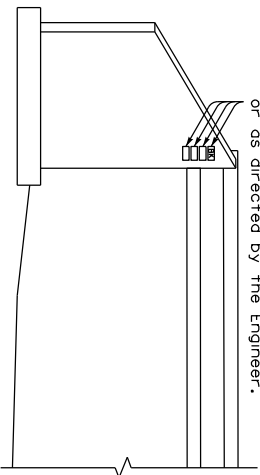
APPLICATION ON STEEL GIRDERS

Locate stencils in this area or as directed by the Engineer.



APPLICATION ON CLASSIC RAIL

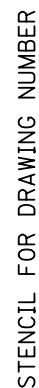
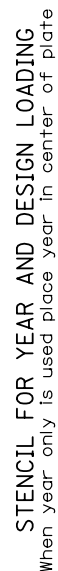
Locate stencils in this area or as directed by the Engineer.



APPLICATION ON WING WALLS

KENTUCKY DEPARTMENT OF HIGHWAYS
STENCIL FOR BRIDGING KENTUCKY LOGO
BRIDGING KENTUCKY <small>Reinforced Concrete Bridge</small>





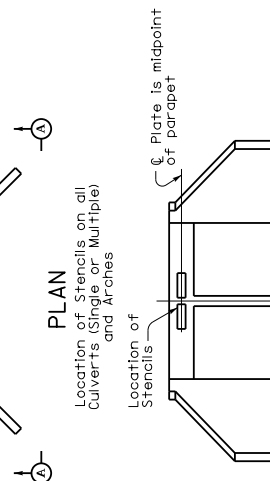
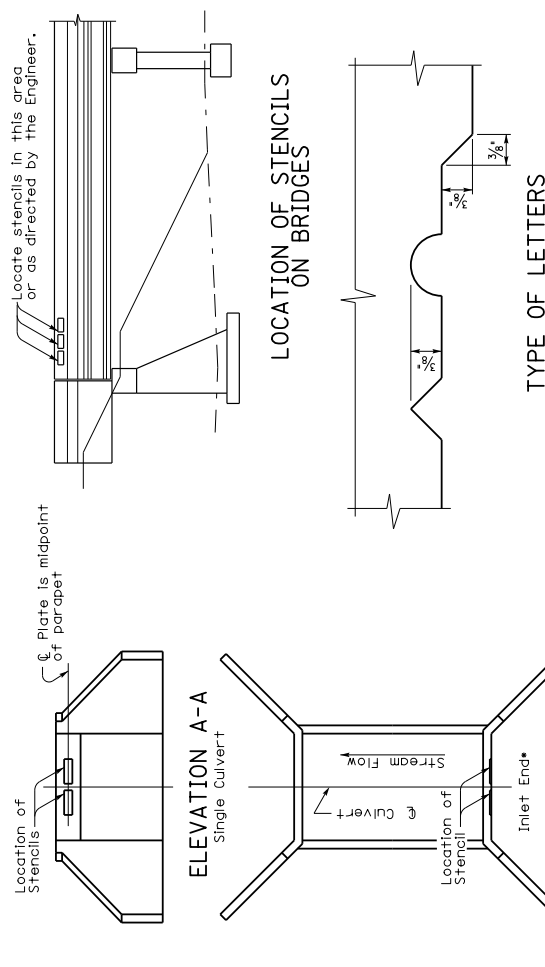
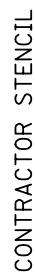
## GENERAL NOTES

**STENCILS:** Fabricate all stencils from recessed panels with beveled edges with ENGRAVED letters and figures in accordance with Subsection 601.03.19 of the Specifications.

**YEAR AND DESIGN STENCIL:** Show the year that the contract is executed and the design load as shown on the contract plans. The design load is required on all structures classified as bridges by Subsection 101.03 of the Specifications and on other structures as referenced on plans.

**DRAWING NUMBER STENCIL:** Use this stencil on all structures. The number to be placed on the stencil shall be taken from the contract plans.

**CONTRACTOR STENCIL:** Place on all bridges, the name of the prime contractor and subcontractor(s), when applicable, in proximity to other stencils required.



**ELEVATION A-A**  
Multiple span Culvert

<p align="center"><b>KENTUCKY DEPARTMENT OF HIGHWAYS</b></p>	
<p align="center"><b>STENCILS FOR STRUCTURES</b></p>	
<p><b>STANDARD DRAWING NO. BCX-006-10</b></p>	
SUBMITTED	12-01-15
DIRECTOR	DATE
<p align="center"><i>Mad. Wt.</i></p>	
<p align="center">DESIGN</p>	
APPROVED	12-01-15
STATE HIGHWAY ENGINEER	DATE
<p align="center"><i>Stark</i></p>	

**SPECIAL NOTE FOR TURF REINFORCING MAT**  
**048B00095N HARLAN COUNTY 11-10012.00**

**1.0 DESCRIPTION.** Install turf reinforcement mat at locations specified in the Contract or as the Engineer directs. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

**2.0 MATERIALS.**

**2.1 Turf Reinforcement Mat (TRM).** Use a Turf Reinforcement Mat defined as permanent rolled erosion control product composed of non-degradable synthetic fibers, filaments, nets, wire mesh and/or other elements, processed into a three-dimensional matrix of sufficient thickness and from the Department's List of Approved Materials. Mats must be 100% UV stabilized materials. For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting exclusively. Ensure product labels clearly show the manufacturer or supplier name, style name, and roll number. Ensure labeling, shipment and storage follows ASTM D-4873. The Department will require manufacturer to provide TRMs that are machine constructed web of mechanically or melt bonded nondegradable fibers entangled to form a three dimensional matrix. The Department will require all long term performance property values in table below to be based on non degradable portion of the matting alone. Approved methods include polymer welding, thermal or polymer fusion, or placement of fibers between two high strength biaxially oriented nets mechanically bound by parallel stitching with polyolefin thread. Ensure that mats designated in the plans as Type 4 mats, are not to be manufactured from discontinuous or loosely held together by stitching or glued netting or composites. Type 4 mats shall be composed of geosynthetic matrix that exhibits a very high interlock and reinforcement capacities with both soil and root systems and with high tensile modulus. The Department will require manufacturer to use materials chemically and biologically inert to the natural soil environments conditions. Ensure the blanket is smolder resistant without the use of chemical additives. When stored, maintain the protective wrapping and elevate the mats off the ground to protect them from damage. The Department will not specify these materials for use in heavily acidic coal seam areas or other areas with soil problems that would severally limit vegetation growth.

- A) Dimensions. Ensure TRMs are furnished in strips with a minimum width of 4 feet and length of 50 feet.
- B) Weight. Ensure that all mat types have a minimum mass per unit area of 7 ounces per square yard according to ASTM D 6566.
- C) Performance Testing: The Department will require AASHTO's NTPEP index testing. The Department will also require the manufacturer to perform internal MARV testing at a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory for tensile strength, tensile elongation, mass per unit area, and thickness once every 24,000 yds of production or whatever rate is required to ensure 97.7% confidence under ASTM D4439& 4354. The Department will require Full scale testing for slope and channel applications shear stress shall be done under ASTM D 6459, ASTM D 6460-07 procedures.

**2.2 Classifications**

The basis for selection of the type of mat required will be based on the long term shear stress level of the mat of the channel in question or the degree of slope to protect and will be designated in the contract. The Type 4 mats are to be used at structural backfills protecting critical

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structures, utility cuts, areas where vehicles may be expected to traverse the mat, channels with large heavy drift, and where higher factors of safety, very steep slopes and/or durability concerns are needed as determined by project team and designer and will be specified in the plans by designer.

Turf Reinforcement Matting					
Properties <sup>1</sup>	Type 1	Type 2	Type 3	Type 4	Test Method
Minimum tensile Strength lbs/ft	125	150	175	3000 by 1500	ASTM D6818 <sup>2</sup>
UV stability (minimum % tensile retention)	80	80	80	90	ASTM D4355 <sup>3</sup> (1000-hr exposure)
Minimum thickness (inches)	0.25	0.25	0.25	0.40	ASTM D6525
Slopes applications	2H:1V or flatter	1.5H:1V or flatter	1H:1V or flatter	1 H: 1V or greater	
Shear stress lbs/ft <sup>2</sup> Channel applications	6.0 <sup>4</sup>	8.0 <sup>4</sup>	10.0 <sup>4</sup>	12.0 <sup>4</sup>	ASTM D6459 ASTM D6460-07

<sup>1</sup> For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting alone.

<sup>2</sup>Minimum Average Roll Values for tensile strength of sample material machine direction.

<sup>3</sup>Tensile Strength percentage retained after stated 1000 hr duration of exposure under ASTM D4355 testing. Based on nondegradable components exclusively.

<sup>4</sup>Maximum permissible shear design values based on short-term (0.5 hr) vegetated data obtained by full scale flume testing ASTM D6459, D6460-07. Based on nondegradable components exclusively. Testing will be done at Independent Hydraulics Facility such as Colorado State University hydraulics laboratory, Utah State University hydraulics laboratory, Texas Transportation Institute (TTI) hydraulics and erosion control laboratory.

## 2.3 Quality Assurance Sampling, Testing, and Acceptance

- A) Provide TRM listed on the Department's List of Approved Materials. Prior to inclusion on the LAM, the manufacturer of TRM must meet the physical and performance criteria as outlined in the specification and submit a Letter Certifying compliance of the product under the above ASTM testing procedures and including a copy of report from Full Scale Independent Hydraulics Facility that Fully Vegetated Shear Stress meets shear stress requirements tested under D6459 and D6460-07.
- B) Contractors will provide a Letter of Certification from Manufacturer stating the product name, manufacturer, and that the product MARV product unit testing results meets Department criteria. Provide Letters once per project and for each product.
- C) Acceptance shall be in accordance with ASTM D-4759 based on testing performed by a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory using Procedure A of ASTM D-4354.

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Current mats meeting the above criteria are shown on the Department's List of Approved Materials.

**2.4 Fasteners.** When the mat manufacturer does not specify a specific fastener, use steel wire U-shaped staples with a minimum diameter of 0.09 inches (11 gauge), a minimum width of one inch and a minimum length of 12 inches. Use a heavier gauge when working in rocky or clay soils and longer lengths in sandy soils as directed by Engineer or Manufacturer's Representative. Provide staples with colored tops when requested by the Engineer.

**3.0 CONSTRUCTION.** When requested by the Engineer, provide a Manufacturer's Representative on-site to oversee and approve the initial installation of the mat. When requested by the Engineer, provide a letter from the Manufacturer approving the installation. When there is a conflict between the Department's criteria and the Manufacturer's criteria, construct using the more restrictive. The Engineer and Manufacturer's Representative must approve all alternate installation methods prior to execution. Construct according to the Manufacturer's recommendations and the following as minimum installation technique:

**3.1 Site Preparation.** Grade areas to be treated with matting and compact. Remove large rocks, soil clods, vegetation, roots, and other sharp objects that could keep the mat from intimate contact with subgrade. Prepare seedbed by loosening the top 2 to 3 inch of soil.

**3.2 Installation.** Install mats according to Standard Drawing Sepias "Turf Mat Channel Installation" and "Turf Mat Slope Installation." Install mats at the specified elevation and alignment. Anchor the mats with staples with a minimum length of 12 inches. Use longer anchors for installations in sandy, loose, or wet soils as directed by the Engineer or Manufacturer's Representative. The mat should be in direct contact with the soil surface.

**4.0 MEASUREMENT.** The Department will measure the quantity of Turf Reinforcement Mat by the square yard of surface covered. The Department will not measure preparation of the bed, providing a Manufacturer's Representative, topsoil, or seeding for payment and will consider them incidental to the Turf Reinforcement Mat. The Department will not measure any reworking of slopes or channels for payment as it is considered corrective work and incidental to the Turf Reinforcement Mat. Seeding and protection will be an incidental item.

**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>
23274EN11F	Turf Reinforcement Mat 1	Square Yard
23275EN11F	Turf Reinforcement Mat 2	Square Yard
23276EN11F	Turf Reinforcement Mat 3	Square Yard
23277EN11F	Turf Reinforcement Mat 4	Square Yard

June 15, 2012

10L

**SPECIAL NOTE FOR CHANNEL CHANGE  
EROSION CONTROL BLANKET  
048B00095N HARLAN COUNTY 11-10012.00**

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department’s 2012 Standard Specifications for Road and Bridge Construction.

**1.0 DESCRIPTION.** This specification covers erosion control blankets used for channel changes.

**2.0 MATERIALS.**

**2.1 Erosion Control Blanket.** Use a woven blanket made of 100 percent machine spun bristle coir fiber. Ensure the nominal thickness is at least 0.30 inches. Ensure the blanket’s nominal weight is at least 11.8 ounces per square yard. Ensure the nominal open area of the blanket does not exceed 65 percent.

**2.2 Staples.** Use steel wire U-shaped staples with a minimum diameter of 0.148 inches (9 gauge), a minimum width of one inch, and a minimum length of 6 inches. Use a heavier gauge when working in rocky or clay soils and longer lengths in sandy soils.

**3.0 CONSTRUCTION.** Prepare the bed by loosening the soil to a depth of 2 to 3 inches. Apply fertilizer, limestone, and seed at the permanent seeding rate. Cover with the erosion control blanket. Roll out the blanket in the direction of the anticipated channel flow. Anchor the blanket at the top, toe, and edges of channels on a one-foot spacing as the “Anchoring Edges and Ends” figure shows. Secure the blanket by stapling as the “Stapling Pattern” figure shows. At seams, overlap the blanket as the “Seam Overlaps” figure shows. Ensure staples are fully driven and snug against the blanket. If staples are bending, use a heavier gauge staple. Rework areas that become unstable or do not establish vegetation.

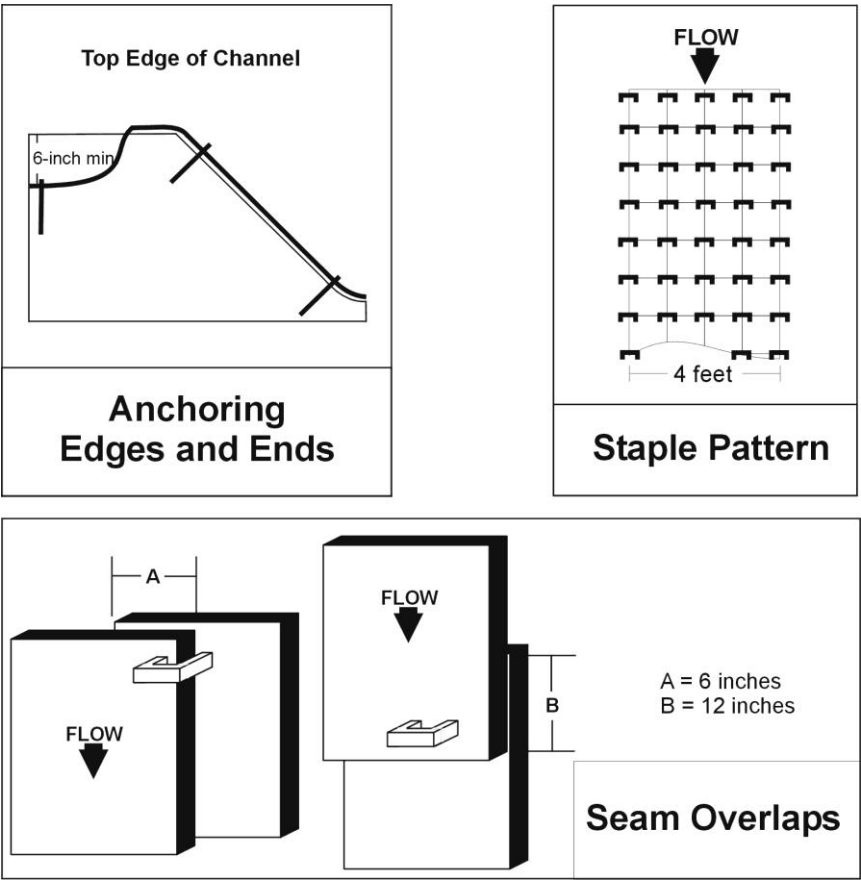
**4.0 MEASUREMENT.** The Department will measure the quantity of Erosion Control Blanket by the square yard of surface covered. The Department will not measure preparation of the bed or seeding for payment and will consider them incidental to the Erosion Control Blanket. The Department will not measure any reworking of slopes or channels for payment as it is considered corrective work and incidental to the Erosion Control Blanket.

**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>
----	Channel Change Erosion Control Blanket	Square Yard

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

10L



June 15, 2012

## **SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS**

048B00095N HARLAN COUNTY 11-10012.00

**1.0 DESCRIPTION.** Install barcode label on sheeting signs. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

**2.0 MATERIALS.** The Department will provide the Contractor with a 2 inch x 1 inch foil barcode label for each permanent sheeting sign. A unique number will be assigned to each barcode label.

The Contractor shall contact the Operations and Pavement Management Branch in the Division of Maintenance at (502) 564-4556 to obtain the barcode labels.

**3.0 CONSTRUCTION.** Apply foil barcode label in the lower right quadrant of the sign back. Signs where the bottom edge is not parallel to the ground, the lowest corner of the sign shall serve as the location to place the barcode label. The barcode label shall be placed no less than one-inch and no more than three inches from any edge of the sign. The barcode must be placed so that the sign post does not cover the barcode label.

Barcodes shall be applied in an indoor setting with a minimum air temperature of 50°F or higher. Prior to application of the barcode label, the back of the sign must be clean and free of dust, oil, etc. If the sign is not clean, an alcohol swab shall be used to clean the area. The area must be allowed to dry prior to placement of the barcode label.

Data for each sign shall include the barcode number, MUTCD reference number, sheeting manufacturer, sheeting type, manufacture date, color of primary reflective surface, installation date, latitude and longitude using the North American Datum of 1983 (NAD83) or the State Plane Coordinates using an x and y ordinate of the installed location.

Data should be provided electronically on the TC 71-229 Sign Details Information and TC 71-230 Sign Assembly Information forms. The Contractor may choose to present the data in a different format provided that the information submitted to the Department is equivalent to the information required on the Department TC forms. The forms must be submitted in electronic format regardless of which type of form is used. The Department will not accept PDF or handwritten forms. These completed forms must be submitted to the Department prior to final inspection of the signs. The Department will not issue formal acceptance for the project until the TC 71-229 and TC-230 electronic forms are completed for all signs and sign assemblies on the project.

**4.0 MEASUREMENT.** The Department will measure all work required for the installation of the barcode label and all work associated with completion and submission of the sign inventory data (TC 71-229 and TC 71-230).

The installation of the permanent sign will be measured in accordance to Section 715.

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

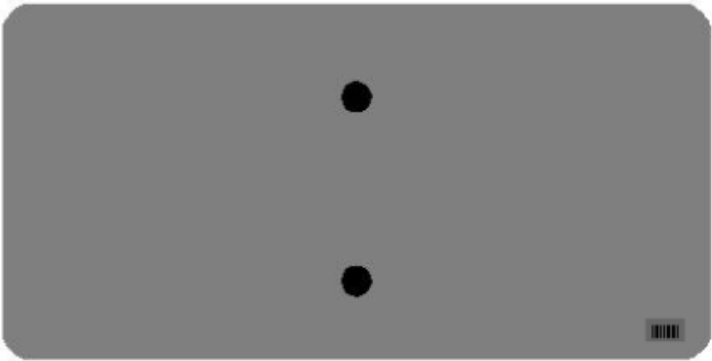
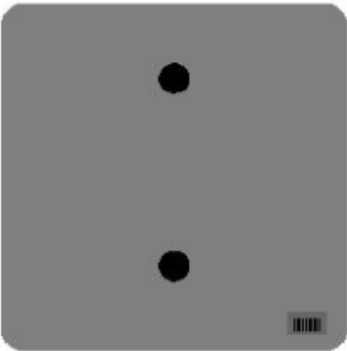
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24631EC	Barcode Sign Inventory	Each

The Department will not make payment for this item until all barcodes are installed and sign inventory is complete on every permanent sign installed on the project. The Department will make payment for installation of the permanent sign in accordance to Section 715. The Department will consider payment as full compensation for all work required under this special note.

One Sign Post

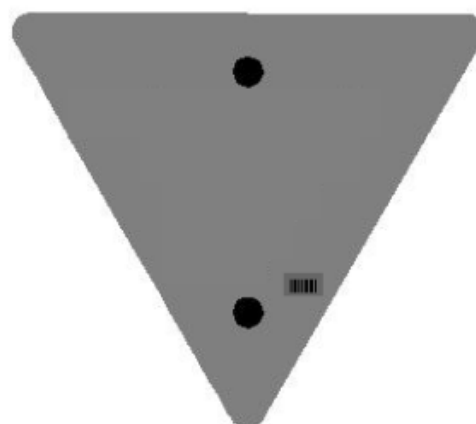
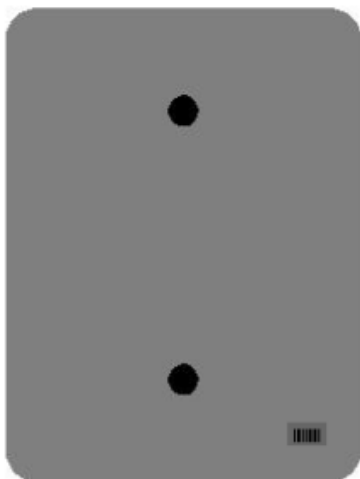
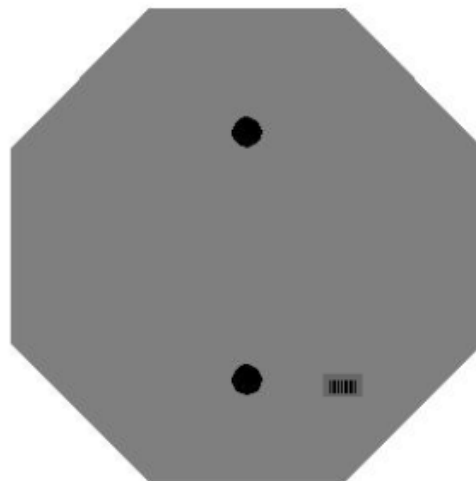
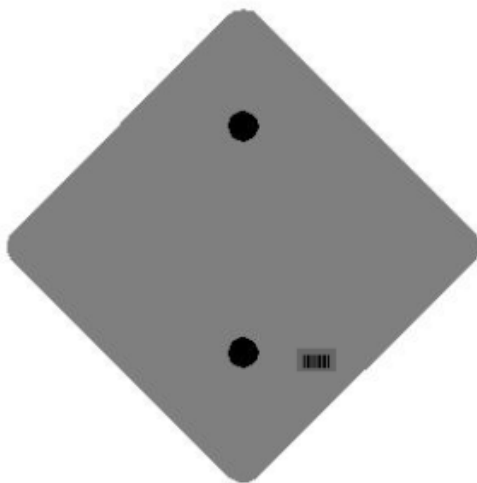


↑  
2" Wide Post

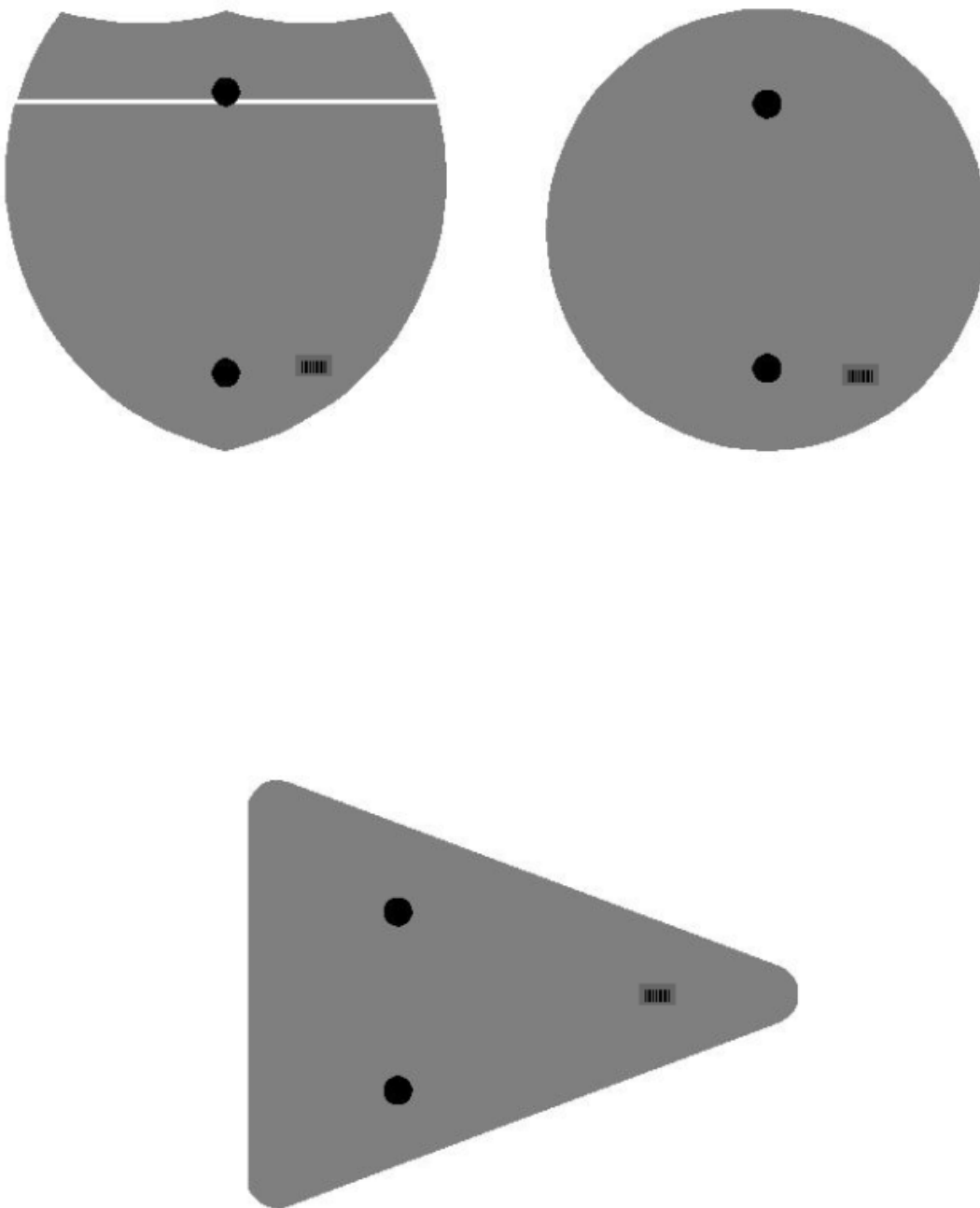




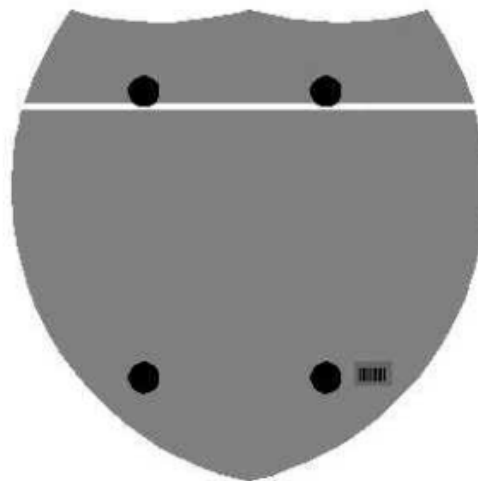
### One Sign Post



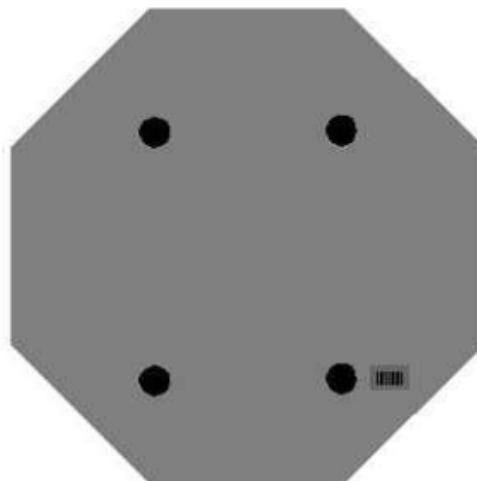
### One Sign Post



## Double Sign Post

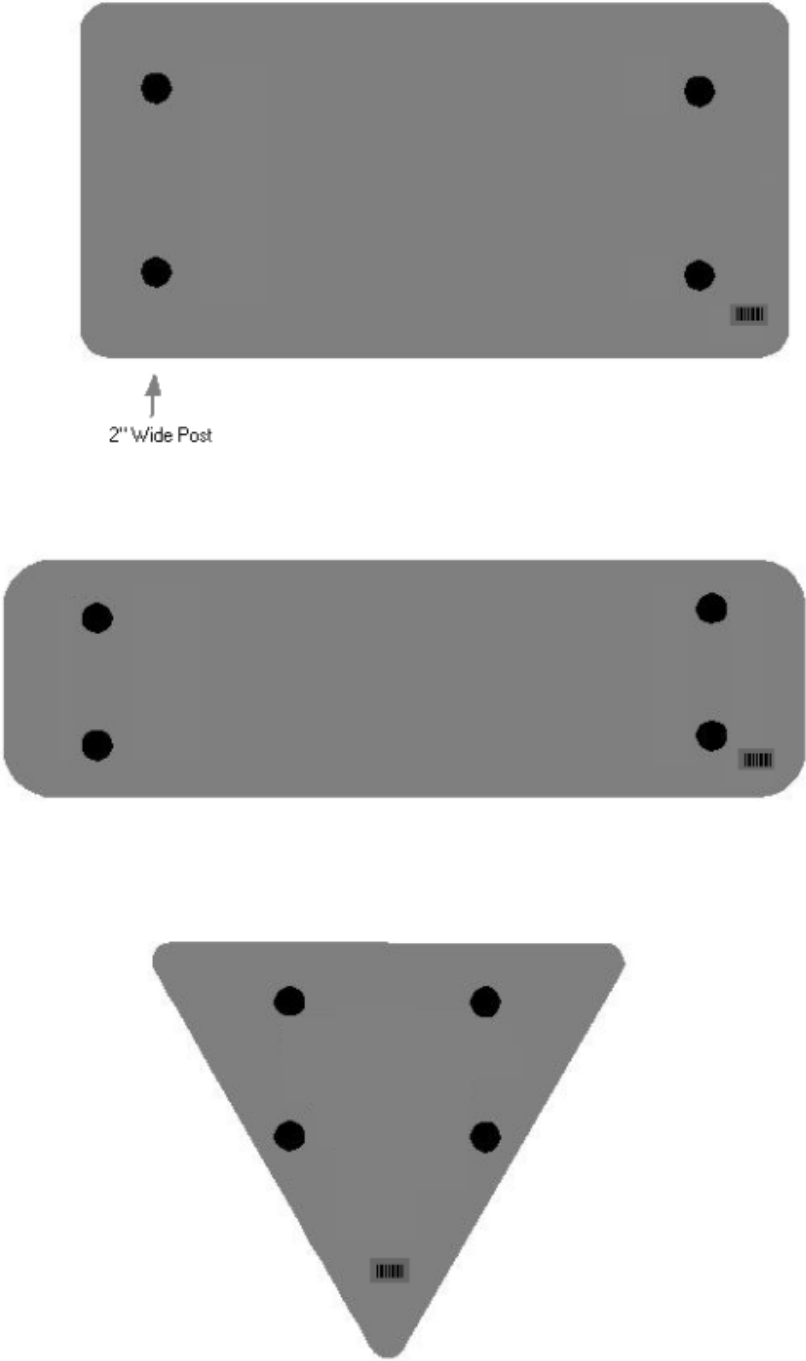


Interstate  
Shield



48" Stop

2 Post Signs



## SPECIAL NOTE

### For Additional Environmental Commitments

048B00095N HARLAN COUNTY 11-10012.00

IN ADDITION TO OTHER ENVIRONMENTAL COMMITMENTS LISTED IN THIS CONTRACT, THE FOLLOWING COMMITMENTS ALSO APPLY, AS THIS IS A FEDERALLY FUNDED UNDERTAKING AS DEFINED IN SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT, [36 CFR 800.16\(Z\)](#):

- 1) The KYTC has completed a Phase 1 archaeological survey for a site-specific area surrounding the bridge. The cleared area is shown as “Archaeologically Cleared Area” or “Environmentally Cleared Area” on the concept plans and/or the map attached to this note or included elsewhere in the proposal. Likewise, any areas that must be avoided have been labeled “Do Not Disturb.” The contractor shall install snow fencing to clearly delineate the boundary of the project lying within the bounds of the archeologically cleared area and right of way/easements. This snow fence shall be paid for per linear foot measured. If the Contractor requests additional area, and as a result additional delineation is required, the additional snow fence will not be paid and will be considered incidental to the original line item for snow fence.

If the Contractor deems it necessary to use additional areas outside the Archaeologically/ Environmentally Cleared Area for any purposes—e.g., laydown yards, vehicle parking, parking cranes, delivering beams, borrow areas, waste areas, etc.—the Contractor must first get a written agreement with the landowner (assuming the additional area is outside the right-of-way). Then the Contractor shall seek approval of the use of the site—whether within or outside the right-of-way—by both the KYTC Section Supervisor and the Bridging Kentucky Environmental Lead at [BKY\\_Env@docs.e-builder.net](mailto:BKY_Env@docs.e-builder.net). The Contractor shall provide a map of the area(s) to be used, including access points, and property-owner agreements. The BKY Environmental Team will complete initial field investigations for archaeological, historical, ecological, and other environmental clearances. If any potentially significant site or resources are found, the KYTC has the right to deny the use of the proposed site. The maps and property owner agreements are to be submitted at least ten (10) business days prior to the Preconstruction Conference, or sixty (60) days prior to the Contractors access to the site, for coordination and review by the KYTC District and Bridging Kentucky Team.

A Liquidated Damage of \$50,000 will be assessed whenever the Contractor has used any restricted areas. The fee will be assessed on a *per bridge* basis, whether the contract involves bridge bundles or a single bridge. In addition, all fines, fees, penalties, remediation costs, and other damages related to breaches of Threatened and Endangered Species Act Section 7, National Historic Preservation Act Section 106, Clean Water Act Sections 401 and 404, Kentucky General Permit for Stormwater Discharges KYR10, Environmental Protection Agency requirements, State Historic Preservation Office requirements, and other related permitting agencies will be paid by the Contractor, including all associated costs and burdens placed upon the Kentucky Transportation Cabinet.

- 2) In the event that human remains are encountered during project activities, all work should be immediately stopped in the area. The area should be cordoned off, and, in accordance with KRS

72.020, the county coroner and local law enforcement must be contacted immediately. Upon confirmation that the human remains are not of forensic interest, the unanticipated discovery must be reported to Nicolas Laracuenta at the Kentucky Heritage Council at (502) 892-3614, George Crothers at the Office of State Archaeology at (859) 257-1944, and KYTC DEA archaeologists at (502) 564-7250.

For guidance regarding inadvertent discovery and treatment of human remains, refer to the KYTC's [\*Right of Way Guidance Manual\*](#) (Section ROW-1202), and the Advisory Council on Historic Preservation's (ACHP) [\*Policy Statement Regarding Treatment of Human Remains and Grave Goods\*](#) (adopted by ACHP February 23, 2007).

- 3) If, during the implementation of The Project, a previously unidentified historic/ archaeological property is discovered or a previously identified historic/archaeological property is affected in an unanticipated manner, the contractor shall (1) call KYTC DEA archaeologists at (502) 564-7250, (2) call SHPO archaeologists at (502) 892-3614, and (3) ensure that all work within a reasonable area of the discovery shall cease until such time as a treatment plan can be developed and implemented.

## **SPECIAL NOTE**

### **FOR SEDIMENT PREVENTION AND EROSION CONTROL**

048B00095N HARLAN COUNTY 11-10012.00

#### **FOR IMPACT REGARDLESS OF SIZE OF THE DISTURBED AREA**

Potential impacts to gray bat foraging habitat and habitat for federally listed fish and mussel species will be minimized by implementing erosion prevention and sediment control measures.

As required under Section 213 of the KYTC Standard Specifications, prior to onsite activities a **site-specific *Erosion Control Plan* including BMPs** to ensure continuous erosion control throughout the construction and post construction period. The plan will identify individual Disturbed Drainage Areas (DDA) where storm water from the construction area will be discharged off site or into waters of the Commonwealth.

Should the Contractor fail to create a BMP Plan or provide and maintain the necessary erosion control, Liquidated Damages will apply at the rate specified in the contract. If no rate is specified, Liquidated Damages will be applied at the rate specified in Section 108 of the Standard Specifications.

The erosion prevention and sediment controls proposed are presented below.

- The location of the individual erosion prevention/sediment control measures will be identified by the Resident Engineer and Contractor. The Contractor will place erosion control devices as identified in the site-specific BMP Plan prior to beginning work.
- Mulch will be placed, during grade and drain activities, across all areas where no work will be conducted for a period of 14 consecutive days.
- Tree clearing within the riparian zone will be minimized. Trees to be removed will be determined by the resident engineer and the contractor prior to disturbance. (Note: Any “Special Note for Tree Clearing Restrictions” must be adhered to.)
- Silt fence, or other approved method as appropriate, will be installed at the edge of waters within the project corridors to eliminate the deposition of rock and debris in the streams during construction activities. In the unforeseen event that unintended debris does enter the streams, the resident engineer will halt the contributing activity until appropriate remedial actions have been implemented.
- To the maximum extent plausible, construction activities will take place during low-flow periods.
- Equipment staging and cleaning areas will be located to eliminate direct inputs to waters of the Commonwealth. These areas will be located such that effluent will be filtered through vegetated areas and appropriate sediment controls prior to discharge offsite.

- Concrete will be poured in a manner to avoid spills into the streams. In the unforeseen event that a spill does occur, the USFWS will be notified, and the resident engineer will immediately halt the activity until remedial measures have been implemented.
- KYTC proposes to stabilize areas disturbed during construction activities through vegetation establishment and placement of riprap and geotextile fabric. Re-vegetation of the disturbed areas will allow thermoregulation of water within the streams, establish long-term, regenerative stabilization of the stream banks, and provide nutrients to the aquatic macroinvertebrate community through inputs of organic material.
- Areas disturbed during construction and not stabilized with rip rap and erosion blanket will be seeded using a standard seed mix. Depending on project slope and project location, application rates and seed mix types will vary. The Contractor shall perform all final seeding and protection, in accordance with the plans and Section 212 of KYTC Standard Specifications.
- Contrary to Section 213.03.03, paragraph 2, the Engineer shall conduct inspections as needed to verify compliance with Section 221 of KYTC Standard Specifications. The Engineer's inspections shall be performed a minimum of once per month and within seven (7) days after a storm of ½ inch or greater. Copies of the Engineer's inspections shall not be provided to the Contractor unless improvements to the BMPs are required. The Contractor shall initiate corrective action within 24 hours of any reported deficiency and complete the work within five (5) days. The Engineer shall use Form TC 63-61 A for this report. Inspections performed by the Engineer do not relieve the Contractor of any responsibility for compliance. If corrections are not made within the five (5) days specified, the liquidated damages will apply at the rate specified in the Liquidated Damages note in the contract.
- Contrary to Sections 212.05 and 213.05, unless listed in the proposal, bid items for temporary BMPs and items for permanent erosion control will not be measured for payment and will be replaced with one lump sum item for the services. Payment will be pro-rated based on the Project Schedule as submitted by the Contractor and as agreed to by the Engineer.
- The Contractor shall be responsible for applying "good engineering practices." The Contractor may use any temporary BMPs and permanent BMPs that fall within the guidance of the current Standard Specifications, KYTC's Best Management Practices manual, and with the approval of the KYTC Engineer.

#### FOR IMPACT GREATER THAN 1.0 ACRE

When the total disturbed area for a project, including laydown and waste/borrow areas, is greater than 1.0 acre, the Contractor shall be responsible for filing the Kentucky Pollution discharge Elimination System (KPDES) KYR10 permit Notice of Intent (NOI) with the Kentucky Division of Water (DOW). The Contractor will be responsible for following the KPDES requirements of local Municipal Separate Storm Sewer System (MS4) programs with jurisdiction. Required NOI shall name the Contractor as the Facility Operator and include the KYTC Contract ID Number (CID) for reference. For grouped contracts with more than one structure, each structure will be treated independently in regards to disturbed area unless another structure is within 0.25 mile of



the structure. For structures within 0.25 mile of each other, the total disturbed area will be the sum of the combined disturbed areas. The Contractor shall be responsible for filing the KPDES permit Notice of Termination (NOT) with the Kentucky DOW and any local MS4 Program that has jurisdiction. The NOT shall be filed after the Engineer agrees the project is stabilized or the project has been formally accepted.

The Contractor shall perform all temporary erosion/sediment control functions including: providing a Best Management Practice (BMP) Plan, conducting required inspections, modifying the BMP Plan documents as construction progresses, and documenting the installation and maintenance of BMPs in conformance with the KPDES KYR10 permit effective on August 1, 2009, or a permit re-issued to replace that KYR10 permit. This work shall be conducted in conformance with the requirements of Section 213 of the KYTC current Department of Highways, Standard Specifications for Road and Bridge Construction (Standard Specifications).

The Contractor shall be responsible for the examination of the soils to be encountered and make his own independent determination of the temporary BMPs that will be required to accomplish effective erosion prevention and sediment control. The Contractor shall provide the Engineer copies of all documents required by the KPDES permit at the time they are prepared.

**If there are any questions regarding this note, please contact Danny Peake, Director, Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250.**

**SPECIAL NOTE FOR FOUNDATION PREPARATION**  
**048B00095N HARLAN COUNTY 11-10012.00**

**Foundation Preparation.** For projects involving the removal and replacement of the asphalt and backfill behind the existing abutments and new abutments or end bents, the required excavation, geotextile fabric Class 1, 4" perforated pipe, and new Structural Granular Backfill as shown in Figure 1 as well as any excavation and grading needed to shape the bridge approaches to match the existing roadway template, will be paid for by the bid item for Foundation Preparation. See Special Provision 69 and the Standard Drawings regarding additional construction details as required.

Backfill material used behind newly constructed abutments on county routes may be constructed with Type III soil backfill. All existing abutments, abutments on state routes, and newly constructed or existing bents must be backfilled with material meeting Structural Granular Backfill specifications.

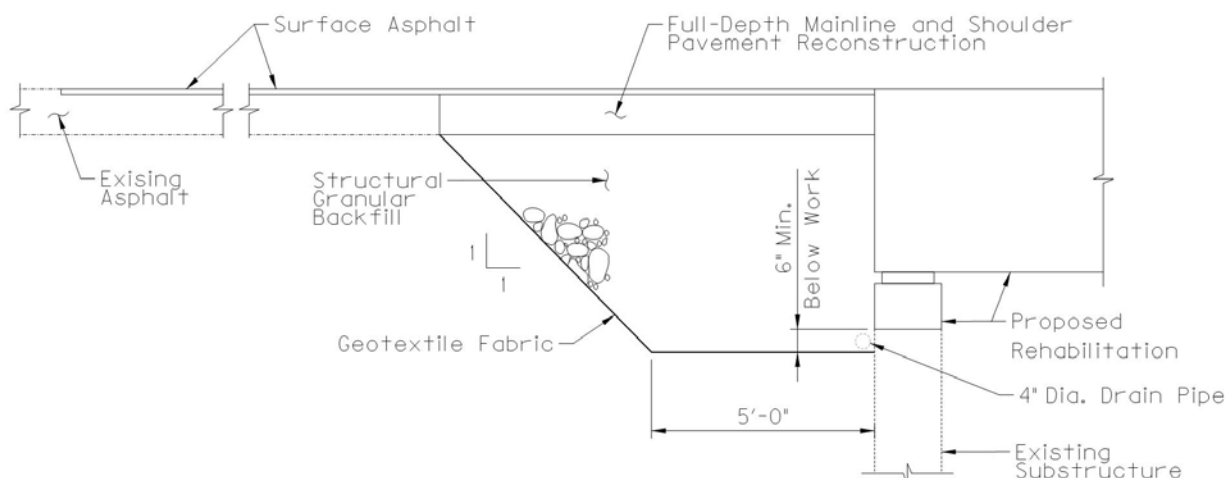


Figure 1: Detail showing proposed work for deck and superstructure replacements

**I. MEASUREMENT**

A. Foundation Preparation: See Section 603.

**II. PAYMENT**

A. Foundation Preparation: See Section 603. Payment for Structural Granular Backfill or Type III soil backfill to be incidental to Foundation Preparation.

### **SPECIAL NOTE FOR CONCRETE SEALING**

**048B00095N HARLAN COUNTY 11-10012.00**

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

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

This work consists of:

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

**II. MATERIALS.**

- A. Sealer.** Use one of the following:

<b>Product</b>	<b>Supplier</b>
Protectosil BHN	Evonik Industries
Protectosil 300S	Evonik Industries
TK-590-40 Tri-Silane 40%	TK Products
SW-244-100	Chemical Products Industries, Inc.
TK-590-1 MS Tri-Silane	TK Products
MasterProtect H1000	BASF
Aquanil Plus 40	ChemMasters
SIL-ACT ATS-100	Advanced Chemical Technologies
Certivex Penseal BTS 100%	Vexcon
Pentreat 244-40	W.R. Meadows
Aquanil Plus 40A	ChemMasters

- B. Coverage Rate:** Follow all manufacturers recommendations for coverage rates except the application rate must not exceed the square footage coverage rate per gallon of sealer as given in the chart below. If the manufacturer recommends a coverage rate greater than given in the table below, apply sealer at the rate given in the table below for the chosen sealers silane percentage.

% Silane	Coverage rate (ft <sup>2</sup> /gallon)
100	300
40	120
20	60

### III. CONSTRUCTION.

- A. Perform Concrete Repairs.** Repair concrete surface in accordance with the Special Note for Epoxy Injection Crack Repair and/or the Special Note for Concrete Patching Repair if included in the contract documents.
- B. Curing Compound.** Contrary to Section 609.03.12 of the specifications, curing compound is not to be used on the deck due to potentially causing issues with the concrete sealer. During the deck pour, finishing, and tining operations the Class AA concrete shall be kept continuously moist with the use of a mister until burlap or curing blankets are applied to the surface. At no point should water be pooling or running off the surface or the surface of the concrete be allowed to become dry. After the burlap or curing blankets are installed, cure in accordance with the specifications. Include all costs in the unit price bid for Class AA concrete. Failure to properly cure the concrete in accordance with this note and the specifications may result in weakened or cracked concrete. If the concrete is weakened or cracked due to improper curing, the contractor will be responsible for providing alternates to fix the issues to the Engineer for review and the contractor will be solely responsible for all costs to do so, up to complete replacement. Do not begin any construction on fixing any issues without approval of the Engineer.
- C. Apply Ordinary Surface Finish.** In addition to new concrete, areas receiving epoxy injection, concrete patching, and other surface imperfections, including areas of minor cracking, should receive Ordinary Surface Finish in accordance with Section 601.03.18 of the Standard Specifications. Existing structural items not newly placed, patched, or repaired may be exempt from Ordinary Surface Finish. Use mortar of the same cement and fine aggregate as the concrete patching, or as directed by the Engineer. Payment will be incidental to Concrete Sealing. Finish surface of bridge decks in accordance with Section 609 of the Standard Specifications.
- D. Areas to Receive Concrete Sealing:**
1. Every exposed surface above a point 6" below ground or fill line of abutments, wing walls, end bent and pier caps, pedestals, back walls, columns, and exposed footings.

2. All exposed surfaces of concrete deck, barrier walls, parapets, curbs, and plinths.
  3. Prestressed Concrete I-Girders, Concrete Beams, and Spread Prestressed Concrete Box Beams: The underneath surfaces of slab overhangs outside of exterior concrete girders and to the exterior side and bottom of exterior concrete girders and beams.
  4. Adjacent Prestressed Concrete Composite Box Beams: Full length of the exterior face of all exterior beams from the top of the box beam to 1'-0" underneath the beams.
  5. Prestressed Non-Composite Box Beams: All faces of all beams, excluding surfaces to be covered with a waterproofing membrane. Take care to ensure that the grout pockets are not sealed.
  6. If the contract documents include the Special Note for Concrete Coating, do not apply concrete sealer to the areas where Concrete Coating is specified.
- E. Cleaning the Concrete Surfaces to be sealed.** Dry clean the concrete to remove all loose debris. Remove all visible hydrocarbons from the surface with detergent approved by the manufacturer of the deck sealant. Pressure wash all surfaces to be sealed at 2000 to 3000 psi. Install pressure gauges at each wand to verify pressure. Use 30° fan tip or as recommended by the manufacturer of the sealant. Hold pressure washing wand a minimum of 45° from the surfaces with a maximum stand-off distance of 12 inches.
- F. Sealing the Concrete.** Allow new concrete to cure a minimum 28 days prior to application of sealer. Monitor weather conditions prior to sealer application. Refer to manufacturer's recommendations for proper ambient conditions. Do not apply sealer if precipitation is anticipated within the time stated by the manufacturer. Allow the concrete to dry 24 hours (after washing or rain event) before sealer application. The bridge deck can be reopened to traffic while drying. Sealer must be applied within 48 hours of washing or the concrete must be rewashed. Divide the concrete into predefined areas of specific square footage to aid in determining usage. Comply with manufacturer's usage recommendation. Using a low-pressure pump, apply sealer and spread evenly with broom or squeegee; do not allow pooling to remain. When each predefined area is complete, measure the amount of sealer used to verify proper usage. After sealing, follow manufacturer's recommended cure time before opening to traffic. On vertical surfaces, apply the sealer in a flooding application from the bottom up, so the material runs down 6 to 8 inches below the spray pattern.
- G. Inspection:** Monitor all aspects of the project to assure compliance to this specification. Observe and document general conditions during the entirety of the project. Verify that each phase of work has been satisfactorily completed prior to beginning the next phase. Phases are described as follows:
1. Dry cleaning to remove loose debris, verify and document:
    - a. All debris has been removed and disposed of properly.
  2. Removal of hydrocarbons, verify and document:

- a. The manufacturer's recommended detergent is used for removal.
- b. Hydrocarbons have been satisfactorily removed.
- 3. Pressure washing, verify and document:
  - a. Washing pressure at the wand.
  - b. Tip size used.
  - c. Wash angle and stand-off distance.
  - d. The concrete is satisfactorily cleaned.
- 4. Sealer application, verify and document:
  - a. Proper cure time for new concrete.
  - b. Concrete surface is dry.
  - c. Document time since washed.
  - d. Was the bridge deck opened to traffic after washing?
  - e. Document ambient temperature, surface temperature, relative humidity, and dew point.
  - f. Application and distribution method.
  - g. Coverage to be complete and even.
  - h. Material is not allowed to remain pooled.
  - i. Monitor material usage.
  - j. No traffic on the bridge decks until proper cure time is allowed.

#### **IV. MEASUREMENT**

- A. Concrete Sealing.** The Department will measure the quantity per square feet of each area sealed.

#### **V. PAYMENT**

- A. Concrete Sealing.** Payment at the contract unit price per square feet is full compensation for the following: (1) Furnish all labor, materials, tools, and equipment; (2) Cleaning; (3) Sealing; (4) Maintain & control traffic; and, (5) Any other work specified as part of this contract.

**SPECIAL NOTE FOR CONTRACT COMPLETION DATE AND  
LIQUIDATED DAMAGES ON BRIDGE REPAIR CONTRACTS**  
**048B00095N                      HARLAN COUNTY                      11-10012.00**

**I. COMPLETION DATE.**

Upon Notice to Proceed, the Contractor has the option of selecting the Begin Work date. Once selected, notify the Department in writing of the date selected at least two weeks prior to beginning work and provide a proposed project schedule. All work is to be completed by the specified contract completion date. The Contractor is allotted 100 calendar days once the bridge is closed to complete all work to safely reopen the structure with no lane closures. At a minimum, prior to reopening the bridge to traffic, all strength requirements and curing for materials used shall be completed per Division 600 of the Standard Specifications. Guardrail shall be installed to the satisfaction of the Engineer prior to reopening the bridge to traffic unless prior approval is obtained from the engineer for use of temporary railing.

The Engineer will begin charging calendar days for a structure on the day the Contractor closes the structure to traffic, regardless of holidays or seasonal weather limitations.

**II. LIQUIDATED DAMAGES.**

Liquidated damages will be assessed to the Contractor in accordance with the Transportation Cabinet, Department of Highway's current Standard Specifications for Road and Bridge Construction, Section 108.09, when either the allotted number of calendar days or the specified completion date is exceeded.

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

Any approval of cold weather plans or allowance of construction operations to occur outside Section 606 and/or Section 601 does not alleviate the 100-day maximum bridge closure. In the event the closure lasts longer than 100 calendar days as specified, liquidated damages will apply to all excess days regardless of weather limitations.

## **SPECIAL PROVISION FOR WASTE AND BORROW SITES**

Obtain U.S. Army Corps of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". The Corps of Engineers defines "Waters of the United States" as perennial or intermittent streams, ponds or wetlands. The Corps of Engineers also considers ephemeral streams, typically dry except during rainfall but having a defined drainage channel, to be jurisdictional waters. Direct questions concerning any potential impacts to "Waters of the United States" to the attention of the appropriate District Office for the Corps of Engineers for a determination prior to disturbance. Be responsible for any fees associated with obtaining approval for waste and borrow sites from the U.S. Army Corps of Engineer or other appropriate regulatory agencies.

1-296 Waste & Borrow Sites  
01/02/2012

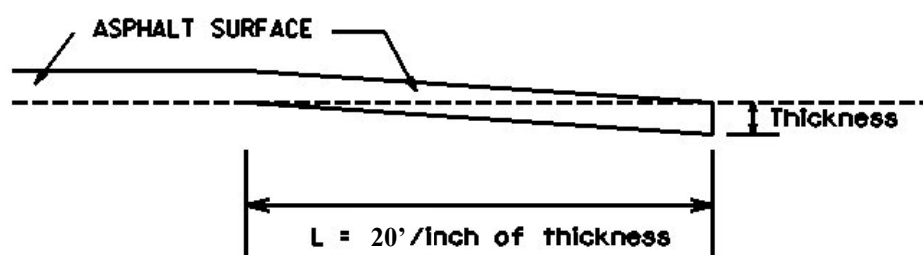


## SPECIAL NOTE FOR EDGE KEY

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Construct Edge Keys at the beginning of project, end of project, at railroad crossings, and at intersections with ramps, as applicable. Unless specified in the Contract or directed by the Engineer, do not construct edge keys at intersecting streets, roads, alleys, or entrances. Cut out the existing asphalt surface to the required depth and width shown on the drawing and heel the new surface into the existing surface. The Department will measure the Edge Key at the joint as the width of the pavement perpendicular to the centerline in linear feet. The Department will pay for this work at the Contract unit price per linear foot, which shall be full compensation for all labor, materials, equipment, and incidentals for removal and disposal of the existing asphalt surface required to construct the edge key.

### EDGE KEY



Thickness = 1.25 Inches

L = 25 LF

L = Length of Edge Key

## SPECIAL NOTES FOR GUARDRAIL

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### I. DESCRIPTION

Except as specified herein, perform all work in accordance with the Department's Standard and Supplemental Specifications, Special Notes and Special Provisions, and the Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications.

Furnish all equipment, labor, materials, and incidentals for the following work items:

(1) Site preparation; (2) Remove existing guardrail systems; (3) Construct Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections, as applicable; (4) Delineators for guardrail; (5) Maintain and Control Traffic; and (6) all other work specified as part of this contract.

### II. MATERIALS

Except as specified herein, provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual and make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing.

**A. Maintain and Control Traffic.** See Traffic Control Plan.

**B. Guardrail.** Furnish guardrail system components according to Section 814 and the Standard and Sepia Drawings; except use steel posts only, no alternates.

**C. Delineators for Guardrail.** Furnish white and/or yellow Delineators for Guardrail according to Standard Drawing RBR-055 – Delineators for Guardrail, current edition.

**D. Erosion Control.** See the Special Note for Erosion Control.

### III. CONSTRUCTION METHODS

**A. Maintain and Control Traffic.** See Traffic Control Plan.

**B. Site Preparation.** Remove existing guardrail system, including the guardrail end treatments, Bridge End connectors and all other elements of the existing guardrail system as per Section 719, except that the Contractor will take possession of all concrete posts and all concrete associated with the existing bridge and/or guardrail end treatments. Locate all disposal areas off the Right of Way. Be responsible for all site preparation, including but not limited to, clearing and grubbing, excavation, embankment, and removal of all obstructions or any other items; regrading, reshaping, adding and compacting of suitable materials on the existing shoulders to provide proper template or foundation for the guardrail;

Guardrail  
Page 2 of 3

filling voids left as the result of removing existing guardrail and guard posts with dry sand; temporary pollution and erosion control; disposal of excess, waste materials, and debris; and final dressing, cleanup, and seeding and protection. Perform all site preparation as approved or directed by the engineer.

- C. Guardrail.** Except as specified herein, construct guardrail system according to Section 719 and the Standard and Sepia Drawings, current editions. Locations listed on the summary and/or shown on the drawings are approximate only. The Engineer will determine the exact termini for individual guardrail installations at the time of construction. Unless directed otherwise by the Engineer, provide a minimum two (2) foot shoulder width. Construct radii at entrances and road intersections as directed by the Engineer.

Erect guardrail to the lines and grades shown on the current Standard and Sepia Drawings, or as directed by the Engineer by any method approved by the Engineer which allows construction of the guardrail to the true grade without apparent sags.

When removing existing guardrail and installing new guardrail, do not leave the blunt end exposed where it would be hazardous to the public. When it is not practical to complete the construction of the guardrail and the permanent end treatments and terminal sections first, provide a temporary end by connecting at least 25 feet of rail to the last post, and by slightly flaring, and burying the end of the rail completely into the existing shoulder. If left overnight, place a drum with bridge panel in advance of the guardrail end and maintain during use.

- D. Delineators for Guardrail.** Construct Delineators for Guardrail according to Standard Drawing RBR-055 – Delineators for Guardrail, current edition.
- E. Property Damage.** Be responsible for all damage to public and/or private property resulting from the work. Restore damaged roadway features and private property at no additional cost to the Department.
- F. Coordination with Utility Companies.** Locate all underground, above ground, and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require utilities to be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities. Be responsible for repairing all utility damage that occurs as a result of guardrail operations at no additional cost to the Department.
- G. Right of Way Limits.** The Department has not established the exact limits of the Right-of-Way. Limit work activities to obvious Right-of-Way, permanent or temporary easements, and work areas secured by the Department through consent and release of the adjacent property owners. Be responsible for all encroachments onto private lands.

Guardrail  
Page 3 of 3

- H. Clean Up, Disposal of Waste.** Dispose of all removed concrete, debris, and other waste and debris off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.
- I. Final Dressing, Seeding and Protection.** Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.
- J. Erosion Control.** See the Special Note for Erosion Control.

**IV. METHOD OF MEASUREMENT**

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. Site preparation.** Other than the bid items listed, the Department will not measure Site Preparation for separate payment but shall be incidental to the Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections, as applicable.
- C. Guardrail, End Treatments, Bridge End Connectors, Terminal Sections, and Remove Guardrail.** The Department will measure according to Section 719.04.
- D. Delineators for Guardrail.** See Standard Drawing RBR-055 – Delineators for Guardrail.
- E. Clean Up, Disposal of Waste, Final Dressing, and Seeding and Protection.** The Department will NOT measure for payment the operations of: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental. Seeding and Protection will be measured according to Section 212.
- F. Erosion Control.** See the Special Note for Erosion Control.

**V. BASIS OF PAYMENT**

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. Guardrail, End Treatments, Bridge End Connectors, Terminal Sections, and Remove Guardrail.** The Department will make payment according to Section 719.05.
- C. Delineators for Guardrail.** See Standard Drawing RBR-055 – Delineators for Guardrail.
- D. Erosion Control.** See the Special Note for Erosion Control.

### **SPECIAL NOTE FOR ASPHALT MILLING AND TEXTURING**

Begin paving operations within **48 hours** of commencement of the milling operation. Continue paving operations continuously until completed. If paving operations are not begun within this time period, the Department will assess liquidated damages at the rate prescribed by Section 108.09 until such time as paving operations are begun.

Take possession of the millings and recycle the millings or dispose of the millings off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department.

1-3520 48 hours Contractor keeps millings  
01/2/2012

### **Special Note for Bridge Demolition, Renovation and Asbestos Abatement**

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

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



## **Asbestos Inspection Report**

To: Tom Springer, QK4, Inc.

Date: 4-19-2019

Conducted By: Jeffrey Lee, Lee Engineering, llc  
Kentucky Accredited Asbestos Inspector # I11-05-8973

### **Project and Structure Identification**

048B00095N\_Harlan\_11\_10012\_LEE\_4-19-2019

Structure ID: 048B00095N

County and Item No: Harlan\_11\_10012

Structure Location: Ky-72 Over Clover Fk Cumberland Rvr

Sample Description: 1) black sealant between deck joints, 2) same as 1, 3) gray gasket at base of rail, 4) same as 3). All results did not contain more than 1%

Inspection Date: 3-22-19

### **Results and Recommendations**

The asbestos inspection was performed in accordance with current United States Environmental Protection Agency (US EPA) regulations, specifically 40 CFR Part 61, Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) revision, final rule effective November 20, 1990.

It is recommended that this report accompany the 10-Day Notice of Intent for Demolition ([DEP7036 Form](#)) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

Sampled materials did not contain more than 1% asbestos. Abatement not required.

DEP 7036

**NOTIFICATION OF ASBESTOS  
ABATEMENT/DEMOLITION/RENOVATION**  
(Instructions for completing form on back)

\*\*\*File this form with Regional Office where project will be performed\*\*\*

Kentucky Division for Air Quality  
300 Sower Boulevard, 2<sup>nd</sup> Floor  
Frankfort, KY 40601

PAGE 1 OF

INITIAL SUBMITTAL DATE

REVISION DATE

NOTIFICATION #

OFFICE USE ONLY

ID #

LOG #

Contractor

Address

City

State

Zip

Phone

Contact Person

Owner

Address

City

State

Zip

Phone

Contact Person

Project Location

Address

City

State

Zip

Facility Age (yrs.)

Size of Facility or Affected Part (sq.ft.)

#Floors Affected

Present and Prior Use of Facility

TYPE OF PROJECT (CHECK ONLY ONE):

Renovation ☐ Demolition ☐ Ordered Demolition ☐ Emergency ☐ Long-term ☐

PROJECT DATES:

Start Removal

End Removal

Start Renovation/Demolition

End Renovation/Demolition

**Amount of ACM to be Removed:**

	Regulated ACM (FACM)	Category II nonfriable ACM (optional)	Category I nonfriable ACM (optional)
Linear Feet			
Square Feet			
Cubic Feet			

Description of planned renovation/demolition, including abatement methods  
& demo/reno methods.

Description of affected facility components

Asbestos detection technique

Amount of Cat. I & II nonfriable ACM involved but will not be removed:

Describe physical characteristics that make it nonfriable and methods  
to keep it nonfriable (optional):

Describe contingency plan should nonfriable ACM become friable or  
additional ACM be uncovered during renovation/ demolition:

Transporter

Address

City

State

Zip

Phone

Disposal Site

Address

City

State

Zip

I hereby certify that at least one person trained as required by 40 CFR  
61.145(c)(8) will supervise the abatement work described herein. (optional  
for strictly non-friable work)

Submitted by:

Company Name:



## INSTRUCTIONS FOR COMPLETING FORM DEP7036: NOTIFICATION OF ASBESTOS ABATEMENT/DEMOLITION/RENOVATION

**Filing Deadline:** This form must be completed and filed with the Kentucky Division for Air Quality at least ten (10) working days before starting any asbestos removal, demolition, or other work which will disturb asbestos-containing material (ACM) in Kentucky facilities outside Jefferson County and in schools statewide, including Jefferson County. File with appropriate Regional Office.

**Renotification:** If developments occur that invalidate information on a notification (e.g., changes in dates, amounts, locations), file a revised form within the time frames specified in 401 KAR 58:025. Notifications may be numbered in the top-left corner (optional). First two digits are project year; remaining digits are project number (e.g., the first project in 1999 is 99-1).

**Attachments:** Attachments may be included to provide additional information, propose alternative procedures, declare nonfriable removal, identify secondary transporters, etc.

### ***Line-by-Line Instructions:***

**Contractor/Owner:** the asbestos remover (or, for zero-asbestos demolitions, the demolition contractor). The owner is the entity having the work done.  
**Project Location:** The location at the address given where the work is taking place (e.g., which building/floor/room?).

**Present/Prior Use:** Enter the present and prior use(s) of the facility.

**Type of Project:** Each choice shown in this category has a specific description under 401 KAR 58:025:

Emergency renovations result from a sudden, unexpected event. If the project is an emergency renovation, attach a detailed description of the sudden, unexpected event that necessitated removal. Include the exact date and hour the event occurred and explain how the event caused an unsafe condition, or would cause equipment damage or unreasonable financial burden.

Planned renovations are renovations that do not qualify as emergency renovations.

A long-term notification is a type of planned renovation which involves a number of nonscheduled small-scale removals whose annual total exceeds the NESHAP threshold amounts and can be estimated based on past years' experience. File yearly estimate at least 10 working days before the beginning of the calendar year for which a long-term notification is being given.

Demolitions involve the wrecking or taking out of a load-supporting structural member, such as a load-bearing beam or wall. Tearing down a structure, dismantling it piecemeal, and moving it from one place to another are all considered demolitions.

Ordered demolitions must result from a demolition order issued by a government agency because the building is structurally unsound and in danger of imminent collapse. For ordered demolitions, attach to the notification a signed, dated copy of order that includes demolition deadlines and name/title/authority of the government representative issuing the order.

**Project Dates:** Schedules must be precise and accurate. The "start removal" date is the date the removers arrive on-site and begin physically preparing the work area for removal. "End removal" is the date the removers dismantle the work area after cleaning and clearing it. If circumstances arise that invalidate previously submitted start dates, a revised notification must be submitted showing the updated, correct start date. If the start date has been moved up, submit written renotification at least ten working days before the new start date. If the start date has been moved back, telephone the Division as soon as possible before the original date and submit written renotification no later than the original start date.

Schedules for renovation and demolition (next line after removal schedule) are handled similarly, except that renotification is required only for schedule changes involving demolitions, not renovations.

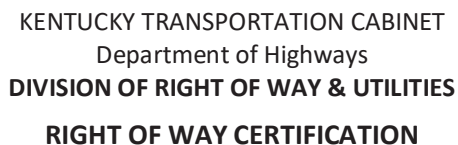
**Amount of ACM:** In this table, enter the amount and type (RACM, Category I, and/or Category II) of asbestos that will be removed. Although the regulation does not require you to identify the amount of nonfriable ACM that will be removed, the table provides space for nonfriable ACM to accommodate those notifiers who choose to document these removals.

**Description of project:** Describe the demolition or renovation work to be performed and method(s) to be used, including work practices and engineering controls to be used.

**Asbestos Detection Technique:** Give a general description of the asbestos survey, for example, "AHERA-style survey by accredited inspector; samples analyzed by PLM."


**Amount of nonfriable ...:** If all nonfriable ACM will be properly removed, enter "NA."


**Contingency Plans:** If Category II nonfriable ACM becomes crumbled, pulverized, or reduced to powder, or if additional RACM is discovered, describe procedures to be followed. For example, "Move demolition activity away from ACM immediately; remove the ACM using regulation-required procedures." Even "Stop work, call Division for Air Quality" is OK.



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

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION	
ITEM #		COUNTY		PROJECT # (STATE)	PROJECT # (FEDERAL)
11-10012		Harlan		1100 FD04 121 9414001R	
PROJECT DESCRIPTION					
Bridging Kentucky - 048B00095N - KY 72 over Clover Fork Cumberland River (replacement)					
<input type="checkbox"/>	No Additional Right of Way Required				
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 checked="" type="checkbox"/>	Condition # 1 (Additional Right of Way Required and Cleared)				
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"/>	Condition # 2 (Additional Right of Way Required with Exception)				
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"/>	Condition # 3 (Additional Right of Way Required with Exception)				
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		8	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION	
Number of Parcels That Have Been Acquired					
Signed Deed		8			
Condemnation		0			
Signed ROE		0			
Notes/ Comments (Use Additional Sheet if necessary)					
LPA RW Project Manager			Right of Way Supervisor		
Printed Name			Printed Name		Mark Askin, P.E.
Signature			Signature		Mark Askin, P.E. DN: cn=Mark Askin, P.E., o=Strand Assoc., Inc., email=mark.askin@strand.com Reason: I am approving this document Location: Louisville Office Date: 2021.06.25 -0500'
Date			Date		6/25/21
Right of Way Director			FHWA		
Printed Name		Dean M. Loy	Printed Name		
Signature		DM Loy Digitally signed by DM Loy Date: 2021.06.25 13:02:53 -04'00'	Signature		
Date			Date		

	<b>KENTUCKY TRANSPORTATION CABINET</b> Department of Highways <b>DIVISION OF RIGHT OF WAY &amp; UTILITIES</b>	TC 62-226 Rev. 01/2016 Page 1 of 1
<b>RIGHT OF WAY CERTIFICATION</b>		

<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>	
11-9016.30	Harlan	12FO FD52 048 1011003R	HSIP 5284 (008)	
<b>PROJECT DESCRIPTION</b>				
Construct a roundabout at the intersection of KY 38 and KY 72				
<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				
Notes/ Comments (Use Additional Sheet if necessary)				
<b>LPA RW Project Manager</b>			<b>Right of Way Supervisor</b>	
Printed Name			Printed Name	
			Greg Combs	
Signature			Signature	
			 2021.06.24 14:56:24	
Date			Date	
			-04'00'	
<b>Right of Way Director</b>			<b>FHWA</b>	
Printed Name			Printed Name	
Signature			Signature	
Date			Date	
Digitally signed by DM Loy Date: 2021.06.24 15:03:35 -04'00'			No Signature Required as per FHWA-KYTC Current Stewardship Agreement	

## 11-9016.30 Consent and Release Summary

Owner: Housing Authority of Harlan, by Morris Deaton

Address: 311 S Main St., Harlan, KY 40831

Description: Perform Sidewalk replacement southeast along KY 72 between the intersection of KY 38 and River St. right of centerline from 200+32.47 to 201+37.63. An approximate width of 40 ft will be needed to provide the appropriate room for sidewalk construction.

NOTE: Sidewalk construction on Parcel No. 1: Housing Authority of Harlan, DB 227 PG 673 is conditional upon receiving the consent and release from the property owner. The contractor must obtain permission from the Section Engineer prior to performing work on the property.

## UTILITIES AND RAIL CERTIFICATION NOTE

**Harlan County**  
**FD04 048 94140 01U**  
**Mile point: 11.773 TO 11.821**  
**ADDRESS DEFICIENCIES OF KY-72 BRIDGE OVER CLOVER FK CUMBERLAND RVR. (048B00095N)**  
**ITEM NUMBER: 11-10012.00**

### PROJECT NOTES ON UTILITIES

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.

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 in the previous section(s) 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

## UTILITIES AND RAIL CERTIFICATION NOTE

Harlan County  
FD04 048 94140 01U  
Mile point: 11.773 TO 11.821  
**ADDRESS DEFICIENCIES OF KY-72 BRIDGE OVER CLOVER FK CUMBERLAND RVR. (048B00095N)**  
**ITEM NUMBER: 11-10012.00**

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. 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.

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

Harlan Municipal Utilities- waterline in proximity

**\*The Contractor is fully responsible for protection of all utilities listed above\***

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

AT&T - Telephone

Kentucky Utilities - Electric

UTILITIES AND RAIL CERTIFICATION NOTE

<div>Harlan County</div> <div>FD04 048 94140 01U</div> <div>Mile point: 11.773 TO 11.821</div> <div>ADDRESS DEFICIENCIES OF KY-72 BRIDGE OVER CLOVER FK CUMBERLAND RVR. (048B00095N)</div> <div>ITEM NUMBER: 11-10012.00</div>
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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

City of Harlan- Sewer Line

RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

☒ No Rail Involvement    ☐ Rail Involved    ☐ Rail Adjacent

## UTILITIES AND RAIL CERTIFICATION NOTE

<b>Harlan County</b> <b>FD04 048 94140 01U</b> <b>Mile point: 11.773 TO 11.821</b> <b>ADDRESS DEFICIENCIES OF KY-72 BRIDGE OVER CLOVER FK CUMBERLAND RVR. (048B00095N)</b> <b>ITEM NUMBER: 11-10012.00</b>
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## AREA FACILITY OWNER CONTACT LIST

Facility Owner	Address	Contact Name	Phone	Email
AT&T - Telephone	29 Wills Branch Prestonsburg KY 41653	Jack Salyer	606-424-9328	js2299@att.com
Kentucky Utilities - Electric	820 W. Broadway Louisville KY 40202	Caroline Justice	502-627-3708	<a href="mailto:Caroline.Justice@lge-ku.com">Caroline.Justice@lge-ku.com</a>
<b><u>Harlan Municipal Water Works</u></b>	PO Box 114 125 River Street Harlan, KY 40831	Otis Lewis	606-573-1540	<a href="mailto:hmwwotl@harlanonline.net">hmwwotl@harlanonline.net</a>
City of Harlan	Harlan	Leo Miller	606-573-4300	<a href="mailto:lmiller@leomillerengineering.com">lmiller@leomillerengineering.com</a>



# Standard Sanitary Sewer Bid Item Descriptions

**S BYPASS PUMPING** This item shall include all labor, equipment, and materials needed to complete a bypass pumping and/or hauling operation for diversion of sewage during sanitary sewer construction. Examples of such operations when bypass pumping and/or hauling may be necessary is during force main tie-ins, manhole invert reconstruction, insertion of new manholes into existing mains, or other similar construction. There may be more than one bypass pumping/hauling operation on a project. This item shall be paid for each separate bypass pumping/hauling operation occurrence as called out on the plans or directed by the engineer and actually performed. There will be no separate bid items defined for length, duration, or volume of sewage pumped or hauled in each occurrence. If a bypass pumping/hauling operation is called out on the plans; but, conditions are such that the bypass pumping/hauling operation is not needed or utilized, no payment will be made under this item. The contractor shall draw his own conclusions as to what labor, equipment, and materials may be needed for each bypass pumping/hauling occurrence. The contractor should be prepared to handle the maximum volume of the sewer being bypassed, even during a storm event. This item shall not be paid separately, but shall be considered incidental, when bypass pumping and/or hauling is needed during cast-in-place-pipe (CIPP) and/or point repair operations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA).

**S CIPP LATERAL SERVICE INVESTIGATION** This item shall include all equipment, materials, labor and incidentals necessary to enter the sewer in compliance with all safety/confined space requirements and perform the identification, assessment and pre-measurement of all existing and abandoned laterals for the placement of Cured-In-Place-Pipe lining. This item shall be in payment for all lateral service investigation for all sewer segments to be lined as a part of this contract. This bid item shall include bypass pumping when required. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Payment for this item shall be LUMP SUM (LS).

**S CIPP LATERAL REINSTATEMENT** This item is to pay for installing a Cured-In-Place-Pipe liner in service laterals and service/mainline connections to stabilize structural defects and construction inadequacies. This bid item shall include all labor, equipment, materials and incidentals necessary to perform the service lateral reinstatement in accordance with the plans and specifications. Work under this item shall include bypass pumping, sewer flow control, pre-installation cleaning, sealing connections to existing sewer main, pre- and post- construction CCTV inspection and final testing of the CIPP system. This item shall also include the "top hat" required by the specifications. All CIPP lateral reinstatements shall be paid under this item regardless of the size or length of reinstatement. No separate bid items of varying sizes or length of CIPP lateral reinstatement will be provided in the contract. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Payment for this item shall be EACH (EA) for each CIPP lateral reinstatement complete and ready for use.

**S CIPP LINER** This bid Item is to pay for rehabilitation of existing sanitary sewers using the Cured-In-Place-Pipe method. This bid item description applies to all CIPP sizes included in the contract.

All CIPP Liner items of all varying sizes shall include all labor, materials, customer notification, testing, necessary permits, ingress and egress procedures, bypass pumping, pre-construction video, sediment and root removal, dewatering, traffic control, erosion and sediment control, excavation pits, removal and replacement of manhole frames and covers as necessary to facilitate the lining work, sealing at manholes and service connections, clearing and grubbing, pipeline cleaning, re-cleaning and video inspection as many times as necessary, debris collection and disposal, root removal, pre- and post-construction video inspection, all digital inspection footage, final report preparation and approval, the cost of potable water from the Owner, required compliance tests, site restoration, site cleanup, sealing of liner at manholes, acceptance testing and all other rehabilitation work and incidentals not included under other pay items necessary to complete the rehabilitation per the plans and specifications. There will be no separate payment for acceptance testing of the lined pipe; but shall be considered incidental to this item. Pay under this item shall be by each size bid in the contract. Pay measurement shall be from center of manhole to center of manhole. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

**S CIPP PROTRUDING LATERAL REMOVAL** This item includes all equipment, materials, labor and incidentals necessary to enter the sewer in compliance with all safety/confined space requirements, remove a sufficient amount of the protruding tap to insure a proper and safe Cured-In-Place-Pipe lining insertion and perform pre-installation CCTV. This bid item shall include bypass pumping when required. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Payment for this item shall be EACH (EA) for each protruding lateral removed.

**S CONCRETE PIPE ANCHOR** This item shall be constructed on the sewer pipe at the locations shown on the plans in accordance with sanitary sewer specifications and standard drawings. Payment for concrete anchors will be made at the contract unit price each in place complete and ready for use. Each concrete anchor of sewer pipe or force main shall be paid under one bid item per contract regardless of the sizes of carrier pipe being anchored in the contract. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S DIRECTIONAL BORE** Payment under this item is made whenever the plans or specifications specifically show directional boring is to be utilized in order to minimize the impact of open cut for the installation of force main or gravity sewer under streets, creeks, and etc. Payment under this item shall include the specified bore pipe, labor, and equipment. No separate payment shall be made for bore pipe installed in the bore whether used as a carrier pipe or an encasement of a separate carrier pipe. This item shall also include pipe anchors at each end of the bore when specified to prevent the creep or contraction of the bore pipe. Carrier pipe installed within a bore pipe shall be paid separately under pipe items. Payment under this item shall not be size specific and no separate bid items will be established for size variations. The bore pipe sizes to be included under this item shall be as shown on the plans and/or in the specifications. Any and all directional bores in each contract shall be paid under one directional bore bid item included in the contract regardless of size. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

**S ENCASEMENT CONCRETE** Includes all labor, equipment, excavation, concrete, reinforcing

steel, backfill, restoration, and etc., to construct the concrete encasement of the sewer or force main as shown on the plans, and in accordance with the specifications and standard drawings. Payment under this item shall be in addition to the carrier pipe as paid under separate bid items. Carrier pipe is not included in this bid item. Any and all concrete encasement shall be paid under one bid item included in the contract regardless of the size of the carrier pipe or the volume of concrete or steel reinforcement as specified in the plans and specifications. No separate bid items will be established for size variations. Measurement of pay quantity shall be from end of concrete to end of concrete. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

**S ENCASEMENT STEEL BORED** This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to bore and install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The sizes of encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

*(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.)* Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

**S ENCASEMENT STEEL OPEN CUT** This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to open cut install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The size encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

*(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.)* Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

**S FORCE MAIN** This description shall apply to all PVC and ductile iron and polyethylene/plastic pipe bid items of every size and type, except those bid items defined as “Special”. This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, bends, tees, reducers, plugs, and caps), tracing wire with test boxes (if required by specification), polyethylene wrap (when specified), labor, equipment, excavation, bedding, restoration, testing, backfill, and etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. No additional payment will be made for rock excavation. This bid item includes material and placement of flowable fill under existing and proposed pavement, and wherever else specified on the plans or in the specifications. This item shall also include pipe anchors on polyethylene pipe runs as shown on the plans or required by the specifications to prevent the creep or contraction of the pipe. Measurement of quantities under this item shall be through fittings, encasements, and directional bores (only when a separate carrier pipe is specified within the directional bore pipe). No separate payment will be made under pipe items when the directional bore pipe is the carrier pipe. Measurements shall be further defined to be to the center of tie-in where new pipe contacts existing pipe at the center of connecting fittings, to the outside face of vault or structure walls, or to the point of main termination at dead ends. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

**S FORCE MAIN AIR RLS/VAC VLV** This bid item description shall apply to all force main air release/vacuum valve installations of every size except those defined as “Special”. This item shall include the air release/vacuum valve, main to valve connecting line or piping, manhole/vault/structure, access casting or doors, tapping the main, labor, equipment, excavation, proper backfill and restoration required to install the air release/vacuum valve at the location shown on the plans or as directed in accordance with the specifications and standard drawings complete and ready for use. All air release/vacuum valves on a project shall be paid under one bid item regardless of size. No separate pay items will be established for size variations. Only in the case of the uniqueness of a particular air release/vacuum valve would a separate bid item be established. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S FORCE MAIN DIRECTIONAL BORE** Payment under this item is made whenever the plans or specifications specifically show directional boring is to be utilized in order to minimize the impact of open cut for the installation of sewer or force main under streets, buildings, creeks, and etc. Payment under this item shall include the specified bore pipe, labor, and equipment. No separate payment shall be made for bore pipe installed in the bore whether used as a carrier pipe or an encasement of a separate carrier pipe. This item shall also include pipe anchors at each end of the bore when specified to prevent the creep or contraction of the bore pipe. Carrier pipe installed within a bore pipe shall be paid separately under pipe items. Payment under this item shall not be size specific and no separate bid items will be established for size variations. The bore pipe sizes to be included under this item shall be as shown on the plans and/or in the specifications. Any and all directional bores in each contract shall be paid under one directional bore bid item included in the contract regardless of size. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

**S FORCE MAIN POINT RELOCATE** This item is intended for payment for horizontal and/or vertical relocation of a short length of an existing main at the locations shown on the plans. This bid item is to be used to relocate an existing force main at point locations such as to clear a conflict at a

proposed drainage structure, pipe or any other similar short relocation situation, and where the existing pipe material is to be reused. The contractor shall provide any additional pipe or fitting material needed to complete the work as shown on the plans and specifications. The materials provided shall be of the same type and specification as those that exist. Substitution of alternative materials shall be approved by the engineer in advance on a case by case basis. New polyethylene wrap is to be provided (if wrap exists or is specified in the specifications to be used). If it is necessary that the pipe be disassembled for relay, payment under this item shall also include replacement of joint gaskets as needed. Bedding and backfill shall be provided and performed the same as with any other pipe installation as detailed in the plans and specifications. Payment under this item shall be for each location requiring an existing main to be relocated horizontally or vertically regardless of pipe size or relocation length. No separate pay items will be established for pipe size variations or relocation segment length variations. Force Main Relocate shall not be paid on a linear feet basis; but shall be paid EACH (EA) at each location when complete and placed in service. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.

**S FORCE MAIN TAP SLEVE/VALVE RANGE 1 OR 2** This item shall include the specified tapping sleeve, valve, valve box, concrete pad around valve box (when required in specifications or plans), labor, and equipment to install the specified tapping sleeve and valve, complete and ready for use in accordance with the plans and specifications. The size shall be the measured internal diameter of the live pipe to be tapped. The size tapping sleeve and valve to be paid under sizes 1 or 2 shall be as follows:

Range 1 = All live tapped main sizes up to and including 8 inches

Range 2 = All live tapped main sizes greater than 8 inches

Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S FORCE MAIN TIE-IN** This bid description shall be used for all force main tie-in bid items of every size except those defined as "Special". This item includes all labor, equipment, excavation, fittings, sleeves, reducers, couplings, blocking, anchoring, restoration, testing and backfill required to make the force main tie-in as shown on the plans and in accordance with the specifications complete and ready for use. This bid item shall include purge and sanitary disposal of any sewage from any abandoned segments of force main. Pipe for tie-ins shall be paid under separate bid items. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S FORCE MAIN VALVE** This description shall apply to all force main valves of every size required in the plans and specifications, except those bid items defined as "Special". Payment under this description is to be for gate or butterfly force main valves being installed with new force main. This item includes the valve as specified in the plans and specifications, polyethylene wrap (if required by specification), labor, equipment, excavation, anchoring (if any), valve box and valve stem extensions, backfill, concrete pad around valve box (if required by specification), restoration, testing, and etc., required to install the specified valve at the location shown on the plans in accordance with the specifications and standard drawings complete and ready for use. If required on plans and/or proposed adjoining DIP is restrained, force main valves shall be restrained. Force main valve restraint shall be considered incidental to the force main valve and adjoining pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be

referenced. This item shall be paid EACH (EA) when complete.

**S FORCE MAIN VALVE BOX ADJUST** Includes all labor, equipment, valve box and valve stem extensions (if required), excavation, backfill, concrete pad around valve box (when specified in specifications or plans), restoration, and etc., to adjust the top of the force main valve box to finished grade complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S LATERAL CLEANOUT** This item shall be for payment for installation of a cleanout in a service lateral line. This item shall include furnishing and installation of a tee, vertical pipe of whatever length required, and threaded cap. The cleanout shall extend from the lateral to final grade elevation. The size of the cleanout shall be equivalent to the size of the lateral. The cleanout materials shall meet the same specification as those for the lateral. The cleanout shall be installed at the locations shown on the plans or as directed by the engineer. Only one pay item shall be established for cleanout installation. No separate pay items shall be established for size or height variances. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S LATERAL LOCATE** This bid item is to pay for all labor, equipment, and materials needed in locating an existing sanitary sewer service lateral for tie-in of the lateral to new mainline sewers and/or for the relocation of a lateral. This bid item shall be inclusive of any and all methods and efforts required to locate the lateral for tie-in or relocation of the lateral. Locating methods to be included under this items shall include, but are not limited to, those efforts employing the use of video cameras from within an existing sanitary sewer main or lateral, electronic locating beacons and/or tracers inserted into the sanitary sewer main or lateral, careful excavation as a separate operation from mainline sewer or lateral excavation, the use of dyes to trace the flow of a lateral, or any combination of methods required to accurately locate the lateral. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA).

**S LATERAL LONG SIDE** This bid item description shall apply to all service lateral installations of every size up to and including 6 inch internal diameter, except those lateral bid items defined as "Special". This item includes the specified piping material, main tap, bends, clean outs, labor, equipment, excavation, backfill, testing, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready for use. This bid item is to pay for service lateral installations where the ends of the lateral connection are on opposite sides of the public roadway. The new lateral must cross the centerline of the public roadway to qualify for payment as a long side lateral. The length of the service lateral is not to be specified. Payment under this item shall not be restricted by a minimum or maximum length. The contractor shall draw his own conclusions as to the length of piping that may be needed. Payment under this item shall include boring, jacking, or excavating across the public roadway for placement. Placement of a service lateral across a private residential or commercial entrance alone shall not be reason to make payment under this item. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. No additional payment will be made for rock excavation or for bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S LATERAL SHORT SIDE** This bid item description shall apply to all service lateral installations of every size up to and including 6 inch, except those lateral bid items defined as “Special”. This item includes the specified piping material, main tap tee, bends, clean outs, labor, equipment, excavation, backfill, testing, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready for use. This bid item is to pay for lateral installations where both ends of the lateral connection are on the same side of the public roadway, or when an existing lateral crossing a public roadway will remain and is being extended, reconnected, or relocated with all work on one side of the public roadway centerline as shown on the plans. The length of the service lateral is not to be specified and shall not be restricted to any minimum or maximum length. Payment shall be made under this item even if the lateral crosses a private residential or commercial entrance; but, not a public roadway. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. The contractor shall draw his own conclusions as to the length of piping that may be needed. No additional payment will be made for rock excavation or for bedding required in rock excavation. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S LINE MARKER** This item is for payment for furnishing and installing a sewer utility line marker as specified by the utility owner specifications and plans. A line marker may consist of a post or monument of whatever materials specified and shall include markings and/or signage on same as specified by plans or specifications. This item shall include all labor, equipment, and materials needed for complete installation of the marker. This item shall be paid EACH (EA) when complete.

**S MANHOLE** Payment under this item is for the installation of new 4 foot interior diameter sanitary sewer manhole. Payment for manholes will be made at the contract unit price each in place complete and ready for use at the locations shown on plans in accordance with specifications and standard drawings. Manholes shall include concrete base, barrel sections, cone section or slab top, steps, excavation, backfilling, air testing, restoration, and cleanup in accordance with the specifications and standard drawings. Payment shall be made under this item regardless of whether the base is to be precast or cast-in-place (doghouse). All materials, except casting, shall be new and unused. An existing casting from an existing abandoned or removed manhole is to be reused and shall be considered incidental to this item. When a new casting is specified, or an existing casting is unavailable, it shall be paid as a separate bid item. Anchoring of casting, new or used, shall be considered incidental to this bid item. No additional compensation will be paid for manhole height variations. No additional payment will be made for rock excavation. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S MANHOLE ABANDON/REMOVE** Payment under this item is for the partial removal and/or filling of any sanitary sewer manhole regardless of size or depth that no longer serves any purpose. Payment shall be made regardless of whether the manhole is or is not in conflict with other work. Any manhole requiring partial removal, but not total removal, in order to clear a conflict with other work shall be paid under this item. All manholes partially removed shall be removed to a point at least one foot below final grade, one foot below roadway subgrade, or one foot clear of any other underground infrastructure, whichever is lowest. If partial removal of an abandoned manhole is elected by the contractor, the remaining manhole structure shall be refilled with flowable fill. Payment for disposal of a sanitary sewer manhole will be made under this item only. Please refer to the Utility Company’s

Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S MANHOLE ADJUST TO GRADE** Payment under this item is for the adjustment of sanitary sewer casting elevation on all sizes of existing sanitary manholes. This work shall be performed in accordance with the sanitary sewer specifications. Payment shall be made under this bid item regardless of the amount of adjustment necessary to a sanitary sewer manhole casting or diameter of the manhole. Work under this pay item may be as simple as placing a bed of mortar under a casting; but, shall also be inclusive of installation of adjusting rings, and /or addition, removal, or replacement of barrel sections. The existing casting is to be reused unless a new casting is specified on the plans. New casting, when specified, shall be paid as a separate bid item. Anchoring of the casting shall be incidental to this item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S MANHOLE CASTING STANDARD** Payment under this bid items is for furnishing of a new standard traffic baring casting for sanitary manholes meeting the requirements of the sanitary sewer specifications and standard drawings. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when installed.

**S MANHOLE CASTING WATERTIGHT** Payment under this bid item is for furnishing of a new watertight traffic baring casting for sanitary manholes meeting the requirements of the sanitary sewer specifications and standard drawings. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when installed.

**S MANHOLE RECONSTRUCT INVERT** This bid item is to pay for all labor, equipment, and material for rework of the manhole bench to redirect or eliminate flow, such as when the flow of a pipe or pipes are being removed or redirected. This work will be as specified in the plans, specifications, or directed by the engineer. This work may consist of, but is not limited to, removal of concrete and/or placement of concrete in elimination or redirect of flow. This item shall also include providing and placement of a rubber seal or boot as required by utility specification, standard drawing or plan. The contractor shall draw his own conclusions as to the effort and scope of work needed to comply with the specifications, standard drawings, and plans. No payment shall be made under this bid when MANHOLE TAP EXISTING, or MANHOLE TAP EXISTING ADD DROP are being paid at the same location, as this type of work is included in those items. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S MANHOLE TAP EXISTING** This bid item is to pay for all labor, equipment, and material for coring one opening in an existing manhole base, addition of a rubber seal as specified, and rework of the manhole bench to direct the additional pipe flow. The bid item shall be paid for each core opening added to a single manhole. This bid item shall also include any rework of the existing manhole bench due to the elimination of other existing pipes and flow. This work will be as specified in the plans, specifications, or directed by the engineer. This work may consist of, but is not limited to, removal of concrete and/or placement of concrete in the addition, elimination, or redirect of flow. The contractor shall draw his own conclusions as to the effort and scope of work needed to comply with the



specifications, standard drawings, and plans. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S MANHOLE TAP EXISTING ADD DROP** This bid item is to pay for all labor, equipment, and material for coring one opening in an existing manhole base, addition of a rubber seal as specified, addition of a vertical drop pipe to the outside of the manhole, placement of reinforcing steel and concrete to encase vertical pipe, and rework of the manhole bench to direct the additional pipe flow. The bid item shall be paid for each drop added to a single manhole. This bid item shall also include any rework of the existing manhole bench due to the elimination of other existing pipes and flow. This work will be as specified in the plans, specifications, or directed by the engineer. This work may consist of, but is not limited to, removal of concrete and/or placement of concrete in the addition, elimination, or redirect of flow. The contractor shall draw his own conclusions as to the effort and scope of work needed to comply with the specifications, standard drawings, and plans. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S MANHOLE WITH DROP** Payment under this item is for the installation of new 4 foot interior diameter sanitary sewer manhole with drop. Payment for drop manholes will be made at the contract unit price each in place complete and ready for use at the locations shown on plans in accordance with specifications and standard drawings. Drop manholes shall include concrete base, barrel sections, drop materials, cone section or slab top, steps, excavation, backfilling, air testing, restoration, and cleanup. Payment shall be made under this item regardless of whether the base is to be precast or cast-in-place (doghouse). All materials, except casting, shall be new and unused. An existing casting from an existing abandoned or removed manhole is to be reused and shall be considered incidental to this item. When a new casting is specified, or an existing casting is unavailable, it shall be paid as a separate bid item. Anchoring of casting, new or used, shall be considered incidental to this bid item. No additional compensation will be paid for manhole height variations. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S MANHOLE WITH LINING** Payment under this item is for the installation of new 4 foot interior diameter sanitary sewer manhole with corrosion resistant lining. Payment for manholes will be made at the contract unit price each in place complete and ready for use at the locations shown on plans in accordance with specifications and standard drawings. Manholes shall include concrete base, barrel sections, cone section or slab top, steps, lining, excavation, backfilling, air testing, restoration, and cleanup in accordance with the standard drawings. Payment shall be made under this item regardless of whether the base is to be precast or cast-in-place (doghouse). All materials, except casting, shall be new and unused. An existing casting from an existing abandoned or removed manhole is to be reused and shall be considered incidental to this item. When a new casting is specified, or an existing casting is unavailable, it shall be paid as a separate bid item. Anchoring of casting, new or used, shall be considered incidental to this bid item. No additional compensation will be paid for manhole height variations. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S MANHOLE WITH TRAP** Payment under this item is for the installation of a new manhole with

trap. Payment for trap manholes will be made at the contract unit price each in place complete and ready for use at the locations shown on plans in accordance with specifications and standard drawings. Trap manholes shall include concrete base, manhole structure and trap materials, cone section or slab top, steps, excavation, backfilling, air testing, restoration, and cleanup. All materials, except casting, shall be new and unused. Payment shall be made under this item regardless of whether the base is to be precast or cast-in-place (doghouse). An existing casting from an existing abandoned or removed manhole is to be reused and shall be considered incidental to this item. When a new casting is specified, or an existing casting is unavailable, it shall be paid as a separate bid item. Anchoring of casting, new or used, shall be considered incidental to this bid item. No additional compensation will be paid for manhole height variations. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S PIPE** This description shall apply to all PVC and ductile iron gravity sewer pipe bid items of every size and type 8 inches internal diameter and larger, except those bid items defined as "Special". This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, tap tees and couplings for joining to existing similar or dissimilar pipes), polyethylene wrap (if required by specification), labor, equipment, excavation, bedding, restoration, pressure or vacuum testing, temporary testing materials, video inspection, backfill, and etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. This bid item shall include material and placement of flowable fill under existing and proposed pavement, and wherever specified on the plans or in the specifications. No additional payment will be made for rock excavation. Measurement of quantities under this item shall be through fittings and encasements to a point at the outside face of manhole barrels, or to the point of main termination at dead ends or lamp holes. Carrier pipe placed within an encasement shall be paid under this item and shall include casing spacers and end seals. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

**S PIPE POINT REPAIR** This item is to be used to pay for repair of short lengths of existing sanitary sewer pipe that, through prior video inspection or other means, are known to have pre-existing failure. Pipe Point Repair may be needed in preparation for installation of cured-in-place-pipe (CIPP) lining or other instances where failure is known and repair is prudent. The size of pipe shall not be defined in separate bid items. All diameter sizes of point repair shall be paid under this one item. The materials to be used to make the repair shall be as defined on the plans or in the specifications. This bid item shall include all excavation, pipe materials, joining materials to connect old and new pipe, bedding, and backfill to complete the repair at the locations shown on the plans or as directed by the engineer, complete and ready for use. This bid item shall include bypass pumping when required. Measurement shall be from contact point to contact point of old and new pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

**S PUMP STATION** This item is for payment for installation of sanitary pump stations including above or below ground structure for housing of the pumps. This item shall include all pumps, piping, fittings, valves, electrical components, building materials, concrete, any other appurtenances, labor, equipment, excavation, and backfill, to complete the pump station installation as required by the plans, standard drawings, and specifications, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall

be referenced. This item shall be paid LUMP SUM (LS) for each when complete.

**S STRUCTURE ABANDON** This item is to be used to pay for abandonment of larger above or below ground sewer structures such as air release/vacuum valve vaults, pump stations, tanks, etc. Payment under this time shall not be limited to size or scope; however structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to sewer construction, (i.e., abandonment of standard air release/vacuum valves up to and including 2 inches would not be paid under this item). Payment under this item shall include all labor, equipment, and compacted fill or flowable fill for abandonment of the structure in place and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**S STRUCTURE REMOVAL** This item is to be used to pay for removal of larger above or below ground sewer structures such as air release/vacuum valve vaults, pump stations, tanks, and etc. Payment under this time shall not be limited to size or scope; however, structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to sewer construction, (i.e., removal of standard air release/vacuum valves and their structure up to and including 2 inches would not be paid under this item). Payment under this item shall include all labor, equipment, and compacted backfill for removal of the structure and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

## **SANITARY SEWER SPECIFICATIONS**

### **1. GENERAL PROVISIONS**

#### **1.1. DESCRIPTION OF WORK**

All labor, materials, equipment, tools and services required for the furnishing, installation, construction, video recording, and testing of all sanitary sewer or storm drainage facilities required for this Project shall be furnished, installed, constructed, recorded and tested in compliance with the Contract. These Specifications cover the materials to be utilized in construction, and the installation and construction standards to be required of the Contractor.

The work shall consist of removing existing portions of sanitary sewers; providing bypass pumping as required; furnishing, bedding, laying, jointing, backfilling, compaction and testing of all sanitary sewers and casing pipe shown on the Plans or otherwise required by the Contract.

#### **1.1. DEFINITIONS**

##### **1.1.1. OWNER**

Where reference is made to OWNER in these specifications this shall mean the owner of the Sanitary Sewer Facility, the City of Harlan, Kentucky.

##### **1.1.2. DEPARTMENT**

Where reference is made to DEPARTMENT in these specifications this shall mean the Kentucky Transportation Cabinet.

#### **1.2. UNDERGROUND STRUCTURES AND UTILITIES**

Every effort will be made to show on the Plans known utilities, structures, drains, etc., adjacent to or to be encountered by construction. The locations shown on the Plans are taken from existing records and are believed to be the best information available. However, it is expected that there may be some discrepancies or omissions in the locations and quantities shown. The Contractor shall verify the locations of all underground structures and utilities in critical areas or as directed by OWNER prior to the start of construction. The Contractor shall avoid damaging the existing utilities while verifying their locations. Such information is furnished subject to the limitations set out in OWNER's Information to Bidders.

The Contractor shall notify the Kentucky 811 Before Your Dig (BUD) at 1-800-752-6007, 48 hours in advance of any construction. The Contractor shall notify OWNER's Base One (540- 6812) prior to any personnel being allowed to enter into an OWNER active manhole or sewer. All precautions as delineated in the OWNER Health & Safety Rule Book shall be followed.

The Contractor shall be responsible for protection of any structure or utility encountered on the site. The cost of repair, removal, replacement, relocation, etc. of such facilities arising because of carelessness or negligence on the part of the Contractor shall be the Contractor's responsibility.

The Contractor shall make every effort to protect private structures and utility service connections whether in right-of-way/easement or on private property, including sewer facilities that may not be shown on the Plans. When these facilities are disturbed or damaged by the Work, the Contractor shall make necessary repairs to the facilities for continuous service prior to the close of the work day, at the Contractor's expense.

Should uncharted or incorrectly charted piping or other utilities be encountered within utility easements or the public rights-of-way, the Contractor shall immediately contact OWNER.

Suitable arrangements will be made with the proper agency by OWNER and the responsibility for the cost will be determined by OWNER. The Contractor shall cooperate and coordinate with the utility companies to keep respective services and facilities in operation. Coordination is the responsibility of the Contractor.

### 1.3. GEOTECHNICAL INFORMATION

Borings and soundings may or may not be shown on the Plans. If borings and soundings are not shown, and the Contractor desires to have positive soil information, the Contractor shall make such borings and soundings at the Contractor's expense. Prior to making borings or soundings, the Contractor shall receive approval from the property owner, or if within the road rights-of-way, from the appropriate agency and shall notify OWNER's Customer Service of such activity. OWNER does not guarantee that the boring information shown in the Bid Documents is accurate or correct. Such information is furnished subject to the limitations set out in the Contract.

### 1.4. SURVEYING AND STAKING

#### 1.4.1. General

The responsibilities for the surveying and staking necessary for the construction of the Project shall be as defined herein. Provide all surveying necessary to establish the horizontal and vertical control coordinates, including the setting of monuments meeting OWNER standards, and benchmarks for such control.

The Contractor will provide all construction survey and staking necessary for layout and construction from the control points. The Contractor, through the field inspector, shall give the OWNER Project Manager two weeks advance notice prior to the start of survey. The Contractor shall provide temporary benchmarks within 300 linear feet of all proposed structures.

Where new construction connects to existing facilities, it shall be the Contractor's responsibility to check and determine the exact location of the existing facilities. Whenever field conditions are found to vary from those indicated on the Plans, the Contractor shall notify OWNER immediately. OWNER will investigate such conditions and, if warranted, make revisions or adjustments. The Contractor shall not proceed with that portion of the Work until the investigation is complete and red-lined Plans have been approved by OWNER.

#### 1.4.2. Construction Staking.

Offset hubs and stakes, one short (12 inch) hub and one tall (36 inch) stake at each location, shall be set at all 100-foot stations for gravity flow sanitary and storm drainage facilities, and at 200-foot stations for all force mains. In paved areas, PK nails and paint shall be used. In addition, offset hubs and stakes shall be provided at line intersections, appurtenances, points where the alignment or grade changes, and a minimum of two offset hubs shall be provided at all structure corners.

The stakes shall be strong, sound, straight, and free from knots, dressed on two sides, and pointed. Hubs shall be strong, sound, undressed oak lumber, and pointed. Stakes shall be a minimum of 3/4 inch x 1 1/2 inches when dressed, and hubs shall be a minimum of 2 inches square and 12 inches long. Stake widths, and lengths of both stakes and hubs may vary if so ordered by OWNER.

#### 1.4.3. Checking Line and Grade.

If requested, the Contractor shall provide OWNER with a copy of field book notes and complete cut sheets showing stations, grade stake elevations, required slopes, invert elevations and cut distances for sewer main, structures and pipe stubs. Additionally, the contractor's surveyor will provide support to OWNER when checking and verification is requested. All property service connections (PSC) and pipe stubs with lengths in excess of 5 feet shall have elevations and stations referenced by the Contractor's Professional Land Surveyor. All stubs ends shall be referenced before being covered.

If a laser beam is used to maintain the line and grade, the Contractor shall have it calibrated per manufacturer's recommendation not less than once per year. Calibration seal shall be kept with the instrument on site for review by OWNER representative as requested. The Contractor shall use a blower or other acceptable device to vent enclosed conduits as required to prevent refraction.

### 1.5. STANDARDS AND SPECIFICATIONS

#### 1.5.1. KYTC Standard Specifications and Drawings (latest editions).

Reference is made to the Kentucky Transportation Cabinet's (KYTC) Standard Specifications for Road and Bridge Construction and the Standard Drawings binder. The Contractor shall secure copies of both documents when performing work which is described therein. Copies may be obtained from:

Kentucky Transportation Cabinet Manager, Policy and Procedures Development Branch  
  
112 State Office Building Frankfort, Kentucky 40622

#### 1.5.2. Latest Revisions.

Wherever reference is made to any published standards, codes or standard specifications, it shall mean the latest standard code, specification or tentative specification of the technical society, organization or body to which reference is made. Where specified articles, sections, paragraphs or other subdivisions of the referenced publications are not stated, the referenced publication shall apply in full.

#### 1.6. AVAILABILITY

The PRIME CONTRACTOR shall be on site during all phases of the work. The CONTRACTOR shall have a local or 1-800 cellular phone or pager active at all times.

#### 1.7. PUBLIC NOTIFICATION

1.7.1. 72 hours prior to disruption of service, the CONTRACTOR shall notify property owners, public residents, and all others who may be affected using a notification form approved by OWNER.

1.7.2. The CONTRACTOR shall disrupt customer service for no longer than 12 hours. If service will be disrupted for more than 12 hours, the CONTRACTOR must notify affected customers and OWNER of the delay.

### 2. CONTRACTOR SUBMITTALS

2.1. Bypass Pumping Plan – shop drawings showing bypass pumping locations with sufficient detail to assure that the work can be accomplished without sewage spill.

2.2. Sample Customer Notification

2.3. Construction Plan including the following submittals: schedule, material storage location, installation procedures, sampling procedures, project schedule, safety plan, emergency spill plan, cleanup plan.

### 3. MATERIALS

### 3.1. GENERAL

Sanitary sewer shall match existing materials unless shown otherwise in the Contract. Pipe strength classes listed are the minimum acceptable classes for each type of pipe. Conditions of the construction may warrant a stronger pipe than listed herein, and the pipe supplied shall be as required by the Specifications or shown on the Plans, subject to the approval of OWNER. If the contractor requests a method other than that of the Plans and Specifications, and the method requires a stronger pipe or alternate, the contractor will incur the additional cost of the stronger pipe needed. Should OWNER request a stronger or alternate pipe other than specified on the Plans and Specifications, OWNER will reimburse the contractor for the stronger pipe. Any pipe found defective, or otherwise not meeting the Specifications shall be rejected and replaced by pipe meeting these Specifications at no additional cost to OWNER. OWNER reserves the right to randomly test up to 3 sections of pipe for each size furnished, in accordance with ASTM standards. Upon passing the tests, OWNER shall reimburse the Contractor for the cost of the testing. The Contractor shall pay for any failed tests.

The Contractor shall furnish three copies of the supplier's certification stating that pipe materials were manufactured, sampled, tested and inspected in accordance with the standards listed in this Section and have been found to meet those requirements.

### 3.2. DUCTILE IRON PIPE AND FITTINGS

Ductile iron pipe shall meet the requirements of ANSI/AWWA C151/A21.51, Ductile Iron Pipe, and Centrifugally Cast in Metal Molds or Sand-Lined Molds for Water or Other Liquids. Unless shown otherwise on the Plans or in the Contract, the thickness class shall be determined based on a working pressure of 150 psi, in accordance with ANSI/ AWWA C150/A21.50, Thickness Design for Ductile Iron Pipe.

Flanged joint ductile iron fittings shall meet the requirements of ANSI/AWWA C110/A21.10, Ductile Iron and Gray Iron Fittings, 3 inch through 48 inch for Water and Other Liquids. Unless shown otherwise on the Plans or in the Contracts, Class 250 fittings with class 53 wall thickness shall be used.

Mechanical, push on and other such joints shall meet the requirements for ductile iron fittings, 3 in. through 16 in., ANSI/AWWA C153/A21.53. Where these short bodied compact fittings are to be fitted to aged existing cast iron pipe of larger diameter than specified in A21 standards, mechanical joint sleeves or bell-and-spigot sleeves shall provide transition.

All pipe and fittings shall be cement-lined in accordance with ANSI/AWWA C104/A21.4, Cement-Mortar Lining for Ductile Iron and Gray Iron Pipe and Fittings, or polyurethane lined over concrete or ductile iron or gray iron pipe and fittings. The polyurethane lining shall be an ASTM Type V, chemical cure, 100% solids, elastomeric and aromatic with no sand fillers or extenders added. It shall be capable of being spray applied to 50 mils nominal thickness in a



single application. Minimum lining thickness shall be 40 mils. The polyurethane lining shall be a seamless flexible membrane that is corrosion, abrasion, and impact resistant; with a Shore "D" hardness of 60 to 65 at 78°F (25.5°C); a tensile strength of 2,878 psi and elongation of 52% per ASTM D-412; shall be resistant to abrasion as measured by a weight loss of no more than 42 mgs. per ASTM D-1044; and shall have a water vapor transmission rate (WVTR) of no more than 0.016 grams per 100 square inches (254 cm<sup>2</sup>) per 24 hours (75 mils DFT @ 73°F (22.7°C), 100% RH, per ASTM F-1249-90).

Unless otherwise noted on the Plans or in the Special Provisions, all pipes shall be cement lined. Lining thickness per ANSI/AWWA C-104/A21.4 shall be 1/16 in. (min.) for 3 through 12 in. pipe, 3/32 in. for 14 in. through 24 in. pipe, and 1/8 in. for 30 through 54 in. pipe.

Joints shall be push-on rubber gasket types which meet the requirements of ANSI/AWWA C111/A21.11, Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings.

When flanged joints are required, they shall meet the requirements of ANSI/AWWA C115/A21.15, Flanged Ductile Iron and Gray Iron Pipe with Threaded Flanges.

Mechanical flanged restrained joints may be used when approved by OWNER.

All flanged and mechanical joints for ductile iron pipe and fittings shall be made with stainless steel nuts, bolts, etc.

### 3.3. STEEL ENCASEMENT PIPE

Steel encasement pipe shall conform to ASTM A 139 Grade B, Standard Specification for Electric-Fusion (ARC) Welded Steel Pipe. For 30 inch and greater diameter casing pipe, a minimum clearance of 12 inches (total) must be provided between pipe bells and the inside of the casing pipe, except as otherwise stated in these specifications, or as shown on the Plans. On a case-by-case basis a smaller diameter casing will be allowed if the 12-inch minimum clearance and design grade can be achieved. All gravity sewers greater than 8 inches in diameter shall use a 30 inch minimum diameter casing pipe. A 12-inch diameter casing pipe shall be used for 6 inch or less gravity sewers.

The minimum pipe wall thickness will be 3/8". The actual pipe wall thickness shall be determined by the contractor based on the static and dynamic loads from traffic loading for the selected pipe. Estimated pipe lengths are shown in the plans. The required pipe lengths shall be determined by the Contractor.

### 3.4. CEMENT GROUT

Cement grout for filling voids outside 30 inch or larger casing pipe, unless shown otherwise on the Plans, shall consist of a mixture of water and one part Type 1 Portland Cement to two parts mortar sand (as specified in Section 804.05 of the most current edition of the KYTC Standard

Specifications), by volume, or KTC 1:2 Proprietary Grout Mix #1093. The water shall be adjusted to produce a mixture of consistency suitable for pumping, with a minimum slump of 5 inches and a maximum slump of 9 inches. Provisions shall be made for releasing of air and filling with grout. A pressure of 10 to 15 PSI (23.0 to 35.0 feet of head) shall be used. Cement grout for filling the voids between the carrier and casing pipe shall be a mixture suitable for grouting and shall be approved by OWNER prior to its use.

### 3.5. CRADLES AND ENCASEMENTS

#### 3.5.1. Crushed Stone

Crushed stone used to stabilize and backfill excavations shall be coarse aggregate conforming to Size No. 57 as set forth in Section 805 of the KYTC Standard Specifications (latest edition) and shall be free from sharp, angular pieces which could, in the judgment of OWNER, cause damage to the pipe.

#### 3.5.2. Concrete

Concrete for cradles, encasements or caps shall be Class B concrete and shall meet the requirements as set forth in Section 601 of the KYTC Standard Specifications (latest edition).

### 3.6. SAND

Sand for backfill placed in accordance with Section 4.7.3 (A) herein referred to as Type 1-A backfilling shall be comprised of sand or sand-gravel mixtures containing less than 30 percent passing a No. 40 sieve and less than 5 percent passing a No. 200 sieve. Sand or sand-gravel mixtures shall classify as SW, SP, or GW, and shall have a uniformity coefficient of 4.5 or more, as set forth in ASTM D 2487, Standard Specification for Classification of Soils for Engineering Purposes. Sands which have a coefficient of uniformity less than 4.5 but greater than or equal to 1.5 will be permitted, but placement and compaction shall be in accordance with Section 4.7.3(B). These sands are referred to as Type 1-B backfill.

The Contractor shall provide a Certification of Compliance stating that the sand fully complies with the requirements stated herein. In addition, the Contractor shall provide the results of the sieve analysis, including a graph depicting the percent finer versus particle size and the uniformity coefficient.

Sand used on the basis of Certificates of Compliance may be sampled and tested by the agency designated by OWNER at any time and, when found not to be in conformity, will be subject to rejection, whether in place or not. Should the test results show the sand to not meet the requirements stated herein, then the Contractor shall assume the full cost of the testing, removal of the undesirable material, replacement of the materials and other Work resulting from the removal of the undesirable material and replacement by acceptable material.

## 4. EXECUTION OF WORK

### 4.1. EARTHWORK

#### 4.1.1. General

Prior to beginning earthwork operations, all necessary clearing, grubbing, removal of obstructions and pavements, installation of required sediment control facilities shall have been completed in accordance with the Standard Specifications. Rough grading and restoration shall be maintained within a maximum distance of 1,500 L.F. of the active disturbance, with logical limits between structures, unless otherwise approved by OWNER.

The Contractor shall at all times be responsible for the condition of the trenches and filled areas. He shall maintain frequent inspection of same, and if at any time before the final acceptance of the Work by OWNER, the trenches or filled areas settle or sunken areas appear, he shall be required to refill these sunken areas with suitable material as soon as they are discovered. Barricades are to be closely spaced to provide a nearly continuous protection.

All trenches shall be barricaded and caution-lighted or covered with steel trench plates at all times for the protection of the public.

#### 4.1.2. Excavation

- 4.1.2.1. Classification. Without regard to the materials encountered, all excavation shall be unclassified. It shall be distinctly understood that reference to rock, earth, or any other material on the Plans or in the Contract, whether in numbers, words, letters, or lines, is solely for OWNER's information and is not to be taken as an indication of classified excavation or the quantity of either rock, earth, or any other material involved.

The Contractor must draw his own conclusions as to the conditions to be encountered. OWNER does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation when the materials encountered are not in accord with the classification shown. In the event contaminated materials are encountered, the Contractor shall cease Work and immediately contact the appropriate agencies, including OWNER, in accordance with Section 4.1.4.2.

Blasting and rock removal shall be performed at a safe distance ahead of the installation of the pipes and structures to prevent damage as the shots are fired. Blasting of rock for property service connections, branches, and stubs shall be performed concurrent with the trench blasting. The rock at the ends of all pipes,

branches, stubs and property service connections, shall be shattered by continuing the blasting operations approximately 6 feet beyond the end of the pipe.

For property service connections consent and release must be obtained by OWNER and include approximately one full joint of pipe beyond the manhole or the end of the main line sewer. Sufficient explosive shall be used to shatter the rock to allow for future excavation. To prevent damage to installed sewers or structures, concrete for walls, footings, or encasements shall not be poured in direct contact with bedrock unless otherwise shown on the Plans or directed by OWNER.

The blasting of rock under existing pavement, prior to uncovering the rock, may be permitted provided the Contractor assumes full responsibility for all damage to the existing pavement. OWNER reserves the right to require the uncovering of rock prior to blasting if blasting without uncovering proves unsatisfactory.

If the Contractor chooses to shoot rock under pavement without uncovering the rock, the Contractor shall immediately repair humps in the paving which create a traffic hazard. All distortions outside the limits of the trench caused by the blasting shall later be removed and replaced as part of the pavement restoration at no additional cost to OWNER.

After the blast is fired, the Contractor shall thoroughly scale the excavation. All loose, shattered rock or other loose material which may be dangerous to the workmen, pipe, or structure shall be removed and the excavation made safe before proceeding with the work. The fact that the removal of loose, shattered rock or other loose material may enlarge the excavation beyond the required width will not relieve the Contractor from making such removal and filling the extra space. If rock is excavated beyond the trench width indicated on the Plans, such unauthorized excavation, or overbreakage, shall be refilled with crushed stone in the pipe zone and the remaining backfill will be per Section 4.7 or Class B concrete in ditches and streams, at no additional cost to OWNER. Remove all blasting debris to ensure public and Contractor's safety.

#### 4.1.2.2. Stockpiling Excavated Materials

The Contractor shall be responsible for determining the limits of stockpiles in relation to excavations and maintaining such limits to prevent excessive loads on the sides of excavations or sheeting and bracing systems. Excavated material shall not obstruct crosswalks, sidewalks, street intersections, nor interfere unreasonably with travel on streets by occupants of adjoining property. Gutters or other surface drainage facilities shall not be obstructed. When clear access to fire hydrants, mail boxes, sewer or conduit manholes, and similar utilities or municipal service facilities is required, the Contractor must provide such access. All work shall conform to the

Kentucky Occupational Safety and Health Program and Section 29 CFR 1926, Subpart P, "Trenching and Shoring."

#### 4.1.2.3. Wasting Excavated Materials

All materials excavated by the Contractor not used for backfilling trenches, channels, or structure excavations or not used in restoration of the ground surface, shall be removed from the site and disposed of by the Contractor at a pre- approved site, unless otherwise specified in the Contract. OWNER reserves the right to retain excess excavated materials and direct the Contractor to deliver it to a site specified by the Contract at the Contractor's expense. When the Contractor proposes to waste unsuitable or excess excavated material upon any privately-owned property, written consent from the property owner must be secured in advance and a copy provided to OWNER prior to scheduling the work. All filling operations must be approved by OWNER Water Management prior to placement of said material. No surplus or unsuitable materials shall be deposited in any stream channel nor in any place where pre-construction surface drainage would be changed without written permission from OWNER.

#### 4.1.2.4. Sheeting and Bracing and Trench Boxes

The Contractor shall furnish, place and maintain adequate sheeting and bracing or trench boxes as may be required to support the sides of the excavation and prevent any movements of earth which could, in any way, diminish the width of the excavation to less than that necessary for proper construction, cause damage to the sewer or structure being constructed or to adjacent structures, utilities, pavements or walks, or cause injury to workmen or others through movement of the adjacent earth banks, or to otherwise damage or delay the work. All work shall conform to the Kentucky Occupational Safety & Health Program and Section 29 CFR 1926, Subpart P, "Trenching and Shoring."

Sheeting and bracing or trench boxes shall be of wood or steel and shall be of adequate strength for excavation. Wherever possible, the sheeting and bracing shall be driven ahead of the excavation to avoid loss of material from behind the sheeting. If it is necessary to excavate below the sheeting, care shall be taken to avoid trimming behind the face along which the sheeting will be driven. Care shall be taken to prevent voids outside the sheeting, but if voids develop, they shall be immediately filled with sand backfill and densified by flushing and jetting with water. Where drop inlets, stacks or other appurtenances are constructed, the trench excavation shall be offset, as required, without additional compensation.

Sheeting left in place shall be cut off at least 18 inches below the ground surface and the cutoff material shall be removed from the excavation. All voids created by

cutting off the sheeting shall be immediately filled with sand backfill and densified by flushing and jetting with water. Sheeting and bracing specified to be left in place as shown on the Plans or as ordered by OWNER shall be paid for by OWNER. Sheeting and bracing left in place at the Contractor's option, shall be at his expense.

All sheeting, bracing, and shoring which is not left in place under the foregoing provisions shall be removed in a manner which will not endanger the completed work or other structures, utilities, sewers, or property whether, public or private. The Contractor shall exercise care to prevent the opening of voids during the extraction process. Any voids created while pulling sheeting and bracing shall be immediately filled with sand backfill and densified by flushing and jetting with water.

#### 4.1.2.5. Trench Dimensions

No more than 300 feet of trench in unpaved areas and 100 feet of trench in paved areas shall be opened at any time in advance of the pipe, nor shall more than 100 feet be left unfilled except by written permission from OWNER. In special cases, OWNER may limit the distance to which the trench may be open by notifying the Contractor in writing. Excavations for pipe in both earth and rock trenches shall display a width between the minimum and maximum allowable width, below a level 1 foot above the outside top of the pipe, as shown on the Plans. If the maximum allowable trench width is exceeded, a higher strength classification of pipe may be required, at no additional cost to OWNER.

Trench excavations for cast-in-place concrete sewers and structures shall have the minimum width necessary, as determined by the Contractor, for proper and safe construction. Trenches shall be excavated to a subgrade depth of six inches below the outside of the pipe, unless unsuitable foundation materials are encountered at the subgrade level.

#### 4.1.2.6. Unsuitable Foundation

Unsuitable foundation materials shall consist of soft, spongy earth, mud, unconsolidated fill, organic matter, or any other materials which will not, in the opinion of OWNER, provide suitable support. OWNER may order extra work performed when the bottom of the excavation is unsuitable. It shall be undercut below the subgrade level, to a depth approved by OWNER, and backfilled with crushed stone or other approved backfill material. Class B concrete shall be used to backfill the undercut zones in ditches and streams. At OWNER's direction, on OWNER funded Projects, payment shall be made for removal or replacement of unsuitable material within the first 2 feet below the subgrade level.

If the unsuitable material is mud or muck caused by the activity of the Contractor or by his failure to provide adequate drainage for the excavation, no payment shall be made for the removal or replacement of such material.

- 4.1.2.7. Drainage of Excavations. The Contractor shall maintain all excavations free of water. He shall provide all dams, flumes, channels, sumps, or other works necessary to keep the excavation entirely clear of water and shall provide and operate pumps or other suitable equipment of adequate capacity for dewatering the excavations. He shall avoid producing mud in the trench or channel bottom by his operations. If necessary or so directed by OWNER, the Contractor shall place crushed stone at his own expense to maintain a firm, dry excavation bottom and base. Pipe bedding, laying, jointing, and the placing of concrete shall be done in a water-free trench or excavation. The water shall be disposed of at the Contractor's expense.

Where the excavation extends below the water table, and lowering of the water table is necessary to prevent excessive inflows and maintain stability within the excavation, dewatering shall be performed. The Contractor shall use well points, sump pumps, or any other method of dewatering as required to lower the water table below the bottom of the excavations in a manner that will prevent saturated soil from flowing into open trenches, shafts, structures and tunnels, and render such excavations firm until the structures to be built therein are completed. The Contractor shall obtain OWNER's approval prior to the use of special dewatering equipment other than well points or sump pumps. Dewatering operations are considered incidental to the work and no additional compensation shall be made to the Contractor. The groundwater shall not be allowed to rise until the backfilling operations are complete. The Contractor shall be responsible for preventing pipe flotation.

Prior to beginning the work, the Contractor shall obtain, at his expense, a water withdrawal permit from the Commonwealth of Kentucky, Department of Natural Resources and Environmental Protection Cabinet (KNREPC) in accordance with the following criteria:

- (A) Where the average withdrawal rate is more than ten thousand gallons per day (10,000 gal/day), a permit shall be required, except as exempted by KRS 151.140.
- (B) Where the withdrawal of water is made at a relatively constant rate each day and the average withdrawal rate is ten thousand gallons per day (10,000 gal/day), or less, no permit will be required.
- (C) Where withdrawals are made on an irregular basis at an irregular rate, permits may be required where the Division of Water determines that the water

withdrawn represents a significant portion of the available water supply or that collection of withdrawal data is necessary for water resource planning purposes.

The Contractor shall assume all responsibility for claims resulting from damage to any land, wells, structures or improvements due to his dewatering operations.

Prior to any point discharge into a blueline stream or intermittent blueline stream, the Contractor shall obtain necessary permits from the Kentucky Division of Water and provide a copy to OWNER. Point discharge operations are considered incidental to the work and no additional compensation shall be made to the Contractor.

#### 4.1.2.8. Blasting and Hoe-Ramming

When blasting is required to excavate rock, the Contractor shall comply fully with the provisions of the Laws and Regulations Governing Explosives and Blasting, as issued by the Kentucky Department of Mines and Minerals, and the Kentucky Occupational Safety and Health Standards for the Construction Industry, Subpart U, Blasting, as issued by the Kentucky Labor Cabinet.

Prior to any blasting or hoe-ramming operations, a pre-blast survey of potentially affected homeowners and properties shall be conducted by the Contractor or his agent. The Contractor shall provide OWNER with the name of the agency and person(s) who will be performing the survey. All appointments for surveys shall be made in advance by the Contractor or his agent. OWNER will provide the person(s) performing the pre-blast survey an original letter of introduction to identify them to the residents. No copies of the letter shall be permitted.

The property owner(s) will be notified of the above procedure for the pre-blast survey by the Contractor or his agent. The affected property owners will be instructed by the Contractor to only accept an original letter of introduction on OWNER's letterhead. The Contractor shall furnish, upon request, all photographs taken and reports made during the pre-blast and post- blast surveys, without any additional cost to OWNER.

No blasting or hoe-ramming shall be done unless proper insurance has been secured and is in force. Except with written permission by OWNER, no blasting of rock, or hoe- ramming, will be permitted at nights or on Sundays.

During blasting operations, every precaution shall be used for the protection of persons and private and public property. Each blast shall be well covered with mats and other suitable means to confine the rock fragments. Only the minimum amounts of explosives shall be used to shatter the rock. The Contractor shall monitor the blasts to ensure that excessive charges are not being used. The debris from the



blasting operations shall be disposed of properly, in accordance with Department of Mines and Minerals Standards.

#### 4.1.3. Embankment

Non trench-type embankment shall conform to Section 206 of the KYTC Standard Specifications

#### 4.1.4. Excavation and Borrow Materials

##### 4.1.4.1. Selected Excavated Material

This material shall consist of earth removed from excavations and used for backfill. It shall be free from rubbish, organic matter, frozen soil, muck, and other perishable, compressible debris which prevent compaction of the material to a dense, uniform state. Rock and other hard, durable fragments shall be limited to the particle sizes described in **Section 4.7**, with adequate fines to fill all voids, and shall be uniformly distributed throughout the material.

##### 4.1.4.2. Unsuitable Contaminated Materials

For OWNER Projects, OWNER-or in some instances the property owner-shall be responsible for any asbestos, PCB's, petroleum, hazardous waste or radioactive material uncovered or revealed at the site, which was not shown or indicated in OWNER Project Plans or identified in the Contract to be within the scope of the work and which may represent a substantial danger to persons or property exposed thereto in connection with the Work site. Once a problem is identified, work shall stop until the course of action can be determined by OWNER. It shall then be up to OWNER to participate in paying additional costs for hauling and disposal at a landfill or appropriate facility or the cost of testing as delineated further within these specifications.

OWNER SHALL NOT be responsible for any such materials brought to the site by the Contractor sub-Contractor, suppliers, or anyone else for whom the Contractor is responsible.

If unsuitable contaminated materials are encountered, the Contractor shall take the following action:

- (A) The Contractor shall immediately stop all work in connection with such hazardous condition and notify the OWNER inspector (and thereafter confirm in writing such notice to the OWNER Construction Contracts Administrator).

- (B) The Contractor shall then be responsible for making notification to "911" (Emergency Response) in the event of discovery of a release of contaminated material.
- (C) The Contractor is responsible for making notification to the Kentucky Department for Environmental Protection at (502) 564-2380 or 1-800-928-2380.
- (D) The Contractor is responsible for securing the work site to prevent access by unauthorized personnel.

NOTE: The above notices should include the precise location, the suspected material type, and the approximate quantity and concentration if known.

**IF MATERIALS ARE HAULED WITHOUT NOTICE TO OWNER, IT SHALL BE THE PROPERTY OF THE CONTRACTOR. OWNER WILL NOT PAY FOR DISPOSAL OR ASSOCIATED ADDITIONAL COSTS.**

The Contractor shall not be required to resume work in connection with such condition until OWNER and/or the owner of the property has obtained any required permits for disposal of the unsuitable materials. OWNER's engineer shall promptly determine the means and methods to evaluate such condition or take corrective action on a case-by-case basis. This action could involve realignment or other design changes. OWNER will provide the Contractor special written notice specifying that the condition is rendered safe for the resumption of work, or specifying any special conditions under which the work may be resumed. The cost of sampling and lab testing will be the responsibility of OWNER. OWNER will also be responsible for substantiated additional costs for disposal such as receiving fees at the local landfill or additional hauling fees.

The Contractor shall resume such work based on special conditions or OWNER may order such portion of the work that is in connection with hazardous condition to be deleted from the work according to the unit price of the Contract. OWNER may choose to perform the deleted portion of the work with its own forces or make such provisions as necessary to complete that portion of the Project.

#### 4.1.4.3. Borrow Material

Borrow material used as backfill or embankment shall be approved for such use by OWNER. The Contractor shall not use borrow material from the permanent or temporary construction easement without the written consent of OWNER. Prior to its use, the Contractor shall identify the source and provide samples for soil classifications and moisture-density tests. Borrow material shall meet the following requirements:

- (A) Unless otherwise permitted by OWNER, borrow material shall not be comprised of soils represented by the following classifications, as determined in accordance with ASTM D 2487: MH, CH, OL, OH, or Pt.
- (B) The borrow material shall be free from rubbish, organic matter, frozen soil, muck or other perishable, compressible debris, which prevent compaction to a dense, uniform state. Rock and other hard, durable fragments shall be limited to particles displaying a maximum dimension of 4 inches, shall not exceed 10 percent of the total volume, and shall be uniformly distributed throughout the material.
- (C) The maximum dry density of the borrow material shall meet or exceed 98 pounds per cubic foot in accordance with ASTM D 698, Standard Specification for Test Methods for Moisture-Density Relations for Soils and Soil-Aggregate Mixtures, Using a 5.5-lb. Rammer and a 12-in. Drop.

## 4.2. BYPASS PUMPING

### 4.2.1. General Provisions

The CONTRACTOR shall provide all materials, labor, equipment, and services necessary for bypass pumping of sewage flows.

### 4.2.2. Execution

- 4.2.2.1. The CONTRACTOR shall have sufficient backup bypass pumps on site such that the progress of work will not be significantly impeded by equipment failures.
- 4.2.2.2. Bypass pumping shall consist of furnishing, installing, and maintaining all power, primary and standby pumps, appurtenances and bypass piping required to maintain existing and peak hourly flows and services. The CONTRACTOR shall submit a plan for bypass pumping in accordance with OWNER standards and Special Provisions. The CONTRACTOR shall be aware that homes in the area may have sump pumps connected to the sanitary sewer. The bypass pumping plan shall include an emergency response plan to be followed in the event of a failure of the bypass pumping system or sump pump activity during the rehabilitation process.
- 4.2.2.3. Bypass pumping shall be done in such a manner as to not damage private or public property, or create a nuisance or public menace. The pumped sewage shall be in an enclosed hose or pipe that is adequately protected from traffic, and shall be redirected into the sanitary sewer system. Dumping or free flow of sewage on private property, gutters, streets, sidewalks, or into storm sewers is prohibited. The CONTRACTOR shall be liable for all cleanup, damages, and resultant fines in the event of a spill.

4.2.2.4. The CONTRACTOR shall take all necessary precautions to ensure that no private properties are subjected to sewage backup or spill.

4.2.2.5. The CONTRACTOR shall be liable for all damages and related expenses resulting from CONTRACTOR's work.

### 4.3. PIPEWORK

#### 4.3.1. General

Prior to beginning pipe laying operations, the trench shall have been excavated to the subgrade level and unsuitable foundation conditions, when encountered, shall be corrected in accordance with Section 4.1.2.6 of these Specifications. The pipe within the right-of-way shall be supported on a crushed stone cradle or a concrete cradle as shown on the plans, specified herein, or directed by OWNER.

Crushed stone or concrete shall be used to encase the pipe as specified herein or directed by OWNER.

#### 4.3.2. Cradle and Encasement

Cradle and encasement shall be of crushed stone or concrete and shall be installed as specified and within the limits shown on the Plans or directed by OWNER.

#### 4.3.3. Crushed Stone Cradle

Crushed stone cradle shall mean the placement of crushed stone from the subgrade level (6 inches below the outside of the pipe) up to the springline of the pipe. The crushed stone shall be deposited in the trench to grade, allowing for the thickness of the pipe wall. Bell holes shall be dug to relieve the bells of all concentrated loads and to provide uniform support throughout the pipe section. For larger pipes, the crushed stone shall be shoveled and shovel-sliced beneath the haunches of the pipe to assure uniform support.

#### 4.3.4. Concrete Cradle

Where a concrete cradle is required as additional support for a sanitary sewer or storm drainage pipe, or if a sanitary sewer pipe will have less than 2 feet of vertical clearance above an existing or proposed storm drain or utility conduit, a concrete cradle shall be installed. The length of the concrete cradle shall be as shown on the Plans or 2 feet beyond the outside edge of the underlying storm drain or utility conduit. The pipe shall be laid to line and grade, and shall be supported on concrete blocks, bricks or saddles set to prevent both vertical and lateral movement of the pipe. The use of wooden blocks will not be permitted. Concrete shall be placed around the pipe up to the springline of the pipe.

Proper bracing shall be provided to prevent displacement or flotation of the sewer pipe during placing of concrete.

#### 4.3.5. Concrete Cap

The length of the concrete cap shall either be as shown on the plans; or 2 feet beyond the outside edge of the storm drain or utility conduit; or 2 feet beyond the point where the sewer pipe attains 30 inches of cover in an easement; or 4 feet of cover in a right-of way or surfaces subject to vehicular traffic, or as directed by OWNER. The sewer pipe shall be laid and supported on a crushed stone cradle, and concrete shall be placed around the pipe and at least 6 inches above the top of the pipe for the full trench width, as shown on the Plans. Proper bracing shall be provided to prevent displacement or flotation of the sewer pipe during placing of the concrete.

#### 4.3.6. Concrete Encasement

Where shown on the Plans or where conditions exist requiring additional pipe protection (stream crossings, ditch crossings, shallow trench or poor soil conditions), pipes shall be encased in concrete, as determined by OWNER. The length of the concrete encasement shall be at least 2 feet beyond the point where additional pipe protection is required, as shown on the Plans, or as directed by OWNER. The sanitary sewer pipe shall be laid and supported as required for a concrete cradle, and concrete shall be placed around the pipe 6 inches either side of it and up to at least 6 inches over the top of the pipe. Proper bracing of the pipe shall be provided to prevent movement or flotation of the sewer pipe during placing of concrete. In rock-bottom streams, the encasement shall extend from 6 inches below the pipe up to the original rock level.

Encasement shall be required when crossing a blue line stream and shall extend to 5 feet beyond the top of bank on each side of said stream. Concrete encasement is required for plastic pipe with less than 4 feet of cover in easements and less than 5 feet of cover in street rights-of-way. Unless otherwise directed by OWNER, a 4-inch PVC drain pipe shall be placed in the trench next to the carrier pipe and shall extend through the concrete encasement and 5 feet into the crushed stone encasement on both sides. The drain pipe shall be open on both ends. This will allow unimpeded flow of any groundwater in the sewer trench.

### 4.4. STEEL ENCASEMENT PIPE

#### 4.4.1. General Provisions

This Work shall consist of the installation of sanitary pipe within a steel encasement pipe.

The design plans will identify appropriate pipe installation details and required information to allow bidding. The CONTRACTOR will have the option to offer a different method than

that proposed, subject to approval and acceptance by OWNER. When an alternate method is proposed by the CONTRACTOR he will be responsible for the final design calculations. A plan of operation and list of proposed materials will be submitted for OWNER approval. Structural calculations will be required for all components, including but not limited to: casing and carrier pipe, tunnel liner plates, the working pits sheeting and shoring, electrical facilities, ventilation, and communications. All design calculations and plans must be signed and sealed and submitted by a professional engineer licensed in the Commonwealth of Kentucky.

#### 4.4.2. Dewatering

Prior to commencing, the CONTRACTOR shall furnish and operate all necessary pumping equipment of ample capacity and make all necessary provisions to keep excavations free of water during construction and to satisfactorily dispose of such water. During placing of concrete, drainage and pumping shall be so arranged that concrete is placed in the dry and that no water will flow over the concrete until it has hardened. Refer to Spec Section 4.1.2.7 Drainage of Excavations.

#### 4.4.3. Line and Grade

Line and grade shall be checked frequently by the CONTRACTOR's Professional Land Surveyor and not less than once per day. Results from these checks shall be provided to OWNER. The CONTRACTOR also shall assist OWNER in checking line and grade as often as OWNER deems necessary to ensure that proper tolerances in line and grade are being met.

The casing pipe shall be completely installed prior to construction of adjoining sections. If permitted by OWNER, minor adjustments in the line and/or grade of the adjoining sections shall be allowed to compensate for slight deviations from the Plan line and grade of the installed sections.

#### 4.4.4. Material of Pipe

Furnish steel pipe conforming to Section 3.3 of these specifications unless otherwise approved by OWNER.

#### 4.4.5. Installation of Casing Pipe

##### 4.4.5.1. Equipment and Construction

When required by the Plans, sewers shall be constructed within steel casing pipe.

The access pit shall be of sufficient size to provide ample working space for the equipment, guide rails, reaction blocks, bracing, spoil removal, and sections of pipe

as required. Provisions shall be made for the erection of guide rails in the bottom of the pit by providing a crushed stone base where applicable.

The casing pipe shall be of minimum diameters as specified in Section 3.3. of these specifications. Joints between sections of the casing pipe shall be welded with a continuous circumferential weld. Following installation, the casing pipe shall be carefully inspected to ensure that the carrier pipe can be properly placed.

During placement of the carrier pipe in the casing, the carrier pipe shall be blocked or otherwise supported to secure the proper flow line elevations throughout its full length and to ensure that backfilling at the bottom, sides and top of the pipe can be done without any displacement or floating. The carrier pipe shall be placed in the casing pipe only by such method that will keep the pipe joints in compression. Any method tending to disjoint the pipe while being placed will not be permitted. When the casing pipe is 30" or larger, the spaces between the casing and the outside of the casing pipe shall be filled solidly with cement grout placed under pressure, after the entire casing pipe is in place. Grout meeting the requirements of Section 3.4 shall be pumped at a pressure between 10 and 15 PSI (23.0 to 35.0 feet of head). Provisions shall be made for the removal of all air and complete filling of the voids with grout mixture. Before placing grout inside the casing pipe, the exterior of the casing pipe shall be grouted on 10 feet centers and the carrier pipe shall be carefully inspected for uniformity of grade along its alignment and any required corrections shall be made. Particular attention shall be given to ensuring that the pipe will be solidly supported by the selected backfill at its bottom and sides. The method of injection of grout under mechanical pressure shall be approved by OWNER. Grout shall be placed by filling the casing pipe, through 4 inch diameter holes placed on 10 feet centers, beginning at the downstream end and proceeding upstream. The space between the carrier pipe and sides of the casing pipe shall be completely filled with grout or with granular material by pneumatic backstowing. The grout or granular material shall be uniformly placed and compacted to fill all spaces between the outside of the pipe and inside surface of the casing. Refer to the Plans for additional details.

#### 4.5. SANITARY PIPE INSTALLATION

##### 4.5.1. Inspection and Handling

All pipes shall be inspected on delivery and such pipe sections that do not conform to these Specifications and which are not suitable for use shall be rejected and immediately removed from the Work site. Equipment used to handle, lay, and joint pipe shall be so used to prevent damage to the pipe and its jointing materials. All pipe and fittings shall be carefully handled and lowered into the trench. Damaged pipe or jointing material shall not be installed.

#### 4.5.2. Pipe Laying and Jointing

The laying of pipe shall begin at the lowest point and proceed upstream with the bell pointing upstream unless conditions dictate otherwise, in which case OWNER approval must be obtained. Prior to making pipe joints, all joint surfaces shall be clean and dry and free from gravel or other extraneous materials. All necessary lubricants or adhesives shall be used as recommended by the pipe manufacturer. Suitable means shall be used to force the spigot or tongue end of the pipe the proper distance into the bell or groove end without damage to the pipe and its jointing materials and without disturbing previously laid pipe sections. Special care shall be taken to ensure that the pipe is solidly and uniformly cradled or encased in accordance with these Specifications. No section of pipe shall be brought into position for jointing until the preceding section has been bedded and secured in place.

#### 4.5.3. Line and Grade

Each section of pipe shall be checked for vertical and horizontal alignment immediately after being laid. A calibrated survey transit shall be on site and in use at all times during pipe laying operations. All adjustments to line and grade must be made by scraping away or filling in under the barrel of the pipe and not by wedging or blocking up any portion of the pipe or striking the pipe in an effort to drive it down. Curved alignments may be allowed on a case-by-case basis, as approved by OWNER, except on gravity sanitary sewers smaller than 48 inches in diameter.

#### 4.5.4. Protection of Installed Pipe

As the Work progresses, the interior of the pipe shall be protected from and cleaned of all dirt, cement, extruded joint materials, debris, and other extraneous materials. Whenever pipe laying is stopped for any significant length of time, such as at the end of a workday, the unfinished end shall be protected from displacement, floatation, cave-in, and in-wash of soil or debris. A suitable temporary tight-fitting plug, stopper or bulkhead shall be placed in the exposed end of the pipe.

Water shall not be allowed to rise in the excavation until the joint materials and/or concrete cradle or encasement has hardened and cannot be damaged by the water. Particular care shall be used to prevent disturbance or damage to the pipe and the joints during backfilling or at any other time. Walking or working over the pipe, except as necessary for placing and compacting backfill, or operating compaction equipment directly over the pipe shall not be allowed until a minimum of 24 inches of cover over the outside top of the pipe has been placed. Mechanical compaction in this zone shall be with manual pneumatic tampers or other hand-operated methods which will not damage the pipe.

#### 4.5.5. Stoppers and Bulkheads



When the open ends of pipes or fittings smaller than 18 inches in diameter are to be sealed, the openings shall be sealed with stoppers, cemented into place using a rubber gasket between the stopper and bell or socket. Openings 18 inches in diameter or larger shall be sealed with concrete brick masonry or concrete bulkheads at least 4 inches thick, verified or redesigned by a professional engineer to meet pressure requirements.

All openings into pipes shall be protected from the entrance of earth, water or other extraneous materials. If a temporary bulkhead is constructed to prevent sewage from backing into the excavation or to prevent extraneous material from entering the sewer, the Contractor shall be responsible for reconstructing, repairing or replacing those portions of the existing sewer removed or damaged by this operation.

When an existing bulkhead is to be removed, its removal shall be coordinated with OWNER.

During construction, use a mechanical plug, properly braced and tied off, when tying into an existing sewer. The plug shall remain until the sewer lines are accepted by OWNER. It is the Contractor's responsibility to remove the plug prior to approval of flow being allowed into the system. The Contractor shall assume full responsibility for any damage or claims due to the installation and removal of the plug.

#### 4.6. LEAKAGE TESTING FOR SANITARY SEWERS

##### 4.6.1. General

Testing shall not be scheduled until at least 48 hours after verbal contact is made with the project inspector. The Contractor shall perform leakage tests on sanitary sewer pipes and force mains to ensure that installed pipes are not subject to excessive infiltration or exfiltration. Sanitary sewer pipes installed in areas where other underground facilities will be constructed subsequent to the sanitary sewer shall be tested twice; at the completion of the sanitary sewer installation, and following the installation of the other underground facilities. All leakage testing must be performed in the presence of a representative of OWNER. No leakage testing shall be performed prior to jetting.

When conducting any leakage test, the Contractor shall provide all meters, weirs, gages, water, equipment and personnel necessary to perform the test as specified. OWNER shall provide the inspection personnel, stopwatch, recording forms and calculations to demonstrate if the test passed or failed.

If a pipe installation fails to pass the requirements as specified herein, the Contractor shall repair or replace all defective materials or Workmanship, and conduct additional leakage tests necessary to demonstrate that the repaired section meets the leakage requirements,

at no additional cost to OWNER. If requested by OWNER the Contractor shall submit in writing a method of repair, and must be approved by OWNER before repair can begin.

#### 4.6.2. Low-Pressure Air Tests

The CONTRACTOR shall test the tightness of the pipe sections, joints and appurtenances of all gravity sewers by means of the low-pressure air test. No tests shall be made until the backfill is consolidated over the pipe and all service lines in the section to be tested have been connected and plugged.

When conducting a low-pressure air test, the Contractor shall securely install and brace all plugs prior to pressurizing the pipe. Personnel shall not be allowed to enter manholes when the sewer pipe is pressurized. Low-pressure air tests shall be conducted in accordance with UNIBELL Specification UNI B-6 Recommended Practice for Low-Pressure. The minimum air test pressure for all gravity sewers shall be 4 psi.

Air Testing of Installed Sewer Pipe. The "half-time" testing method will be accepted for these pipes only if the section of pipe being tested has a zero drop in pressure for half the test time specified for the pipe's length to diameter ratio.

#### 4.7. BACKFILL OF TRENCH EXCAVATIONS

##### 4.7.1.General

Backfilling of trenches shall be accomplished as soon as possible after the pipe is placed. The Contractor shall have the option of using flushed and jetted or compacted backfill materials. The Contractor shall notify OWNER 48 hours in advance of all flushing and jetting and/or mechanical compaction operations.

##### 4.7.2.Compaction

Compaction around structures will be performed by a mechanical compactor when flushing and jetting of sand and earth material is not possible or practical, or when required by the Plans.

##### 4.7.3. Within Limits of Existing or Proposed Paved Surfaces

At the Contractor's option, with prior approval by OWNER (based on the availability of sand which meets the requirements of Section 3.6), backfill within the limits of existing or proposed paved surfaces shall consist of: Type I-A Backfill - sand, flushed and jetted, Type I-B Backfill - sand, combination flushed and jetted and mechanically compacted, or Type III Backfill - selected excavated material and/or approved borrow material - mechanically compacted. In special cases and with the approval of OWNER, the Contractor may utilize Type I-A sand backfill - flushed and jetted in the lower portion of the excavation and Type

III backfill selected excavated materials - mechanically compacted in the upper portion of the excavation.

- (A) Sand - Flushed and Jetted (Type I-A). After the trench has been completely backfilled with sand, the backfill shall be densified by thoroughly flushing and jetting with water, beginning at the downstream end of the trench and proceeding upstream. Water to be used for flushing and jetting shall be supplied through hoses and pipes having a minimum diameter of 2 inches. The jet pipe shall have a minimum diameter of 1-1/2 inches. Jet pipes used to penetrate the backfill material shall be equipped with a shut-off valve and be of sufficient length to completely penetrate the sand backfill. The jet pipe shall be inserted into the sand backfill at a maximum spacing along the trench of 6 feet and the spacing shall be staggered along the trench area. The jet pipe shall penetrate the sand backfill to within 12 inches of the crushed stone encasement. Care shall be exercised to prevent the jet pipe from penetrating the crushed stone encasement. When the depth of the trench exceeds the length of the jet pipe the flushing and jetting shall be completed in lifts. The pipe shall remain in place until water is observed rising above the backfill throughout the full width of the trench and over a length of the trench equal to one-half the distance between adjacent jet installations. If this condition is not observed within a reasonable period, the Contractor shall increase the water flow or provide additional jet pipes. If the Contractor fails to flush and jet the sand backfill in accordance with the Specifications, the sand backfill shall be excavated and replaced with properly flushed and jetted sand backfill or material compacted in accordance with Section 4.7.3.(C)., at no additional cost to OWNER.

The Contractor shall provide all piping, fittings, etc., necessary to deliver the water along the site of the work and shall arrange with the Harlan Water Company, if applicable, for making the necessary taps and metering. All expenses incurred for installing the pipe and hose, together with the cost of the water, shall be borne by the Contractor. Following flushing and jetting and prior to pavement construction, the surface of the sand subgrade shall be thoroughly compacted following the procedures described in Section 4.7.3.(B).

- (B) Sand, Combination Flushed and Jetted, and Mechanically Compacted (Type I-B). The trench shall be completely backfilled with sand, and the backfill shall be densified by thoroughly flushing and jetting with water. Flushing and jetting procedures shall be in accordance with Section 4.7.3.(A) above. Next, the sand backfill shall be removed to a depth of 3 feet below the pavement surface and stockpiled for later mechanical compaction. The exposed surface shall then be thoroughly compacted. The remainder of the trench shall be backfilled in two lifts of sand (approximately 12-inches thick) up to the pavement subgrade level with each lift being thoroughly compacted. For compaction, the Contractor shall supply a vibratory plate compactor or smooth drum

vibratory roller capable of compacting sands to a minimum effective depth of 16-inches. The Contractor shall submit the manufacturer's equipment specifications for proof of this required effective compaction depth. The required number of passes of the roller or plate shall be established at the beginning of compaction operations for the Project by taking nuclear density tests to monitor the density increase with increased passes of the roller or plate. The required number of passes shall be set when no further increase in sand backfill density is measured.

- (C) Earth Materials - Compacted (Type III-A). Selected excavated materials or approved borrow materials containing no rock fragments with a maximum dimension larger than 4 inches shall be carefully deposited in uniform, horizontal layers, not exceeding 6 inches in compacted depth, in a zone located from the top of the cradle or encasement up to a horizontal plane located 2 feet above the exterior top of the pipe. Prior to compaction, each layer shall be level and evenly distributed on both sides of the pipe so as to not disturb, displace or damage the pipe. Each layer shall be thoroughly compacted to a minimum of 95 percent of the standard Proctor density, at moisture content between plus 2 percent and minus 4 percent of the optimum moisture content, as determined by ASTM D 698, utilizing mechanical compaction. Each layer shall be properly compacted before the next succeeding layer is placed. Any lift of fill which pumps under the weight of the compaction equipment shall be rejected, regardless of the field density test results.

The remainder of the trench from the horizontal plane located 2 feet above the pipe up to the ground surface or top of the existing subgrade shall be backfilled with selected excavated materials containing no rock fragments with a maximum dimension larger than 4 inches, or approved borrow materials. The backfill shall be placed in uniform horizontal layers not exceeding 12 inches in compacted depth.

Each layer shall be thoroughly compacted to a minimum of 95 percent of the standard Proctor density and a moisture content between plus 2 percent and minus 4 percent of the optimum moisture content, as determined by ASTM D 698, utilizing mechanical compaction methods. Each layer shall be properly compacted before the next succeeding layer is placed. Any lift of fill which pumps under the weight of the compaction equipment shall be rejected, regardless of the field density test results. Follow guidelines set forth in Section 4.7.8.3. at no additional cost to OWNER.

- (D) Combination Sand (Type I-A) and Earth Backfill (Type III-A). In trench situations where the lower trench dimensions limit the use of mechanical compaction equipment, the existing site conditions limit the effectiveness of the mechanical compaction methods, or where additional backfill material is required to replace unsuitable excavated materials, the Contractor may utilize flushed and jetted sand backfill in the lower portion of the trench and mechanically compacted earth material in the upper portion

of the trench with prior approval of OWNER. The sand backfill operations shall extend from the top of the cradle or encasement up to a point where mechanical compaction can be properly accomplished in accordance with Section 4.7.3.(C). The mechanical compaction operations shall extend from the top of the sand backfill up to the ground surface or top of the existing subgrade. Follow guidelines set forth in Section 4.7.8.3.

- (E) No. 57 Crushed Stone - Compacted. With prior approval from OWNER, No. 57 crushed stone may be used as trench backfill within paved areas. The stone shall be carefully deposited in uniform, horizontal layers not exceeding 12 to 24 inches in compacted depth, depending on the type and size of compaction equipment used. The initial lift(s) of stone immediately above the pipe shall be level and evenly distributed on both sides of the pipe. Each layer shall be thoroughly compacted by making a minimum of two passes using a vibratory plate compactor or smooth drum vibratory roller capable of compacting clean stone to a minimum effective depth of the lift thickness selected. The Contractor shall submit the manufacturer's equipment specifications for proof of this required effective compaction depth.

#### 4.7.4. Outside Limits of Existing or Proposed Paved Surfaces

At the Contractor's option, except as otherwise specified in Section 4.7.5, trench backfill outside the limits of existing or proposed paved surfaces shall consist of earth materials (selected excavated or approved borrow materials) which are flushed and jetted or compacted. The upper one foot of the earth backfill shall be essentially free from rock, gravel or other hard, durable fragments.

- (A) Earth Materials - Flushed and Jetted (Type II Backfill). The lower portion of the trench backfill extending from the top of the cradle or encasement to a horizontal plane located 2 feet above the exterior top of the pipe shall contain no rock or rock fragments with a maximum dimension larger than 1 inch. The remainder of the trench shall be backfilled with selected excavated materials or approved borrow materials containing no rock fragments larger than 1 cubic foot. After the trench has been completely backfilled with selected excavated material or approved borrow material, the backfill shall be densified by thoroughly flushing and jetting with water, beginning at the downstream end of the trench and proceeding upstream. The backfill shall be thoroughly and uniformly sluiced and flooded by introducing water at the top of the trench and by inserting the jet pipe into the backfill at intervals as specified in Section 4.7.3. (A) along the trench. This process shall be continued until the backfill is completely saturated and no further settlement is observed. Hoses, jet pipes and the maximum depth of insertion shall be as specified in Section 4.7.3. (A). After the backfill in the trench has substantially dried and completed any additional settlement, any settlement below the finish grade shall be refilled with additional earth, and compacted in accordance with (B), below.

(B) Mechanical Compaction of Earth Materials (Type III-B). Selected excavated materials or approved borrow materials, containing no rock or rock fragments with a maximum dimension larger than 3 inches, shall be carefully deposited in uniform, horizontal layers, not exceeding 6 inches in compacted depth, in a zone located from the top of the cradle or encasement up to a horizontal plane located 2 feet above the exterior top of the pipe. Prior to compaction, each layer shall be leveled and evenly distributed on both sides of the pipe so as not to disturb, displace or damage the pipe. Each layer shall be thoroughly compacted to a minimum of 85 percent of the Standard Proctor density before the next succeeding layer is placed. Any lift of fill which pumps under the weight of the compaction equipment shall be rejected, regardless of the field density test results. Follow guidelines set forth in Section 4.7.8.3. The remainder of the trench from the horizontal plane located 2 feet above the top of the pipe up to the ground surface shall be backfilled with selected excavated materials or approved borrow material containing no rock fragments larger than 1 cubic foot. The material shall be placed in uniform horizontal layers not exceeding 12 inches in compacted depth. Each layer shall be compacted with a dozer or other heavy, earth-moving equipment traveling back and forth over the material until no further settlement is observed.

#### 4.7.5. Between Pipe and Drainage Swale or Ditch

The Contractor shall use Type III - A backfill in pipe trenches where a surface ditch or swale is to be constructed above the pipe. This includes all ditches and swales - paved, sodded, rip-rapped or seeded.

#### 4.7.6. Depositing Backfill Material

All backfilling shall be done in a manner to avoid displacing or damaging the pipe or structure. Any pipe or structure damaged or displaced shall be excavated and repaired or replaced at the Contractor's expense.

#### 4.7.7. Final Grading

Final grading around and above sanitary sewer or storm drainage improvements shall be shaped to the slope of adjacent undisturbed ground. Sufficient grading operations shall be performed to prevent ponding and to provide natural surface drainage from adjacent areas into storm water inlets, ditches or swales.

#### 4.7.8. Inspection and Testing

##### 4.7.8.1. Inspection Personnel

All flushing and jetting operations shall be performed in the presence of the OWNER's Inspector assigned to the Project. All backfill operations which involve

mechanical compaction and which are required to meet a specified degree of compaction, shall be performed in the presence of an OWNER inspector or an experienced earthwork inspector who represents an Agency designated or approved by the OWNER to provide earthwork inspection.

#### 4.7.8.2. Laboratory Tests

Selected excavated materials or approved borrow materials shall be sampled and tested for standard Proctor density, optimum moisture content and classification by the Agency approved by the OWNER. These tests will be required whenever such materials are proposed for use in compacted backfill or embankment and a specified degree of compaction is required. A minimum of one week should be allowed for the Agency to obtain samples and complete the tests.

#### 4.7.8.3. Field Density Tests

Field density tests shall be performed on compacted backfill or embankment materials. The OWNER must be notified 24 hours in advance. Scheduling of field density tests with an approved Agency shall be performed 24 hours in advance of the backfill operations. Acceptable methods of performing field density tests include the following:

- (A) Nuclear Density Test - ASTM D 2922, Standard Specification for Test Methods for Density of Soil and Soil-Aggregate In-Place by Nuclear Methods (Shallow Depth).
- (B) Sand Cone Test - ASTM D 1556, Standard Specification for Test Method for Density of Soil In-Place by the Sand Cone Method.
- (C) Rubber Balloon Test - ASTM D 2167, Standard Specification for Test Method for Density and Unit Weight of Soil In-Place by the Rubber Balloon Method.
- (D) Drive-Cylinder Method - ASTM D 2937, Standard Specification for Test Method for Density of Soil In-Place by the Universal Cylinder Method.

The frequency that field density tests shall be performed will be in accordance to the following minimum schedule. Additional testing shall be performed when directed by the Inspector or by the OWNER.

- (A) A minimum of 1 test per 100 cubic yards of material placed and compacted in trenches or 500 cubic yards of material in embankments.
- (B) A minimum of 1 test per lift per 200 feet of material placed and compacted in trenches.

- (C) A minimum of 1 test per lift of material placed and compacted in embankments.
- (D) A minimum of 1 test per shift (day) of compaction operations.
- (E) A minimum of 1 test whenever there is a suspicion of a change in material, moisture content, or degree of compaction control.

When instructed by the OWNER, the Contractor shall excavate previously untested backfill or embankment material to a particular grade for testing. Backfilled areas which do not pass this test shall be excavated and recompact until they meet the compaction specifications. Areas excavated for testing shall be recompact in accordance with the Project Specifications. The cost of this Work shall be at the Contractor's expense.

## **5. MEASUREMENT**

### **5.1. S PIPE, DUCTILE IRON, 16 INCH**

The DEPARTMENT will measure the quantity in linear feet from end-to-end along the bottom or pipe invert of the installed structure. The DEPARTMENT will not measure joint materials and bedding materials for payment and will consider them incidental to this item of work. The DEPARTMENT will not measure replacement of damaged pipe for payment and will consider it incidental to this item of work. The DEPARTMENT will not measure for payment the providing of a manufacturer's representative to assist in the construction of the pipe and will consider it incidental to this item of work. The DEPARTMENT will not measure testing and will consider it incidental to this item of work.

### **5.2. STEEL ENCASEMENT PIPE, 32 INCH, OPEN CUT**

The DEPARTMENT will measure the quantity in linear feet according to Subsection 5.1. The DEPARTMENT will not measure concrete encasement, blocking, filling with grout, or backfill and will consider it incidental to this item of work.

### **5.3. EXCAVATION AND BLASTING**

The DEPARTMENT will not measure excavation or blasting and will consider it incidental to the pipe.

### **5.4. REMOVING PIPE**

The DEPARTMENT will not measure removal of existing pipe, including concrete encasement, and will consider it incidental to the pipe.



5.5. BYPASS PUMPING

The DEPARTMENT will not measure bypass pumping and will consider it incidental to the pipe.

5.6. BACKFILL

The DEPARTMENT will not measure backfill and will consider it incidental to the pipe.

6. PAYMENT

The DEPARTMENT will make payment for the completed and accepted quantities under the following:

CODE	PAY ITEM	PAY UNIT
24668EC	STEEL ENCASEMENT PIPE, 32", OPEN CUT	LINEAR FOOT
15107	S PIPE DUCTILE IRON 16 INCH	LINEAR FOOT



**DEPARTMENT OF THE ARMY**  
**U.S. ARMY ENGINEER DISTRICT, LOUISVILLE**  
**EASTERN KENTUCKY REGULATORY OFFICE**  
845 Sassafras Creek Road  
Sassafras, Kentucky 41759-8806

February 24, 2021

Regulatory Division  
South Branch  
ID No. LRL-2020-00582

Danny Peake  
Kentucky Transportation Cabinet (KYTC)  
200 Mero Street  
Frankfort, KY 40622

Dear Mr. Peake:

This is in response to your request for authorization to replace an existing concrete arch bridge with three concrete box culverts (KYTC Item No. 11-10012) located over an unnamed tributary to Cumberland River (formerly the Clover Fork) in Harlan County, KY. The information supplied by you was reviewed to determine whether a Department of the Army (DA) permit will be required under the provisions of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

Your project is considered a discharge of backfill or bedding material for a road crossing. The project is authorized under the provisions of 33 CFR 330 Nationwide Permit (NWP) No. 14, Linear Transportation Projects, as published in the Federal Register January 6, 2017. Under the provisions of this authorization you must comply with the enclosed Terms and General Conditions for Nationwide Permit No. 14, and the following Special Conditions:

- 1.) The permittee agrees to the terms and conditions granted in the letter dated February 17, 2021 from the Nashville District Army Corps of Engineers that only authorizes you, the requester, to undertake the activity described herein under the authority provided in Section 14 of the Rivers and Harbors Act of 1899, as amended (33 USC 408). This permission does not obviate the need to obtain other federal, state, or local authorizations required by law.
- 2.) The Permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the Permittee shall be required, upon due notice from USACE, to remove, relocate, or alter the structural work or obstructions caused thereby,

without expense to the United States. No claim shall be made against the United States on account of any such removal, relocation, or alteration.

- 3.) This project complies with the enclosed General Water Quality Certification (WQC) and Conditions for NWP No. 14 issued by the Kentucky Division of Water on March 19, 2017.

This verification is valid until March 18, 2022. The enclosed Compliance Certification must be submitted to the District Engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later. Note that we also perform periodic inspections to ensure compliance with our permit conditions and applicable Federal laws. A copy of this letter will be forwarded to your agent and to the KDOW.

If you have any questions, please contact us by writing to the Eastern Kentucky Regulatory Office at 845 Sassafras Creek Road, Sassafras, KY 41759, ATTN: CELRL-RDS, or contact Crystal Byrd directly at 606-642-3404 or [crystal.d.byrd@usace.army.mil](mailto:crystal.d.byrd@usace.army.mil). Any correspondence on this matter should refer to our ID Number LRL-2020-00582.

Sincerely,

David Baldridge  
Chief, South Branch  
Regulatory Division

Enclosures

### **Addresses for Coordinating Agencies**

Ms. Ashley Monroe  
USEPA, R4, WPD, WCOB, WRS  
61 Forsyth Street SW  
Atlanta, Georgia 30303-8960  
[monroe.ashley@epa.gov](mailto:monroe.ashley@epa.gov)

U.S. Fish & Wildlife Service  
J.C. Watts Federal Building  
330 West Broadway, Suite 265  
Frankfort, KY 40601  
[kentuckyES@fws.gov](mailto:kentuckyES@fws.gov)

Director  
Water Quality Certification Section  
Division of Water  
300 Sower Boulevard  
Frankfort, KY 40601  
[Elizabeth.harrod@ky.gov](mailto:Elizabeth.harrod@ky.gov)

Mr. Doug Dawson  
Ky. Dept. of Fish and Wildlife Resources  
#1 Game Farm Road  
Frankfort, KY 40601  
[Doug.dawson@ky.gov](mailto:Doug.dawson@ky.gov)

Executive Director  
State Historic Preservation Officer  
Kentucky Heritage Council  
The Barstow House  
410 High Street, Frankfort, KY 40601  
[Craig.potts@ky.gov](mailto:Craig.potts@ky.gov)

Richard Clausen, Agent  
Redwing Ecological Services, Inc.  
1139 South Forth Street  
Louisville, KY 40203  
[rclausen@redwingeco.com](mailto:rclausen@redwingeco.com)

**Compliance Certification:**

**Permit Number: LRL-2020-00582**

**Name of Permittee: Kentucky Transportation Cabinet**

**Date of Issuance: February 25, 2021**

Upon completion of the activity authorized by this permit and any mitigation required by this permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers  
CELRL-RDS  
845 Sassafras Creek Road  
Sassafras, Kentucky 41759-8806

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

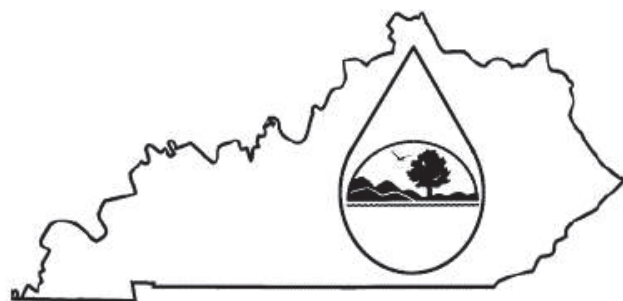
I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

---

Signature of Permittee

---

Date



## KENTUCKY POLLUTION DISCHARGE

### ELIMINATION SYSTEM (KPDES)

Notice of Intent (NOI) for coverage of Storm  
Water Discharge Associated with  
Construction Activities Under the KPDES  
Storm Water General Permit KYR100000

[Click here for Instructions  
\(Controls/KPDES\\_FormKYR10\\_Instructions.htm\)](#)

[Click here to obtain information and a copy of the KPDES General Permit.](#)

(<http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf>)

(\*) indicates a required field; (✓) indicates a field may be required based on user input or is an optionally required field

Reason for Submittal:(*) <input type="text" value="Application for New Permit Coverage"/>	Agency Interest ID: <input type="text" value="Agency Interest ID"/>	Permit Number:(✓) <input type="text" value="KPDES Permit Number"/>	
If change to existing permit coverage is requested, describe the changes for which modification of coverage is being sought:(✓) <input type="text"/>			
<b>ELIGIBILITY:</b> Stormwater discharges associated with construction activities disturbing individually one (1) acre or more, including, in the case of a common plan of development, contiguous construction activities that cumulatively equal one (1) acre or more of disturbance.			
<b>EXCLUSIONS:</b> The following are excluded from coverage under this general permit: 1) Are conducted at or on properties that have obtained an individual KPDES permit for the discharge of other wastewaters which requires the development and implementation of a Best Management Practices (BMP) plan; 2) Any operation that the DOW determines an individual permit would better address the discharges from that operation; 3) Any project that discharges to an Impaired Water listed in the most recent Integrated Report, §305(b) as impaired for sediment and for which an approved TMDL has been developed.			
<b>SECTION I -- FACILITY OPERATOR INFORMATION (PERMITTEE)</b>			
Company Name:(✓) <input type="text" value="Kentucky Transportation Cabinet, District-1"/>	First Name:(✓) <input type="text" value="Chris"/>	M.I.: <input type="text" value="J"/>	Last Name:(✓) <input type="text" value="Jones"/>
Mailing Address:(*) <input type="text" value="603 Railroad Ave."/>	City:(*) <input type="text" value="Manchester"/>	State:(*) <input type="text" value="Kentucky"/>	Zip:(*) <input type="text" value="40962"/>
eMail Address:(*) <input type="text"/>		Business Phone:(*) <input type="text"/>	Alternate Phone: <input type="text"/>

chrisj.jones@ky.gov		606-598-2145		Phone	
SECTION II -- GENERAL SITE LOCATION INFORMATION					
Project Name:(*) 11-9016.30: Mini-roundabout at KY-38 and KY-72		Status of Owner/Operator(*) State Government ▼		SIC Code(*) 1611 Highway and ▼	
Company Name:(✓) Kentucky Transportation Cabinet, District-1		First Name:(✓) Chris		M.I.: J	Last Name:(✓) Jones
Site Physical Address:(*) Harlan County, KY-38, Mile Point 0.08					
City:(*) Harlan		State:(*) Kentucky ▼		Zip:(*) 40831	
County:(*) Harlan ▼		Latitude(decimal degrees)(*)DMS to DD Converter (https://www.fcc.gov/media/radio/dms-decimal) 36.844423		Longitude(decimal degrees)(*) -83.323101	
SECTION III -- SPECIFIC SITE ACTIVITY INFORMATION 🗺					
Section III requires part A or part B to be completed.					
Project Description:(*) 11-9016.30: Construct a mini-roundabout at the intersection of KY-38 and KY-72 in Harlan County, in conjunction wil					
a. For single projects provide the following information					
Total Number of Acres in Project:(✓) 1.82		Total Number of Acres Disturbed:(✓) 1.10			
Anticipated Start Date:(✓) 7/5/2021		Anticipated Completion Date:(✓) 7/5/2022			
b. For common plans of development provide the following information					
Total Number of Acres in Project:(✓) # Acre(s)		Total Number of Acres Disturbed:(✓) # Acre(s)			
Number of individual lots in development, if applicable: (✓) # lot(s)		Number of lots in development:(✓) # lot(s)			
Total acreage of lots intended to be developed:(✓)		Number of acres intended to be disturbed at any one time:(✓)			

<div>Project Acres</div>	<div>Disturbed Acres</div>
<div>Anticipated Start Date:(✓)</div> <div></div>	<div>Anticipated Completion Date:(✓)</div> <div></div>
<div>List Building Contractor(s) at the time of Application:(*)</div> <div><div>Company Name</div></div>	

SECTION IV -- IF THE PERMITTED SITE DISCHARGES TO A WATER BODY THE FOLLOWING INFORMATION IS REQUIRED ?

Complete the following table if the permitted site discharges to a water body. Please note that if you enter a row in the below table, all columns are required to be filled out.

**Unnamed Tributary?:** Does discharge enter an unnamed tributary prior to entering a named receiving water?

**Latitude in decimal degrees:** Format must be between 36.490000 and 39.150000, with a minimum of 5 decimal points of accuracy.

**Longitude in decimal degrees:** Format must be between -89.580000 and -81.960000, with a minimum of 5 decimal points of accuracy.

**Receiving Water Name:** Receiving water name must be from the following list of possible receiving waters.(click here for a list (Controls/ReceivingStream.htm)). If the discharge flows into an unnamed tributary, please enter the first “named” receiving water for which the unnamed tributary(ies) eventually flows into.

Discharge Point(s):			
Unnamed Tributary?	Latitude	Longitude	Receiving Water Name
Yes	36.84399	-83.32308	Martins Fork Cumberland River
Yes	36.84409	-83.32328	Martins Fork Cumberland River
Yes	36.84416	-83.32327	Martins Fork Cumberland River
Yes	36.84429	-83.32244	Martins Fork Cumberland River
Yes	36.84432	-83.32376	Martins Fork Cumberland River
Yes	36.84436	-83.32243	Martins Fork Cumberland River
Yes	36.84438	-83.32327	Martins Fork Cumberland River
Yes	36.84448	-83.32327	Martins Fork Cumberland River
Yes	36.84456	-83.32300	Martins Fork Cumberland River
Yes	36.84466	-83.32283	Martins Fork Cumberland River
Yes	36.84475	-83.32313	Martins Fork Cumberland River
Yes	36.84475	-83.32329	Martins Fork Cumberland River
Yes	36.84479	-83.32396	Martins Fork Cumberland River
Yes	36.84483	-83.32325	Martins Fork Cumberland River
Yes	36.84499	-83.32295	Martins Fork Cumberland River
Yes	36.84516	-83.32302	Martins Fork Cumberland River
Yes	36.84527	-83.32291	Martins Fork Cumberland River
Yes	36.84528	-83.32299	Martins Fork Cumberland River



SECTION V -- IF THE PERMITTED SITE DISCHARGES TO A MS4 THE FOLLOWING INFORMATION IS REQUIRED



List all MS4 Discharge Points

Latitude in decimal degrees. Format must be between 36.490000 and 39.150000, with a minimum of 5 decimal points of accuracy.

Longitude in decimal degrees. Format must be between -89.580000 and -81.960000, with a minimum of 5 decimal points of accuracy.

Name of MS4: <div></div>	
Date of application/notification to the MS4 for construction site permit coverage: <div>Date</div>	Discharge Point(s):(*) <div>Latitude</div> <div>Longitude</div>

SECTION VI -- WILL THE PROJECT REQUIRE CONSTRUCTION ACTIVITIES IN A WATER BODY OR THE RIPARIAN ZONE?

Will the project require construction activities in a water body or the riparian zone?:(*)	Yes
If Yes, describe scope of activity: (✓)	Bridge replacement for 11-10012 portion of constructi
Is a Clean Water Act 404 permit required?:(*)	Yes
Is a Clean Water Act 401 Water Quality Certification required?:(*)	Yes

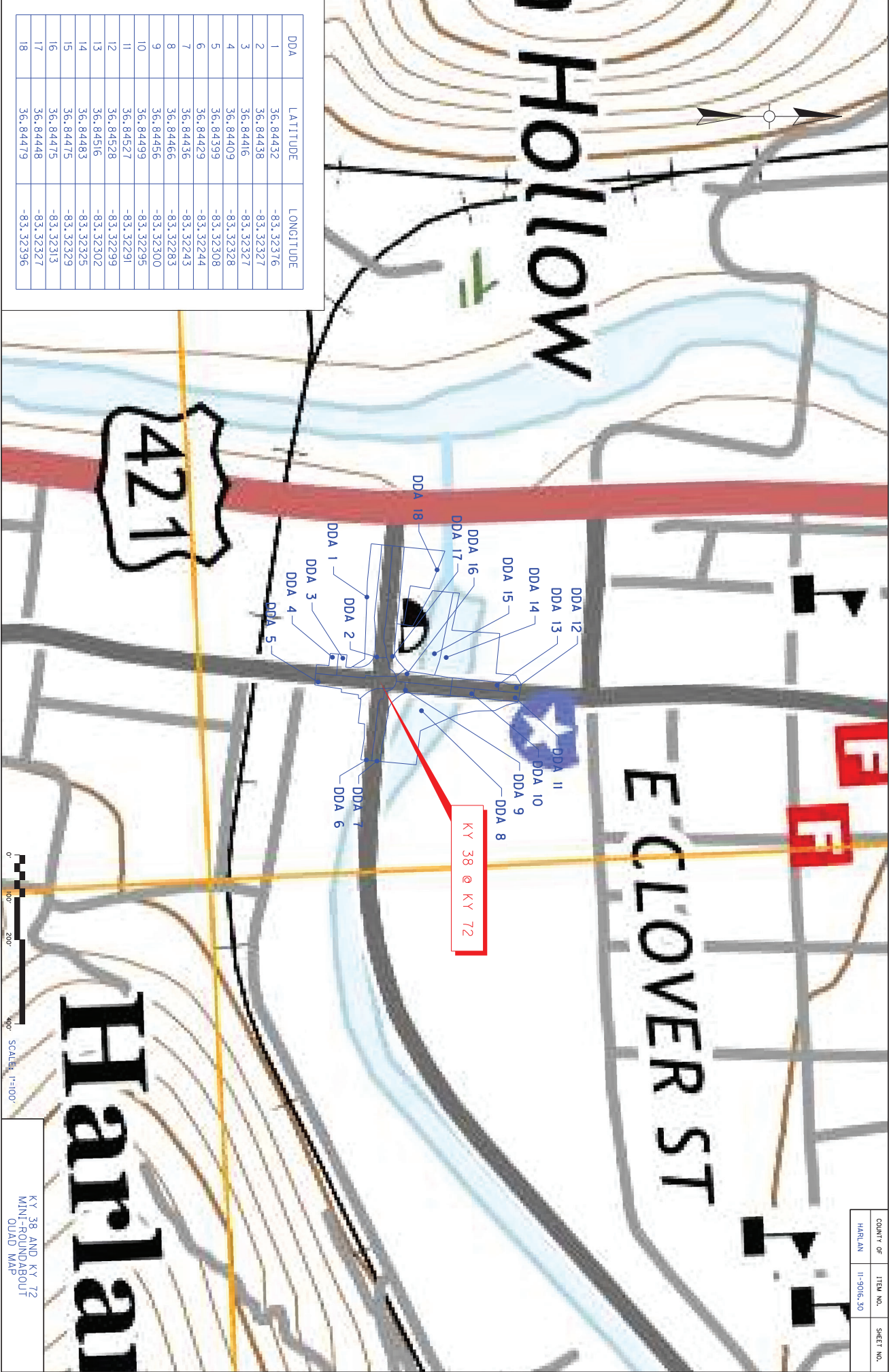
SECTION VII -- NOI PREPARER INFORMATION

First Name:(*) Joshua	M.I.: J	Last Name:(*) Higgins	Company Name:(*) Kentucky Transportation Cabinet, District-1	
Mailing Address:(*) 603 Railroad Ave.		City:(*) Manchester	State:(*) Kentucky	Zip:(*) 40962
eMail Address:(*) joshuaj.higgins@ky.gov		Business Phone:(*) 606-598-2145	Alternate Phone: Phone	

SECTION VIII -- ATTACHMENTS

Facility Location Map:(*)	Upload file
---------------------------	-------------

Supplemental Information:		<input type="button" value="Upload file"/>	
SECTION IX -- CERTIFICATION			
<p>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p>			
Signature:(*) <input type="text" value="Chris J. Jones"/>		Title:(*) <input type="text" value="Chief District Engineer"/>	
First Name:(*) <input type="text" value="Chris"/>	M.I.: <input type="text" value="J"/>	Last Name:(*) <input type="text" value="Jones"/>	
eMail Address:(*) <input type="text" value="chrisj.jones@ky.gov"/>	Business Phone:(*) <input type="text" value="606-598-2145"/>	Alternate Phone: <input type="text" value="Phone"/>	Signature Date: (*) <input type="text" value="4/1/2021"/>
<div> <input type="button" value="Click to Save Values for Future Retrieval"/> <input type="button" value="Click to Submit to EEC"/> </div>			



COUNTY OF	ITEM NO.	SHEET NO.
HARLAN	11-9016.30	

KY 38 AND KY 72  
MINI-ROUNDABOUT  
QUAD MAP

## **Report of Geotechnical Exploration**

048B00095N  
KY-72 over Clover Fork of  
Cumberland River  
Harlan County, Kentucky



Prepared by:  
Stantec Consulting Services Inc.  
Lexington, Kentucky

July 12, 2019



**Stantec Consulting Services Inc.**  
3052 Beaumont Centre Circle, Lexington KY 40513-1703

July 12, 2019  
File: rpt\_001\_let\_178568003

**Attention: Ms. Heather Lawler, PE**  
Bridging Kentucky Area 6 Team Lead  
Stantec  
3052 Beaumont Centre  
Lexington, Kentucky 40513

**Reference: Report of Geotechnical Exploration**  
**048B00095N**  
**KY-72 over Clover Fork of Cumberland River**  
**Harlan County, Kentucky**

Dear Ms. Lawler,

Stantec Consulting Services Inc. (Stantec) is submitting the geotechnical engineering report for the referenced structure with this letter.

This report presents results of the field exploration along with our recommendations for the design and construction for the referenced bridge. As always, we enjoy working with your staff and if we can be of further assistance, please contact our office.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

Adam Crace, PE  
Project Manager  
Phone: (859) 422-3084  
Fax: (859) 422-3100  
Adam.crace@stantec.com

/rws

REPORT OF GEOTECHNICAL EXPLORATION

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## REPORT OF GEOTECHNICAL EXPLORATION

Introduction  
July 12, 2019

### 1.0 INTRODUCTION

The Kentucky Transportation Cabinet (KYTC) has initiated the Bridging Kentucky program. The purpose of the program is to rehabilitate or replace over 1,000 bridges across the state. Bridges that have been identified to be a part of the program are structures that, because of their deteriorating conditions and resulting low load ratings, are limiting the movement of people and freight across the state.

This report addresses the geotechnical considerations for replacement of the Bridge 048B00095N, KY-72 over Clover Fork of Cumberland River which is in Harlan County, Kentucky. Current design plans show that the bridge will be replaced with a RCBC culvert and the remaining area will be a fill. The bridge location is presented on Figure 1 below.



Figure 1 – Google Image showing Project Site.

## REPORT OF GEOTECHNICAL EXPLORATION

Site Topography and Geologic Conditions  
July 12, 2019

### 2.0 SITE TOPOGRAPHY AND GEOLOGIC CONDITIONS

The project site is situated on the Geologic Map of the Harlan Quadrangle, Kentucky (GQ-1015). Based on the review of this geologic map, the project is underlain by Alluvium and the Pikeville Formation as well as the Mingo and Hance formations. The Pikeville Formation is a part of the Breathitt Formation. The Alluvium consists of sand, silt, gravel, and clay; mostly unconsolidated deposits in valley areas; flat but rounded boulder and cobble gravels composed of soft sandstone and siltstone from nearby outcrops is localized in major stream channels and upper reaches of tributaries; as much as 5 feet of stratified sand, silt, and clay with scattered pebbles overlies channel gravel in terraces where flood plains are broad. The flood plains and terraces along Poor, Martins, and Clover Forks of Cumberland River and Catrons Creek are the principal well-drained level surfaces in this area.

The Pikeville Formation of the Lower to Middle Pennsylvanian geologic period consists primarily of sandstones, siltstones, shales, and coals. Sandstones are described as being light- to medium-gray, predominately very fine- to medium-grained, cross-bedded and ripple-bedded in places, thin- to thick-bedded, clayey and silty. Siltstones are described as light- to dark-gray, commonly thin-bedded, ripple-bedded in places, and occurring mostly as thin transitional zones between sandstone and shale. Shales are typically medium- to dark-gray, and predominantly silty, but clayey in places.

The Mingo Formation in this area includes the Darby and Harlan coal beds, averaging 3.5-feet thick and are generally overlain by resistant sandstones or siltstones.

The Hance Formation contains siltstone and shale, which are often interbedded, are colored medium-to-dark gray, are micromicaceous, contain nodular limestone, concretions and layers of ironstone; may be locally fossiliferous; sandy, in places interbedded with sandstone. The sandstone is typically gray in color, weathers buff to brown; micaceous, clayey, very fine to medium grained, thin to thick bedded, in part ripple bedded, partly cross-bedded.

No other detrimental geologic features are noted by the available mapping within the immediate vicinity of the proposed roadway.

### 3.0 FIELD INVESTIGATION

A geotechnical exploration was conducted in May of 2019 which consisted of four subsurface borings, designated herein as 048B00095N-1, 048B00095N-2, 048B00095N-3, and 048B00095N-4. The boring locations and surface elevations were obtained by the Bridging Kentucky TEAM and are presented in Appendix A. Table 1 provides a summary of the locations, elevations, and depths of the borings drilled for the proposed culvert. In addition, boring 048B00095N-4 was drilled for a potential retaining wall. At the time this report was written the retaining wall was not needed.



## REPORT OF GEOTECHNICAL EXPLORATION

Subsurface Conditions  
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**Table 1 KY-72 over Clover Fork of Cumberland River – Summary of Borings**

Hole No.	Latitude	Longitude	Surface Elevation (ft.) MSL	Top of Rock/Refusal		Begin Core		Bottom of Hole	
				Depth (ft.)	Elev. (ft.) MSL	Depth (ft.)	Elev. (ft.) MSL	Depth (ft.)	Elev. (ft.) MSL
048B00095N -1	36.844793	-83.323196	1162.1	7.5	1154.6	N/A	N/A	7.5	1154.6
048B00095N -2	36.844727	-83.323039	1162.6	6.0	1156.6	N/A	N/A	6.0	1156.6
048B00095N -3	36.844696	-83.322874	1162.4	5.0	1157.4	N/A	N/A	5.0	1157.4
048B00095N -4	36.844966	-83.323193	1166.4	7.5	1158.9	7.5	1158.9	19.0	1147.4

The drill crew operated a truck-mounted drill rig equipped with hollow-stem and flight augers as well as wire line coring tools. The field personnel generally performed soil sampling at five-foot intervals of depth to obtain in situ strength data and specimens for subsequent laboratory strength and/or classification testing. Standard penetration testing (SPT) were conducted at the boring locations.

## 4.0 SUBSURFACE CONDITIONS

In general, the subsurface materials observed in the sample borings consisted primarily of gray to brown silty, clayey, gravel with sand or silty sand and gravel, was moist, and medium dense to medium stiff. Standard penetration test blow counts (N) in soil material ranged from 4 to 50+ blows per foot. Soil thicknesses encountered ranged from 5.0' to 7.5' feet at the boring locations.

Based upon the rock coring performed, the top of bedrock was encountered at an elevation of 1158.9 feet (boring B-4). Bedrock specimens recovered from coring operations consist of gray shale with sandy laminations, and sandstone with shale stringers and partings. A typed log of the boring is presented in Appendix B.

Observation wells were not installed. Groundwater was not encountered at the time of drilling. Groundwater can be expected to be encountered at the level of Clover Fork of Cumberland River. Groundwater levels and/or conditions may vary considerably, with time, according to the prevailing climate, rainfall or other factors.

## 5.0 LABORATORY TESTING AND RESULTS

Stantec performed laboratory testing on soil samples from the borings. All laboratory tests were performed in accordance with the applicable AASHTO or Kentucky Methods soil and rock testing specifications. Laboratory testing consisted of grain size-sieve analyses (silt plus clay determinations), and soil classification index testing.



## REPORT OF GEOTECHNICAL EXPLORATION

Engineering Analyses  
July 12, 2019

The SPT soil samples tested classified as GC-GM and SM according to USCS and A-1-b on the AASHTO classification system. Results of the laboratory testing are also presented in Appendix C.

### 6.0 ENGINEERING ANALYSES

This project will consist of replacing the existing bridge with a culvert. The existing area around the culvert will be comprised of fill. It is unknown where the fill material will come from but it is anticipated that the fill height will be less than 20 feet, as such, embankment stability or settlement analyses have been not performed. Any grading requirements or material placement that may be needed should be placed at 2H:1V slopes or flatter. Based on a combination of existing conditions and anticipated grades, recommendations for a yielding foundation are being provided for support of the culvert.

### 7.0 FOUNDATION SYSTEM RECOMMENDATIONS

Stantec developed the following recommendations based upon reviews of available data, information obtained during the field exploration, results of laboratory testing and engineering analyses, and discussions with TEAM personnel.

#### 7.1 GENERAL

7.1.1 Based on the conditions encountered, a yielding foundation system is recommended for the culvert. The Designer should include a plan note on the drawings that states "For the purpose of maintaining uniform yielding conditions, any boulders, bedrock, or soft soil materials encountered within two feet of the bottom of footing elevation (culvert and wingwall) shall be over excavated and the resulting excavation backfilled with properly compacted on-site soil material. Soil backfill required within footing bearing areas should be placed in maximum eight-inch loose lift thickness and compacted to 95 percent of the soil's maximum dry density, as determined by standard Proctor testing. The moisture content of the backfill material should not vary by more than 2 percent of the soils optimum moisture content."

7.1.2 In the event, loose and/or water-softened soils are encountered following foundation excavation, such soils should be under-cut a minimum of 2.5 feet below the bottom of footing elevation. The resulting excavated area should be stabilized with compacted granular embankment according to Section 805 of the current Kentucky Department Highways Standard Specifications for Road and Bridge Construction. Likewise, if boulders or other unsuitable bearing materials are encountered during excavation, undercutting of such materials and backfilling with compacted granular embankment or properly compacted on site soil material will be necessary in order to provide uniform bearing conditions beneath the culvert.

7.1.3 Provided the above construction preparation techniques are followed, the footings should be sized at the service limit state using the factored bearing resistance based the depth of over-excavation and replacement identified below. For checking strength and extreme limit

## REPORT OF GEOTECHNICAL EXPLORATION

Closing  
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states, the nominal bearing resistance is provided in the table below. Use resistance factors of 0.45 and 1.0 for the strength and extreme limit state analysis respectively.

Depth of Over-Excavation and Replacement (ft)	Factored Bearing Capacity – Service Limit State (ksf)	Nominal Bearing Capacity (ksf)
0	1.0	3.0
2	1.5	4.5
3	2.2	6.5
4	3.2	9.5

7.1.4 Granular Embankment used as backfill shall be non-erodible and shall conform to the requirements of Section 805 of the current Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Contrary to Section 805 of the Standard Specifications, the maximum size limit shall be reduced to 4 inches. The Granular Embankment material shall be wrapped with Type IV geotextile fabric in accordance with Sections 214 and 843 of the current Kentucky Transportation Cabinet Standard Specifications for Road and Bridge Construction to provide separation from the clay embankment and/or foundation materials.

7.1.5 The wingwalls should be designed using Soil Type 3 of Exhibit 413 in the Division of Structural Design Guidance Manual as backfill material. It should be noted that the backfill slope referred to in this exhibit is the slope perpendicular to the wingwall.

7.1.6 The Designer should include a note on the drawings stating, "Temporary sheeting, shoring, cofferdams and/or dewatering methods may be required for the installation of the culvert."

7.1.7 The culvert shall have a paved flowline. The paved flowline shall extend to the outside ends of the culvert's wingwalls (includes paving culvert's inlet and outlet).

## 8.0 CLOSING

8.1. The conclusions and recommendations presented herein are based on data and subsurface conditions from the borings drilled during previous geotechnical exploration using that degree of care and skill ordinarily exercised under similar circumstances by competent members of the engineering profession. No warranties can be made regarding the continuity of conditions between borings.



## REPORT OF GEOTECHNICAL EXPLORATION

Closing  
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8.2. General soil and rock descriptions and indicated boundaries are based on an engineering interpretation of all available subsurface information and may not necessarily reflect the actual variation in subsurface conditions between borings and samples.

8.3. The observed water levels and/or conditions indicated on the boring logs are as recorded at the time of exploration. These water levels and/or conditions may vary considerably, with time, according to the prevailing climate, rainfall, tail water elevations or other factors and are otherwise dependent on the duration of and methods used in the exploration program.

8.4. Stantec exercised sound engineering judgment in preparing the subsurface information presented herein. This information has been prepared and is intended for design and estimating purposes. Its presentation on the plans or elsewhere is for the purpose of providing intended users with access to the same information. This subsurface information interpretation is presented in good faith and is not intended as a substitute for independent interpretations or judgments of the Contractor.

8.5. All structure details shown herein are for illustrative purposes only and may not be indicative of the final design conditions shown in the contract plans.

# **APPENDIX A SITE MAP**



**LEGEND**

 SOIL BORING WITH UNDISTURBED (SHELBY) TUBE SAMPLES AND/OR STANDARD PENETRATION TESTS AND ROCK CORE

© 2019 Microsoft Corporation © 2019 DigitalGlobe ©CNES (2019) Distribution Airbus DS © 2019 HERE 



GRAPHIC SCALE:  1" = 50'		BRIDGING KENTUCKY	
DATE: 03/05/2019		BRIDGE: 048B00095N	PAGE NO.  -
DRAWN BY: TJ	CKD. BY: DLB	SHEET: KY 72 OVER CLOVER FORK CUMBERLAND RIVER HARLAN COUNTY, KY	FIG. NO.  -
STANTEC JOB NO.: 178568003			
FILE NAME:			

PLOT DATE: 06/26/2019 USER: JOHNSON, TRACY  
V:\1785\ACTIVE\178568003\GEOTECHNICAL\048B00095N\DRAWING\048B00095N\_LAYO.DWG

## **APPENDIX B**

## **TYPED BORING LOGS**

DRILLER'S SUBSURFACE LOG

Project ID: <u>178568003</u>		<u>Statewide - Various</u>			Project Type: <u>Structure Bridge</u>				
Item Number: <u>Statewide</u>					Project Manager: <u>  </u>				
Hole Number <u>048B00095N-1</u>		Immediate Water Depth <u>NA</u>		Start Date <u>05/22/2019</u>		Hole Type <u>sample</u>			
Surface Elevation <u>1162.1'</u>		Static Water Depth <u>NA</u>		End Date <u>05/22/2019</u>		Rig Number <u>45B</u>			
Total Depth <u>7.5'</u>		Driller <u>danny jessie</u>		Latitude(83) <u>36.844793</u>					
Location <u>+ 'Lt.</u>				Longitude(83) <u>-83.323196</u>					
Lithology		Overburden		Sample No.	Depth (ft)	Rec. (ft)	SPT Blows	Sample Type	Remarks
Elevation	Depth	Description		Rock Core	Std/Ky RQD	Run (ft)	Rec (ft)	Rec (%)	
5 1154.6	7.5	Very loose to loose, gray, moist, clayey gravel with sand.							
				1	3.0-4.5	1.5	2-2-3	SPT	
				2	4.5-6.0	1.5	3-4-4	SPT	
				3	6.0-7.5	1.5	6-6-5	SPT	
10 15 20 25 30 35 40 45 50		(Bottom of Hole 7.5') (Refusal @ 7.5)							



DRILLER'S SUBSURFACE LOG

Project ID: <u>178568003</u>		<u>Statewide - Various</u>			Project Type: <u>Structure Bridge</u>				
Item Number: <u>Statewide</u>					Project Manager: <u>  </u>				
Hole Number <u>048B00095N-2</u>		Immediate Water Depth <u>NA</u>		Start Date <u>05/21/2019</u>		Hole Type <u>sample</u>			
Surface Elevation <u>1162.6'</u>		Static Water Depth <u>NA</u>		End Date <u>05/21/2019</u>		Rig_Number <u>45B</u>			
Total Depth <u>6.0'</u>		Driller <u>danny jessie</u>		Latitude(83) <u>36.844727</u>					
Location <u>+ 'Lt.</u>				Longitude(83) <u>-83.323039</u>					
Lithology		Overburden		Sample No.	Depth (ft)	Rec. (ft)	SPT Blows	Sample Type	Remarks
Elevation	Depth	Description		Rock Core	Std/Ky RQD	Run (ft)	Rec (ft)	Rec (%)	
		Medium dense, brown, damp, clayey gravel with sand.							
				1	2.0-3.5	1.5	7-13-9	SPT	
5	1157.6	5.0							5
	1156.6	6.0	Gray, damp, weathered shale.	2	5.0-6.0	1.0	8-50/0.50'	SPT	
10			(Bottom of Hole 6.0') (Refusal @ 6)						10
15									15
20									20
25									25
30									30
35									35
40									40
45									45
50									50

## DRILLER'S SUBSURFACE LOG

[illegible]

Project ID: <u>178568003</u>		<u>Statewide - Various</u>				Project Type: <u>Structure Bridge</u>			
Item Number: <u>Statewide</u>						Project Manager: <u>  </u>			
Hole Number <u>048B00095N-4</u>		Immediate Water Depth <u>NA</u>		Start Date <u>05/22/2019</u>		Hole Type <u>core and sample</u>			
Surface Elevation <u>1166.4'</u>		Static Water Depth <u>NA</u>		End Date <u>05/22/2019</u>		Rig_Number <u>45B</u>			
Total Depth <u>19.0'</u>		Driller <u>danny jessie</u>		Latitude(83) <u>36.844966</u>					
Location <u>+ 'Lt.</u>				Longitude(83) <u>-83.323193</u>					
Lithology		Overburden		Sample No.	Depth (ft)	Rec. (ft)	SPT Blows	Sample Type	Remarks
Elevation	Depth	Description		Rock Core	Std/Ky RQD	Run (ft)	Rec (ft)	Rec (%)	
		Loose to medium dense, light brown to gray, damp, clayey gravel with sand.							
				1	2.0-3.5	1.5	7-7-7	SPT	
5				2	5.0-6.5	1.5	9-13-21	SPT	5
1158.9	7.5								
1158.4	8.0	Augered rock. (Begin Core)							
10				0 / 0	1.0	0.7	70		9.0
		Dark gray to gray shale, (very silty with fine sandy laminations, moderately hard).							10
1153.7	12.7			50 / 30	5.0	5.0	100		
1152.0	14.4	Light gray sandstone, (contains shale streaks and partings, medium to fine grained, thin to very thin bedded, hard to moderately hard).							14.0
15									15
		Dark gray to gray shale, (very silty with fine sandy laminations, moderately hard to hard).		18 / 0	5.0	5.0	100		
1147.4	19.0								19.0
20									20
		(Bottom of Hole 19.0')							25
25									25
									30
30									30
									35
35									35
									40
40									40
									45
45									45
									50
50									50

# **APPENDIX C**

## **LABORATORY DATA SHEETS**



Moisture Content of Soil  
AASHTO T 265

Project Name Bridging KY

Project Number 178568003  
Tested By DB

Test Method AASHTO

Maximum Particle Size in Sample	No. 40	No. 4	1/2"	1"	2"
Recommended Minimum Mass (g)	10	100	300	500	1,000

Material Type: Stratified, Laminated, Lensed, Homogeneous, Disturbed

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & CanWeight (g)	Moisture Content (%)
048B00095N-1, 3.0'-4.5'	495	5/31/19	Dist	2"		No	21.06	71.96	66.10	13.0
048B00095N-1, 4.5'-6.0'	496	5/31/19	Dist	2"		No	21.62	96.88	84.24	20.2
048B00095N-1, 6.0'-7.5'	497	5/31/19	Len	1"		No	287.41	735.52	676.72	15.1
048B00095N-2, 2.0'-3.5'	498	5/31/19	Len	2"		No	305.54	707.91	668.61	10.8
048B00095N-3, 3.0'-4.0'	501	5/31/19	Dist	1"		No	21.97	67.99	63.07	12.0
048B00095N-3, 4.5'-5.0'	502	5/31/19	Dist	1"		No	19.75	38.70	35.15	23.1
048B00095N-4, 2.0'-3.5'	503	5/31/19	Dist	1"		No	285.85	696.12	678.85	4.4

Comments

Reviewed By

RJ



## Summary of Soil Tests

Project Name Bridging KY Project Number 178568003  
Source 048B00095N-1, 3.0'-4.5', 4.5'-6.0' Lab ID 494  
Sample Type SPT Composite Date Received 5-28-19  
Date Reported 6-11-19

### Test Results

#### Natural Moisture Content

Test Not Performed

Moisture Content (%): N/A

#### Atterberg Limits

Test Method: AASHTO T 89 & T 90

Prepared: Dry

Liquid Limit: 26  
Plastic Limit: 20  
Plasticity Index: 6  
Activity Index: 1.2

#### Particle Size Analysis

Preparation Method: AASHTO T 87

Gradation Method: AASHTO T 88

Hydrometer Method: AASHTO T 88

Particle Size		% Passing
Sieve Size	(mm)	
	N/A	
	N/A	
	N/A	
1"	25	100.0
3/4"	19	80.9
3/8"	9.5	67.0
No. 4	4.75	57.0
No. 10	2	49.0
No. 40	0.425	39.0
No. 200	0.075	22.0
	0.02	14.1
	0.005	8.0
	0.002	5.0
estimated	0.001	3.4

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	43.0	51.0
Coarse Sand	8.0	10.0
Medium Sand	10.0	---
Fine Sand	17.0	17.0
Silt	14.0	17.0
Clay	8.0	5.0

#### Moisture-Density Relationship

Test Not Performed

Maximum Dry Density (lb/ft<sup>3</sup>): N/A  
Maximum Dry Density (kg/m<sup>3</sup>): N/A  
Optimum Moisture Content (%): N/A  
Over Size Correction %: N/A

#### California Bearing Ratio

Test Not Performed

Bearing Ratio (%): N/A  
Compacted Dry Density (lb/ft<sup>3</sup>): N/A  
Compacted Moisture Content (%): N/A

#### Specific Gravity

Test Method: AASHTO T 100

Prepared: Dry

Particle Size: No. 10  
Specific Gravity at 20° Celsius: 2.58

#### Classification

Unified Group Symbol: GC-GM  
Group Name: Silty, clayey gravel with sand  
AASHTO Classification: A-1-b (0)

Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Reviewed By RJ



Particle-Size Analysis of Soils

AASHTO T 88

Project Name

Bridging KY

Source

048B00095N-1, 3.0'-4.5', 4.5'-6.0'

Project Number

178568003

Lab ID

494

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method

AASHTO T 88

Prepared using

AASHTO T 87

Particle Shape

Angular

Particle Hardness:

Hard and Durable

Tested By

DB

Test Date

06-01-2019

Date Received

05-28-2019

Maximum Particle size: 1" Sieve

Sieve Size	% Passing
1"	100.0
3/4"	80.9
3/8"	67.0
No. 4	57.0
No. 10	49.0

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on -3 inch fraction only

Specific Gravity

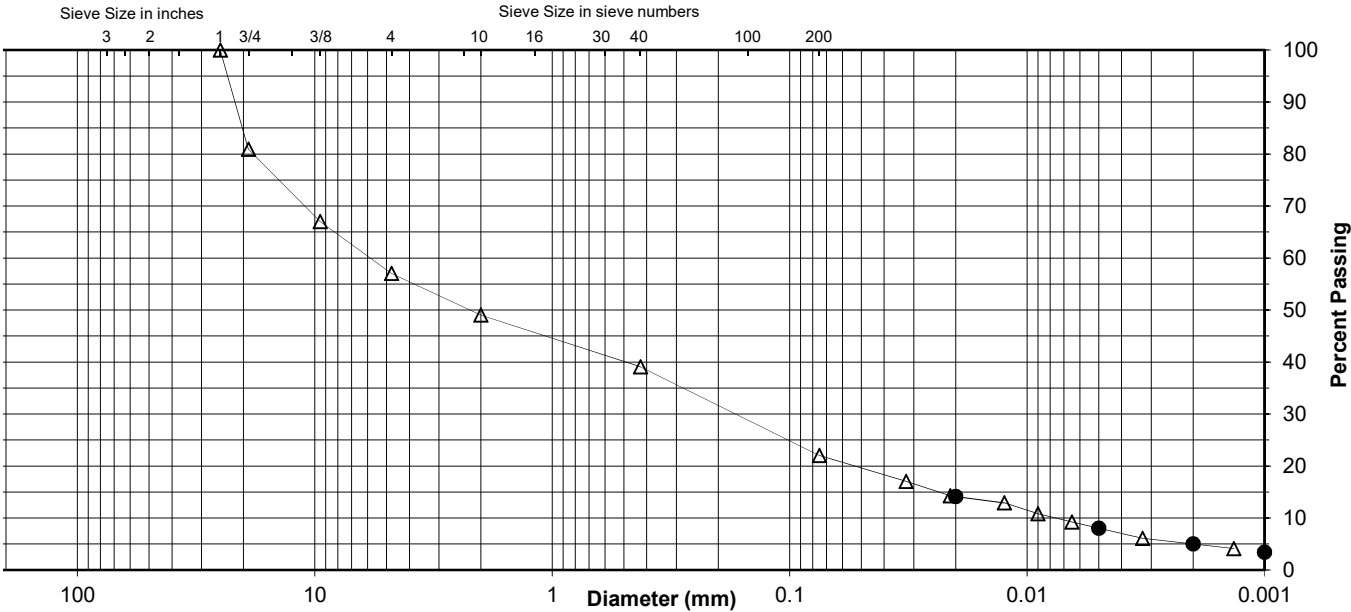
2.58

Dispersed using Apparatus A - Mechanical, for 1 minute

No. 40	39.0
No. 200	22.0
0.02 mm	14.1
0.005 mm	8.0
0.002 mm	5.0
0.001 mm	3.4

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	19.1	23.9	8.0	10.0	17.0	14.0	8.0
AASHTO	Gravel			Coarse Sand	Fine Sand	Silt	Clay
	51.0			10.0	17.0	17.0	5.0



Comments

Reviewed By



ATTERBERG LIMITS

Project  
Source

Bridging KY  
048B00095N-1, 3.0'-4.5', 4.5'-6.0'

Project No.  
Lab ID  
% + No. 40  
Date Received

178568003  
494  
61  
05-28-2019

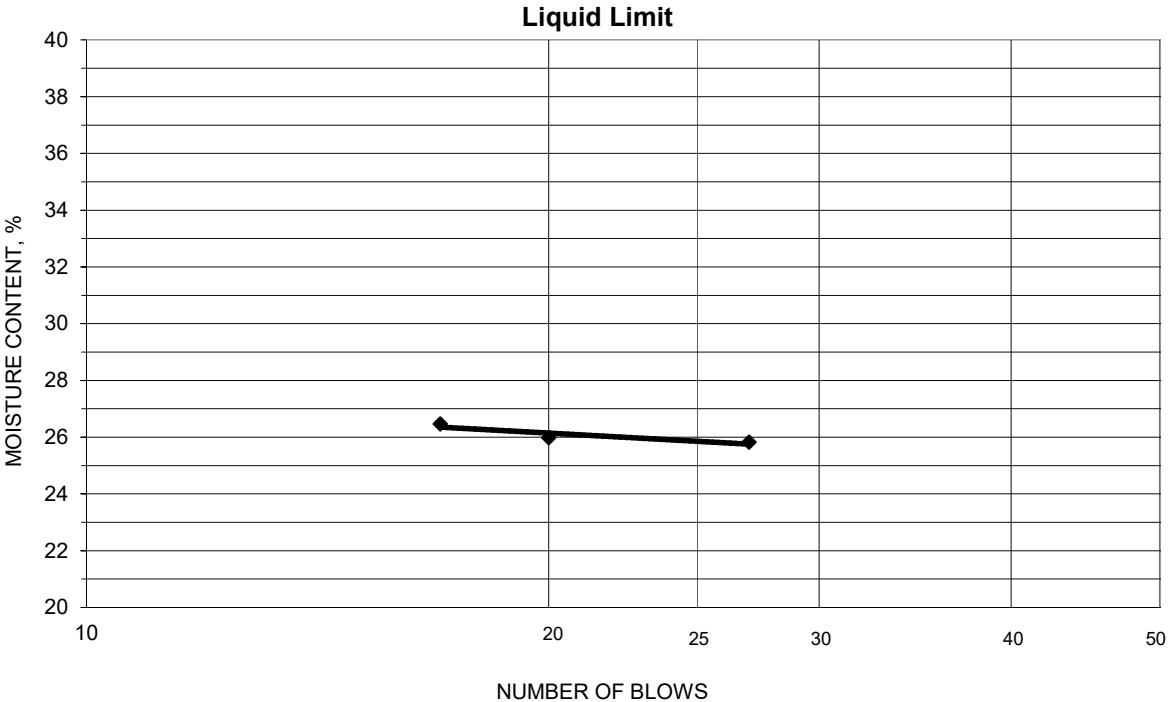
Tested By  
Test Date

KWS  
06-04-2019

Test Method  
Prepared

AASHTO T 89 & T 90  
Dry

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
20.07	18.25	11.20	27	25.8	26
18.67	17.14	11.25	20	26.0	
18.09	16.69	11.40	17	26.5	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.54	16.54	11.36	19.3	20	6
18.56	17.36	11.43	20.2		

Remarks:

Reviewed By





Gradation Analysis

AASHTO T 88

Project Name Bridging KY

Source 048B00095N-1, 6.0'-7.5'

Preparation Method AASHTO T 11 Method A

Soak Time (min) 120

Particle Shape Angular

Particle Hardness Hard and Durable

Sample Dry Mass (g) 389.31

Moisture Content (%) 15.1

Project Number 178568003

Lab ID 497

Date Received 05-28-2019

Preparation Date 05-31-2019

Test Date 06-03-2019

Analysis based on total sample.

Sieve Size	Grams Retained	% Retained	% Passing
1"	0.00	0.0	100.0
3/4"	73.12	18.8	81.2
3/8"	35.91	9.2	72.0
No. 4	34.99	9.0	63.0
No. 10	38.07	9.8	53.2
No. 40	56.12	14.4	38.8
No. 200	63.42	16.3	22.5
Pan	87.68	22.5	---

% Gravel 46.8

% Sand 30.7

% Fines 22.5

Fines Classification N/A

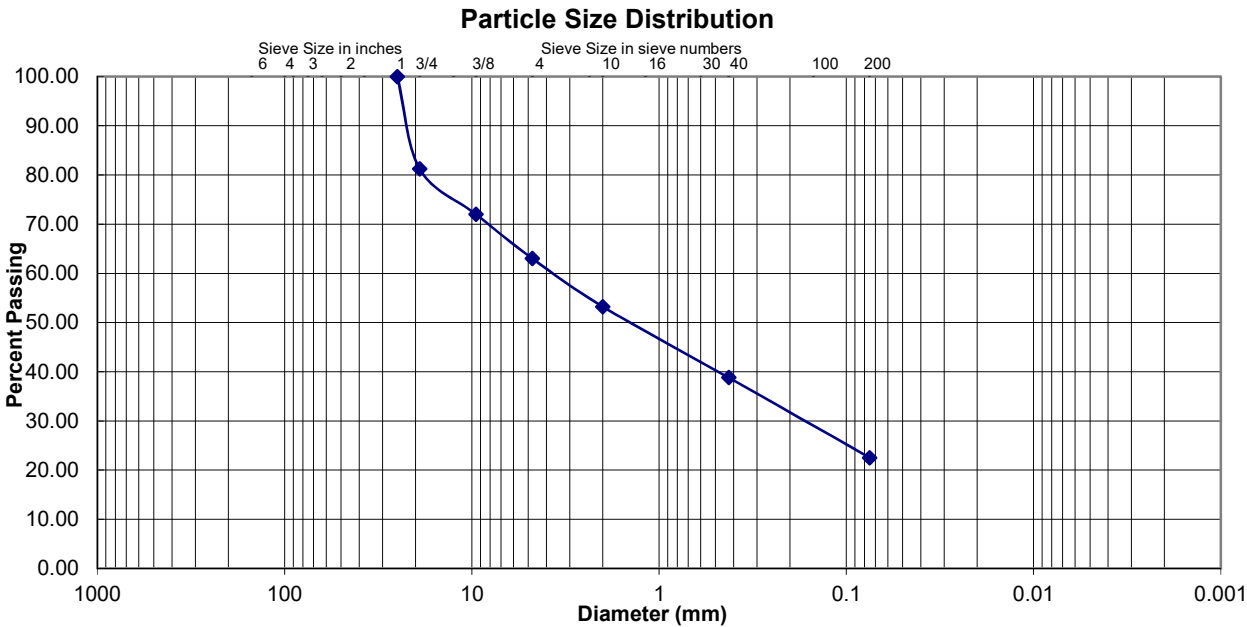
D<sub>10</sub> (mm) N/A

D<sub>30</sub> (mm) N/A

D<sub>60</sub> (mm) N/A

Cu N/A

Cc N/A



Comments

Reviewed By RJ



Gradation Analysis

AASHTO T 88

Project Name Bridging KY

Source 048B00095N-2, 2.0'-3.5'

Preparation Method AASHTO T 11 Method A

Soak Time (min) 140

Particle Shape Angular

Particle Hardness Hard and Durable

Sample Dry Mass (g) 363.07

Moisture Content (%) 10.8

Project Number 178568003

Lab ID 498

Date Received 05-28-2019

Preparation Date 05-31-2019

Test Date 06-03-2019

Analysis based on total sample.

Sieve Size	Grams Retained	% Retained	% Passing
2"	0.00	0.0	100.0
1"	25.37	7.0	93.0
3/4"	37.78	10.4	82.6
3/8"	57.74	15.9	66.7
No. 4	53.53	14.7	52.0
No. 10	35.29	9.7	42.2
No. 40	49.30	13.6	28.7
No. 200	58.90	16.2	12.4
Pan	45.16	12.4	---

% Gravel 57.8

% Sand 29.8

% Fines 12.4

Fines Classification N/A

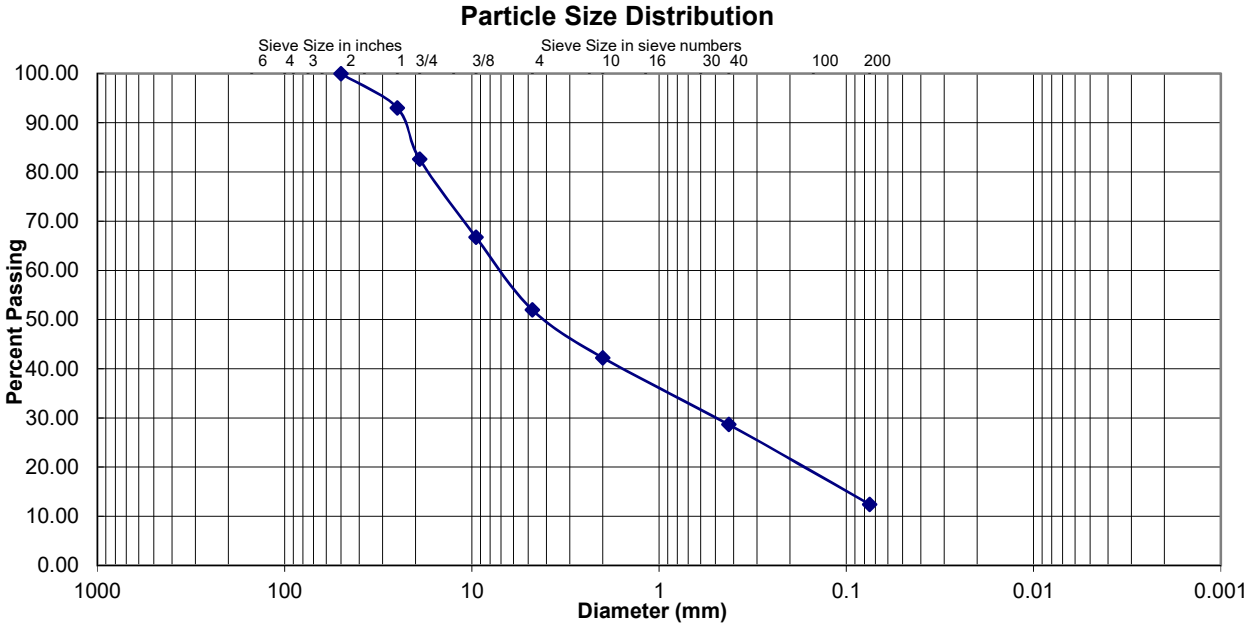
D<sub>10</sub> (mm) N/A

D<sub>30</sub> (mm) N/A

D<sub>60</sub> (mm) N/A

Cu N/A

Cc N/A



Comments

Reviewed By RJ



## Summary of Soil Tests

Project Name Bridging KY Project Number 178568003  
Source 048B00095N-3, 3.0'-4.0', 4.5'-5.0' Lab ID 500  
Sample Type SPT Composite Date Received 5-28-19  
Date Reported 6-11-19

### Test Results

#### Natural Moisture Content

Test Not Performed  
Moisture Content (%): N/A

#### Particle Size Analysis

Preparation Method: AASHTO T 87  
Gradation Method: AASHTO T 88  
Hydrometer Method: AASHTO T 88

Particle Size		%
Sieve Size	(mm)	Passing
	N/A	
	N/A	
	N/A	
1"	25	100.0
3/4"	19	92.3
3/8"	9.5	68.1
No. 4	4.75	60.4
No. 10	2	51.3
No. 40	0.425	37.3
No. 200	0.075	16.7
	0.02	8.8
	0.005	5.3
	0.002	3.4
estimated	0.001	2.4

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	39.6	48.7
Coarse Sand	9.1	14.0
Medium Sand	14.0	---
Fine Sand	20.6	20.6
Silt	11.4	13.3
Clay	5.3	3.4

#### Atterberg Limits

Test Method: AASHTO T 89 & T 90  
Prepared: Dry  
Liquid Limit: NP  
Plastic Limit: NP  
Plasticity Index: NP  
Activity Index: N/A

#### Moisture-Density Relationship

Test Not Performed  
Maximum Dry Density (lb/ft<sup>3</sup>): N/A  
Maximum Dry Density (kg/m<sup>3</sup>): N/A  
Optimum Moisture Content (%): N/A  
Over Size Correction %: N/A

#### California Bearing Ratio

Test Not Performed  
Bearing Ratio (%): N/A  
Compacted Dry Density (lb/ft<sup>3</sup>): N/A  
Compacted Moisture Content (%): N/A

#### Specific Gravity

Test Method: AASHTO T 100  
Prepared: Dry  
Particle Size: No. 10  
Specific Gravity at 20° Celsius: 2.57

#### Classification

Unified Group Symbol: SM  
Group Name: Silty sand with gravel  
AASHTO Classification: A-1-b (0)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Reviewed By RJ



Particle-Size Analysis of Soils

AASHTO T 88

Project Name  
Source

Bridging KY  
048B00095N-3, 3.0'-4.0', 4.5'-5.0'

Project Number  
Lab ID

178568003  
500

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method  
Prepared using

AASHTO T 88  
AASHTO T 87

Particle Shape  
Particle Hardness:

Rounded and Angular  
Hard and Durable

Tested By  
Test Date  
Date Received

DB  
06-01-2019  
05-28-2019

Sieve Size	% Passing
1"	100.0
3/4"	92.3
3/8"	68.1
No. 4	60.4
No. 10	51.3

Maximum Particle size: 1" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on -3 inch fraction only

Specific Gravity

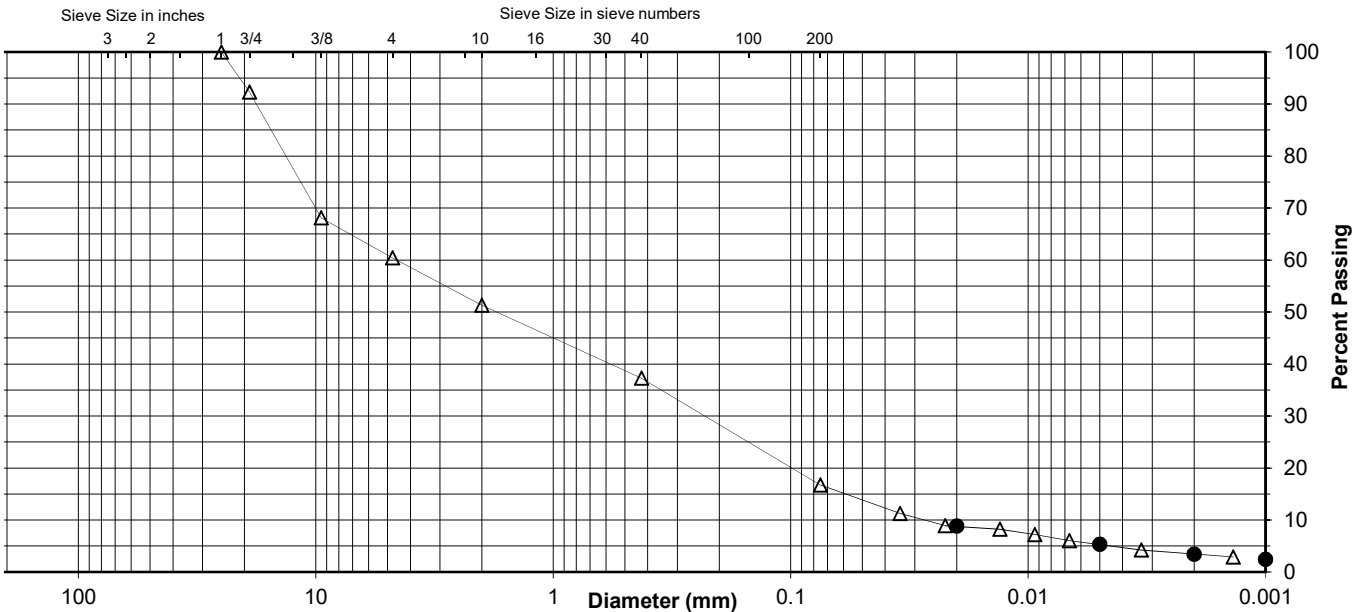
2.57

Dispersed using Apparatus A - Mechanical, for 1 minute

No. 40	37.3
No. 200	16.7
0.02 mm	8.8
0.005 mm	5.3
0.002 mm	3.4
0.001 mm	2.4

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	7.7	31.9	9.1	14.0	20.6	11.4	5.3
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	48.7		14.0		20.6	13.3	3.4



Comments

Reviewed By



ATTERBERG LIMITS

Project  
Source

Bridging KY  
048B00095N-3, 3.0'-4.0', 4.5'-5.0'

Project No.  
Lab ID  
% + No. 40  
Date Received

178568003  
500  
63  
05-28-2019

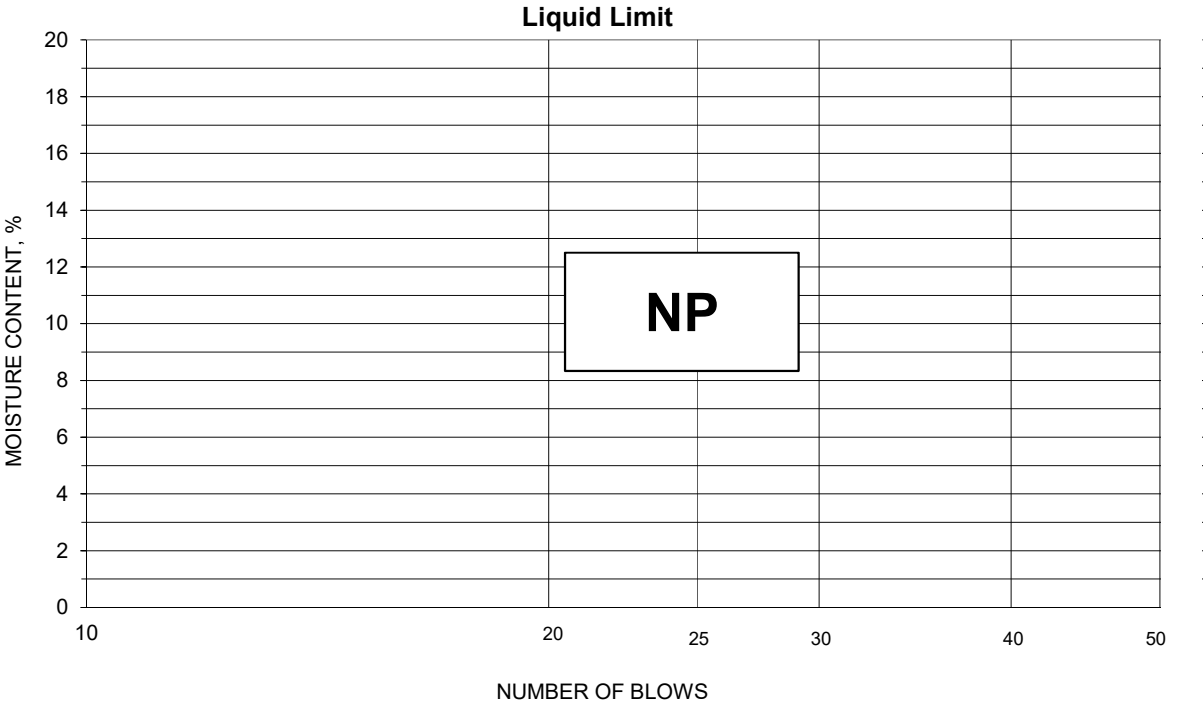
Tested By  
Test Date

KWS  
06-03-2019

Test Method  
Prepared

AASHTO T 89 & T 90  
Dry

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks:

Reviewed By

RJ



Gradation Analysis

AASHTO T 88

Project Name Bridging KY

Source 048B00095N-4, 2.0'-3.5'

Preparation Method AASHTO T 11 Method A

Soak Time (min) 160

Particle Shape Angular

Particle Hardness Hard and Durable

Sample Dry Mass (g) 393.80

Moisture Content (%) 4.4

Project Number 178568003

Lab ID 503

Date Received 05-28-2019

Preparation Date 05-31-2019

Test Date 06-03-2019

Analysis based on total sample.

Sieve Size	Grams Retained	% Retained	% Passing
1"	0.00	0.0	100.0
3/4"	59.14	15.0	85.0
3/8"	104.69	26.6	58.4
No. 4	59.89	15.2	43.2
No. 10	46.83	11.9	31.3
No. 40	45.58	11.6	19.7
No. 200	23.90	6.1	13.7
Pan	53.77	13.7	---

% Gravel 68.7

% Sand 17.6

% Fines 13.7

Fines Classification N/A

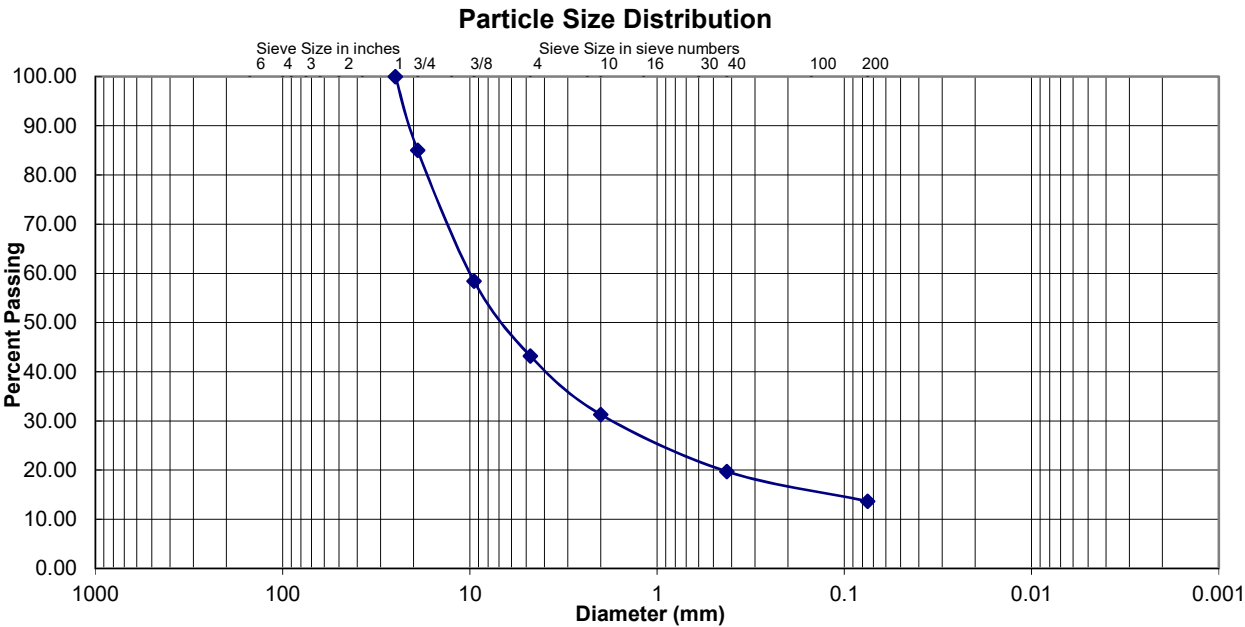
D<sub>10</sub> (mm) N/A

D<sub>30</sub> (mm) N/A

D<sub>60</sub> (mm) N/A

Cu N/A

Cc N/A



Comments

Reviewed By RJ

MATERIAL SUMMARY

CONTRACT ID: 215207

121GR21D007 - HSIP & STP

1104800382101

KY HIGHWAY 38 (KY 38) CONSTRUCT ROUNDABOUT AT THE INTERSECTION OF KY 38 AND KY 72 ASPHALT SURFACE WITH GRADE & DRAIN.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	00001	DGA BASE	1,167.00	TON
0010	00003	CRUSHED STONE BASE	74.00	TON
0015	00190	LEVELING & WEDGING PG64-22	72.00	TON
0020	00212	CL2 ASPH BASE 1.00D PG64-22	23.00	TON
0025	00214	CL3 ASPH BASE 1.00D PG64-22	716.00	TON
0030	00301	CL2 ASPH SURF 0.38D PG64-22	10.00	TON
0035	00356	ASPHALT MATERIAL FOR TACK	2.80	TON
0040	00388	CL3 ASPH SURF 0.38B PG64-22	203.00	TON
0045	02101	CEM CONC ENT PAVEMENT-8 IN	90.00	SQYD
0050	20748ED	SHOULDER MILLING/TRENCHING	863.00	SQYD
0055	01810	STANDARD CURB AND GUTTER	1,253.00	LF
0060	01812	REMOVE CURB AND GUTTER	984.00	LF
0065	01875	STANDARD HEADER CURB	36.00	LF
0070	01947	MOUNTABLE MEDIAN TYPE 3A - (STAMPED AND DYED)	470.00	SQYD
0075	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	8.00	EACH
0080	02014	BARRICADE-TYPE III	2.00	EACH
0085	02369	GUARDRAIL END TREATMENT TYPE 2A	2.00	EACH
0090	02381	REMOVE GUARDRAIL	353.00	LF
0095	02562	TEMPORARY SIGNS	499.00	SQFT
0100	02585	EDGE KEY	227.00	LF
0105	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
0110	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0115	02720	SIDEWALK-4 IN CONCRETE	737.00	SQYD
0120	02721	REMOVE CONCRETE SIDEWALK	571.00	SQYD
0125	02726	STAKING - (11-9016.30)	1.00	LS
0130	06406	SBM ALUM SHEET SIGNS .080 IN	276.00	SQFT
0135	06407	SBM ALUM SHEET SIGNS .125 IN	24.00	SQFT
0140	06410	STEEL POST TYPE 1	404.00	LF
0145	06510	PAVE STRIPING-TEMP PAINT-4 IN	3,920.00	LF
0150	06540	PAVE STRIPING-THERMO-4 IN W	672.00	LF
0155	06541	PAVE STRIPING-THERMO-4 IN Y	696.00	LF
0160	06542	PAVE STRIPING-THERMO-6 IN W	1,121.00	LF
0165	06543	PAVE STRIPING-THERMO-6 IN Y	999.00	LF
0170	06566	PAVE MARKING-THERMO X-WALK-12 IN	280.00	LF
0175	06568	PAVE MARKING-THERMO STOP BAR-24IN	12.00	LF
0180	06569	PAVE MARKING-THERMO CROSS-HATCH	683.00	SQFT
0185	06574	PAVE MARKING-THERMO CURV ARROW	4.00	EACH
0190	06575	PAVE MARKING-THERMO COMB ARROW	4.00	EACH
0195	06575	PAVE MARKING-THERMO COMB ARROW - (SPECIAL - FISH HOOK)	4.00	EACH
0200	20430ED	SAW CUT	416.00	LF
0205	21289ED	LONGITUDINAL EDGE KEY	487.00	LF
0210	21373ND	REMOVE SIGN	13.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0215	21596ND	GMSS TYPE D - (SURFACE MOUNT)	4.00	EACH
0220	21802EN	G/R STEEL W BEAM-S FACE (7 FT POST)	401.00	LF
0225	22520EN	PAVE MARKING-THERMO YIELD BAR-36 IN	43.00	LF
0230	23158ES505	DETECTABLE WARNINGS	110.00	SQFT
0235	24631EC	BARCODE SIGN INVENTORY	99.00	EACH
0240	24683ED	PAVE MARKING-THERMO DOTTED LANE EXTEN	211.00	LF
0245	24955ED	REMOVE SIGNAL EQUIPMENT	1.00	EACH
0250	04700	POLE 30 FT MTG HT	8.00	EACH
0255	04723	BRACKET 10 FT	6.00	EACH
0260	04724	BRACKET 12 FT	1.00	EACH
0265	04725	BRACKET 15 FT	1.00	EACH
0270	04740	POLE BASE	8.00	EACH
0275	04750	TRANSFORMER BASE	8.00	EACH
0280	04761	LIGHTING CONTROL EQUIPMENT	1.00	EACH
0285	04780	FUSED CONNECTOR KIT	16.00	EACH
0290	04795	CONDUIT-2 IN	175.00	LF
0295	04820	TRENCHING AND BACKFILLING	775.00	LF
0300	04832	WIRE-NO. 12	1,150.00	LF
0305	04940	REMOVE LIGHTING	1.00	LS
0310	20391NS835	ELECTRICAL JUNCTION BOX TYPE A	6.00	EACH
0315	21543EN	BORE AND JACK CONDUIT	175.00	LF
0320	23778EC	WIRE-NO. 10	2,950.00	LF
0325	24589ED	LED LUMINAIRE	8.00	EACH
0330	24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80	475.00	LF
0335	02568	MOBILIZATION - (11-9016.30)	1.00	LS
0340	02569	DEMOBILIZATION	1.00	LS



MATERIAL SUMMARY

CONTRACT ID: 215207

121GR21D007 - HSIP & STP

BR04800722100

KY 72 ADDRESS DEFICIENCIES OF KY-72 BRIDGE OVER CLOVER FK CUMBERLAND RVR. BRIDGE REPLACEMENT, A DISTANCE OF .05 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0345	00521	STORM SEWER PIPE-15 IN	56.00	LF
0350	00522	STORM SEWER PIPE-18 IN	211.10	LF
0355	01204	PIPE CULVERT HEADWALL-18 IN	1.00	EACH
0360	01456	CURB BOX INLET TYPE A	2.00	EACH
0365	01487	CURB BOX INLET TYPE F	4.00	EACH
0370	01756	MANHOLE TYPE A	1.00	EACH
0375	01761	MANHOLE TYPE B	1.00	EACH
0380	02223	GRANULAR EMBANKMENT	231.00	CUYD
0385	02230	EMBANKMENT IN PLACE	6,271.00	CUYD
0390	02483	CHANNEL LINING CLASS II	104.00	TON
0395	02484	CHANNEL LINING CLASS III	108.00	TON
0400	02545	CLEARING AND GRUBBING - Greater than 1 acre combined	1.00	LS
0405	02602	FABRIC-GEOTEXTILE CLASS 1	152.00	SQYD
0410	02611	HANDRAIL-TYPE A-1	144.00	LF
0415	02726	STAKING - 11-10012 048B00095N	1.00	LS
0420	02731	REMOVE STRUCTURE - Includes concrete pad and piers adjacent to bridge	1.00	LS
0425	04740	POLE BASE	5.00	EACH
0430	04780	FUSED CONNECTOR KIT	10.00	EACH
0435	04820	TRENCHING AND BACKFILLING	300.00	LF
0440	04942	REMOVE STORE & REINSTALL POLE	5.00	EACH
0445	05990	SODDING - 332 SY from 11-9016.30	612.00	SQYD
0450	08002	STRUCTURE EXCAV-SOLID ROCK	625.00	CUYD
0455	08003	FOUNDATION PREPARATION	1.00	LS
0460	08100	CONCRETE-CLASS A	543.00	CUYD
0465	08100	CONCRETE-CLASS A - FOR U-TYPE HEADWALL	2.86	CUYD
0470	08150	STEEL REINFORCEMENT	97,190.00	LB
0475	15000	S BYPASS PUMPING	1.00	EACH
0480	15012	S ENCASEMENT CONCRETE	335.00	LF
0485	15025	S ENCASEMENT STEEL OPEN CUT RANGE 6	275.00	LF
0490	15107	S PIPE DUCTILE IRON 16 INCH	342.00	LF
0495	15122	S STRUCTURE REMOVAL	342.00	EACH
0500	21415ND	EROSION CONTROL	1.00	LS
0505	21476ED	SNOW FENCE	935.00	LF
0510	23378EC	CONCRETE SEALING	640.00	SQFT
0515	23778EC	WIRE-NO. 10	2,320.00	LF
0520	24814EC	PIPELINE INSPECTION	256.00	LF
0525	24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80	300.00	LF
0530	02568	MOBILIZATION	1.00	LS
0535	02569	DEMOBILIZATION	1.00	LS

## **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 2020*.

## **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.

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- 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/***() 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

## **PART III**

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



FHWA-1273 -- Revised May 1, 2012

## REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

### ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

### II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## 3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees

##### a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:



"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

#### **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

#### **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

##### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\* \* \* \* \*

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT  
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS  
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

**KENTUCKY TRANSPORTATION CABINET  
DEPARTMENT OF HIGHWAYS**

**EMPLOYMENT REQUIREMENTS  
RELATING TO  
NONDISCRIMINATION OF EMPLOYEES  
(APPLICABLE TO FEDERAL-AID SYSTEM CONTRACTS)**

**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.

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 administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

### Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:
  - a. withholding payments to the contractor under the contract until the contractor complies; and/or
  - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.



### **Standard Title VI/Non-Discrimination Statutes and Authorities**

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*).

## 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



"General Decision Number: KY20210107 01/01/2021

Superseded General Decision Number: KY20200107

State: Kentucky

Construction Type: Highway

Counties: Adair, Barren, Bell, Breathitt, Casey, Clay, Clinton, Cumberland, Estill, Floyd, Garrard, Green, Harlan, Hart, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lincoln, Magoffin, Martin, McCreary, Menifee, Metcalfe, Monroe, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Russell, Taylor, Wayne, Whitley and Wolfe Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/01/2021

SUKY2015-047 10/20/2015

	Rates	Fringes
BOILERMAKER.....	\$ 24.65	12.94

BRICKLAYER

Bricklayer.....	\$ 22.90	8.50
Stone Mason.....	\$ 21.50	8.50

CARPENTER

Carpenter.....	\$ 24.90	14.50
Piledriver.....	\$ 24.55	14.50

CEMENT MASON.....	\$ 21.25	8.50
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ELECTRICIAN

Electrician.....	\$ 29.36	10.55
Equipment Operator.....	\$ 26.90	10.31
Groundsman.....	\$ 17.79	8.51
Lineman.....	\$ 30.09	10.94

When workmen are required to work from bosum chairs, trusses, stacks, tanks, scaffolds, catwalks, radio and T.V. towers, structural steel (open, unprotected, unfloored raw steel), and bridges or similar hazardous locations where workmen are subject to fall, except where using JLG's and bucket trucks up to 75 feet: Add 25% to workman's base rate for 50 to 75 feet, and add 50% to workman's base rate for over 75 feet.

IRONWORKER.....	\$ 27.56	20.57
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LABORER

Group 1.....	\$ 21.80	12.36
Group 2.....	\$ 22.05	12.36
Group 3.....	\$ 22.10	12.36
Group 4.....	\$ 22.70	12.36

GROUP 1: Aging and Curing of Concrete (Any Mode or Method), Asbestos Abatement Worker, Asphalt Plant Laborers, Asphalt Laborers, Batch Truck Dumpers, Carpenter Tenders, Cement Mason Tenders, Cleaning of Machines, Concrete Laborers, Demolition Laborers, Dredging Laborers, Drill Tender, Environmental Laborer - Nuclear, Radiation, Toxic and Hazardous Waste - Level D, Flagmen, Grade Checkers, All Hand Digging and Hand Back Filling, Highway Marker Placers, Landscaping Laborers, Mesh Handlers and Placers, Puddler, Railroad Laborers, Rip-rap and Grouters, Right of Way Laborers, Sign, Guard Rail and Fence Installers (All Types), Signalmen, Sound Barrier Installer, Storm and Sanitary Sewer Laborers, Swampers, Truck Spotters and Dumpers, Wrecking of Concrete Forms, General Cleanup

GROUP 2: Batter Board Men (Sanitary and Storm Sewer), Brickmason Tenders, Mortar Mixer Operator, Scaffold Builders, Burner and Welder, Bushammers, Chain Saw Operator, Concrete Saw Operators, Deckhand Scow Man, Dry Cement Handlers, Environmental Laborers - Nuclear, Radiation, Toxic and Hazardous Waste - Level C, Forklift Operators for Masonry, Form Setters, Green Concrete Cutting, Hand Operated Grouter and Grinder Machine Operator, Jack Hammers, Lead Paint Abatement, Pavement Breakers, Paving Joint Machine, Pipe Layers - Laser Operators (Non-metallic), Plastic Pipe Fusion, Power Driven Georgia Buggy and Wheel Barrow, Power Post Hole Diggers, Precast Manhole Setters, Walk-behind Tampers, Walk-behind Trenchers, Sand Blasters, Concrete Chippers, Surface Grinders, Vibrator Operators, Wagon Drillers

GROUP 3: Air Track Driller (All Types), Asphalt Luteman and Rakers, Gunnite Nozzleman, Gunnite Operators and Mixers, Grout

Pump Operator, Powderman and Blaster, Side Rail Setters, Rail Paved Ditches, Screw Operators, Tunnel Laborers (Free Air), Water Blasters

GROUP 4: Caisson Workers (Free Air), Cement Finishers, Environmental Laborer - Nuclear, Radiation, Toxic and Hazardous Waste - Level A and B, miners and Drillers (Free Air), Tunnel Blasters, and Tunnel Mockers (Free Air), Directional and Horizontal Boring, Air Track Drillers (All Types), Powder Man and Blasters, Troxler and Concrete Tester if Laborer is Utilized

#### PAINTER

All Excluding Bridges.....	\$ 19.92	9.57
Bridges.....	\$ 23.92	10.07

PLUMBER.....	\$ 22.52	7.80
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#### POWER EQUIPMENT OPERATOR:

Group 1.....	\$ 29.95	14.40
Group 2.....	\$ 29.95	14.40
Group 3.....	\$ 27.26	14.40
Group 4.....	\$ 26.96	14.40

GROUP 1: Auto Patrol, Batch Plant, Bituminous Paver, Cable-Way, Clamshell, Concrete Mixer (21 cu ft or over), Concrete Pump, Crane, Crusher Plant, Derrick, Derrick Boat, Ditching and Trenching Machine, Dragline, Dredge Engineer, Elevator (regardless of ownership when used for hoisting any building material), Elevating Grader and all types of Loaders, Hoe-type Machine, Hoisting Engine, Locomotive, LeTourneau or Carry-all Scoop, Bulldozer, Mechanic, Orangepeel Bucket, Piledriver, Power Blade, Roller (Bituminous), Roller (Earth), Roller (Rock), Scarifier, Shovel, Tractor Shovel, Truck Crane, Well Point, Winch Truck, Push Dozer, Grout Pump, High Lift, Fork Lift (regardless of lift height), all types of Boom Cats, Multiple Operator, Core Drill, Tow or Push Boat, A-Frame Winch Truck, Concrete Paver, Grade-All, Hoist, Hyster, Material Pump, Pumpcrete, Ross Carrier, Sheepfoot, Sideboom, Throttle-Valve Man, Rotary Drill, Power Generator, Mucking Machine, Rock Spreader attached to Equipment, Scoopmobile, KeCal Loader, Tower Cranes, (French, German and other types), Hydrocrane, Tugger, Backfiller Gurries, Self-propelled Compactor, Self-Contained Hydraulic Percussion Drill

GROUP 2: All Air Compressors (200 cu ft/min or greater), Bituminous Mixer, Concrete Mixer (21 cu. ft. or over), Welding Machine, Form Grader, Tractor (50 hp and over), Bull Float, Finish Machine, Outboard Motor Boat, Brakeman, Mechanic Tender, Whirly Oiler, Tract-air, Road Widening Trencher, Articulating Trucks

GROUP 3: Greaser on Grease Facilities servicing Heavy Equipment

GROUP 4: Bituminous Distributor, Cement Gun, Conveyor, Mud Jack, Paving Joint Machine, Pump, Tamping Machine, Tractor (under 50 hp), Vibrator, Oiler, Air Compressor (under 200 cu ft per minute), Concrete Saw, Burlap and Curing Machine, Hydro Seeder, Power Form Handling Equipment, Deckhand Oiler, Hydraulic Post Driver

SHEET METAL WORKER.....	\$ 20.40	7.80
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TRUCK DRIVER		
Driver (3 Tons and Over), Driver (Truck Mounted Rotary Drill).....	\$ 23.74	14.50
Driver (3 Tons and Under), Tire Changer and Truck Mechanic Tender.....	\$ 23.53	14.50
Driver (Semi-Trailer or Pole Trailer), Driver (Dump Truck, Tandem Axle), Driver of Distributor.....	\$ 23.40	14.50
Driver on Mixer Trucks (All Types).....	\$ 23.45	14.50
Driver on Pavement Breakers.	\$ 23.55	14.50
Driver, Euclid and Other Heavy Earth Moving Equipment and Low Boy.....	\$ 24.31	14.50
Driver, Winch Truck and A- Frame when used in Transporting Materials.....	\$ 23.30	14.50
Greaser on Greasing Facilities.....	\$ 24.40	14.50
Truck Mechanic.....	\$ 23.50	14.50
Truck Tender and Warehouseman.....	\$ 23.20	14.50
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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the

cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is

based.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

**TO: EMPLOYERS/EMPLOYEES**

**PREVAILING WAGE SCHEDULE:**

**The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.**

**OVERTIME:**

**Overtime is to be paid to an employee at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty (40) hours in such workweek. Wage violations or questions should be directed to the designated Engineer or the undersigned.**

Director  
Division of Construction Procurement  
Frankfort, Kentucky 40622  
502-564-3500



**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION  
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY  
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

<b>GOALS FOR MINORITY PARTICIPATION IN EACH TRADE</b>	<b>GOALS FOR FEMALE PARTICIPATION IN EACH TRADE</b>
4.5%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director  
Office of Federal Contract Compliance Programs  
61 Forsyth Street, SW, Suite 7B75  
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Harlan County.



## **PART IV**

## **INSURANCE**

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

**PART V**

**BID ITEMS**

Report Date 7/1/21

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	1,167.00	TON		\$	
0020	00003		CRUSHED STONE BASE	74.00	TON		\$	
0030	00190		LEVELING & WEDGING PG64-22	72.00	TON		\$	
0040	00212		CL2 ASPH BASE 1.00D PG64-22	23.00	TON		\$	
0050	00214		CL3 ASPH BASE 1.00D PG64-22	716.00	TON		\$	
0060	00301		CL2 ASPH SURF 0.38D PG64-22	10.00	TON		\$	
0070	00356		ASPHALT MATERIAL FOR TACK	2.80	TON		\$	
0080	00388		CL3 ASPH SURF 0.38B PG64-22	203.00	TON		\$	
0090	02101		CEM CONC ENT PAVEMENT-8 IN	90.00	SQYD		\$	
0100	20748ED		SHOULDER MILLING/TRENCHING	863.00	SQYD		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0110	01810		STANDARD CURB AND GUTTER	1,253.00	LF		\$	
0120	01812		REMOVE CURB AND GUTTER	984.00	LF		\$	
0130	01875		STANDARD HEADER CURB	36.00	LF		\$	
0140	01947		MOUNTABLE MEDIAN TYPE 3A (STAMPED AND DYED)	470.00	SQYD		\$	
0150	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	8.00	EACH		\$	
0160	02014		BARRICADE-TYPE III	2.00	EACH		\$	
0170	02369		GUARDRAIL END TREATMENT TYPE 2A	2.00	EACH		\$	
0180	02381		REMOVE GUARDRAIL	353.00	LF		\$	
0190	02562		TEMPORARY SIGNS	499.00	SQFT		\$	
0200	02585		EDGE KEY	227.00	LF		\$	
0210	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0220	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		\$	
0230	02720		SIDEWALK-4 IN CONCRETE	737.00	SQYD		\$	
0240	02721		REMOVE CONCRETE SIDEWALK	571.00	SQYD		\$	
0250	02726		STAKING (11-9016.30)	1.00	LS		\$	
0260	06406		SBM ALUM SHEET SIGNS .080 IN	276.00	SQFT		\$	
0270	06407		SBM ALUM SHEET SIGNS .125 IN	24.00	SQFT		\$	
0280	06410		STEEL POST TYPE 1	404.00	LF		\$	
0290	06510		PAVE STRIPING-TEMP PAINT-4 IN	3,920.00	LF		\$	
0300	06540		PAVE STRIPING-THERMO-4 IN W	672.00	LF		\$	
0310	06541		PAVE STRIPING-THERMO-4 IN Y	696.00	LF		\$	
0320	06542		PAVE STRIPING-THERMO-6 IN W	1,121.00	LF		\$	
0330	06543		PAVE STRIPING-THERMO-6 IN Y	999.00	LF		\$	
0340	06566		PAVE MARKING-THERMO X-WALK-12 IN	280.00	LF		\$	
0350	06568		PAVE MARKING-THERMO STOP BAR-24IN	12.00	LF		\$	
0360	06569		PAVE MARKING-THERMO CROSS-HATCH	683.00	SQFT		\$	
0370	06574		PAVE MARKING-THERMO CURV ARROW	4.00	EACH		\$	
0380	06575		PAVE MARKING-THERMO COMB ARROW	4.00	EACH		\$	
0390	06575		PAVE MARKING-THERMO COMB ARROW (SPECIAL - FISH HOOK)	4.00	EACH		\$	

## PROPOSAL BID ITEMS

215207

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Report Date 7/1/21

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0400	20430ED		SAW CUT	416.00	LF		\$	
0410	21289ED		LONGITUDINAL EDGE KEY	487.00	LF		\$	
0420	21373ND		REMOVE SIGN	13.00	EACH		\$	
0430	21596ND		GMSS TYPE D (SURFACE MOUNT)	4.00	EACH		\$	
0440	21802EN		G/R STEEL W BEAM-S FACE (7 FT POST)	401.00	LF		\$	
0450	22520EN		PAVE MARKING-THERMO YIELD BAR-36 IN	43.00	LF		\$	
0460	23158ES505		DETECTABLE WARNINGS	110.00	SQFT		\$	
0470	24631EC		BARCODE SIGN INVENTORY	99.00	EACH		\$	
0480	24683ED		PAVE MARKING-THERMO DOTTED LANE EXTEN	211.00	LF		\$	
0490	24955ED		REMOVE SIGNAL EQUIPMENT	1.00	EACH		\$	

### Section: 0003 - BRIDGE - 048B00095N - 11-10012 ONLY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0500	00521		STORM SEWER PIPE-15 IN	56.00	LF		\$	
0510	00522		STORM SEWER PIPE-18 IN	211.10	LF		\$	
0520	01204		PIPE CULVERT HEADWALL-18 IN	1.00	EACH		\$	
0530	01456		CURB BOX INLET TYPE A	2.00	EACH		\$	
0540	01487		CURB BOX INLET TYPE F	4.00	EACH		\$	
0550	01756		MANHOLE TYPE A	1.00	EACH		\$	
0560	01761		MANHOLE TYPE B	1.00	EACH		\$	
0570	02223		GRANULAR EMBANKMENT	231.00	CUYD		\$	
0580	02230		EMBANKMENT IN PLACE	6,271.00	CUYD		\$	
0590	02483		CHANNEL LINING CLASS II	104.00	TON		\$	
0600	02484		CHANNEL LINING CLASS III	108.00	TON		\$	
0610	02545		CLEARING AND GRUBBING Greater than 1 acre combined	1.00	LS		\$	
0620	02602		FABRIC-GEOTEXTILE CLASS 1	152.00	SQYD		\$	
0630	02611		HANDRAIL-TYPE A-1	144.00	LF		\$	
0640	02726		STAKING 11-10012 048B00095N	1.00	LS		\$	
0650	02731		REMOVE STRUCTURE Includes concrete pad and piers adjacent to bridge	1.00	LS		\$	
0660	04740		POLE BASE	5.00	EACH		\$	
0670	04780		FUSED CONNECTOR KIT	10.00	EACH		\$	
0680	04820		TRENCHING AND BACKFILLING	300.00	LF		\$	
0690	04942		REMOVE STORE & REINSTALL POLE	5.00	EACH		\$	
0700	05990		SODDING 332 SY from 11-9016.30	612.00	SQYD		\$	
0710	08002		STRUCTURE EXCAV-SOLID ROCK	625.00	CUYD		\$	
0720	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0730	08100		CONCRETE-CLASS A	543.00	CUYD		\$	
0740	08100		CONCRETE-CLASS A FOR U-TYPE HEADWALL	2.86	CUYD		\$	
0750	08150		STEEL REINFORCEMENT	97,190.00	LB		\$	
0760	15000		S BYPASS PUMPING	1.00	EACH		\$	
0770	15012		S ENCASEMENT CONCRETE	335.00	LF		\$	

## PROPOSAL BID ITEMS

215207

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Report Date 7/1/21

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0780	15025		S ENCASEMENT STEEL OPEN CUT RANGE 6	275.00	LF		\$	
0790	15107		S PIPE DUCTILE IRON 16 INCH	342.00	LF		\$	
0800	15122		S STRUCTURE REMOVAL	342.00	EACH		\$	
0810	21415ND		EROSION CONTROL	1.00	LS		\$	
0820	21476ED		SNOW FENCE	935.00	LF		\$	
0830	23378EC		CONCRETE SEALING	640.00	SQFT		\$	
0840	23778EC		WIRE-NO. 10	2,320.00	LF		\$	
0850	24814EC		PIPELINE INSPECTION	256.00	LF		\$	
0860	24900EC		PVC CONDUIT-1 1/4 IN-SCHEDULE 80	300.00	LF		\$	

### Section: 0004 - LIGHTING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0870	04700		POLE 30 FT MTG HT	8.00	EACH		\$	
0880	04723		BRACKET 10 FT	6.00	EACH		\$	
0890	04724		BRACKET 12 FT	1.00	EACH		\$	
0900	04725		BRACKET 15 FT	1.00	EACH		\$	
0910	04740		POLE BASE	8.00	EACH		\$	
0920	04750		TRANSFORMER BASE	8.00	EACH		\$	
0930	04761		LIGHTING CONTROL EQUIPMENT	1.00	EACH		\$	
0940	04780		FUSED CONNECTOR KIT	16.00	EACH		\$	
0950	04795		CONDUIT-2 IN	175.00	LF		\$	
0960	04820		TRENCHING AND BACKFILLING	775.00	LF		\$	
0970	04832		WIRE-NO. 12	1,150.00	LF		\$	
0980	04940		REMOVE LIGHTING	1.00	LS		\$	
0990	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	6.00	EACH		\$	
1000	21543EN		BORE AND JACK CONDUIT	175.00	LF		\$	
1010	23778EC		WIRE-NO. 10	2,950.00	LF		\$	
1020	24589ED		LED LUMINAIRE	8.00	EACH		\$	
1030	24900EC		PVC CONDUIT-1 1/4 IN-SCHEDULE 80	475.00	LF		\$	

### Section: 0005 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1040	02568		MOBILIZATION	1.00	LS		\$	
1050	02569		DEMOBILIZATION	1.00	LS		\$	