



**CALL NO. 202**

**CONTRACT ID. 191031**

**WOODFORD - SCOTT COUNTIES**

**FED/STATE PROJECT NUMBER 121GR19D031-BRZ**

**DESCRIPTION WEISENBERGER MILL ROAD(CR-1015)**

**WORK TYPE BRIDGE REPLACEMENT**

**PRIMARY COMPLETION DATE 11/15/2019**

**LETTING DATE: June 21,2019**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME June 21,2019. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

**PLANS AVAILABLE FOR THIS PROJECT.**

**DBE CERTIFICATION REQUIRED - 2%**

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

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

## ADMINISTRATIVE DISTRICT - 07

**CONTRACT ID - 191031**

**121GR19D031-BRZ**

**COUNTY - SCOTT**

**PCN - DE10512541931**

**STP BRZ 0703(334)**

WEISENBERGER MILL ROAD(CR-1015) ADDRESS DEFICIENCIES OF THE WEISENBERGER MILL ROAD BRIDGE AT THE WOODFORD/SCOTT COUNTY LINE, A DISTANCE OF 0.01 MILES.BRIDGE REPLACEMENT SYP NO. 07-08642.00.

GEOGRAPHIC COORDINATES LATITUDE 38:07:41.00 LONGITUDE 84:38:13.00

**COUNTY - WOODFORD**

**PCN - DE12010151931**

**STP BRZ 0703(334)**

WEISENBERGER MILL ROAD(CR-1015) ADDRESS DEFICIENCIES OF THE WEISENBERGER MILL ROAD BRIDGE AT THE WOODFORD/SCOTT COUNTY LINE, A DISTANCE OF 0.03 MILES.BRIDGE REPLACEMENT SYP NO. 07-08642.

GEOGRAPHIC COORDINATES LATITUDE 38:07:41.00 LONGITUDE 84:38:13.00

**COMPLETION DATE(S):**

COMPLETED BY 11/15/2019

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 Capacity Rating 102.10 Delivery of Proposals  
102.8 Irregular Proposals 102.14 Disqualification of Bidders  
102.9 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 on federally assisted projects shall be permitted. However, in the case of DBE's, second tier subcontracts will only be permitted where the other subcontractor is also a DBE. All second tier subcontracts shall have the consent of both the Contractor and the Engineer.



### **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 Project Code Number (PCN), 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, the DBE's certificate of insurance, and an affidavit for bidders, offerors, and contractors from the DBE to the Division of Construction Procurement. The affidavit can be found on the Construction Procurement website. If the DBE is a supplier of materials for the project, a signed purchase order and an affidavit for bidders, offerors, and contractors 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 and nine (9) copies of this information must be received in the office of 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 DBE Liaison in the Office of Minority Affairs 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 (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 submitted within 10 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.

The Prime Contractor should supply the payment information at the time the DBE is compensated for their work. Form to use is located at:

<http://transportation.ky.gov/Construction/Pages/Subcontracts.aspx>

**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 is Melvin Bynes and the telephone number is (502) 564-3601.**

Photocopied payments and completed, signed and notarized affidavit must be submitted by the Prime Contractor to: Office of Civil Rights and Small Business Development  
6<sup>th</sup> Floor West 200 Mero Street  
Frankfort, KY 40622

### **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.

1/27/2017

**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.

### **DGA BASE FOR SHOULDERS**

Unless otherwise noted, the Department estimates the rate of application for DGA Base for Shoulders to be 115 lbs/sy per inch of depth. The Department will not measure necessary grading and/or shaping of existing shoulders prior to placing of DGA Base, but shall be incidental to the Contract unit price per ton for DGA Base.

Accept payment at the Contract unit price per ton as full compensation for all labor, materials, equipment, and incidentals for grading and/or shaping of existing shoulders and furnishing, placing, and compacting the DGA Base.

### **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 Note for Soil Nail Walls Appendix A - Project Specific Requirements**

### ***Scott/Woodford Counties Weisenberger Mill Road Item No. 7-8642.00***

#### **A1.0 VALUE ENGINEERING**

The Department will not consider any Value Engineering Proposals that would result in changes in wall location and/or elevations.

#### **A2.0 SUBSURFACE CONDITIONS**

The subsurface conditions encountered at test boring locations are presented on the Subsurface Data Sheets in the Contract Plans. Subsurface Conditions may vary between boring locations.

#### **A3.0 LOCATIONS OF EXISTING STRUCTURE UNITS**

Approximate locations and elevations of the existing substructure and superstructure units are provided in the Contract Plans; however, the Department does not guarantee the accuracy of these locations. Although no specific scale is provided, the existing structure locations were drawn approximately to scale. Field verify the locations of existing structure units, including footing elevations, prior to excavating and installing soil nails.

#### **A4.0 GROUNDWATER CONTROL**

Observation wells were not installed at this location. The area is known to flood on occasion, and the calculated 100 year high water elevation at the structure is 801.46 feet. Temporary sheeting, shoring, or dewatering methods may be needed for groundwater control during construction. Appropriate drainage systems behind the wall and weep holes shall also be provided.

#### **A5.0 SITE INSPECTIONS**

During construction, observe the conditions behind the soil nail walls on a daily basis for signs of ground movement in the vicinity of the wall. Notify the Engineer immediately if signs of movements such as new cracks or increased size of old cracks are observed. If the Engineer determines that the movements exceed those anticipated for typical soil nail wall construction and requires corrective action, immediately take corrective actions necessary to stop the movement or perform repairs at no additional cost to the Department.

## **A6.0 FIELD ADJUSTMENTS AND CONSTRUCTION TOLERANCES**

Field adjustments of nail locations may be necessary due to the existing structure units or other considerations. Redesign and/or additional analyses will be required for field adjustments exceeding the specified tolerances.

## **A7.0 PERMANENT FACING**

Provide permanent facing consisting of screeded shotcrete. Conform to applicable sections of FHWA GEC 007 for any items not addressed in the contract proposal or plans. Construct the permanent facing within 2 months of nail installation.

## **A8.0 SACRIFICIAL TEST NAILS**

Prior to installing any production nails, install a minimum of one non-production sacrificial test nail.

Submit the proposed locations and sacrificial test nail design with the wall design and construction plans. Install the sacrificial test nails using the drilling and grouting procedures to be used on the production nails. Conduct Verification Tests on the sacrificial nails as described in Section 9.3 of this Special Note within five (5) calendar days after completing the installation and submit the test results within two (2) calendar days after completing the test. Acceptance criteria and rejection procedures are in Sections 9.6 and 9.7.

If a sacrificial test nail is loaded to 2.5 x DTL or higher during a verification test and meets all acceptance criteria, the Contractor may reduce the diameter of production nails in the adjacent wall based on the ultimate bond stress measured during the verification test. The Contractor assumes all responsibility for providing production nails meeting the acceptance criteria. All minimum cover and/or any other design requirements are applicable for the reduced diameter nails. The Engineer may require revisions to the Construction Plans. Any modifications proposed by the Contractor other than the drill hole diameter will require a detailed review by the Department.

**The Contractor may, at its own risk, install production nails before the Engineer receives the Verification Test results and accepts the non-production sacrificial nails. Production nails may not be installed until after verification testing on the sacrificial nail has been performed. The Engineer may suspend production nail installation if the Contractor has not submitted the verification test results on the sacrificial nail within two (2) calendar days after completion of the test.**

## **A9.0 PRODUCTION NAIL VERIFICATION TESTING**

Perform a minimum of seven (7) verification tests on production nails according to Section 9.4. A minimum of two (2) shall be performed at the Woodford County (south) abutment, and minimum of five (5) shall be performed on the Scott County (north) side. The

contractor shall propose locations for the testing with the design submittals. At least one verification test shall be performed in each row of nails.

### A10.0 PRODUCTION NAIL PROOF TESTING

Perform proof tests according to Section 9.5 on a minimum of 5% of nails installed, including the first nail installed in each row. A verification test of a production nail will be considered equivalent to a proof test nail and will be accounted for in determining the number of proof tests required. If problems occur during nail installation that, in the opinion of the Engineer, may adversely affect the capacity of one or more nails, the Engineer may specify nails for proof testing or may require additional proof testing.

### A11.0 SUMMARY OF LABORATORY TEST DATA

Table 1 Summary of SPT "N" Values and Soil Index Laboratory Test Results											
Hole No.	Sample Depth (ft)	Sample Type	SPT "N" Value	w (%)	LL	PL	PI	LI	Soil Classification		% Silt + Clay
									AASHTO	Unified	
1002	5.0-6.5	SPT	6	31	39	21	18	0.56	A-6(3)	GC	41
	10.0-11.5	SPT	14								
	15.0-16.5	SPT	10	29	41	22	19	0.37	A-7-6(12)	CL	69
	20.0-21.5	SPT	15								
1004	4.5-6.0	SPT	19	25	33	19	14	0.41	A-2-6(1)	SC	32
	9.5-11.0	SPT	5								
	14.5-16.0	SPT	8	21	46	23	23	-0.09	A-7-6(19)	CL	81
	19.5-21.0	SPT	26								
	24.5-24.8	SPT	50/0.3 <sup>7</sup>	20	33	19	14	0.07	A-2-6(0)	GC	26
1005	5.0-6.5	SPT	10	20	37	20	17	0.02	A-6(3)	GC	40
	10.0-11.5	SPT	15								
1006	5.0-6.5	SPT	3	19	41	23	18	-0.23	A-7-6(9)	CL	62
	10.0-11.5	SPT	48								
	15.0-16.5	SPT	Insufficient sample retrieved to classify material.								

### A12.0 SOIL PARAMETERS AND FACTORS OF SAFETY

Design the walls using the soil strength parameters and external factors of safety in the tables below. The Designer shall verify wall stability based on final wall design dimensions. These requirements are based on the Department's judgment and interpretation of the geotechnical data and are provided to ensure that bidders' designs will be comparable relative to the integrity and performance of the walls. Any modifications proposed by the Contractor, if accepted by the Department, will be subject to price adjustment.

<b>Table 2</b>			
<b>Design Soil Strength Parameters</b>			
<b>Abutment 1 – Woodford County</b>			
<b>Parameter</b>	<b>Wall Backfill</b>	<b>Soil 1</b>	<b>Bedrock</b>
Elevation (ft)	Above 785	785-Bedrock	Varies
Soil Classification	GC	CL	Limestone
Total Unit Weight (pcf)	120	120	
Effective Angle of Internal Friction, $\phi'$ (deg)	30	28	
Effective Cohesion, $c'$ (psf)	0	0	
Undrained Shear Strength, $S_u$ or $c_u$ (psf)	N/A	1400	
Nominal (Ultimate) Soil Nail Bond Stress (psi)	9	5	44

<b>Table 3</b>			
<b>Design Soil Strength Parameters</b>			
<b>Abutment 2 – Scott County</b>			
<b>Parameter</b>	<b>Wall Backfill</b>	<b>Soil 1</b>	<b>Bedrock</b>
Elevation (ft)	Above 785	785-781 or to Bedrock	Varies
Soil Classification	CL	GC	Limestone
Total Unit Weight (pcf)	120	120	
Effective Angle of Internal Friction, $\phi'$ (deg)	28	30	
Effective Cohesion, $c'$ (psf)	0	0	
Undrained Shear Strength, $S_u$ or $c_u$ (psf)	1400	N/A	
Nominal (Ultimate) Soil Nail Bond Stress (psi)	5	9	44

<b>Table 5</b>			
<b>Minimum Required Factors of Safety for External Failure Modes</b>			
<b>Case No.</b>	<b>Design Case</b>	<b>Temporary/ Short Term</b>	<b>Permanent/ Long Term</b>
1	Excavation Stability <sup>1</sup>	1.3	N/A
2	Global Stability <sup>2</sup>	1.3	1.5
3	External Stability <sup>3</sup>	1.3	1.6
4	Sliding	1.3	1.5
5	Rapid Drawdown <sup>4</sup>	N/A	1.0

<sup>1</sup>Excavation Stability analyses consider excavation lifts left unsupported for up to 24 hours before nails are installed.  
<sup>2</sup>In Global Stability analyses, failure surfaces intersect some or all nails.  
<sup>3</sup>In External Stability analyses, failure surfaces do not intersect the nails.  
<sup>4</sup>Use Effective Stress Methods for Rapid Drawdown analyses.

### A13.0 DESIGN CONSTRAINTS

Design the walls according to the design constraints provided below. Items 7 – 12 are specifically to limit wall deformation. These constraints are based on the Department's judgment and interpretation of the geotechnical data and are provided to ensure that bidders' designs will be comparable relative to the integrity and performance of the walls. Any modifications proposed by the Contractor, if accepted by the Department, will be subject to price adjustment.

1. Neglect any resistance from the bridge in wall analysis and design.
2. Perform analyses with the groundwater table no lower than Elevation 785 feet for Short Term and Long Term Conditions. Perform analyses for a Rapid Drawdown conditions using a High Water Elevation of 801.5 feet.
3. Design for a traffic surcharge loading in accordance with AASHTO LRFD Bridge Design Specifications, current edition.
4. Design for bridge loads to be applied to the Woodford County side (south) wall unless the bridge is supported on a deep foundation (piles, micropiles, or other foundation elements) that transfers bridge loads directly to bedrock. The Scott County (north) side of the bridge must be supported on micropiles.
5. Perform Soil Nail Wall analyses using either GOLDNAIL, SNAIL, or SNAP2. The use of other computer programs requires prior approval from the Department.
6. Perform analyses for the temporary condition assuming the excavation will be at least 1 ft. below the bottom of wall elevation or to the elevation that will be needed for construction, if lower.
7. A minimum of three (3) rows of nails is required. Additional rows of nails may be required in order to meet the required minimum factors of safety.
8. The maximum vertical and horizontal nail spacing is 5 feet. Closer spacing may be required in order to meet the required minimum factors of safety.
9. The maximum distance from the top of the wall to the top row of nails is 3 feet unless prohibited by obstructions in the field; exceptions require prior approval from the Department.
10. The maximum nail inclination is  $15^{\circ}$ .
11. The minimum nail length is 20 feet and the nail length of any row may not be shorter than the row below it. Longer nail lengths may be required in order to meet the required minimum factors of safety.
12. In the top and second rows, the maximum allowable bar tensile stress is  $0.4f_y$  (i.e.  $FS_T = 2.5$ ).
13. The contractor shall provide a toe wall around the base of the Scott County (north) side wall. The toe wall shall be a minimum three (3) feet deep below the base of the soil nail wall and one (1) foot wide. It shall be reinforced, and the details of this reinforcement shall be submitted with the soil nail wall designs. This toe wall may include micropiles or soil nails in order to provide additional lateral support to the soil nail wall. The cost of the toe wall will be considered incidental to the price for "Foundation Preparation."

### A14.0 MEASUREMENT AND PAYMENT

A14.1 The Department will measure and pay for the accepted quantity of "Soil Nail Wall" as described in the Contract Plans, Section 11 of this Special Note, and below, at the Contract Unit Bid Price per Square Foot. As shown in the Contract Plans, the soil nail wall quantities are based on a vertical projection of the wall surface rather than along the actual battered surface. The following are incidental to the Soil Nail Wall: any temporary and/or permanent facing (at the Contractor's option) below the defined bottom of wall provided in the contract plans; all components of the wall drainage system (except horizontal drains); the cost of all materials, labor, and equipment needed to texture the retaining wall.

A14.2 If drilling into solid rock is necessary to install soil nails, the cost of solid rock drilling is included in the unit price for "Soil Nail Wall" and there will be no additional compensation for rock drilling.

A14.3 The Department will measure and pay for the accepted quantity of "Foundation Preparation" according to Section 603 of the Standard Specifications at the Contract Lump Sum Bid Price. This includes the following:

- all excavation in front of the front face of the walls, common and solid rock;
- all common excavation required behind the front face of the walls;
- construction and removal of any working platform if necessary to construct the soil nail walls;
- any incidental grading required both in front and behind the walls;
- any scour protection provided at the toe of the walls; and
- all materials and labor described in Appendix B of this Special Note.

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
20603ED	Soil Nail Wall	Square Foot
8003	Foundation Preparation	Lump Sum

# Special Note for Soil Nail Wall Quality Control Inspection

## *Scott/Woodford Counties Weisenberger Mill Road Item No. 7-8642.00*

This Special Note is in addition to the requirements set forth in Section 113 of the Standard Specifications for Road and Bridge Construction, current edition.

The Federal Highway Administration's **GEC 007, Soil Nail Walls Reference Manual** (FHWA-IF-14-007) presents state-of-the-practice information on soil nails for highway applications. Ensure that Quality Control field and office personnel have access to and are familiar with this document.

### **1.0 DESCRIPTION**

This work consists of developing, furnishing, executing, and maintaining a Quality Control Plan (QCP) for the inspection of the retaining wall(s). QC personnel will answer directly to the Department's Resident Engineer. The work includes but is not limited to inspecting, testing, and ensuring conformance to the contract. The Contractor is responsible for executing the QCP, which includes checking and tracking material shipments, construction inspection, and on-site materials testing pertaining to drilling, installation and testing of soil nails and instrumentation. This includes ensuring conformance with all sections and Appendices of the Special Note for Soil Nail Walls.

The Department will be responsible for quality assurance, any off-site material testing, and inspection of all other items in the contract.

### **2.0 QUALITY CONTROL PLAN (QCP) PERSONNEL**

In addition to conforming to Subsection 113.03 of the Standard Specifications for Road and Bridge Construction, conform to the following requirements.

The QCP personnel's sole duty on the project will be implementing the QCP. Provide a QCP organization to be on the site at all times during the progress of work on the specified bid items, with complete authority to take any action necessary to ensure compliance with the Contract. These individuals must not be responsible for the production of the project and may not be employed by the general contractor, specialty subcontractor, or any other subcontractor responsible for any construction activities on the project.

Soil Nail testing is considered production work performed by the Specialty Contractor's production personnel (verification and proof testing). However, the QCP personnel will be responsible for monitoring the tests, independently recording data, and reviewing the Contractor's test reports.

The size and composition of the QCP organization may vary as the job progresses but at all times must be compatible with the level of effort and capability required by the Contract requirements.

Any engineering firm that performed engineering analyses and/or design for this project will not be permitted to perform QC Inspection, due to the potential for conflict of interest.

## 2.1 QCP Personnel

As part of the QCP organization, provide a QCP Manager and specialized inspection personnel to assist and be responsible to the QCP Manager and to be physically present at the construction site during all activities covered by the QCP. Provide a QCP organization with a minimum of the persons listed below:

- 1 QCP Manager and 1 Alternate QCP Manager
- 1 Lead Inspector and 1 Alternate Lead Inspector
- Assistant Inspector(s) - if necessary

**The actual number of personnel required may be less than the persons listed above and will be dictated by the project size, complexity, and schedule, and is subject to Department approval. However, the persons above must be available.**

Provide personnel with the experience and credentials below. For lead and assistant inspectors, education may be substituted for experience as follows:

- A Bachelor's Degree in Engineering, Engineering Technology, Surveying, Construction Management, Geology, or other related technical field (at the discretion of the Department), will count for two (2) years of experience.
- An Associate's Degree in Engineering Technology, Surveying, Construction Management or other related technical field (at the discretion of the Department), will count for one (1) year of experience.

### 2.1.1 QCP Manager and Alternate QCP Manager(s)

- Licensed Professional Engineer with a minimum of five (5) years of engineering experience in one or more of the following areas: construction, materials, geotechnical, or structure design. A Master's Degree in Engineering will count for one (1) year of experience.
- Experience on a minimum of three (3) projects involving the interpretation of pullout test results for drilled and grouted anchors such as soil and/or rock anchors, soil nails, rock bolts, etc.; or experience on a minimum of one (1) project involving the interpretation of pullout test results for drilled and grouted anchors such as soil and/or rock anchors, soil nails, rock bolts, etc.



supplemented by design-related experience on a minimum of one (1) soil nail or tieback ground anchor retaining wall project and other experience with interpretation of geotechnical-related field test results (e.g. deep foundation load testing, geotechnical instrumentation, etc.)

- Field construction engineering and/or inspection experience on a minimum of three (3) geotechnical-related projects.

### **2.1.2 Lead Inspector and Alternate Lead Inspector(s)**

- A minimum of six (6) years of construction and/or materials inspection experience showing evidence of supervisory experience on geotechnical-related projects.
- Construction inspection experience on a minimum of two (2) projects involving inspection of installation and pullout testing of drilled and grouted anchors such as soil and/or rock anchors, soil nails, rock bolts, etc.; or experience on a minimum of one (1) project involving inspection of installation and pullout testing of drilled and grouted anchors such as soil and/or rock anchors, soil nails, rock bolts, etc., supplemented by related experience such as post-tensioned concrete inspection, deep foundation load testing, etc.
- ACI Level I Concrete Field Testing Technician, supplemented by a minimum of one (1) other construction-related technician certification (NICET, KYTC, etc.).

### **2.1.3 Assistant Inspectors**

- A minimum of four (4) years of construction and/or materials inspection experience on geotechnical-related projects.
- Construction inspection experience on a minimum of one (1) project involving inspection of installation and pullout testing of drilled and grouted anchors such as soil and/or rock anchors, soil nails, rock bolts, etc. or one (1) project involving drilled deep foundations (drilled shafts, auger cast piles, drilled-in soldier piles, etc.) or other drilling-related experience (geotechnical exploration drilling, etc.).

## **2.2 QCP Personnel Duties** Duties for the QCP personnel include, but are not limited to the duties described below.

### **2.2.1 QCP Manager and Alternate QCP Manager(s)**

The QCP Manager must be available during construction activities as indicated on the QCP Plan. The QCP Manager may be removed from the project for noncompliance of quality products. Identify an Alternate QCP Manager in the QCP Plan to manage the QCP effort during the QCP Manager's absence. In no instance may the QCP Manager be absent and the Alternate QCP Manager serve for more than a 2 week period without written permission from the Engineer.

The QCP Manager must visit the project site at least one time during the first two (2) weeks of activities covered by the QCP. The QCP Manager and/or Alternate QCP Manager must review all QCP reports and documentation and submit letters to the Resident Engineer documenting that they have done such.

### **2.2.2 Lead Inspector**

The Lead Inspector or Alternate Lead Inspector must be present during all activities covered by the QCP. The Lead Inspector or Alternate Lead Inspector may request prior verbal approval for short absences from the Resident Engineer or authorized representative. Approval will be subject to the experience and competency of the Assistant Inspector(s) on the project.

The Lead Inspector or Alternate Lead Inspector must review and sign all QCP reports and documentation prior to submittal to the Department.

## **3.0 QCP Organization and Procedures**

The QCP must include the following:

- 3.1** A description of the quality control organization, including an organizational chart showing lines of authority and acknowledgment that the QCP staff shall implement at least a 3-phase control system for all aspects of work as specified herein. Phase I Preparatory Phase prior to beginning work; Phase II Construction Phase during execution of work; and Phase III Acceptance of Work.
- 3.2** The name, qualifications in resume format, duties responsibilities and authorities and certifications of the QCP Manager, Alternate QCP Manager, Lead Inspector and Alternate Lead Inspector and all other personnel.
- 3.3** A copy of the letter to the QCP Manager, signed by an authorized official of the Contractor which describes the responsibilities and delegates sufficient authority to adequately perform the functions of the QCP Manager, including authority to stop work which is not in compliance with the Contract. The QCP Manager must issue a letter of direction to all other various quality control representatives outlining duties, authorities and responsibilities. Include copies of these letters in the QCP.
- 3.4** Procedures for managing submittals and approvals, including but not limited to, source of materials, shop drawings and subletting requests.
- 3.5** Procedures for tracking construction deficiencies from identification through acceptable corrective action shall be on the QCP. These procedures will establish verifications that identified deficiencies have been corrected. A Non-Conformance Report (NCR) with each item numbered consecutively will be prepared and signed by the QCP Manager at least weekly with recommended action, action taken and date corrected and filed separately.
- 3.6** The scope of the project, including a list of definable work activities. A definable work activity is separate and distinct from other tasks, requires specific crews or Subcontractors, has different specifications, and has separate control requirements. It could be identified by different crews or Subcontractors, or it could be work performed by the same trade in a different environment. Each activity

must have construction tolerances and workmanship standards identified for use by construction crews and sampling/testing frequencies identified for the QCP personnel. This list will be agreed upon during the coordination meeting.

## **4.0 CONTROL**

QCP is the means by which the Contractor ensures the quality and construction, to include subcontractors and suppliers, and complies with the requirements of the Contract. At least 3 phases of control must be conducted by the QCP Manager for each definable work activity as follows:

### **4.1 Preparatory Phase** Perform this phase prior to beginning work in an activity and include:

- 4.1.1** Review all the Contractor's Construction and Materials Submittals (including those required by the Special Note for Soil Nail Walls, steel mill test reports, nail QC reports, shop drawings, etc.) and provide written comments signed by the QCP Manager and Lead Inspector, to the Department within 14 calendar days; include specific recommendations for acceptance, acceptance with revisions, or non-acceptance of each submittal.
- 4.1.2** Prior to the start of each work activity, the Contractor and QCP Manager are encouraged to conduct a meeting with each crew to discuss in detail with each crew member the quality standards and workmanship identified in the Preparatory Phase. The importance and role of each crew member in achieving quality should be stressed.
- 4.1.2** A review of each paragraph of applicable specifications.
- 4.1.3** A review of Contract and Construction Drawings.
- 4.1.4** A check to assure that all materials and equipment and subletting requests have been submitted, tested and approved.
- 4.1.5** A review of control inspection and testing requirement has been completed.
- 4.1.6** Examination of the work area to assure that all required preliminary work has been completed and complies with the Contract.
- 4.1.7** A physical examination to assure all required materials and equipment are on hand, and conform to approved shop drawings, or submitted data and are properly stored.
- 4.1.8** Notify the Department at least 24 hours prior to beginning aggregate or concrete work.
- 4.1.9** Preparation and approval of QCP staffing plan which corresponds to the working schedule.
- 4.1.10** Discussion of procedures for controlling quality of work, including repetitive deficiencies, with all contractor managers. Assure availability of appropriate documentation.

### **4.2 Construction Phase** This phase includes the control measures from start to completion of a work activity.

- 4.2.1 Once the work zone has been established, check it to ensure conformance with the Contract requirements.
- 4.2.2 Monitor the producers' QC testing to ensure specifications are being met.
- 4.2.3 Inspect, test and document in accordance with the Contract requirements to ensure quality standards are being identified, corrective actions taken and documented using the NCR. The Lead Inspector will be responsible for completing a Daily Work Report (DWR) to document each day's activities on the retaining wall work. Submit the DWR to the Resident Engineer or representative no later than the close of the next workday. Verify quality standards as work progresses and make adjustments to the QCP.

### 4.3 Acceptance Phase

- 4.3.1 **Pre-final Inspection** At the completion of any work activity or any increment thereof, the QCP Manager, Contractor, and Resident Engineer (or representative) must conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings and specifications. Include such a list of deficiencies in the QCP documentation as required herein and include the estimated date by which the deficiencies will be corrected. The Contractor must ensure all items on this list have been corrected when the Final Inspection is scheduled.
- 4.3.2 **Final Acceptance Inspection** Final acceptance and any corrective work will be in accordance with the requirements of Section 105.12 of the Standard Specifications.

## 5.0 QCP SUBMITTAL

- 5.1 **Original Submittal for Approval** Submit the QCP to the Engineer no later than sixty (60) calendar days after receiving Notice to Begin Work and at least thirty (30) calendar days before beginning a specific work activity. The Department will return the QCP to the Contractor within twenty-one (21) calendar days after submittal with requests for changes, if applicable. The Contractor will then have seven (7) calendar days to correct and make changes and resubmit the QCP to the Engineer. Work cannot begin on an activity until after the QCP for that activity has been approved by the Engineer.
- 5.2 **Subsequent Approvals** Once the Contractor begins work under the approved QCP, continuously prosecute the work in accordance with the QCP. Changes must be approved by the Engineer prior to implementation.

## 6.0 DOCUMENTATION

The Contractor and QCP personnel are advised that any deliberate action to the detriment of the QCP will be grounds for defaulting the Contract. This includes but is not limited to any deliberate omissions, deliberate cover-ups, or attempts by the Contractor to withhold information from the Department. Allow direct communication between QCP personnel

and the Department. The Contractor and any Subcontractor involved in such detrimental action will not be considered for future bids until requalified.

Maintain current records providing factual evidence that required quality control activities and tests have been performed. Include the work of subcontractors and suppliers. Document verification and proof tests in accordance with the Special Note for Soil Nail Walls. Generate and update a soil nail test summary. Forms for these records must be approved by the Department. Submit all records with the last pay estimate, including but not limited to sketch books, and as-built plans. The Department will make the final payment only after all documentation has been submitted.

## **7.0 PAYMENT**

The Department will pay for Quality Control at the contract Lump Sum amount. The Department considers payment as full compensation for all labor and costs associated with performing Quality Control. In addition to conforming to Subsection 113.09 of the Standard Specifications for Road and Bridge Construction, there are the following requirements. The Department will include payment for 20 percent Lump Sum for the QCP in the first estimate. The Department will pay the remaining 80 percent based on the percentage of work completed.

Additional payment for the QCP will be made when time or extra work is added according to Subsection 104.03 for the bid items included in the QCP. Additional work added to other parts of the contract will not permit additional payment for the QCP.

<b><u>Code</u></b>	<b><u>Pay Item</u></b>	<b><u>Pay Unit</u></b>
2572	Quality Control	Lump Sum

# Special Note for Soil Nail Walls

## **Scott/Woodford Counties Weisenberger Mill Road Item No. 7-8642.00**

### **1.0 DESCRIPTION**

- 1.1 This work is for the design and construction of permanent "Soil Nail Walls". Use an approved Soil Nail Wall Contractor that has the expertise and capability to complete the work required by this Special Note. Only Contractors pre-qualified by the Kentucky Department of Highways (the Department) and that meet any specific requirements for this project may perform soil nail wall design and construction for this project.
- 1.2 Subsurface data from the geotechnical exploration is included in the Contract Plans. Rock cores (if applicable) are available for viewing at the Geotechnical Branch in Frankfort, 502-564-2374. Contractors may view rock cores (if applicable); call a minimum of two (2) days in advance to schedule a viewing. A link to the Geotechnical Report can be provided under Project Related Information for the letting if requested.

### **2.0 SCOPE OF WORK**

- 2.1 The contract item "Soil Nail Wall" includes furnishing the design calculations and construction plans, materials, labor, tools, equipment, and other incidental items required for the design, construction, and testing of permanent soil nail walls as described herein. See the contract plans for an overview of the soil nail wall(s).
- 2.2 Soil nail wall construction includes excavating in staged lifts; drilling soil nail drillholes; providing, placing and grouting the encapsulated or epoxy coated nail bar tendons into the drillholes; placing drainage elements; placing shotcrete reinforcement; applying shotcrete facing over the reinforcement; attaching bearing plates and nuts; performing nail testing; and installing permanent facing. Refer to FHWA GEC 007 "Soil Nail Walls Reference Manual" for the components of a soil nail wall.
- 2.3 The purpose of the soil nail wall construction is to repair and stabilize the existing stacked stone and gabion retaining walls. As such, excavation for the soil nail wall construction is not anticipated except for minor amounts required to remove debris or for equipment access. ***Excavation in the vicinity of the wall face requires special care and effort compared to general earthwork excavation and close coordination between the earthwork contractor and the Soil Nail Wall Contractor.*** The Prime Contractor should take this into account during bidding and should consult the Excavation Section of this Special Note and the Contract Plans for details.

- 2.4 Subject to the requirements in the Contract Plans and this Special Note, select the method of excavation, drilling method and equipment, final drill hole diameter(s), and grouting procedures to meet the performance requirements specified herein.
- 2.5 In design and construction of the wall, consider the potential risks involved due to slope or wall failure. Excavation stability, slope stability, wall alignment, and wall stability are the Contractor's responsibilities from the beginning of work until final acceptance. Damage to property (public or private) or to the wall itself during construction is the responsibility of the Contractor. Analyze the soil nail wall system in order to ensure that the wall system will function as intended.
- 2.6 The main body of this Special Note is general for permanent soil nail walls. Refer to the Appendix or Appendices for any project specific requirements.
- 2.7 Contract Plans are defined as plans prepared by the Department and/or authorized representative containing the Soil Nail Wall Profile and Layout, Soil Nail Wall Details, Subsurface Data, etc., to be used by the Soil Nail Specialty Contractor to design the soil nail wall. These plans are included in the Bid Proposal.
- 2.8 Construction Plans are defined as plans prepared by or for the Soil Nail Wall Contractor under the direction of the Wall Design Engineer and accepted by the Engineer for construction of the soil nail wall.

### 3.0 REFERENCES

The documents below apply to this work. Unless noted otherwise, use the current edition as of the letting date of this project.

- 3.1 Contract Plans and Plan Notes
- 3.2 The "Kentucky Standard Specifications for Road and Bridge Construction", Current Edition with supplements. This document may be referred to as "Specifications" or "Standard Specifications" elsewhere in this Special Note.
- 3.3 The Department Manuals "Kentucky Methods", "List of Approved Materials", and "Field Sampling and Testing Practices".
- 3.4 American Society for Testing and Materials (ASTM) Standards, Current Edition.
- 3.5 American Association of State Highway and Transportation Officials (AASHTO) Standards, Current Edition.
- 3.6 FHWA Publication FHWA-NHI-14-007, "GEC 007: Soil Nail Walls Reference Manual", February 2015.
- 3.7 AASHTO LRFD Bridge Design Specifications, Current Edition, with all interims.
- 3.8 AISC Steel Construction Manual for the design of structural hardware applies if the design is not covered in the AASHTO Standard Specifications for Highway Bridges, Current Edition, with all interims.

### 4.0 EXPERIENCE REQUIREMENTS AND SUBMITTALS

Requirements for personnel experience and pre-construction submittals, **including submittal deadlines**, are in this section. Do not begin construction on any soil nail wall,

other than stockpiling of wall materials, until the Engineer receives and accepts all submittals required in this section. Additional submittals and records required during and after construction may be included in other sections of this Special Note. The use of electronic submittals (preferably in .pdf format) will expedite the approval process.

4.1 Experience Requirements - The Department considers a satisfactory record of experience in soil nail wall design and construction important to successfully complete this work. Use personnel meeting the requirements below on this project and submit electronically in PDF format all information necessary to verify that they meet the requirements. **Submit this information no later than thirty (30) calendar days after receiving Notice to Begin Work.** As a minimum, include the following for each project necessary to satisfy the requirements:

1. The names and current phone numbers of the owner's representative(s) who can verify that the Contractor meets the requirements.
2. The dates of construction.
3. The type (temporary/permanent) of structure.
4. The number of nails.
5. The maximum wall design height.

The Department will review the experience requirements and respond to the Contractor within twenty-one (21) calendar days. Review and acceptance by the Engineer is for evidence of the required experience and does not in any way relieve the Contractor of full responsibility for the successful and satisfactory completion of the work.

4.2 Contractor Experience Requirements - The requirements for the Soil Nail Wall Contractor are:

- a. A minimum of five (5) years experience constructing temporary and/or permanent soil nail retaining walls, with a minimum of three (3) projects and at least 600 soil nails or 15,000 ft<sup>2</sup> of wall face completed in the past five (5) years.
- b. A minimum of three (3) soil nail retaining wall projects with permanent soil nail retaining walls at least 15 ft high completed in the past five (5) years, and at least 600 permanent soil nails or 15,000 ft<sup>2</sup> of wall face completed in the past five (5) years.

Only drilled and grouted soil nails will satisfy these requirements. Some projects may be used to satisfy more than one requirement.

4.3 Personnel Experience Requirements

4.3.1 Wall Design Engineer Experience Requirements - Use a Wall Design Engineer meeting the requirements below to assume full responsibility for soil nail wall design on this project. One or more other Engineers may assist with the design and plan preparation under the supervision of the Wall Design Engineer, who may be an employee of the Soil Nail Wall Contractor or a Consultant. However,



manufacturers' representatives may not be used to satisfy these requirements. The requirements for the Wall Design Engineer are:

- a. Licensed Professional Engineer (Civil and/or Structural) in Kentucky.
- b. A minimum of five (5) years design and/or construction experience on temporary and/or permanent soil nail retaining walls, with experience on a minimum of three (3) projects and at least 600 soil nails or 15,000 ft<sup>2</sup> of wall face, constructed in the past five (5) years.

4.3.1 Project Engineer Experience Requirements - Use an engineer meeting the requirements below to have overall technical responsibility for soil nail wall construction on this project. It is not necessary for the Project Engineer to be on site on a daily basis. Consultants or manufacturers' representatives may not be used to satisfy these requirements. The requirements for the Project Engineer are:

- a. Licensed Professional Engineer in the U.S.
- b. A minimum of five (5) years design and/or construction experience on temporary and/or permanent soil nail retaining walls, with experience on a minimum of three (3) projects and at least 600 soil nails or 15,000 ft<sup>2</sup> of wall face, constructed in the past five (5) years.
- c. An employee of the Soil Nail Wall Contractor.

The Project Engineer and the Wall Design Engineer may be the same person if that person meets all the stated requirements.

4.3.3 On-Site Supervisor Experience Requirements - Use an on-site supervisor (project manager, superintendent, etc.) meeting the requirements below to be responsible for the daily soil nail wall construction activities on this project. Consultants or manufacturers' representatives may not be used to satisfy the requirements of this section. The requirements for the On-Site Supervisor are:

- a. A minimum of five (5) years construction experience on temporary and/or permanent soil nail retaining walls, with experience on a minimum of three (3) projects and at least 600 soil nails or 15,000 ft<sup>2</sup> of wall face, constructed in the past five (5) years.
- b. An employee of the Soil Nail Wall Contractor.

The On-Site Supervisor and the Project Engineer may be the same person if that person meets all the stated requirements. The Department will consider allowing a team of more than one supervisor to satisfy these requirements and perform the associated functions, subject to certain conditions at the discretion of the Engineer. The Department may consider related experience with other similar types of specialty construction.

4.3.4 Shotcrete Nozzlemen and Finishers Experience Requirements - Use shotcrete nozzlemen and finishers meeting the requirements below:

- a. Certification in accordance with the ACI 506.3R "Guide to Certification of Shotcrete Nozzlemen" by an ACI recognized shotcrete testing lab and/or

recognized shotcreting consultant and covering the type of shotcrete to be used (plain wet-mix, plain dry-mix or steel fiber reinforced). Provide proof of ACI certification.

- b. Experience with similar shotcrete application on at least three (3) projects constructed in the past five (5) years, with work totaling at least 5,000 square feet of area.
- 4.3.5 The Engineer may suspend work on the wall if the Contractor substitutes unqualified and/or unapproved personnel or if the personnel are not performing the required duties. If work is suspended due to substitution of unqualified and/or unapproved personnel, the Contractor is fully liable for all costs resulting from the suspension of work. No adjustment in contract time resulting from this suspension of work will be allowed.
- 4.4 Design Calculations and Construction Plans - For each wall, submit electronically in PDF format for review Construction Plans and Design Calculations prepared by or under the supervision of the Wall Design Engineer and signed by the Wall Design Engineer. Submit in the same format revisions to construction plans and design calculations each time corrections are required. In the design calculations and construction plans, show explicit details sufficient to allow an expeditious review of the proposed design and construction procedures. Hard copies of the reviewed and accepted plans and calculations will required as noted in Section 4.4.2. **Submit this information no later than sixty (60) calendar days after receiving Notice to Begin Work.**

Submit any changes or deviations from the Construction Plans for additional review and acceptance. No adjustments in contract time will be allowed due to incomplete submittals. Revise the drawings when plan dimensions are revised due to field conditions, evaluation of verification or proof test results, or for other reasons. Provide revised design calculations signed by the Wall Design Engineer for all design changes made during construction of the wall.

- 4.4.1 Design Calculations - As a minimum, include the following items:
1. A written summary report that describes the overall soil nail wall design.
  2. Applicable code requirements and design references.
  3. Nail wall critical design cross sections geometry including soil/rock strata and location, magnitude, and direction of the design slope or external surcharge loads and piezometric levels.
  4. Design criteria including, soil/rock shear strengths (friction angle and cohesion), unit weights, and ground-grout pullout resistances and nail drill hole diameter assumptions for each soil/rock strata.
  5. Partial safety factors/strength factors (for Service Load Design) used in the design on the pullout resistance, surcharges, soil/rock unit weights, nail head strengths, and steel, shotcrete, and concrete materials. Minimum required global stability soil factor of safety for SLD design.
  6. Seismic design acceleration coefficient.

7. Design calculation sheets with the project number, wall location, designation, date of preparation, initials of designer and checker, and page number at the top of each page. Provide an index page with the design calculations.
8. Design notes including an explanation of any symbols and computer programs used in the design.
9. Nail wall final design cross-sections geometry including soil/rock strata and location, magnitude, and direction of slope or external surcharge loads and piezometric levels with critical slip surface shown along with minimum calculated Global stability soil factor of safety of SLD design and required nail lengths and strengths (nail bar sizes and grades) for each nail row.
10. Structural design calculations for wall facings and nail head/facing connections including consideration of facing flexural and punching shear strength, headed studs tensile strength, upper cantilever, minimum reinforcement ratio, cover and splice requirements.
11. Any other necessary design calculations.

4.4.2 Construction Plans - As a minimum, include the following items:

1. A natural scale plan view of the wall identifying:
  - a. A reference baseline and north arrow.
  - b. The station and offset from the construction centerline or baseline to the face of the wall at its base at all changes in horizontal alignment.
  - c. Beginning and end of wall stations and offsets.
  - d. Right-of-way and permanent or temporary construction easement limits, location of all known active and abandoned existing utilities, adjacent structures or other potential interferences. The centerline of any drainage structure or drainage pipe behind, passing through or passing under the wall.
  - e. Limits of longest nails.
  - f. Subsurface exploration locations shown on a plan view of the proposed wall alignment with appropriate references base lines to fix the locations of the explorations relative to the wall.
2. A natural scale elevation view of the wall identifying:
  - a. The elevation at the top of the wall, at all horizontal and vertical break points, and at least every 25 ft. along the wall.
  - b. Elevations at the wall base and the top of leveling pads for casting CIP facing (if applicable).
  - c. Beginning and end of wall stations and stations of alignment breaks.
  - d. The distance along the face of the wall to all steps in the wall base.
  - e. Wall elevation view showing nail locations and elevations; vertical and horizontal nail spacing; and the location of wall drainage elements and permanent facing expansion/contraction joints (if applicable) along the wall length.
  - f. Existing and finish grade profiles both behind and in front of the wall.
  - g. Elevation Datum

3. Design parameters, including ultimate and allowable nail pullout resistance.
4. General notes for constructing the wall including construction sequencing or other special construction requirements.
5. Horizontal and vertical curve data affecting the wall and wall control points. Match lines or other details to relate wall station to centerline stationing.
6. A summary of quantities of each wall showing estimated square feet of wall face.
7. Nail wall typical section including staged excavation lifts, wall and excavation face batter, nail spacing and inclination, nail bar sizes, and corrosion protection details.
8. A typical detail of production and test nails defining the nail length, minimum drill hole diameter, inclination, test nail bonded and unbonded test lengths and Design Test Loads (DTL's).
9. A soil nail schedule including:
  - a. Soil nail numbers
  - b. Soil nail design loads
  - c. Type, size, and number of bars
  - d. Total nail lengths
  - e. Nail hole diameters
  - f. Angle of nail inclination
  - g. Nail locations and spacing
10. Details, dimensions, and schedules for all nails, reinforcing steel, wire mesh, bearing plates, headed studs, etc. and/or attachment devices for shotcrete, cast-in-place or prefabricated facings.
11. Dimensions and schedules of all reinforcing steel including reinforcing bar bending details.
12. Details and dimensions for wall appurtenances such as barriers, coping, drainage gutters, fences, etc.
13. Details for constructing wall around drainage facilities.
14. Details for terminating wall and adjacent slope construction.
15. Facing finishes, color and architectural treatment requirements (if applicable) for permanent wall facing details.

The Department will complete the review within thirty (30) calendar days of each submittal; the Department will not suspend charging working days for this review period. Insufficient design and/or plan details, as judged by the Engineer, will be cause for withholding acceptance. The Contractor is fully liable for all costs resulting from acceptance being withheld; the Department will not suspend charging working days as the result of not accepting the design, details, or plans. Review and acceptance of the plans by the Engineer is for evidence of work to be performed and does not in any way relieve the Contractor of full responsibility for the design and for successful and satisfactory completion of the work.

After the review is completed and the Engineer accepts the Design Calculations and Construction Plans, furnish the Resident Engineer one full set of accepted

Final Construction Plans in Microstation format (.dgn) using a 36 x 22 inch sheet size, four (4) full sets of accepted Final Construction Plans for the Department's use. Provide a set of the above information plus the accepted Final Design Calculations, stamped and signed by the Soil Nail Wall Design Engineer, electronically in PDF format.

4.5 Construction and Materials Submittals - Submit electronically in PDF format the following. **Submit this information no later than one hundred twenty (120) calendar days after receiving Notice to Begin Work and sixty (60) calendar days prior to beginning wall construction.**

1. The proposed start date and proposed wall construction sequence and schedule including:
  - a. Plan describing how surface water will be diverted, controlled and disposed of.
  - b. Proposed methods and equipment for excavating the soil and/or rock to the staged excavation lifts, including the proposed grade elevations for each excavation lift.
  - c. Measures to ensure wall and slope stability during various stages of wall construction and excavation where discontinuous rows of nails will be installed (if applicable); information on space requirements for installation equipment; temporary shoring plans (if applicable); information on provisions for working in the proximity of underground facilities or utilities (if applicable).
  - d. Proposed nail drilling and grouting methods and equipment including drill hole diameter proposed to achieve the required pullout resistance values and any variation of these along the wall alignment.
2. Grout submittal including:
  - a. type of mixer;
  - b. water/cement ratio;
  - c. type of additives;
  - d. design grout pressure;
  - e. type of cement;
  - f. quantity of flyash;
  - g. mix design;
  - h. design strength of grout; and
  - i. mix verification testing;
3. Certified mill test results for nail bars and couplers from each heat specifying the ultimate strength, yield strength, elongation and composition.
4. Certificates of Compliance for the following materials, if used. Provide certificates stating that the material or assemblies to be provided will fully comply with the contract requirements:
  - a. Nail Centralizers
  - b. Nail Encapsulation
  - c. Bearing Plates
  - d. Nuts

- e. Portland Cement
  - f. Documentation to support any other requirements in the Materials Section of this Special Note.
5. Shotcrete and Drainage submittals including:
- a. Proposed methods of shotcrete placement and of controlling and maintaining facing alignment and location and shotcrete thickness.
  - b. Shotcrete mix design performed by a certified ACI Level II or KRMCA Level II technician including:
    - Type of Portland cement.
    - Aggregate source and gradation.
    - Proportions of mix by weight and water-cement ratio.
    - Proposed admixtures, manufacturer, dosage, technical literature.
    - If prepackaged shotcrete is used, previous strength test results for the same shotcrete mix from the same manufacturer completed within one year of the start of shotcreting may be submitted for initial verification of the required compressive strengths at start of production work.
  - c. Certificates of Compliance, manufacturers' engineering data and installation instructions for the PVC drain piping, drainage geotextile, geocomposite drain strip, drain grate and accessories.
6. Proposed nail testing methods and equipment setup including:
- a. Details of the jacking frame and appurtenant bracing.
  - b. Details showing methods of isolating test nails during shotcrete application (i.e., methods to prevent bonding of the soil nail bar and the shotcrete facing during testing).
  - c. Details showing methods of providing the temporary unbonded length and of grouting the temporary unbonded length of test nails after completion of testing.
  - d. Specific test nail locations including stations and elevations.
  - e. Equipment list.
  - f. Identification number and certified calibration records for each test jack and pressure gauge (calibrated as a unit no more than 12 months prior to use) and load cell to be used.
7. Instrumentation submittals, if required.
8. Any other documentation required to verify that proposed construction procedures and materials fully comply with all requirements in the contract documents.

The Department will complete the review within thirty (30) calendar days after accepting the Design Calculations and Construction plans or within thirty (30) calendar days after receiving each submittal; the Department will not suspend charging working days for this review period. Unacceptable methods or documentation, as judged by the Engineer, will be cause for withholding acceptance. The Contractor is fully liable for all costs resulting from acceptance being withheld; the Department will not suspend charging working days as the result of not accepting the design, details, or plans. Review and acceptance by

the Engineer is for evidence of work to be performed and does not in any way relieve the Contractor of full responsibility for the successful and satisfactory completion of the work.

- 4.6 Soil Nail Wall Pre-Construction Meeting - A Pre-Construction Meeting to discuss soil nail wall construction will be required. This meeting will be held after all soil nail submittals in Sections 4.1, 4.2, 4.3, and 4.4 have been received, reviewed, and accepted by the Department, after the submittals in Section 4.5 have been received by the Department, and at least ten (10) working days prior to the beginning of soil nail construction. The purpose of the meeting is to discuss construction procedures, personnel, and equipment to be used. The following will be expected to attend:
- Representing the Contractor and Subcontractors - Prime Contractor Representative, Soil Nail Wall Design Engineer, Soil Nail Wall Project Engineer, and Soil Nail Wall On-Site Supervisor. Also, representatives of the Excavation Contractor, Shotcreting Contractor, and Surveyor, if different than the Prime or Soil Nail Wall Contractor.
  - Representing the Quality Control Team - QCP Manager and Lead Inspector.
  - Representing the Department - Section Engineer, Central Office Construction Engineer, Geotechnical Branch Representative and others as deemed appropriate by the Section Engineer.

If the Contractor's key personnel change or if the Contractor proposes a significant revision to soil nail construction procedures, additional Soil Nail Pre-Construction meetings may be required at the discretion of the Engineer.

## 5.0 DESIGN

Design the soil nail wall using the design method outlined in FHWA Publication FHWA-NHI-14-007, "GEC 007: Soil Nail Walls Reference Manual", February 2015. Use required partial safety factors, allowable strength factors, and minimum global stability soil factors of safety in accordance with the FHWA GEC 007, unless specified otherwise; critical structure requirements apply. Perform structural design of any individual wall elements not covered in FHWA GEC 007 by the LRFD methods in conformance with appropriate articles of the AASHTO Specifications. Estimated soil/rock design shear strength parameters, slope and external surcharge loads, type of wall facing and facing architectural requirements, soil nail corrosion protection requirements, known utility locations, easements, and right-of-ways will be as shown in the Contract Plans or specified elsewhere in this Special Note.

Refer to the Contract Plans for additional information to be used for the design of the soil nail wall, including: Wall Plan and Elevation Views, Soil Nail Wall Details, and Subsurface Data.

- 5.1 Soil Nail Capacity - Determine the allowable pullout resistance necessary to develop the required design loads using theoretical and empirical methods, and based on evaluation of the subsurface data in the Contract Plans and/or inspection of the site. Verify the desired soil nail capacities in accordance with the Soil Nail Testing and Acceptance Section of this Special Note.
- 5.2 Soil Nail Geometry
- Unless specified in the Contract Plans or elsewhere in this Special Note, provide a minimum soil nail length of 20 ft.
  - Provide a minimum nail hole diameter of 6 inches.
  - Provide a nail inclination of at least 10° but no more than 20°, unless otherwise specified in the Contract Plans or elsewhere in the Special Note.
  - Do not extend the nails beyond the right-of-way or easement limits shown in the Contract Plans.
- 5.3 Corrosion Protection - Provide design and details for Class A Protection (Encapsulation) along with Epoxy Coating meeting ASTM A775/A775M in accordance with FHWA GEC 007.
- 5.4 Structural Hardware - Design structural hardware in accordance with the current edition of the AISC Steel Construction Manual and the current edition of the AASHTO Standard Specifications for Highway Bridges with interims. Where these conflict, AASHTO Specifications with interims govern.
- 5.5 Temporary Shotcrete and Wall Drainage - Design a temporary shotcrete and permanent wall drainage system as shown in the Contract Plans and/or specified elsewhere in this Special Note. The Wall Design Engineer is responsible for providing all necessary details required to successfully construct the temporary shotcrete facing and wall drainage system (including weep drains and/or toe drains as applicable) to satisfy the design intent of the wall. Comply with AASHTO Specifications or the FHWA GEC 007 for any specific items that may not be addressed herein or elsewhere in the Contract Documents.
- 5.6 Wall Alignment - Ensure that the wall is compatible with the horizontal and vertical alignment indicated in the Contract Plans. Survey control is the front face of the wall.
- 5.7 Permanent Facing - Provide permanent shotcrete facing approximately 8 inches thick. The shotcrete shall be finished to provide a smooth surface. Design concrete facing for full loads at final condition (in-place facing and complete construction).
- The minimum concrete cover over reinforcement is 3 inches against temporary shotcrete and 2 inches on the front face. Provide joints and joint materials as shown in the Contract Plans.
- Protrusions beyond the face of the wall are not allowed.
- 5.8 Surface Drainage - Coordinate design of surface drainage above the walls with the wall design.



## 6.0 MATERIALS

Provide materials conforming to the requirements below when the materials are required by the Contract Plans, this Special Note, the Construction Plans, or elsewhere in the Contract Documents.

### 6.1 Soil Nails

- 6.1.1 Solid Bar Nails - AASHTO M31/ASTM A615, Grade 60 or 75, ASTM A722 for Grade 150. Deformed bar, continuous without splices or welds, new, straight, undamaged, and encapsulated. Threaded a minimum of 6 inches on the wall anchorage end to allow proper attachment of bearing plate and nut. Threading may be continuous spiral deformed ribbing provided by the bar deformations (e.g. continuous threadbars) or may be cut into a reinforcing bar. If threads are cut into a reinforcing bar, provide the effective area used for design, at no additional cost. Use mechanical splicers only for nails greater than 40 ft. in length.
- 6.1.2 Bar Couplers - Bar couplers that develop the full ultimate tensile strength of the bar as certified by the manufacturer.
- 6.1.3 Fusion Bonded Epoxy Coating - ASTM A 775, 7-12 mil thickness electrostatically applied. Bend test requirements are waived. Coating at the wall anchorage end of epoxy-coated bars may be omitted over the length provided for threading the nut against the bearing plate.
- 6.1.4 Encapsulation - Minimum 40 mils thick corrugated HDPE tube conforming to AASHTO M252 or corrugated PVC tube conforming to ASTM D1784, Class 13464-B.

### 6.2 Soil Nail Appurtenances

- 6.2.1 Centralizers - Manufactured from Schedule 40 PVC pipe or tube, steel or other material not detrimental to the nail steel (do not use wood); securely attached to the nail bar; sized to position the nail bar within 1 inch of the center of the drill hole; sized to allow tremie pipe insertion to the bottom of the drill hole; and sized to allow grout to freely flow up the drill hole.
- 6.2.2 Nail Grout - Provide Type I or III Portland Cement conforming to ASTM C 150 and Section 801 of the Standard Specifications. Provide fresh cement that does not contain any lumps or other indication of hydration or "pack set." Provide water in the grout that is potable, clean and free of injurious substances, and meets the requirements of Section 803 of the Standard Specifications, except that the chloride content of the water does not exceed 100 ppm.

Provide grout consisting of a pumpable neat mixture of cement and water and is stable (bleed less than 2 percent), fluid, with a minimum 28-day compressive strength of 2000 psi and 1000 psi at 3 days, measured in accordance with ASTM C 109. No later than thirty days prior to beginning grouting operations, submit to the Engineer results of tests performed by an approved laboratory which demonstrate that the proposed grout mixture meets the requirements of this note. Include a graph with this information relating compressive strength of the grout to age covering a range of ages from 24 hours to 28 days.

Add water to the mixer first followed by cement and the admixtures. Mix the grout in mechanical mixing equipment of a type capable of continuous mixing which produce a grout free of lumps and undispersed cement. Auger mixing of the grout is not permitted. Retempering to the grout is not permitted.

<b>Required Grout Physical Properties</b>		
<b>Property</b>	<b>Test Value</b>	<b>Test Method</b>
Water-Cement Ratio	Max. 0.45	-----
28 Day Compressive Strength (Average of 3 cubes)	Min. 2000 psi	ASTM C109
3 Day Compressive Strength (Average of 3 cubes)	Min. 1000 psi	ASTM C109
Expansion	0.5% min 2% max	ASTM C1090

- 6.2.3 Admixtures - Section 802 of the Standard Specifications. Admixtures which control bleed, improve flowability, reduce water content and use retard set in the grout, subject to review and acceptance by the Engineer. Accelerators are not permitted. Expansive admixtures may only be used in grout used for filling sealed encapsulations. Use admixtures compatible with the grout and mixed in accordance with the manufacturer’s recommendations.
- 6.2.4 Film Protection - Polyethylene film per AASHTO M171.

6.3 Bearing Plates, Nuts, and Welded Stud Shear Connectors

- 6.3.1 Bearing Plates - ASTM A36 or ASTM A572 Grade 50.
- 6.3.2 Nuts - AASHTO M291, Class B, hexagonal, fitted with beveled washer or spherical seat to provide uniform bearing.
- 6.3.3 Shear Connectors - AASHTO Construction Specifications, Section 11.3.3.1

6.4 Shotcrete and Wall Drainage Materials

Deliver, store and handle materials to prevent contamination, segregation, corrosion or damage. Store liquid admixtures to prevent evaporation and freezing.

Provide drainage geotextile and geocomposite drain strips in rolls wrapped with a protective covering and stored in a manner which protects the fabric from mud, dirt, dust, debris, and shotcrete rebound. Do not remove protective wrapping until immediately

before the geotextile or drain strip is installed. Avoid extended exposure to ultra-violet light. Label each roll of geotextile or drain strip in the shipment to identify the production run.

Cement	Section 801, Type I, II, III or IV
Fine Aggregate	Section 804, Concrete Sand
Coarse Aggregate	Section 805, No. 11
Water	Section 803
Chemical Admixtures:	
Accelerator	Section 802, Fluid type, applied at nozzle
Water-reducer and Superplasticizer	Section 802
Retarders	Section 802
Mineral Admixtures:	
Fly Ash	Section 844, Cement replacement up to 35% by weight of cement
Silica Fume	Section 844, 90% minimum silicon dioxide solids content, not to exceed 12% by weight of cement
Welded Steel Wire Fabric	Section 811/AASHTO M55
Reinforcing Bars for Shotcrete Facing	Section 811, Grade 60, deformed
Bearing Plates	ASTM A36 or ASTM A572 Grade 50
Nuts	AASHTO M291, Class B, hexagonal, fitted with beveled washer or spherical seat to provide uniform bearing
Prepackaged Shotcrete	ASTM C928
Toe Drain Geotextile	Section 843, Type II
Drainage Aggregate	Section 805.08, with no more than 2% passing the No. 200 sieve
Geocomposite Drain Strip	Amerdrain 500 or approved equal
Film Protection	Polyethylene films per AASHTO M-171
PVC Connector and Drain Pipes:	
Pipe	ASTM 1785 Schedule 40 PVC, solid and perforated wall, cell classification 12454-B or 12354-C, wall thickness SDR 35, with solvent weld or elastomeric gasket joints
Fittings	ASTM D3034, cell classification 12454-B or 12454-C, wall thickness SDR35, with solvent weld or elastomeric gasket joints
Solvent Cement	ASTM D2564
Primer	ASTM F656
<b>Section References are in the Kentucky Standard Specifications, Current Edition</b>	

6.4.1 Shotcrete Mix Design - Use shotcrete complying with the requirements of ACI 506.2, "Specifications for Materials, Proportioning and Application of Shotcrete", except as otherwise specified. The Contractor must receive notification from the

Engineer that the proposed mix design and method of placement are acceptable before shotcrete placement can begin.

6.4.1.1 Proportioning and Use of Admixtures - Proportion the shotcrete to be pumpable with the concrete pump furnished for the work, with a cementing materials content of at least 650 lb/cy and water/cement ratio not greater than 0.50. Do not use admixtures unless approved by the Engineer. Thoroughly mix admixtures into the shotcrete at the rate specified by the manufacturer. Use only accelerators compatible with the cement used, non-corrosive to steel, and not promoting other detrimental effects such as cracking or excessive shrinkage. The maximum allowable chloride ion content of all ingredients is 0.10% when tested to AASHTO T260.

6.4.1.2 Air Entrainment - Air entrainment is not required for temporary shotcrete construction facings.

6.4.1.3 Strength Requirements - Provide shotcrete with a compressive strength of 2000 psi in 3 days and 4000 psi in 28 days. The average compressive strength of each set of three test cores extracted from test panels or wall face must equal or exceed 85 percent of the specified compressive strength, with no individual core less than 75 percent of the specified compressive strength, in accordance with ACI 506.2.

6.4.1.4 Mixing and Batching - Batch aggregate and cement by weight or by volume in accordance with the requirements of ASTM C94 or AASHTO M241/ASTM C685. Use mixing equipment that thoroughly blends the materials in sufficient quantity to maintain placing continuity. Produce ready mix shotcrete complying with AASHTO M157. Batch, deliver, and place shotcrete within 90 minutes of mixing. The use of retarding admixtures may extend application time beyond 90 minutes if approved by the Engineer.

Premixed and packaged shotcrete mix may be provided for on-site mixing. Use packages containing materials conforming to the Materials Section. Placing time limit after mixing is per the manufacturers' recommendations.

6.4.2 Field Quality Control - Production test panels or test cores from the wall facing are required. Perform shotcreting and coring of test panels using qualified personnel in the presence of the Engineer. Provide equipment, materials, and personnel as necessary to obtain shotcrete cores for testing including construction of test panel boxes, field curing requirements and coring. Shotcrete final acceptance will be based on the 28-day strength.

Begin shotcrete production work only upon initial approval of the design mix and nozzle men and continue if the specified strengths are obtained. The shotcrete work by a crew will be suspended if the test results for their work do not satisfy the strength requirements. Change all or some of the following: the mix, the crew, the

equipment, or the procedures. Before resuming work, the crew must shoot additional test panels and demonstrate that the shotcrete in the panels satisfies the specified strength requirements. Provide all work required to obtain satisfactory strength tests at no additional cost to the Department.

6.4.2.1 Production Test Panels - Furnish at least one production test panel or, in lieu of production test panels, six 3 inch diameter cores taken from the shotcrete facing, during the first production application of shotcrete and henceforth for every 5000 ft<sup>2</sup> of shotcrete placed. Construct the production test panels simultaneously with the shotcrete facing installation at times designated by the Engineer. Make production test panels with minimum dimensions of 18x18inches square and at least 4 inches thick.

6.4.2.2 Test Panel Curing, Test Specimen Extraction and Testing - Immediately after shooting, field moist cure the test panels by covering and tightly wrapping with a sheet of material meeting the requirements of ASTM C171 until they are delivered to the testing lab or test specimens are extracted. Do not immerse the test panels in water. Do not further disturb test panels for the first 24 hours after shooting. Provide at least six 3 inch diameter core samples cut from each preconstruction test panel and production test panel. Contractor has the option of extracting test specimens from test panels in the field or transporting to another location for extraction. Keep panels in their forms when transported. Do not take cores from the outer 6 inches of test panels measured in from the top outside edges of the panel form. Trim the ends of the cores to provide test cylinders at least 3 inches long. If the Contractor chooses to take cores from the wall face in lieu of making production test panels, the Engineer will designate locations. Clearly mark the cores and container to identify the core locations and whether they are for preconstruction or production testing. If for production testing, mark the section of the wall represented by the cores on the cores and container. Immediately wrap cores in wet burlap or material meeting requirements of ASTM C171 and seal in a plastic bag. Deliver cores to the testing lab within 48 hours of shooting the panels. The remainder of the panels will become the property of the Contractor. Upon delivery to the testing lab, place the samples in the moist room until the time of test. When the test length of a core is less than twice the diameter, apply the correction factors given in AASHTO T24/ASTM C42 to obtain the compressive strength of individual cores. Test three cores will be tested at 3 days and three cores at 28 days in accordance with AASHTO T24/ASTM C42.

Fill core holes in the wall by dry-packing with non-shrink patching mortar after the holes are cleaned and dampened. Do not fill core holes with shotcrete.

## 6.5 Permanent Facing

6.5.1 6.5.2 Shotcrete - Conform to the requirements of Section 6.4 of this Special Note.

6.5.4 6.5.4 Reinforcing Steel - Conform to the Standard Specifications. Epoxy coating is not required.

6.6 Materials Handling and Storage - Comply with the Standard Specifications and the items below:

1. Do not move or transport encapsulated nails until the encapsulation grout has reached sufficient strength to resist damage during handling.
2. Handle encapsulated nails in a manner that will prevent large deflections, distortions or damage.
3. Repair encapsulated nails that are damaged or defective in accordance with the manufacturer's recommendations or remove them from the site.

## 7.0 MATERIALS TESTING AND ACCEPTANCE

7.1 Materials Sampling and Testing will be in accordance with Section 106 of the Standard Specifications, the Department's current "Kentucky Methods", the current "Manual of Field Sampling and Testing Practices", and other referenced documents.

7.2 Use only materials accepted by the Department before use. The Engineer may suspend work on the wall if the Contractor does not have acceptance of materials to be used and there is no other work on the wall that may be done. If work is suspended due to lack of material acceptance, the Contractor is fully liable for additional cost from the suspension of work. No additional contract time resulting from the suspension of work will be allowed.

## 8.0 CONSTRUCTION

Construct the wall(s) according to the Contract Plans, Construction Plans, the Standard Specifications, and the requirements below. In all cases, provide materials conforming to the Materials Section of this Special Note.

8.1 Excavation - ***Coordinate the work so the soil nail wall is safely constructed.*** Perform the wall construction sequence in accordance with the Construction Plans. Proceed in stages exposing the minimum amount of soil or rock face that will allow the practical and expeditious application of the shotcrete and the installation of soil nails while assuring stability of the face and minimizing ground movements. Where needed limit excavation in front of walls to 2 ft. below any soil nail until that nail has been completed and tested (if applicable). Leave temporary excavation lifts open no more than 24 hours without the temporary shotcrete facing or nails installed. After temporary shotcrete has been applied, excavate the next lift only after the shotcrete strength reaches 2000 psi .

8.2 Drilling - Drill holes for soil nails at the locations shown in the Construction Plans. Use drilling methods and soil nail lengths necessary to develop adequate load capacity to satisfy testing acceptance criteria for the design load required, but not less than the lengths and diameters shown on the Construction Plans. It is the Contractor's responsibility to choose drilling methods that will maintain open drill holes and that do not promote mining or loosening of the soil at the perimeter of

the drill hole or fracture soil with weak stratification planes by use of high flush volumes and pressures. At the ground surface, locate the drill hole within 6 inches of the location shown on the Construction Plans. At the point of entry, angle the nail within plus or minus 3° of that shown on the Construction Plans. Do not extend the nails beyond the right-of-way or easement limits shown in the Contract Plans provided in the contract documents.

8.3 Nail Installation - Place centralizers as shown in the Construction Plans as necessary for corrosion protection.

8.4 Grouting - Provide grouting equipment capable of continuous mixing and producing a grout free of lumps. Place nails in each drilled hole either prior to grouting or within 15 minutes of the grout injection. Grout until the hole is completely filled with grout and clean grout is seen to run from the top of the hole. Accomplish mortar packing and secondary grouting to the wall face as soon as practical after nail installation. Provide secondary grouting to the small ungrouted zone at the face and place a bearing plate over the bar and dry pack with cement or a cement mortar to provide even bearing against the shotcrete face.

Test grout according to AASHTO T106/ASTM C109 at a frequency of no less than one test every 50 CY of grout placed. Provide grout cube test results to the Engineer within 24 hours of testing.

8.5 Shotcrete and Wall Drainage - Shotcrete facing and wall drainage work consists of furnishing all materials and labor required for placing and securing geocomposite drainage material, connection pipes, weepholes and horizontal drains (if required), drainage gutter, reinforcing steel, shotcrete for the temporary shotcrete construction facing, nail head bearing plates and nuts, and permanent shotcrete facing for the soil nail walls. The Work includes any preparatory trimming and cleaning of existing soil, rock, or wall surfaces and shotcrete cold joints to receive new shotcrete.

Use shotcrete complying with the requirements of ACI 506.2, "Specifications for Materials, Proportioning and Application of Shotcrete", except as otherwise specified. Shotcreting consists applying of one or more layers of concrete conveyed through a hose pneumatically projected at a high velocity against a prepared surface.

Produce shotcrete by either a wet-mix or dry-mix process. The wet-mix process consists of thoroughly mixing all the ingredients except accelerating admixtures, but including the mixing water, introducing the mixture into the delivery equipment and delivering it, by positive displacement, to the nozzle. Air jet the wet-mix shotcrete from the nozzle at high velocity onto the surface. The dry-mix process consists of shotcrete without mixing water that is conveyed through the hose pneumatically with the mixing water introduced at the nozzle. For additional descriptive information, refer to the American Concrete Institute ACI 506R "Guide to Shotcrete."

All temporary shotcrete and wall drainage construction is incidental to the Contract Unit Bid Price for "Soil Nail Wall" per "Square Foot".

- 8.6 Wall Drainage Network - Install and secure all elements of the wall drainage network as shown in the Construction Plans, specified herein, or as required to suit the site conditions. Install geocomposite drain strips and PVC connection pipes as shown on the Construction Plans. Install all elements of the drainage network prior to shotcreting. Capture unanticipated subsurface drainage features exposed in the excavation cut face independently of the wall drainage network and mitigate prior to shotcrete application.
- 8.6.1 Geocomposite Drain Strips - Install geocomposite drain strips centered between offset nail columns as shown in the Construction Plans. The maximum horizontal spacing between drain strips is 5 feet. Use drain strips at least 12 inches wide and place the geotextile side against the ground. Secure the strips to the excavation face and prevent shotcrete from contaminating the ground side of the geotextile. Install vertically continuous drain strips. Make splices with a 12 inch minimum overlap such that the flow of water is not impeded. Repair damage to the geocomposite drain strip, which may interrupt the flow of water.
- 8.6.2 Toe Drains - If required, install toe drains at the bottom of each wall. Wrap the drainage geotextile around the toe drain aggregate and pipe and conform to the dimensions of the trench. Conform to Section 214 of the Standard Specifications for Geotextile Construction. Overlap the drainage geotextile on top of the drainage aggregate as shown in the Construction Plans. Replace or repair damaged or defective drainage geotextile at no cost to the Department.
- 8.6.3 Connection Pipes and Weepholes - Install connection pipes as shown in the Construction Plans. Connection pipes are lengths of solid PVC pipe installed to direct water from the geocomposite drain strips to the exposed face of the wall. Connect the connection pipes to the drain strips using either prefabricated drain grates as shown in the Construction Plans or using the alternate connection method described below. Install the drain grate per the manufacturer's recommendations. Seal the joint between the drain grate and the drain strip and the discharge end of the connector pipe to prevent shotcrete intrusion.

The alternative acceptable method for connection of the connector pipe to the drain strip involves cutting a hole slightly larger than the diameter of the pipe into the strip plastic core but not through the geotextile. Wrap both ends of the connection pipe in geotextile in a manner that prevents migration of fines through the pipe. Tape or seal the inlet end of the pipe where it penetrates the drain strip and the discharge end of the connector pipe in a manner that prevents penetration of shotcrete into the drain strip or pipe. To assure passage of groundwater from the drain strip into the connector pipe, slot the inlet end of the connector pipe at every 45 degrees around the perimeter of the pipe to a depth of ¼ inch.



Provide weepholes, if required, through the construction facing to drain water from behind the facing. Install as shown in the Construction Plans. Use PVC pipe to form the weephole through the shotcrete. Cover the end of the pipe contacting the soil with a drainage geotextile. Prevent shotcrete intrusion into the discharge end of the pipe.

## 8.7 Shotcrete Facing

- 8.7.1 Shotcrete Alignment and Thickness Control - Ensure that the minimum thickness of shotcrete that shown in the Construction Plans, using shooting wires, thickness control pins, or other devices acceptable to the Engineer. Install thickness control devices normal to the surface such that they protrude the required shotcrete thickness outside the surface. Ensure that the front face of the shotcrete does not extend beyond the limits shown in the Construction Plans.
- 8.7.2 Surface Preparation - Clean the face of the surfaces to be shotcreted of loose materials, mud, rebound, overspray or other foreign matter that could prevent or reduce shotcrete bond. Protect adjacent surfaces from overspray during shooting. Avoid loosening, cracking, or shattering the ground during excavation and cleaning. Remove any surface material that is so loosened or damaged, to a sufficient depth to provide a base that is suitable to receive the shotcrete. Remove material that loosens as the shotcrete is applied. The cost of additional shotcrete is incidental to the work. Divert water flow and remove standing water so that shotcrete placement will not be detrimentally affected by standing water. Do not place shotcrete on frozen surfaces.
- 8.7.3 Delivery and Application - Maintain a clean, dry, oil-free supply of compressed air sufficient for maintaining adequate nozzle velocity at all times. Use equipment capable of delivering the premixed material accurately, uniformly, and continuously through the delivery hose. Control shotcrete application thickness, nozzle technique, air pressure, and rate of shotcrete placement to prevent sagging or sloughing of freshly-applied shotcrete.

Apply the shotcrete from the lower part of the area upward to prevent accumulation of rebound. Orient nozzle at a distance and approximately perpendicular to the working face so that rebound will be minimal and compaction will be maximized. Pay special attention to encapsulating reinforcement. Do not work rebound back into the construction. Where shotcrete is used to complete the top ungrouted zone of the nail drill hole near the face, position the nozzle into the mouth of the drill hole to completely fill the void.

A clearly defined pattern of continuous horizontal or vertical ridges or depressions at the reinforcing elements after they are covered with shotcrete will be considered an indication of insufficient reinforcement cover or poor nozzle techniques. In this case immediately suspend the application of shotcrete and implement corrective measures before resuming the shotcrete operations. Correct the shotcreting procedure by adjusting the nozzle distance and orientation, by insuring adequate cover over the reinforcement, by adjusting the water content of the shotcrete mix

or other means. Adjustment in water content of wet-mix will require requalifying the shotcrete mix.

- 8.7.4 Defective Shotcrete - Repair shotcrete surface defects as soon as possible after placement. Remove and replace shotcrete that exhibits segregation, honeycombing, lamination, voids, or sand pockets. In-place shotcrete not meeting the specified strength requirement will be subject to remediation. Possible remediation options include placement of additional shotcrete thickness or removal and replacement, at no additional cost to the Department.
- 8.7.5 Construction Joints - Taper construction joints uniformly toward the excavation face over a minimum distance equal to the thickness of the shotcrete layer. Provide a minimum reinforcement overlap at reinforcement splice joints as shown in the Construction Plans. Clean and wet the surface of a joint before adjacent shotcrete is applied. Where shotcrete is used to complete the top ungrouted zone of the nail drill hole near the face, to the maximum extent practical, clean and dampen the upper grout surface to receive shotcrete, similar to a construction joint.
- 8.7.6 Finish - Use a screeded shotcrete finish. Rough gun finishes are not allowed.
- 8.7.7 Attachment of Nail Head Bearing Plate and Nut - Attach a bearing plate and nut to each nail head as shown on the Construction Plans. While the shotcrete is still plastic and before its initial set, uniformly seat the plate on the shotcrete by hand wrench tightening the nut. Where uniform contact between the plate and the shotcrete cannot be provided, set the plate in a bed of grout. After grout has set for 24 hours, tighten the nut using a hand wrench. Ensure bearing plates with headed studs are in intimate contact with the construction facing and the studs are located within the tolerances shown in the Construction Plans or specified herein.
- 8.7.8 Weather Limitations - Protect the shotcrete if it must be placed when the ambient temperature is below 32°F and falling or when it is likely to be subjected to freezing temperatures before gaining sufficient strength. Maintain cold weather protection until the in-place compressive strength of the shotcrete is greater than 700 psi. Cold weather protection includes blankets, heating under tents, or other means acceptable to the Engineer. Deposit the shotcrete mix at a temperature of not less than 50°F or more than 95°F.

Suspend shotcrete application during high winds and heavy rains unless suitable protective covers, enclosures or wind breaks are installed. Remove and replace newly placed shotcrete exposed to rain that washes out cement or otherwise makes the shotcrete unacceptable. Provide a polyethylene film or equivalent to protect the work from exposure to adverse weather.

- 8.7.9 Curing - Curing is not required for temporary construction facings to be covered by a CIP facing or whose service life is less than 36 months.

8.7.10 Construction Facing Tolerances

<b>Construction Tolerances for Shotcrete Construction Facing</b>	
Horizontal Location of Wire Mesh; Rebar; Headed Studs on Bearing Plates, from Plan location	+/- 0.6 inch
Headed studs location on bearing plate, from plan location	0.25 inch
Spacing between reinforcing bars, from plan dimension	1 inch
Reinforcing lap, from specified dimension	1 inch
Thickness of shotcrete	0.4 inch
Nail head bearing plate, deviation from parallel to wall face	10 degrees

8.7.11 Safety Requirements - Equip nozzlemen and helpers with gloves, eye protection, and adequate protective clothing during the application of shotcrete. The Contractor is responsible for meeting all federal, state and local safety code requirements.

8.8 Backfilling Behind Wall Facing Upper Cantilever - If possible, compact backfill within 3 ft. behind the wall facing upper cantilever using light mechanical tampers.

8.9 Wall Alignment and Permanent Facing - Ensure that the wall is compatible with the horizontal and vertical alignment indicated in the Contract Plans. Survey control is the front face of the wall. Construct the exposed face of the wall to be straight and smooth with no discontinuities. Protrusions beyond the face of the walls are not allowed. Completely fill any voids between the temporary and permanent facing with shotcrete or grout.

8.10 Site Drainage Control - Provide positive control and discharge of all surface water that will affect construction of the soil nail retaining wall. Maintain all pipes or conduits used to control surface water during construction. Repair damage caused by surface water at no additional cost. Upon substantial completion of the wall, remove surface water control pipes or conduits from the site. Alternatively, with the approval of the Engineer, pipes or conduits that are left in place, may be fully grouted and abandoned or left in a way that protects the structure and all adjacent facilities from migration of fines through the pipe or conduit and potential ground loss.

If water is used in the drilling operation, dispose of the water in such a manner that erosion in the vicinity of the wall is minimized. Comply with Kentucky Division of Water requirements for discharge of water into streams. The Contractor is cautioned against the indiscriminate use of water that could create unstable slopes above and/or below the wall. Immediately repair any damage to the site by water or erosion at no cost to the Department.

## 9.0 SOIL NAIL TESTING AND ACCEPTANCE REQUIREMENTS

- 9.1 General - Perform both verification and proof testing on designated test nails and record required nail test data. Perform nail testing after the nail grout and shotcrete facing have cured for at least 72 hours and attained at least their specified 3-day compressive strength. Perform testing in less than 72 hours only if compressive strength test results, for tests performed verifies that the nail grout and shotcrete mixes being used will provide the specified 3-day compressive strengths in less time.

Specified test nail locations and/or testing frequencies are provided in an Appendix to this Special Note.

Test each production nail designated for testing within 21 calendar days of installation and provide a written summary of the test results to the Engineer within 7 calendar days after each test; include the following:

1. bonded and unbonded lengths
2. jacking length
3. bar size and area

**Failure to begin testing within the specified time and/or failure to meet the submittal deadlines for nail test results may result in the Engineer suspending soil nail installation.**

The Department will not make separate payment for the testing required in this section. All testing required in this section is included in the price of the wall(s).

- 9.2 Testing Equipment - Testing equipment includes 2 dial gauges, dial gauge support, jack and pressure gauge, electronic load cell, and a reaction frame. The load cell is required only for the creep test portion of the verification test. Provide a description of test setup and jack, pressure gauge and load cell calibration curves in accordance with the submittals section of this Special Note.

Design the testing reaction frame to be sufficiently rigid and of adequate dimensions such that excessive deformation of the testing equipment does not occur. If the reaction frame will bear directly on the shotcrete facing, design it to prevent cracking of the shotcrete. Independently support and center the jack over the nail bar so that the bar does not carry the weight of the testing equipment. Align the jack, bearing plates, and stressing anchorage with the bar such that unloading and repositioning of the equipment will not be required during the test.

Apply and measure the test load with a hydraulic jack and pressure gauge. Use a pressure gauge graduated in 75 psi increments or less. Use a jack and pressure gauge with a pressure range not exceeding twice the anticipated maximum test pressure. Use a jack with a ram travel no less than 125% of the anticipated maximum movement and sufficient travel to allow the test to be done without

resetting the equipment. Monitor the nail load during verification tests with both the pressure gauge and the load cell. Use the load cell to maintain constant load hold during the creep test load hold increment of the verification test.

Measure the nail head movement with a minimum of 2 dial gauges capable of measuring to 0.001 inch. Use a dial gauge with a travel no less than 125% of the anticipated maximum movement and travel sufficient to allow the test to be done without having to reset the gauge. Visually align the gauge to be parallel with the axis of the nail and support the gauge independently from the jack, wall or reaction frame. Use two dial gauges when the test setup requires reaction against a soil cut face.

- 9.3 Verification Testing of Sacrificial Test Nails - Perform verification testing of sacrificial test nails to verify the installation methods and design nail pullout resistance. Sacrificial test nails will not be incorporated as production nails. Perform verification tests to failure, or no less than 3.0 times the allowable pullout resistance. Bare bars can be used for the sacrificial verification test nails.

Develop and submit the details of the verification testing arrangement including the method of distributing test load pressures to the excavation surface (reaction frame), test nail bar size, grouted drill hole diameter and reaction frame dimensioning to the Engineer for approval in accordance with the Construction Submittals section. Construct verification test nails using the same equipment, installation methods, nail inclination, and drill hole diameter as planned for the production nails. Changes in the drilling or installation method may require additional verification testing as determined by the Engineer at no additional cost to the Department.

Use test nails with both bonded and temporary unbonded lengths. Prior to testing, grout only the bonded length of the test nail. Use a temporary unbonded length of at least 3 ft. Determine the bonded length of the test nail based on the production nail bar grade and size such that the allowable bar structural load is not exceeded during testing; use a bonded length not less than 10 ft. The maximum allowable bar structural load during testing is 90% of the yield strength for Grade 60 and Grade 75 bars, or 80% of the ultimate strength for Grade 150 bars. Provide larger verification test bar sizes, if required to safely accommodate the 10 ft. minimum test bond length and test to failure, at no additional cost to the Department.

Use the following equation for determining the verification test nail maximum bonded length to be used to avoid structurally overstressing the verification test nail bar size:

$$L_{BV} = (C f_Y A_S) / (3 Q_d), \text{ or } 10 \text{ ft.}, \text{ whichever is greater.}$$

$L_{BV}$  = Maximum Verification Test Nail Bonded Length (ft.)

C = 0.9 for Grade 60 and 75 bars and 0.8 for Grade 150 bars

- $f_Y$  = Bar Yield or Ultimate Stress (ksi)  
( $f_Y$  = 60, 75, and 150 ksi, respectively, for Grade 60, 75 and 150 bars)
- $A_S$  = Bar Steel Area (in<sup>2</sup>)
- 3 = Factor of Safety against tensile failure during a Verification Test
- $Q_d$  = Allowable pullout resistance (kips/ft., kips per linear foot of grouted nail lengths specified in the Construction Plans)

Determine the Design Test Load (DTL) during verification testing by the following equation:

$$DTL = \text{Design Test Load (kips)} = L_{BV} \times Q_d$$

- $L_{BV}$  = As-built bonded test length (ft.)
- $Q_d$  = Allowable pullout resistance (kips/ft., kips per linear foot of grouted nail length specified in the Construction Plans)

$$MTL = 3.0 \times DTL = \text{Maximum Test Load (kips)}$$

Incrementally load verification test nails to failure or a maximum test load of 300 percent of the Design Test Load (DTL) in accordance with the following loading schedule. Record the soil nail movements at each load increment.

<b>Verification Test of Sacrificial Nails Loading Schedule</b>		
<b>Step</b>	<b>Load</b>	<b>Hold Time</b>
1	AL (0.05 DTL max.)	1 minute
2	0.25 DTL	10 minutes
3	0.50 DTL	10 minutes
4	0.75 DTL	10 minutes
5	1.00 DTL (Creep Test)	30 minutes
6	1.25 DTL (Creep Test)	60 minutes
7	1.50 DTL (Creep Test)	300 minutes
8	1.75 DTL	10 minutes
9	2.00 DTL	10 minutes
10	2.50 DTL or Failure	10 minutes max.
11	3.00 DTL or Failure	10 minutes max.
12	AL (0.05 DTL max.)	1 minute (record permanent set)
AL – Alignment Load, DTL – Design Test Load		

The alignment load (AL) should be the minimum load required to align the testing apparatus and should not exceed 5 percent of the Design Test Load (DTL). Dial

gauges should be set to "zero" after the alignment load has been applied. Following application of the maximum test load (3.0 DTL) reduce the load to the alignment load (0.05 DTL maximum) and record the permanent set.

Hold each load increment for at least 10 minutes. Monitor the verification test nail for creep at the 1.00 DTL, 1.25 DTL, and 1.50 DTL load increments. Measure and record nail movements during the creep portion of the test (as applicable) at 1 minute, 2, 3, 5, 6, 10, 15, 20, 25, 30, 45, 60, 75, 90, 100, 150, 180, 210, 240, 270, and 300 minutes. Maintain the load during the creep test within 2 percent of the intended load by use of the load cell.

9.4 Verification Testing of Production Nails - Perform verification testing of production nails using the same procedures as for verification testing of sacrificial nails with the following exceptions:

1. The specified corrosion protection is required (bare bars are not allowed).
2. The Maximum Test Load is 2.00 DTL.
3. Creep testing is required only at a load of 1.50 DTL and the creep portion of the test is 60 minutes.

<b>Verification Test of Production Nails Loading Schedule</b>		
<b>Step</b>	<b>Load</b>	<b>Hold Time</b>
1	AL (0.05 DTL max.)	1 minute
2	0.25 DTL	10 minutes
3	0.50 DTL	10 minutes
4	0.75 DTL	10 minutes
5	1.00 DTL	10 minutes
6	1.25 DTL	10 minutes
7	1.50 DTL (Creep Test)	60 minutes
8	1.75 DTL	10 minutes
9	2.00 DTL	10 minutes
10	AL (0.05 DTL max.)	1 minute (record permanent set)
AL – Alignment Load, DTL – Design Test Load		

Hold each load increment for at least 10 minutes. Monitor the verification test nail for creep at the 1.50 DTL load increment. Measure and record nail movements during the creep portion of the test at 1 minute, 2, 3, 5, 6, 10, 20, 30, 50, and 60 minutes. Maintain the load during the creep test within 2 percent of the intended load by use of the load cell.

9.5 Proof Testing of Production Nails - Provide temporary unbonded lengths for each test nail. Isolate the test nail bar from the shotcrete facing and/or the reaction frame used during testing. Isolation of a test nail through the shotcrete facing will not

affect the location of the reinforcing steel under the bearing plate. Submit the proposed test nail isolation methods, methods for providing an unbonded test length and methods for grouting the unbonded length subsequent to testing to the Engineer in accordance with the Construction Submittals section. Where temporary casing of the unbonded length of test nails is provided, install the casing in a way that prevents any reaction between the casing and the grouted bond length of the nail and/or the stressing apparatus.

Use production proof test nails with both bonded and temporary unbonded lengths. Prior to testing grout only the bonded length of the test nail. The minimum temporary unbonded length of the test nail is 3 ft. Determine the bonded length of the test nail based on the production nail bar grade and size such that the allowable bar structural load is not exceeded during testing. The maximum allowable bar structural load during testing is 90 percent of the yield strength for Grade 60 and Grade 75 bars, or 80 percent of the ultimate strength for Grade 150 bars.

Use the following equation for sizing the proof test nail bonded length to avoid overstressing the production nail bar size:

$$L_{BP} = (C f_Y A_S) / (1.5 Q_d), \text{ or } 10 \text{ ft.}, \text{ whichever is greater. } *$$

$L_{BP}$  = Maximum Proof Test Nail Bonded Length (ft.)

$C$  = 0.9 for Grade 60 and 75 bars and 0.8 for Grade 150 bars

$f_Y$  = Bar Yield or Ultimate Stress (ksi)

( $f_Y$  = 60, 75, and 150 ksi, respectively, for Grade 60, 75 and 150 bars)

$A_S$  = Bar Steel Area (in<sup>2</sup>)

1.5 = Factor of Safety against tensile failure during a Proof Test

$Q_d$  = Allowable pullout resistance (kips/ft., kips per linear foot of grouted nail length specified in the Construction Plans)

\* Production proof test nails shorter than 12 ft. in length may be constructed with less than the minimum 10 ft. bond length; however the unbonded length is limited to 3 ft.

Determine the Design Test Load (DTL) during verification testing by the following equation:

$$DTL = \text{Design Test Load (kips)} = L_{BP} \times Q_d$$

$L_{BP}$  = As-built bonded test length (ft.)

$Q_d$  = Allowable pullout resistance (kips/ft., kips per linear foot of grouted nail length specified in the Construction Plans)



MTL = 1.5 x DTL = Maximum Test Load (kips)

Perform proof tests by incrementally loading the proof test nail to a maximum test load of 150 percent of the Design Test Load (DTL). Measure and record the nail movement at each load in the same manner as for verification tests. Monitor the test load by a jack pressure gauge with a sensitivity and range meeting the requirements of pressure gauges used for verification test nails. At load increments other than maximum test load, hold the load long enough to obtain a stable reading. Apply incrementally loads in accordance with the following loading schedule. Record the soil nail movements at each load increment.

<b>Proof Test Loading Schedule</b>		
<b>Step</b>	<b>Load</b>	<b>Hold Time</b>
1	AL (0.05 DTL max.)	Until Stable
2	0.25 DTL	Until Stable
3	0.50 DTL	Until Stable
4	0.75 DTL	Until Stable
5	1.00 DTL	Until Stable
6	1.25 DTL	Until Stable
7	1.50 DTL (Max Test Load)	Creep Test (See Below)
AL – Alignment Load, DTL – Design Test Load		

The alignment load (AL) should be the minimum load required to align the testing apparatus and should not exceed 5 percent of the Design Test Load (DTL). Dial gauges should be set to "zero" after the alignment load has been applied.

Start the creep tests as soon as the maximum test load (1.50 DTL) is applied. Depending on performance, perform either 10 minute or 60 minute creep tests at the maximum test load (1.50 DTL). Start the creep period as soon as the maximum test load is applied and measure and record the nail movement at 1 minute, 2, 3, 5, 6, and 10 minutes. Where the nail movement between 1 minute and 10 minutes exceeds 0.04 inches, maintain the maximum test load an additional 50 minutes and record movements at 20 minutes, 30, 50, and 60 minutes. Maintain all load increments within 5 percent of the intended load.

9.6 Test Nail Acceptance Criteria - A test nail is considered acceptable when all of the following criteria are met:

1. For verification tests on sacrificial nails, a total creep movement of less than 0.08 inches per log cycle of time over the final log cycle of time of each load increment (between 3 and 30 minutes for 1.00 DTL, 6 and 60 minutes for 1.25 DTL, 30 and 300 minutes for 1.50 DTL) and the creep rate is linear or decreasing throughout the creep test load hold period.

2. For verification tests on production nails, a total creep movement of less than 0.08 inches between the 6 and 60 minute readings is measured during creep testing and the creep rate is linear or decreasing throughout the creep test load hold period.
3. For proof tests, a total creep movement of less than 0.04 inches is measured between the 1 and 10 minute readings, or a total creep movement of less than 0.08 inches is measured between the 6 and 60 minute readings and the creep rate is linear or decreasing throughout the creep test load hold period.
4. For verification tests, the total measured movement at 2.0 x DTL exceeds 80% of the theoretical elastic elongation of the test nail unbonded length.
5. For proof tests, the total measured movement at 1.5 x DTL exceeds 80% of the theoretical elastic elongation of the test nail unbonded length.
6. A pullout failure does not occur prior to or at 2.0 x DTL during verification testing of sacrificial or production nails or 1.5 x DTL during proof testing. Pullout failure is defined as the load at which attempts to further increase the test load simply result in continued pullout movement of the test nail. Record the pullout failure load as part of the test data.

Successful verification or proof tested production nails meeting the above test acceptance criteria may be incorporated as production nails, provided that (1) the unbonded length of the test nail drill hole has not collapsed during testing, (2) the minimum required drill hole diameter has been maintained, (3) the specified corrosion protection is provided, and (4) the test nail length is equal to or greater than the scheduled production nail length. Complete test nails meeting these requirements by satisfactorily grouting up the unbonded test length. Maintain the temporary unbonded test length for subsequent grouting. If the unbonded test length of production proof test nails cannot be satisfactorily grouted subsequent to testing, replace with an additional production nail installed at no additional cost.

9.7 Test Nail Rejection - If a test nail does not satisfy the acceptance criterion, the Engineer will implement the procedures below.

1. For Verification Tests on Sacrificial Nails, the Engineer will evaluate the results of each verification test and will reject installation methods that do not satisfy the nail testing requirements. Propose alternative methods and install replacement verification test nails. Install and test replacement test nails at no additional cost to the Department and with no extension of contract time. The Engineer may require the Contractor to replace some or all of any production nails installed prior to acceptance of Sacrificial Nails; alternatively, the Engineer may require additional verification or proof tests on these production nails.
2. For Verification or Proof Tests on Production Nails, the Engineer may require the Contractor to replace some or all of the installed production nails between a failed test nail and the adjacent passing test nail. Alternatively, the Engineer may require the installation and testing of additional test nails to verify that

adjacent previously installed production nails have sufficient load carrying capacity. Contractor modifications may include, but are not limited to: the installation of additional test nails; increasing the drill hole diameter to provide increased capacity; modifying the installation or grouting methods; reducing the production nail spacing from that shown on the Construction Plans and installing more production nails at a reduced capacity; or installing longer production nails if sufficient right-of way is available and the pullout capacity behind the failure surface controls the allowable nail design capacity. The nails may not be lengthened beyond the right-of-way or easement. Installation and testing of additional test nails or installation of additional or modified nails as a result of test nail failure(s) will be at no additional cost to the Department.

## 10.0 RECORDS

Provide the Engineer with the following final records:

1. As-built drawings showing:
  - a. The actual location and orientation of the soil nails, including deviation from specified tolerances.
  - b. Nail capacity, nail type, installed drill hole and bar diameter, designed and installed nail length.
  - c. The type of testing performed for each soil nail and test results.
  - d. The locations of any instrumentation installed and any required instrumentation records.
  - e. Finished ground line elevations behind the wall and finished grade elevations in front of the wall.
2. Other records as required by Section 106 of the Standard Specifications.
3. Structural Steel records required by Section 607 of the Standard Specifications.
4. Record plans conforming to Section 105.03 of the Standard Specifications.
5. Construction Records including:
  - a. Contractor's name
  - b. Drill rig operator's name
  - c. Date and time of start and finish of drilling
  - d. Drilling difficulties
  - e. Caving or sloughing of excavation or drill hole
  - f. Groundwater conditions
  - g. Drill casing requirements
  - h. Grouting records including:
    - date, time and method grout was placed
    - cement type
    - volume of grout placed
    - grout pressure

## 11.0 MEASUREMENT AND PAYMENT

- 11.1 The Department will pay for the accepted quantities of "Soil Nail Wall" at the contract unit bid price per "Square Foot" and will measure quantities as shown in the Contract Plans. This will constitute full compensation for all costs including materials, labor, tools, equipment, and other incidental items required for designing, constructing, and performing nail testing for the permanent soil nail wall(s) as described herein. This may include but is not limited to the following items: installing sacrificial and production soil nails, providing corrosion protection, shotcrete, concrete facing (if required), wall drainage, toe drainage, surface drainage, anchorage hardware, verification tests, proof tests, all required submittals and records, and other incidental items necessary to provide a complete permanent soil nail wall. Earth moving, backfilling, drainage, any temporary shoring due to phased construction, and any other earthwork necessary to complete these walls and not included in other bid items, is included as an incidental part of this work.
- 11.2 Additional areas of wall, required due to unforeseen foundation conditions or other reasons and approved in writing by the Engineer will be paid at the contract unit prices. In the event a decrease in the area of a wall is required, subject to acceptance by the Department, payment will be reduced due to the decrease in the wall area or length.
- 11.3 All measurement will be based on field measured dimensions as installed.
- 11.4 Refer to an Appendix to this Special Note for Project Specific Measurement and Payment information.

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
20603ED	Soil Nail Wall	Square Foot

## **Special Note for Soil Nail Walls Appendix A - Project Specific Requirements**

### ***Scott/Woodford Counties Weisenberger Mill Road Item No. 7-8642.00***

#### **A1.0 VALUE ENGINEERING**

The Department will not consider any Value Engineering Proposals that would result in changes in wall location and/or elevations.

#### **A2.0 SUBSURFACE CONDITIONS**

The subsurface conditions encountered at test boring locations are presented on the Subsurface Data Sheets in the Contract Plans. Subsurface Conditions may vary between boring locations.

#### **A3.0 LOCATIONS OF EXISTING STRUCTURE UNITS**

Approximate locations and elevations of the existing substructure and superstructure units are provided in the Contract Plans; however, the Department does not guarantee the accuracy of these locations. Although no specific scale is provided, the existing structure locations were drawn approximately to scale. Field verify the locations of existing structure units, including footing elevations, prior to excavating and installing soil nails.

#### **A4.0 GROUNDWATER CONTROL**

Observation wells were not installed at this location. The area is known to flood on occasion, and the calculated 100 year high water elevation at the structure is 801.46 feet. Temporary sheeting, shoring, or dewatering methods may be needed for groundwater control during construction. Appropriate drainage systems behind the wall and weep holes shall also be provided.

#### **A5.0 SITE INSPECTIONS**

During construction, observe the conditions behind the soil nail walls on a daily basis for signs of ground movement in the vicinity of the wall. Notify the Engineer immediately if signs of movements such as new cracks or increased size of old cracks are observed. If the Engineer determines that the movements exceed those anticipated for typical soil nail wall construction and requires corrective action, immediately take corrective actions necessary to stop the movement or perform repairs at no additional cost to the Department.

## **A6.0 FIELD ADJUSTMENTS AND CONSTRUCTION TOLERANCES**

Field adjustments of nail locations may be necessary due to the existing structure units or other considerations. Redesign and/or additional analyses will be required for field adjustments exceeding the specified tolerances.

## **A7.0 PERMANENT FACING**

Provide permanent facing consisting of screeded shotcrete. Conform to applicable sections of FHWA GEC 007 for any items not addressed in the contract proposal or plans. Construct the permanent facing within 2 months of nail installation.

## **A8.0 SACRIFICIAL TEST NAILS**

Prior to installing any production nails, install a minimum of one non-production sacrificial test nail.

Submit the proposed locations and sacrificial test nail design with the wall design and construction plans. Install the sacrificial test nails using the drilling and grouting procedures to be used on the production nails. Conduct Verification Tests on the sacrificial nails as described in Section 9.3 of this Special Note within five (5) calendar days after completing the installation and submit the test results within two (2) calendar days after completing the test. Acceptance criteria and rejection procedures are in Sections 9.6 and 9.7.

If a sacrificial test nail is loaded to 2.5 x DTL or higher during a verification test and meets all acceptance criteria, the Contractor may reduce the diameter of production nails in the adjacent wall based on the ultimate bond stress measured during the verification test. The Contractor assumes all responsibility for providing production nails meeting the acceptance criteria. All minimum cover and/or any other design requirements are applicable for the reduced diameter nails. The Engineer may require revisions to the Construction Plans. Any modifications proposed by the Contractor other than the drill hole diameter will require a detailed review by the Department.

**The Contractor may, at its own risk, install production nails before the Engineer receives the Verification Test results and accepts the non-production sacrificial nails. Production nails may not be installed until after verification testing on the sacrificial nail has been performed. The Engineer may suspend production nail installation if the Contractor has not submitted the verification test results on the sacrificial nail within two (2) calendar days after completion of the test.**

## **A9.0 PRODUCTION NAIL VERIFICATION TESTING**

Perform a minimum of seven (7) verification tests on production nails according to Section 9.4. A minimum of two (2) shall be performed at the Woodford County (south) abutment, and minimum of five (5) shall be performed on the Scott County (north) side. The

contractor shall propose locations for the testing with the design submittals. At least one verification test shall be performed in each row of nails.

### A10.0 PRODUCTION NAIL PROOF TESTING

Perform proof tests according to Section 9.5 on a minimum of 5% of nails installed, including the first nail installed in each row. A verification test of a production nail will be considered equivalent to a proof test nail and will be accounted for in determining the number of proof tests required. If problems occur during nail installation that, in the opinion of the Engineer, may adversely affect the capacity of one or more nails, the Engineer may specify nails for proof testing or may require additional proof testing.

### A11.0 SUMMARY OF LABORATORY TEST DATA

Table 1 Summary of SPT "N" Values and Soil Index Laboratory Test Results											
Hole No.	Sample Depth (ft)	Sample Type	SPT "N" Value	w (%)	LL	PL	PI	LI	Soil Classification		% Silt + Clay
									AASHTO	Unified	
1002	5.0-6.5	SPT	6	31	39	21	18	0.56	A-6(3)	GC	41
	10.0-11.5	SPT	14								
	15.0-16.5	SPT	10	29	41	22	19	0.37	A-7-6(12)	CL	69
	20.0-21.5	SPT	15								
1004	4.5-6.0	SPT	19	25	33	19	14	0.41	A-2-6(1)	SC	32
	9.5-11.0	SPT	5								
	14.5-16.0	SPT	8	21	46	23	23	-0.09	A-7-6(19)	CL	81
	19.5-21.0	SPT	26								
	24.5-24.8	SPT	50/0.3 <sup>7</sup>	20	33	19	14	0.07	A-2-6(0)	GC	26
1005	5.0-6.5	SPT	10	20	37	20	17	0.02	A-6(3)	GC	40
	10.0-11.5	SPT	15								
1006	5.0-6.5	SPT	3	19	41	23	18	-0.23	A-7-6(9)	CL	62
	10.0-11.5	SPT	48								
	15.0-16.5	SPT	Insufficient sample retrieved to classify material.								

### A12.0 SOIL PARAMETERS AND FACTORS OF SAFETY

Design the walls using the soil strength parameters and external factors of safety in the tables below. The Designer shall verify wall stability based on final wall design dimensions. These requirements are based on the Department's judgment and interpretation of the geotechnical data and are provided to ensure that bidders' designs will be comparable relative to the integrity and performance of the walls. Any modifications proposed by the Contractor, if accepted by the Department, will be subject to price adjustment.

<b>Table 2</b>			
<b>Design Soil Strength Parameters</b>			
<b>Abutment 1 – Woodford County</b>			
<b>Parameter</b>	<b>Wall Backfill</b>	<b>Soil 1</b>	<b>Bedrock</b>
Elevation (ft)	Above 785	785-Bedrock	Varies
Soil Classification	GC	CL	Limestone
Total Unit Weight (pcf)	120	120	
Effective Angle of Internal Friction, $\phi'$ (deg)	30	28	
Effective Cohesion, $c'$ (psf)	0	0	
Undrained Shear Strength, $S_u$ or $c_u$ (psf)	N/A	1400	
Nominal (Ultimate) Soil Nail Bond Stress (psi)	9	5	44

<b>Table 3</b>			
<b>Design Soil Strength Parameters</b>			
<b>Abutment 2 – Scott County</b>			
<b>Parameter</b>	<b>Wall Backfill</b>	<b>Soil 1</b>	<b>Bedrock</b>
Elevation (ft)	Above 785	785-781 or to Bedrock	Varies
Soil Classification	CL	GC	Limestone
Total Unit Weight (pcf)	120	120	
Effective Angle of Internal Friction, $\phi'$ (deg)	28	30	
Effective Cohesion, $c'$ (psf)	0	0	
Undrained Shear Strength, $S_u$ or $c_u$ (psf)	1400	N/A	
Nominal (Ultimate) Soil Nail Bond Stress (psi)	5	9	44

<b>Table 5</b>			
<b>Minimum Required Factors of Safety for External Failure Modes</b>			
<b>Case No.</b>	<b>Design Case</b>	<b>Temporary/ Short Term</b>	<b>Permanent/ Long Term</b>
1	Excavation Stability <sup>1</sup>	1.3	N/A
2	Global Stability <sup>2</sup>	1.3	1.5
3	External Stability <sup>3</sup>	1.3	1.6
4	Sliding	1.3	1.5
5	Rapid Drawdown <sup>4</sup>	N/A	1.0

<sup>1</sup>Excavation Stability analyses consider excavation lifts left unsupported for up to 24 hours before nails are installed.  
<sup>2</sup>In Global Stability analyses, failure surfaces intersect some or all nails.  
<sup>3</sup>In External Stability analyses, failure surfaces do not intersect the nails.  
<sup>4</sup>Use Effective Stress Methods for Rapid Drawdown analyses.



### A13.0 DESIGN CONSTRAINTS

Design the walls according to the design constraints provided below. Items 7 – 12 are specifically to limit wall deformation. These constraints are based on the Department's judgment and interpretation of the geotechnical data and are provided to ensure that bidders' designs will be comparable relative to the integrity and performance of the walls. Any modifications proposed by the Contractor, if accepted by the Department, will be subject to price adjustment.

1. Neglect any resistance from the bridge in wall analysis and design.
2. Perform analyses with the groundwater table no lower than Elevation 785 feet for Short Term and Long Term Conditions. Perform analyses for a Rapid Drawdown conditions using a High Water Elevation of 801.5 feet.
3. Design for a traffic surcharge loading in accordance with AASHTO LRFD Bridge Design Specifications, current edition.
4. Design for bridge loads to be applied to the Woodford County side (south) wall unless the bridge is supported on a deep foundation (piles, micropiles, or other foundation elements) that transfers bridge loads directly to bedrock. The Scott County (north) side of the bridge must be supported on micropiles.
5. Perform Soil Nail Wall analyses using either GOLDNAIL, SNAIL, or SNAP2. The use of other computer programs requires prior approval from the Department.
6. Perform analyses for the temporary condition assuming the excavation will be at least 1 ft. below the bottom of wall elevation or to the elevation that will be needed for construction, if lower.
7. A minimum of three (3) rows of nails is required. Additional rows of nails may be required in order to meet the required minimum factors of safety.
8. The maximum vertical and horizontal nail spacing is 5 feet. Closer spacing may be required in order to meet the required minimum factors of safety.
9. The maximum distance from the top of the wall to the top row of nails is 3 feet unless prohibited by obstructions in the field; exceptions require prior approval from the Department.
10. The maximum nail inclination is  $15^{\circ}$ .
11. The minimum nail length is 20 feet and the nail length of any row may not be shorter than the row below it. Longer nail lengths may be required in order to meet the required minimum factors of safety.
12. In the top and second rows, the maximum allowable bar tensile stress is  $0.4f_y$  (i.e.  $FS_T = 2.5$ ).
13. The contractor shall provide a toe wall around the base of the Scott County (north) side wall. The toe wall shall be a minimum three (3) feet deep below the base of the soil nail wall and one (1) foot wide. It shall be reinforced, and the details of this reinforcement shall be submitted with the soil nail wall designs. This toe wall may include micropiles or soil nails in order to provide additional lateral support to the soil nail wall. The cost of the toe wall will be considered incidental to the price for "Foundation Preparation."

### A14.0 MEASUREMENT AND PAYMENT

A14.1 The Department will measure and pay for the accepted quantity of "Soil Nail Wall" as described in the Contract Plans, Section 11 of this Special Note, and below, at the Contract Unit Bid Price per Square Foot. As shown in the Contract Plans, the soil nail wall quantities are based on a vertical projection of the wall surface rather than along the actual battered surface. The following are incidental to the Soil Nail Wall: any temporary and/or permanent facing (at the Contractor's option) below the defined bottom of wall provided in the contract plans; all components of the wall drainage system (except horizontal drains); the cost of all materials, labor, and equipment needed to texture the retaining wall.

A14.2 If drilling into solid rock is necessary to install soil nails, the cost of solid rock drilling is included in the unit price for "Soil Nail Wall" and there will be no additional compensation for rock drilling.

A14.3 The Department will measure and pay for the accepted quantity of "Foundation Preparation" according to Section 603 of the Standard Specifications at the Contract Lump Sum Bid Price. This includes the following:

- all excavation in front of the front face of the walls, common and solid rock;
- all common excavation required behind the front face of the walls;
- construction and removal of any working platform if necessary to construct the soil nail walls;
- any incidental grading required both in front and behind the walls;
- any scour protection provided at the toe of the walls; and
- all materials and labor described in Appendix B of this Special Note.

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
20603ED	Soil Nail Wall	Square Foot
8003	Foundation Preparation	Lump Sum

### **SPECIAL NOTE FOR INTERPRETIVE SIGN INSTALLATION**

The Contractor shall assemble and install interpretive signs as identified on plan sheet. See assembly and installation instructions attached to this special note.

The Contractor shall pick up unassembled signs at the Woodford County Maintenance Barn and assemble and install at job site. All labor and materials are incidental to unit bid price.

# Pannier Exhibit Base

## Assembly and Installation Instructions

For use with the following exhibit bases:



Traditional T



Cantilevered

FORM # 5DINST  
REV 02.01.15

### Installing a Pannier exhibit base is as easy as 1, 2, 3.

#### Step 1 - Inspect and Organize

As soon as your shipment arrives inspect all pieces and assembly components to make sure your delivery is complete.

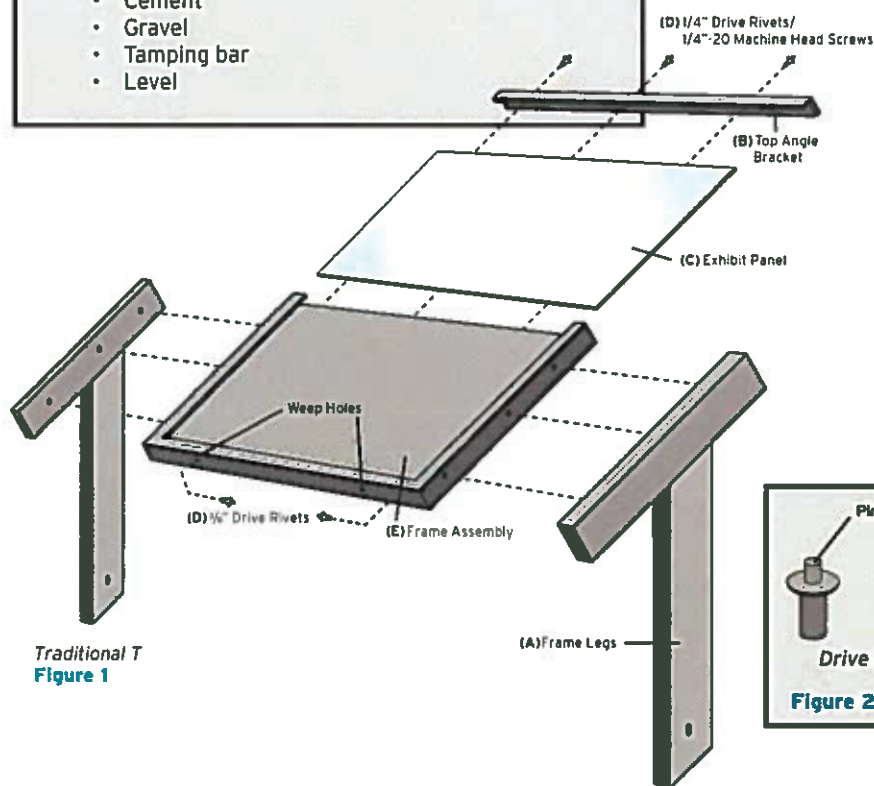
For each exhibit base, the following will be included: (Figure 1)

- A. Frame Leg(s)
- B. Top Angle Bracket
- C. Exhibit Panel (Use Pannier embedded fiberglass panels for best results)
- D. 1/4" Aluminum Drive Rivets or 1/4"-20 Machine Screw
- E. 3/8" Aluminum Drive Rivets
- F. Frame Assembly

Assembling and installing a Pannier Exhibit Base is a straight forward process made even easier if two or more people work together using the proper tools and materials to complete the task.

#### Recommended tools and materials:

- Power or manual post-hole digger
- Shovel
- Wood braces
- Hammer
- Clamps
- Nails
- Plastic sheeting
- Cement
- Gravel
- Tamping bar
- Level



#### Step 2 - Assembly

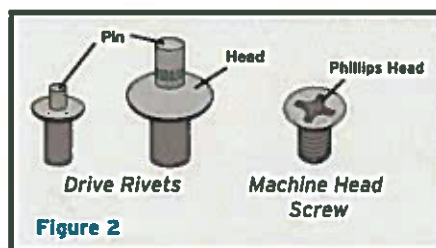
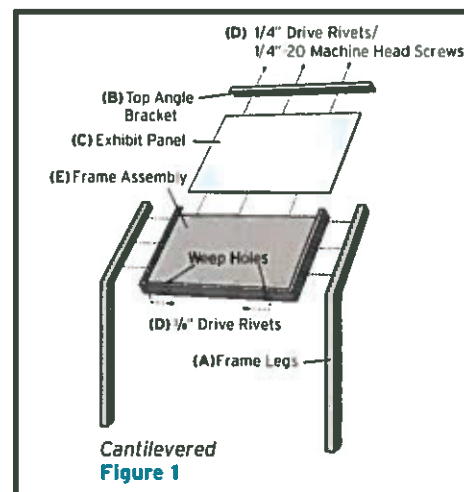
If you purchased your exhibit panels and bases from Pannier, most of the assembly has already been completed for you.

All you need to do is attach the exhibit pedestal base(s) to the completed panel frame assembly with the supplied buttonhead screws as shown in Figure 1. Proceed to Step 3 - Installation.

If you purchased the exhibit bases only, you will need to install your exhibit panel and attach the pedestal base(s).

To install the exhibit panel, first remove screws from the top angle. Place the frame assembly face-up on a raised sturdy work surface. Slide your exhibit panel face-up into the frame assembly channel, making sure the panel bottom matches the frame bottom as indicated by weep holes. Attach the Top Angle Bracket with supplied 1/4" drive rivets to securely enclose the exhibit panel. Insert the rivet, and drive the pin (see Figure 2) down with a hammer until flush with the head. If your exhibit base came with screws, attach the Top Angle Bracket with supplied 1/4"-20 screws to securely enclose the exhibit panel. Insert screws and screw into holes (see Figure 2) with a phillips head screw driver until inserted all the way.

Attach the completed frame assembly to the leg(s) with the 6 supplied 3/8" drive rivets. Proceed to Step 3 - Installation.



# Pannier Exhibit Base Assembly and Installation Instructions

## Step 3 - Installation

Move all assembled Exhibit Bases, tools and materials to the installation site. Mark the installation location using stakes or approved marking paint to indicate pedestal base locations. Prior to installation, please check the local building and signage codes as well as the applicable ADA (Americans with Disabilities Act) regulations for compliance.

### Installing to a permanent surface:

When installing the exhibit base with attached base plates to a permanent surface, such as concrete, use the appropriate fastening devices to provide a secure and permanent installation.

### Installing in the ground:

When installing the pedestal in the ground, you will need to dig holes approximately 6" below the local frost line. We recommend that you plan your installation depth to allow for approximately 28" to 32" distance between the ground surface and the bottom of the exhibit frame assembly when finished.

### Preparing the holes

Fill the completed holes with approximately 6" of gravel and tamp to provide an even and firm surface.

### Protecting the exhibit base

To prevent concrete splatter from attaching to the pedestal base(s), wrap and secure plastic to the upper portion of the pedestal base(s) to protect any part which will be seen after installation.

### Setting the exhibit base

Set the exhibit base in the ground, level the uprights by securing with temporary braces and clamps as shown in Figure 3. Double-check the distance from the ground surface to the exhibit frame for proper height.

Mix and fill the holes with wet cement to within 2" of the ground surface. Agitate the concrete to remove air pockets making sure to not bump or move the braced exhibit base. Carefully recheck the base level before the concrete begins to harden.

### Finishing the installation

Let cement set for at least 24 hours, remove the plastic and braces, back fill remaining holes and finish as necessary.

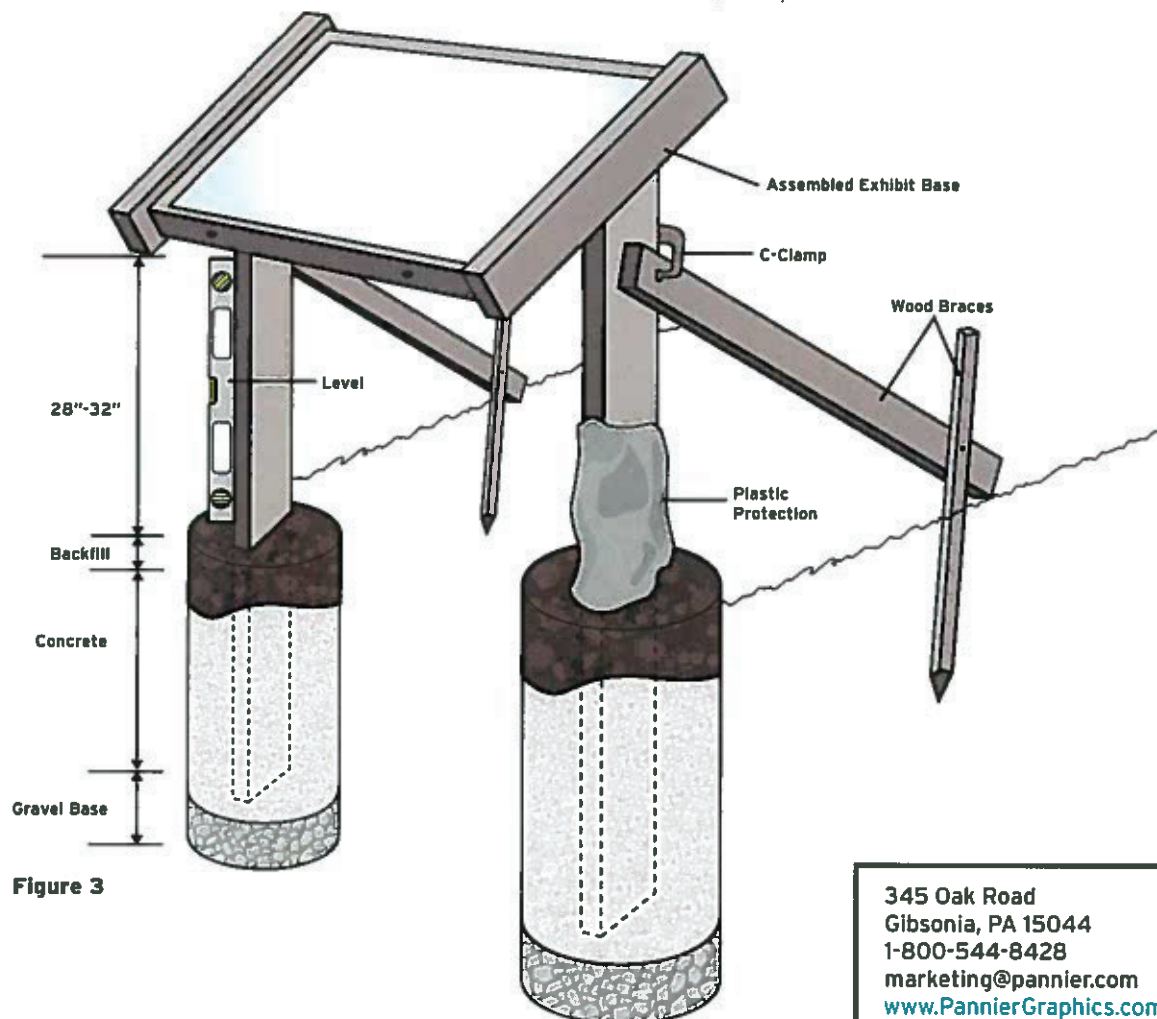


Figure 3

345 Oak Road  
Gibsonia, PA 15044  
1-800-544-8428  
marketing@pannier.com  
www.PannierGraphics.com



## SPECIAL NOTE FOR VIBRATION MONITORING

### **Preconstruction Inspection**

Prior to beginning construction, a pre-construction inspection shall be conducted to the Weisenberger Mill structures in Parcel 3. This inspection shall be done by a registered structural engineer or a competent inspector under the observation of a registered structural engineer. The inventory of the Mill's structural condition shall be recorded and documented to KYTC. Pre-construction inspection shall be considered incidental to the lump sum pay item "VIBRATION MONITORING".

### **During Construction**

Prior to construction activities, the contractor shall place a seismograph at an agreed upon location between the KYTC field engineer and property owner. The seismograph shall be monitored periodically during construction activities and data reported to appropriate KYTC personnel. Stop work immediately if a reading of 0.2 Peak Particle Velocity (PPV) or higher is observed.

### **Bid Item**

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24550EC	VIBRATION MONITORING	Lump Sum

# Special Note for Prefabricated Steel Truss Bridge and Foundations

## 1. GENERAL

### 1.1 Definitions

**AASHTO:** The American Association of State Highway and Transportation Officials (see their website at [www.transportation.org](http://www.transportation.org))

**Standard Specifications:** The KYTC Standard Specifications for Road and Bridge Construction, current Edition.

**Bridge:** The prefabricated steel bridge superstructure supplied to the Contractor by the supplier and/or manufacturer. For purposes of these specifications, "Bridge" does not include any abutments, piers, or other substructure components or foundations, nor does it include any part of the roadway to be located directly upon the bridge superstructure.

**Calculations:** Documentation related to the analysis, design, and load rating in the form of hand computations, computer output, diagrams and summary tables in either hard copy or electronic portable document format (.pdf) files.

**Contract Documents:** The documents prepared by the Owner which govern the scope of work, design, manufacturing of the Bridge.

**Contractor:** The company responsible for installing the Bridge.

**Design Loading:** The specified minimum live loads governing the bridge's design.

**Engineering Drawings:** Drawings prepared by the Manufacturer that represent the intended engineering design including criteria and general notes. These drawings typically depict the Bridge's framing plan, elevation, member sizes, transverse section(s), end-of-bridge section(s), field assemblies, and installation notes.

**Load Rating:** The live load capacity of the Bridge pursuant to Applicable Codes, Standards, and statutes of the state in which the bridge is located. Load ratings shall be reported as inventory and operating.

**LRFD:** Load & Resistance Factor Design

**Manufacturer:** The firm responsible for the design, preparation of drawings, fabrication and shipping of the Bridge.

**Manufacturer's Responsibilities:** The work to be performed in accordance with these specifications will consist of timely furnishing of structural steel design, and shop drawings; and manufacture of the Bridge pursuant to the Applicable Codes and Standards, and transportation to the location indicated in the Contract Documents.

**Owner:** The legal Owner of the installed Bridge.

**Shop Drawings:** Drawings prepared by the Manufacturer that represent the intended fabrication of pieces and supplied items. These drawings include instructions for forming, fabricating, connecting and finishing the pieces, in the form of labels, symbols, notes, and dimensions.

**Station:** An increasing increment along the roadway centerline that defines the orientation of the bridge with respect to beginning and end and left and right of the project. Stations may be surveyed or arbitrarily set depending on the complexity of the project. Upstation is forward and toward the end

of the project. Downstation is rearward and toward the beginning of the project. Left and right are oriented while looking upstation.

**Timely:** In compliance with the time parameters of the KYTC Standard Specifications.

## 1.2 Manufacturer's Qualifications

**AISC Certification:** The Manufacturer shall be an approved steel fabricator under the AISC Quality Management System Certification Program as an Advanced Steel Bridge Fabricator including Fracture Critical and Sophisticated Paint System endorsements, for a period of at least five (5) continuous years immediately preceding the bid opening.

**Experience:** The Manufacturer shall have designed and manufactured at least ten (10) permanent premanufactured steel truss or rolled beam bridges of approximately the same size and configuration as the proposed Bridge during a period of not more than five (5) continuous years immediately preceding the bid opening. The Manufacturer shall also have experience designing and manufacturing bridges with all-bolted component connections using Computer Numerically Controlled (CNC) drilling equipment and shop bolting operations if approved to do so by KYTC.

## 1.3 Manufacturers

It is believed the following manufacturers are capable of meeting all the qualifications for the fabrication of this bridge, but this is not a comprehensive list and there are likely other manufacturers as well that meet the requirements of this note. The contractor shall be responsible for ensuring the manufacturer chosen does in fact meet all the qualifications given herein this document and the KYTC Standard Specifications for Road and Bridge Construction.

U.S. Bridge  
201 Wheeling Avenue  
P.O. Box 757  
Cambridge, Ohio 43725  
(740) 432-6334  
[www.usbridge.com](http://www.usbridge.com)

Contech  
9025 Centre Point Drive  
West Chester, OH 45069  
1-800-338-1122  
[www.conteches.com](http://www.conteches.com)

All prospective manufacturers are required to submit the following documentation supporting their ability to meet the above referenced qualifications at the time of plan and calculation review:

- Copy of current AISC certifications as described above.
- Copy of Quality Assurance Programs.
- Splicing and erection procedures.
- Approved welding process procedures.
- The name and qualifications of the Manufacturer's representative designated to represent the Manufacturer for all activities.
- The name and qualifications of the Technical Assistant that will conduct on-site assistance during field installation of the Bridge until secure and stable (if required by the contractor).
- If any part of the Bridge is to be galvanized, a copy of the written warranty issued by the galvanizer that warrants against corrosion of the superstructure (other than bridge flooring) for a period of not less than 75 years.



- List ten (10) permanent steel bridges similar in size and configuration to the Bridge, which the applicant has manufactured in the preceding five (5) years, together with drawings, calculations, project details and contact information.
- Complete list of plant, equipment, employees and others to be used by the applicant to design and manufacture the Bridge including copies of all Professional Engineering licenses for designers and welding certificates for welders.
- In addition to the above, submit all other items that may be required by the KYTC Standard Specifications.

**Notification:** The Owner will evaluate and verify the accuracy of the submittal and notify the Contractor whether the prospective Manufacturer meets the requisite qualifications. If the Owner determines that the requisite qualifications do not exist, the Manufacturer chosen by the contractor shall not be eligible for fabrication of the bridge and the contractor shall find another manufacturer that does meet all requirements. No extra payment or contract time shall be given if a fabricator chosen by the Contractor fails to meet all requirements and another fabricator must be chosen.

#### 1.4 Bid Phase Activities

**Prebid Site Visit:** Each contractor submitting a bid for the work required herein this special note shall make a thorough inspection of the project site prior to submitting a bid and shall be thoroughly familiarized with existing conditions so that work can be expeditiously performed after a contract is awarded. Submission of a bid is considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department of Highways.

**Pre-bid Questions:** Pre-bid questions may be submitted to the Division of Construction Procurement in accordance with their typical procedures.

## 2. APPLICABLE CODES AND STANDARDS

### 2.1 Governing Codes and Standards

- The Bridge shall be designed in accordance with the current edition of the AASHTO LRFD Bridge Design Specifications, with current interims.
- The truss shall be designed for the KYHL-93 Live Load. This live load consists of the HL-93 Live Load (Truck and Lane) increased by 25%. In addition this truss shall be load rated and must be designed to pass 44 ton load rating for all current KYTC load rating trucks. Contact the Division of Maintenance, Bridge Maintenance Branch for the current list of required load rating trucks. The load rating shall be performed in accordance with the AASHTO Manual for Bridge Evaluation and any KY specific requirements.
- The bridge shall be fabricated and constructed in accordance with this special note and the KYTC Standard Specifications. If at any point, this note contradicts the Standard Specifications, the more stringent specification shall control.
- Micropiles shall be designed in accordance with the Special Note for Micropiles and the AASHTO LRFD Bridge Design Specifications.

### 2.2 Reference Codes and Standards

- American Institute of Steel Construction (AISC), Steel Construction Manual, Thirteenth Edition.
- AASHTO Manual for Bridge Evaluation, current edition.
- American Welding Society (AWS) D1.5 Bridge Welding Code (Use AWS D1.1 for welding not covered in AWS D1.5).
- Research Council on Structural Connections (RCSC) Specifications for Structural Joint Using A325 or A490 Bolts (2004).
- AASHTO/NSBA S2.1 Steel Bridge Fabrication Guide Specifications, 2nd Edition.

### 3. **BRIDGE CHARACTERISTICS**

- 3.1 Span(s):** The Bridge shall be composed of 1 span with a length between center to center of bearings estimated at 75 feet. The deck length in the roadway plans is shown as 77 feet. The bridge span may be adjusted as necessary for substructure construction, but the deck shall be 77 feet long unless Owner agrees to a change in length.
- 3.2 Width:** The proposed width shall be the clear roadway width between bridge railings or curb elements shall be 12 feet.
- 3.3 Skew:** The bridge shall be designed with 0 deg. skew.
- 3.4 Finish:** All structural steel shall be hot dip galvanized.
- 3.5 Deck and Wearing Surface:** The deck shall be 8" thick minimum reinforced concrete with two layers of steel reinforcement in the transverse direction and two layers of reinforcement in the longitudinal direction. The deck shall be built at a normal crown with 2% cross slope in each direction. The design shall assume the top ½" of the deck is a wearing surface and this wearing surface shall not be counted on for strength, but dead load only. Clear cover shall be 2 ½" minimum to the top layer of steel and 1" clear cover to the bottom layer of steel. The deck may be formed utilizing stay in place forms.
- 3.6 Bridge Railings:** The bridge shall utilize the Texas T101 railing and will require a T101 guardrail transition before tying into the guardrail off each end of the bridge. See details at the end of this note for the T101 railing and transition. Include all costs for the T101 railing on the bridge and the T101 transition on each corner in the lump sum price bid for Prefabricated Steel Truss Bridge.
- 3.7 Bearings:** The bridge shall utilize laminated elastomeric bearing pads with steel base and load plates. These bearings shall be designed to be replaceable and shall be protected from degradation from sunlight. Include all costs for bearings in the price for the truss.
- 3.8 Expansion Joints:** The bridge shall utilize a deck sliding over backwall joint on each end. See Section 5.6 for description.
- 3.9 Bridge Style in Section:**
- Half Through-Truss:** The truss design shall be a bolted half through-truss (a.k.a. pony truss), manufactured by an approved fabricator and as further described in these specifications. The cross section shall resemble the following picture:



### 3.10 Bridge Style in Elevation:

The truss shall match the existing truss style as close as possible (see picture below):



The trusses shall each have a continuous top chord, a single diagonal member in each truss panel except, if possible, the center panel shall have two diagonals, inclined end posts, and a vertical member at each interior bottom chord panel point. The bottom (tension) chord of each truss shall consist of two equal-sized members with adequate section properties to provide redundancy. Such that if one member were to fail, the other would be sized sufficiently to carry the entire design load.

### 3.11 Bridge Style - Truss Connections:

**Bolted Double Gusset Plate Connections:** The truss girders shall be designed using gusset plates on each side of the chord member and high strength structural fasteners (bolts) to connect web (diagonal and vertical) members to the chord members. Shim or fill plates shall be used where web members do not dimensionally fit up with the larger chord members. Shop and field welding on truss members is prohibited.

## 4. ENGINEERING

- 4.1 **Licensure:** The engineering design of the Bridge shall be performed by, or under the direct supervision of a Licensed Professional Engineer in Kentucky.
- 4.2 **Design Specification:** The Bridge shall be designed in accordance with the current edition of the AASHTO LRFD Bridge Design Specifications.
- 4.3 **Analysis:** The structural analysis for the Bridge shall include, at a minimum, a two dimensional analysis for gravity dead loads and moving live (truck) loads on transverse and longitudinal members, as applicable. Location of axle loads, lane loads, wheel loads; and the distribution of wheel loads shall be applied as such to produce the maximum stress (or applied force) in the member or members under consideration.

Due to their configuration, a U-frame analysis is required for half-through trusses, to confirm the top chord's stability by computing the relative stiffness of the Bridge's cross sectional members to determine the resistance of the top chord members to buckling. The analysis shall follow E. C. Holt, Jr. and R. M. Barnoff's research performed for the Column Research Council, (1950-1957).

- 4.4 Bridge Information Model (BriM):** The Manufacturer may utilize three-dimensional CAD software with integrated model-data-CNC file transfer of the Bridge components and assemblies to prepare Engineering and Shop Drawings. This is to promote efficiency during plan development and to improve quality of the delivered Bridge order.
- 4.5 Load Rating:** A load rating of the Bridge's superstructure shall be supplied to the Owner at the submission of the calculations and shop plans. Requirements for the Load Rating shall be in accordance with the requirements in these notes and as required by the Division of Maintenance, Bridge Maintenance Branch. Contact the Bridge Maintenance Branch for the current load rating requirements and required trucks to load rate.
- 4.6 Loads & Load Combinations:** All applicable dead and live loads shall be applied and combined as specified in the Design Specification. A future wearing surface of 15 psf shall be applied as a dead load in anticipation of possible future paving overlays. Longitudinal forces from thermal expansion and contraction, and vehicles; along with lateral forces from wind, flood or seismic events shall be computed and combined as applicable and in accordance with the Design Specification.
- 4.7 Gusset Plates:** Gusset plates shall be adequately designed to transfer member forces in accordance with governing sections of the Design Specifications and FHWA Publication Number IF-09-014. All gusset plates shall have 1" radiused corners, except for the lower corners aligned toward the mid-line of the bridge. They shall be square to aid their orientation during assembly. At a minimum, the gusset plate shall be at least as thick as the thickest plate framing into the connection.
- 4.8 Camber & Deflection:** Calculation of the Bridge's dead and live load deflection is required. Live load deflection of the primary members should be limited to the span-to-deflection ratio of  $L/600$  unless otherwise specified. Dead load deflection shall be accommodated by forming camber into the unloaded geometry of the members. Profile grade curvature shall also be taken into account when determining the fabricated (or induced) camber of the members. No camber adjustment is required for spans of less than 50 ft., except that they be fabricated with their natural mill camber as "up".
- Sag, an inherent characteristic of pin-connected structures that contributes to a structure's total deflection, is due to pin and pin-hole clearance. Sag is undesirable and prohibited. Bidders with panel bridge types that sag shall be considered unresponsive and their bids will be disqualified.
- 4.9 Concrete Deck Slab:** The concrete deck slab shall be designed in accordance with the AASHTO LRFD Bridge Design Specification and KYTC specific design requirements. The slab shall be designed by the Bridge designer. Submit details and stamped calculations with the truss submittals.
- 4.10 Railings:** Follow the T101 railing sheets for the rail across the bridge and tie railing into the T101 guardrail transition off each end of the bridge. Contrary to the payment notes on the example sheets at the end of this special note, the T101 railing on the bridge and the T101 transition off the ends of the bridge are incidental to the price bid for Prefabricated Steel Truss Bridge.
- 4.11 Superstructure Depth:** The new superstructure shall not impede on the current low chord elevation of the existing truss and shall be designed for the concrete deck to be the riding surface and match the proposed profile grade. The contractor shall be responsible

for obtaining existing low chord elevations and ensuring this requirement is met by the Designer of the bridge.

- 4.12 Substructures:** The northern side of the bridge (Scott County; Mill side) shall be founded on an end bent cap supported by drilled in micropiles. This end bent cap and micropiles shall be designed by the bridge manufacturer or a contractor designated professional engineer to support all the design loads. Substructures shall be designed for Class A concrete (3500 psi) minimum. At a minimum, the cap shall be supported by 4 micropiles with a minimum casing diameter of 7". At a minimum, the cap shall be at least 3' wide, 3' deep, 1' wide backwall, 1'-6" wide wings, 4~#8 rebar at the top of the cap, 1~#8 rebar over the micropiles, 4~#8 rebar in the bottom of the cap, #5 closed stirrups at 12" maximum spacing, #5 rebar at 12" maximum spacing on each side face of the cap, and #5 rebar at 12" maximum spacings each direction in each face of the wings and back wall. These are the minimum dimensions and rebar required and the designer shall design this cap for all loads and adjust as necessary for actual loading. The micropiles design and construction shall conform to all requirements in the Special Note for Micropiles and the AASHTO LRFD Bridge Design Specifications. Coordinate design of micropiles at the northern end bent with the soil nail wall designer. Design and install the micropiles so they do not conflict with the soil nails being installed. Submit all PE Stamped substructure designs for review by KYTC at the same time as the truss submittals. All rebar shall be epoxy coated grade 60 conforming to ASTM A615.

Micropile verification tests shall be performed as required in the Special Note for Micropiles except that the contractor may choose to perform the verification test on a production pile. A minimum of 1 verification test per substructure unit is required. If a production micropiles is utilized for the verification test and the micropile verification test fails to meet acceptance criteria, the contractor shall provide a modified micropile design to address the deficiencies and resubmit to the Department for review. An additional verification test will be required for each failed micropile test and revised design. Because of the small number of production micropiles expected, proof tests are not required unless the number of micropiles at a substructure unit exceeds 20.

The bridge may set on the existing abutment on the southern abutment (Woodford County Side) and if so may require concrete removal, dowels, and Class A concrete poured to build up seats/backwalls/wings to elevations required by the new bridge design. Coordinate design of the foundation on the southern abutment with the soil nail wall designer so that appropriate loads and soil nail placements are considered in the soil nail wall design. If during the design, it is determined that the soil nails cannot be designed to support the new bridge, the bridge may be lengthened to set on a precast end bent cap and micropiles with the same minimum guidelines as the end bent required on the Northern side. The bridge may need to be lengthened in order to place the end bent cap behind the existing abutment. No extra payment will be made for a longer bridge, new end bent cap, micropiles, etc. and all costs for such shall be incidental to the lump sum price bid for the Prefabricated Steel Truss Bridge.

All costs for substructure construction (design services, labor, concrete, epoxy coated reinforcement, micropiles, micropile verification tests, etc) to design and construct the substructures as designed shall be included in the lump sum price bid for Prefabricated Steel Truss Bridge.

- 4.13 Connection Method:** Bolted steel connections of truss components and gusset plates provide a greater level of internal redundancy than welded connections. These connections shall be utilized within the design and fabrication process
- 4.14 Drawing Submittals:** The Manufacturer shall design the prefabricated bridge(s) and prepare Drawings in accordance with the following minimum requirements. Engineering Drawings and Calculations, sealed by a Registered Professional Engineer in the state of Kentucky, will be submitted to the Owner for Approval before beginning fabrication.

Shop Drawings must be submitted to the owner in accordance with the specifications and must be reviewed by the original designer as well.

Unless otherwise requested, an electronic version of the Shop Drawings will be submitted in portable document format (.PDF) via email to the Owner or the Owner's designated contact. After final approval by the Owner, the Manufacturer shall provide the Owner with two 24" x 36" paper copies of the Engineering Drawings or a .pdf for archive purposes.

## 5. MATERIALS & COMPONENTS

- 5.1 Steel:** Members for vehicular bridges shall be fabricated from domestically produced , wide flange beam and/or channel shapes and steel plate conforming to ASTM A709 Grade 50. Tubular members shall not be used. All steel shall be charpy v-notch tested to the requirements of fracture critical members, zone 2.
- 5.2 Welding:** Bridges shall be designed such that no welding is necessary for fabrication if at all possible. All connections shall be bolted connections. Any proposed welding must be shown on shop plans and must be approved by the owner.
- 5.3 Structural Fasteners:** All connections shall utilize ASTM A-325 High Strength Bolts. Galvanized bolts shall be A325 Type 1, hot dip galvanized in accordance with ASTM A-153 specifications.
- 5.4 Anchor Bolts:** The anchor bolts supplied with all bridge systems shall be ASTM A449 Full Thread Studs Hot Dip Galvanized as per ASTM A153. Each anchor bolt shall be provided with one A563 Galvanized Heavy Hex Nut and one F436 Galvanized Flat Washer.
- 5.5 Bearings:** This item consists of furnishing and installing bridge bearings in accordance with the Contract Documents, this specification, and the manufacturer's recommendations. The bearings shall be designed in accordance with the AASHTO LRFD Bridge Design Specifications and shall follow the AASHTO LRFD Bridge Construction Specification requirements for testing and fabrication. Elastomeric and laminated elastomeric bearing pads shall be custom molded from neoprene or natural rubber. Laminated pads shall be reinforced with internal steel plates and vulcanize-bonded to alternating layers of the elastomer during the molding process. Bearings shall be provided with the bridge and all costs are incidental to the lump sum price bid for the Prefabricated Steel Truss bridge.
- 5.6 Expansion Joints:** This item consists of furnishing and installing expansion joints in accordance with the Contract Documents, this specification, and the manufacturer's recommendations. The designer shall design the deck slab to be continuous over the substructures to the back face of the backwall on each substructure. The backwall should be a minimum of 1'-0" thick and the interface between the top of the backwall and the bottom of the slab shall have the bond broken with a minimum of 2 layers of 6 mil plastic. The ends of the slab shall have an armored edge embedded in accordance with Standard Drawing BJE-001, c.e. 12" wide mastic tape shall be supplied to seal the joint on the back face of the backwall between the slab and backwall. No extra payment shall be made for the armored edge, mastic tape, or the slab extension over the backwall. All costs for the armored edge, deck and mastic tape are incidental to the bridge.
- 5.7 Floor or Deck Forming System:** The flooring or deck system forming system may use Stay-in-Place Forms for Concrete Decks or another system. System chosen shall be approved by the KYTC Engineer. Stay in place forms shall not be welded directly to steel truss members. Contractor shall be responsible for design, procuring, and installing SIP forms if desired to use for the deck construction. All costs incidental to the truss bridge.

- 5.8 Concrete Deck Slab:** The concrete deck slab shall be constructed by the Contractor. Concrete in the deck shall be Class AA concrete (4,000 psi). Steel shall be epoxy coated grade 60 meeting requirements of ASTM A615. Concrete and reinforcing steel materials and strengths shall be noted in the Engineering Drawings. The design shall show concrete thicknesses, clear covers, and barbills for the contractors use. Concrete shall be formed, mixed, placed, consolidated, finished and cured in accordance with the KYTC Standard Specifications and as approved by the Owner in the field. The concrete deck design and construction is incidental to the lump sum price bid for Prefabricated Steel Truss Bridge.

## **6. MANUFACTURING AND QUALITY CONTROL**

- 6.1 Certification Manual:** A current copy of the AISC Program Manual describing the Bridge Manufacturer's operations and practices shall be maintained by the quality Control Manager for review by designated quality control inspectors. Copies of the AISC Certification Manual shall be made available to customers and their representatives, upon requests.
- 6.2 Cleaning and Surface Preparation:** See the Special Note for Hot Dip Galvanizing for cleaning and surface preparation requirements.
- 6.3 Cambering:** The Bridge shall be cambered in accordance with the Contract Documents and the design computations to offset the predicted total dead load deflection and to accommodate the profile grade indicated in the Contract Documents. Mechanical (cold) cambering may be used where permitted by the applicable construction specifications and the Owner's customary practices. Heat cambering by experienced workers may be employed, as an optional method.
- 6.4 Welding:** If allowed, all welding shall conform to the AASHTO/AWS D1.5 Bridge Welding Code. All welding shall utilize E70 or E80 series electrodes. The weld process used shall be Flux Core Arc Welding (FCAW) or Shielded Manual Arc Welding (SMAW) per ANSI/AASHTO/AWS D1.5 "Bridge Welding Code." Welding operators shall be properly accredited and experienced. Qualifications of welders shall be made available upon request.
- 6.5 Plate & Shape Cutting:** Plate and shape cutting shall conform to methods specified in AASHTO/AWS D1.5 Bridge Welding Code Section 3 Workmanship and the KYTC Standard Specifications. Computer Numerically Controlled (CNC) cutting equipment may be utilized as a manufacturing method as it allows for highly accurate dimensional cutting along with precise and rapid shop operations. Plate and shape cutting method shall be submitted in writing to the owner for approval, prior to commencing fabrication.
- 6.6 Bolt Holes:** All bolt hole fabrication for high strength, slip critical bolted connections shall conform to the workmanship requirements of the Research Council on Structural Connections (RCSC) Specifications for Structural Joint Using A325 or A490 Bolts and the KYTC Standard Specifications. Computer Numerically Controlled (CNC) drilling equipment may be utilized with approval as a manufacturing method as it allows for highly accurate hole location along with precise and rapid shop operations. Bolt hole fabrication method should be submitted in writing to the owner for approval, prior to commencing fabrication.
- 6.7 Bolting:** All shop and field bolting shall comply with the AASHTO Construction Specifications, Section 11 and the Research Council on Structural Connections (RCSC) Specifications for Structural Joints Using A325 or A490 Bolts and the KYTC Specifications. Nuts shall be ASTM A563 grade DH and washers shall be ASTM F436, of corresponding finish. Shop and field bolts shall be tightened by use of Direct Tension Indicating (DTI) washers. Bolts shall be A325 Type 1 Heavy Hex head, hot-dip

galvanized in accordance with ASTM A153. DTI's shall conform to ASTM F959 and shall be hot dipped galvanized as well.



- 6.8 Galvanized Steel Components:** All steel members shall be galvanized in accordance with the Special Note for Hot Dip Galvanizing.
- 6.9 Shop Assembly:** Shop assembly shall conform to AASHTO Construction Specifications and AASHTO/NSBA S2.1 Guide Specifications and the KYTC Standard Specifications. For bridges such as trusses, the Manufacturer shall shop assemble the entire span, to conform to the camber and blocking requirements shown in the Engineering Drawings in an unloaded, laydown process. If the span is too long for a complete shop assembly, the Manufacturer shall check-assemble a minimum of three adjacent shippable units of the bridge, in a sequential manner, to ensure that an accurate fit-up of assemblies are possible in the field. Complex framing members such as skewed floor beams shall also be check-assembled in the shop, to ensure geometric accuracy and fit-up has been achieved. Stringers beams, transverse bracing and accessory pieces are not required to be check-assembled to their primary members unless specified in the Contract Documents. If the KYTC Standard Specifications, requires a more stringent shop assembly process, that process shall be followed instead of the above described process.
- 6.10 Shop Inspection:** Each Bridge shall be inspected by a qualified shop inspector. For all welded assemblies the inspector shall be a Certified Weld Inspector that is qualified under the AWS QC-1 program. Each inspection shall include as a minimum requirement the following: review of Shop Drawings, weld procedures, welder qualifications and weld testing reports, visual inspection of welds and verification of overall dimensions and geometry of the Bridge. Non destructive testing of welds shall be performed both prior to and after galvanizing. All welds shall be tested in accordance with AWS D1.5.
- 6.11 Surface Preparation for Galvanizing:** See Special Note for Hot Dip Galvanizing for surface preparation requirements.
- 6.12 Material Certification:** The Manufacturer shall maintain a program to receive, inspect, record and trace materials used in the Bridge. Material Test Reports shall be used to prove domesticity, and document chemistry and physical test records. Certificates of Conformance shall be used to document compliance with specifications. Traceability shall be met by heat and lot numbers records from the producing mill or supplier. This program shall be in evidence by the Manufacturer's AISC Certification and a written copy found in the Manufacturer's AISC Certification Manual.
- 6.13 Truss Assembly Records:** The Manufacturer shall complete and maintain a record of assembly for each truss bridge, documenting specific pieces, heat numbers and positions for truss girder members, in accordance with the Manufacturer's AISC Certification Manual.

## **7. SITE, DELIVERY & ERECTION**

- 7.1 Owner responsibility:** The Owner shall provide limited information about the site and soil conditions and will provide a line and grade. The engineering design and construction of the



Bridge abutment rework/end bent construction shall be the responsibility of the Contractor and their Engineer. Pertinent information related to the design and performance of the bridge superstructure shall be made available to the Bridge Manufacturer upon execution of the agreement. The Contractor shall install anchor bolts in accordance with the Bridge Manufacturer's Engineering Drawings and recommendations (all costs for anchor bolts incidental to truss). All roadway approach work and paving of the Bridge deck roadway shall be the responsibility of the Contractor. All electrical grounding and lightning protection shall be the responsibility of the Contractor and the manufacturer. Submit proposed electrical grounding and lightning protection to the Cabinet for review.

**7.2 Delivery:** Contractor shall be responsible for delivery coordination.

**7.3 Erection:** The Manufacturer will advise the Contractor of the attachment points and other necessary information required to install the bridge. The method and sequence of erection shall be the responsibility of the Manufacturer/Contractor. Unloading, stabilization, splicing, bolting, and proper rigging and lifting are the responsibility of the Contractor.

**8. TECHNICAL ASSISTANCE**

**8.1** The contractor may request a qualified technical assistant from the manufacturer to provide installation technical assistance. The contractor is responsible for ensuring the bridge is erected according to the Manufacturers and KYTC requirements. No extra payment will be made for this and all costs shall be incidental to the price bid for the truss bridge superstructure.

**9. MEASUREMENT**

**9.1** The contractor shall be paid one lump sum for the truss bridge superstructure, deck, and all substructure work as described in section 4.12, designed, fabricated, and installed in accordance with this special note. No extra payment shall be made for any incidentals (materials, concrete removal, equipment, or labor) that may be required to design, fabricate, or install a truss bridge with a concrete deck in accordance with this special note and KYTC Standard Specifications.

**10. BRIDGE PAYMENT**

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
23989EC	Prefabricated Steel Truss Bridge	L.S.





## SPECIAL NOTE FOR MICROPILES

### Scott/Woodford Counties Weisenberger Mill Road Item No. 7-8642.00

**1.0 DESCRIPTION.** This work shall consist of constructing micropiles as shown on the Plans, accepted working drawings and approved shop drawings and as specified herein. The micropile specialty Contractor is responsible for furnishing all required working\shop drawings, materials, products, accessories, tools, equipment, services, transportation, labor and supervision, and manufacturing techniques required for installation and testing of micropiles and pile top attachments for this project. The micropile load capacities shall be verified by verification and proof load testing as required and must meet the test acceptance criteria specified herein. Section references herein are to the Department's 2019 Standard Specifications for Road and Bridge Construction.

#### 2.0 MATERIALS.

**2.1 Admixtures for Grout.** Conform to Section 802. Admixtures that control bleed, improve flowability, reduce water content, and retard set may be used in the grout, subject to the review and acceptance of the Engineer. Admixtures shall be compatible with the grout and mixed in accordance with the manufacturer's recommendations. Accelerators are not permitted.

**2.2 Cement.** Conform to Section 801. Use types I, II, III or V

**2.3 Centralizers and Spacers.** Centralizers and spacers shall be fabricated from schedule 40 PVC pipe or tube, steel, or material non-detrimental to the reinforcing steel. Wood shall not be used.

**2.4 Epoxy Coating.** Conform to subsection 811.10. Bend test requirements are waived. Bearing plates and nuts encased in the pile concrete footing need not be epoxy coated unless the footing reinforcement is epoxy coated.

**2.5 Fine Aggregate.** If sand / cement grout is used, sand shall conform to Section 804.

**2.6 Grout.** Neat cement or sand / cement mixture with a minimum 28-day compressive strength of 5,000 psi per AASHTO T106/ASTM C109, unless shown otherwise on the Plans.

**2.7 Permanent Casing.** Permanent steel casing / pipe shall have the diameter and at least minimum wall thickness shown on the Plans. The permanent steel casing / pipe:

- 1) shall meet the Tensile Requirements of ASTM A252, Grade 3, except the yield strength shall be a minimum of 80 ksi, unless shown otherwise on the plans.
- 2) may be new "Structural Grade" (a.k.a. "Mill Secondary") steel pipe meeting above but without Mill Certification, free from defects (dents, cracks, tears) and with two coupon tests per truckload delivered to the fabricator.

For permanent casing / pipe that will be welded for structural purposes, the following material conditions apply:

- 1) The carbon equivalency (CE) as defined in AWS D1.1, Section X15.1, shall not exceed 0.45, as demonstrated by mill certifications.
- 2) The sulfur content shall not exceed 0.05%, as demonstrated by mill certifications.

For permanent casing / pipe that will be shop or field welded, the following fabrication or construction conditions apply:

- 1) The steel pipe shall not be joined by welded lap splicing.
- 2) Welded seams and splices shall be complete penetration welds.
- 3) Partial penetration welds may be restored in conformance with AWS D1.1.
- 4) The proposed welding procedure certified by a welding specialist shall be submitted for approval.

Where allowed on the Plans, flush threaded casing joints shall be completely shouldered with no stripped threads.

**2.8 Plates and Shapes.** Structural steel plates and shapes for pile top attachments shall conform to ASTM A709/AASHTO M270, Grade 50.

**2.9 Reinforcing Bars.** Reinforcing steel shall be deformed bars in accordance with ASTM A615/AASHTO M31, Grade 60 or Grade 75 or ASTM A722/AASHTO M275, Grade 150, as shown on the plans. When a bearing plate and nut are required to be threaded onto the top end of reinforcing bars for the pile top to footing anchorage, the threading may be continuous spiral deformed ribbing provided by the bar deformations (e.g., Dywidag or Williams continuous threadbars) or may be cut into a reinforcing bar. If threads are cut into a reinforcing bar, the next larger bar number designation from that shown on the Plans shall be provided, at no additional cost.

Bar couplers, if required, shall develop the ultimate tensile strength of the bars without evidence of any failure.

**2.10 Water.** Conform to Section 803.

### 3.0 CONSTRUCTION.

#### 3.1 Preconstruction.

**3.1.1 Experience Requirements.** The micropile Contractor shall be experienced in the construction and load testing of micropiles and have successfully constructed at least 5 projects in the last 5 years involving construction totaling at least 100 micropiles of similar size and capacity to those required in these plans and specifications.

The Contractor shall have previous micropile drilling and grouting experience in soil / rock similar to project conditions. The Contractor shall submit construction details, structural details and load test results for at least three previous successful micropile load tests from different projects of similar scope to this project.

The Contractor shall assign an Engineer to supervise the work with experience on at least 3 projects of similar scope to this project completed over the past 5 years. The Contractor shall not use consultants or manufacturers' representatives to satisfy the supervising Engineer requirements of this section. The on-site foremen and drill rig operators shall also have experience on at least 3 projects over the past 5 years installing micropiles of equal or greater capacity than required in these plans and specifications.

At least 45 calendar days before the planned start of micropile construction, the Contractor shall submit electronically in PDF format the completed project reference list and a personnel list. The project reference list shall include a brief project description with the owner's name and current phone number and load test reports. The personnel list shall identify the supervising project Engineer, drill rig operators, and on-site foremen to be assigned to the project. The personnel list shall contain a summary of each individual's experience and be complete enough for the Engineer to determine whether each individual satisfies the required qualifications.

Work shall not be started, nor materials ordered, until the Engineer's written approval of the Contractor's experience qualifications is given. The Engineer may suspend the Work if the Contractor uses non-approved personnel.

**3.1.2 Construction Site Survey.** Before bidding the Work, the Contractor shall review the available subsurface information and visit the site to assess the site geometry, equipment access conditions, and location of existing structures and above ground facilities.

The Contractor is responsible for field locating and verifying the location of all utilities shown on the plans prior to starting the Work. Maintain uninterrupted service for those utilities designated to remain in service throughout the Work. Notify the Engineer of any utility locations different from shown on the plans that may require micropile relocations or structure design modification.

The Contractor shall be aware that the project location is located in the lower part of the Lexington Limestone Formation. According to the Kentucky Geological Survey this formation has medium karst potential due to solution-enlarged fractures and bedding-plane separations which are relatively lacking in

interstitial clay. While no sinkholes were noted in the immediate area surrounding the bridge site, there are sinkholes located within a one (1) mile radius around the bridge site. Drilling and grouting for the micropiles may encounter karst features, and the Contractor shall be aware of the need to extend the micropiles past the karst features or for greater than expected grout takes.

Prior to start of any micropile construction activity, the Contractor and Engineer shall jointly inspect the site to observe and document the pre-construction condition of the site, existing structures and facilities.

**3.1.3 Construction Submittals.** At least 21 calendar days before the planned start of micropile construction, submit to the Engineer, for review and approval, electronically in PDF format the following for the micropile system or systems to be constructed:

- 1) Detailed step-by-step description of the proposed micropile construction and testing procedures in sufficient detail to allow the Engineer to monitor the construction and quality of the micropiles.
- 2) Proposed start date and time schedule and micropile installation schedule.
- 3) Working drawings for micropiles including items that are either not shown on the contract plans or deviations due to specific installation equipment/methods such as final bond zone drill hole diameters; splice types and locations; and reinforcing centralizers and spacers.
- 4) Shop drawings for all structural steel elements used in the micropiles, including the top bearing plate.
- 5) If welding of casing is proposed, submit the proposed welding procedure, by a qualified welding specialist.
- 6) Information on headroom and space requirements for installation equipment that verify the proposed equipment can perform at the site.
- 7) Sample micropile installation log to be used per Section 3.2.9.
- 8) Plan describing how surface water, drill flush, and excess waste grout will be controlled and disposed.
- 9) Certified mill test reports for the reinforcing steel or coupon test results for permanent casing without mill certification. The ultimate strength, yield strength, elongation, and material properties composition shall be included. For API N-80 pipe casing, coupon test results may be submitted in lieu of mill certification.
- 10) Proposed Grouting Plan. The grouting plan shall include complete descriptions, details, and supporting calculations for the following:
  - a) Grout mix design and type of materials to be used in the grout, including certified test data and trial batch reports.
  - b) Methods and equipment for accurately monitoring and recording the grout depth, grout volume and grout pressure as the grout is being placed.
  - c) Grouting rate calculations, when requested by the Engineer. The calculations shall be based on the initial pump pressures or static head on the grout and losses throughout the placing system, including anticipated head of drilling fluid (if applicable) to be displaced.
  - d) Estimated curing time for grout to achieve specified strength. Previous test results for the proposed grout mix completed within one year of the start of grouting may be submitted for initial verification and acceptance and start of production work. During production, grout shall be tested in accordance with Section 3.2.8.
  - e) Procedure and equipment for Contractor monitoring of grout quality.
- 11) Detailed plans for the proposed micropile load testing method. This shall include all drawings, details, and structural design calculations necessary to clearly describe the proposed test method, reaction load system capacity and equipment setup, types and accuracy of apparatus to be used for applying and measuring the test loads and pile top movements in accordance with Section 3.3, Pile Load Tests.
- 12) Calibration reports and data for each test jack, pressure gauge and master pressure gauge and electronic load cell to be used. The calibration tests shall have been performed by an independent testing laboratory, and tests shall have been performed within 90 calendar days of the date submitted. Testing shall not commence until the Engineer has reviewed and accepted the jack, pressure gauge, master pressure gauge and electronic load cell calibration data.

All drawings and calculations shall be signed and sealed by the Contractor's Professional Engineer licensed in the State of Kentucky.

Work shall not begin until the construction submittals have been received, reviewed, and accepted in writing by the Engineer. Changes or deviations from the approved submittals must be re-submitted for approval.

**3.1.4 Micropile Pre-Construction Meeting.** A micropile pre-construction meeting will be scheduled by the Engineer and held prior to the start of micropile construction. The Engineer, prime Contractor, micropile specialty Contractor, and excavation contractor shall attend the meeting. Attendance is mandatory. The pre-construction meeting will be conducted to clarify the construction requirements for the work, to coordinate the construction schedule and activities, and to identify contractual relationships and delineation of responsibilities amongst the prime Contractor and the various Subcontractors—specifically those pertaining to excavation for micropile structures, anticipated subsurface conditions, micropile installation and testing, micropile structure survey control and site drainage control.

### **3.2 General Construction.**

**3.2.1 Site Drainage Control.** The Contractor shall control and properly dispose of drill flush and construction related waste, including excess grout, in accordance with the standard specifications and all applicable local codes and regulations. Provide positive control and discharge of all surface water that will affect construction of the micropile installation.

**3.2.2 Excavation.** Coordinate the work and the excavation so the micropiles are safely constructed. Perform the micropile construction and related excavation in accordance with the Plans and approved submittals. No excavations steeper than those specified herein or shown on the Plans will be made above or below the micropile structure locations without written approval of the Engineer.

**3.2.3 Micropile Allowable Construction Tolerances.** Centerline of piling shall not be more than 3 inches from indicated plan location. Pile shall be plumb within 2 percent of total-length plan alignment. Top elevation of pile shall be plus 1 inch or minus 2 inches maximum from vertical elevation indicated. Centerline of reinforcing steel shall not be more than 3/4 inch from indicated location.

**3.2.4 Micropile Installation.** Unless shown otherwise on the Plans, the micropile Contractor shall propose the drilling method, the grouting procedure, and the grouting pressure used for the installation of the micropiles, subject to approval by the Engineer. Final approval of this proposed method is contingent upon the satisfactory results of the verification load tests. The micropile Contractor shall also determine the final bond zone drill hole diameter for the selected drilling equipment, and central reinforcing sizing for test piles. The final drill hole diameter shall not be less than that shown on the Plans. The micropile Contractor is also responsible for estimating the grout take. There will be no extra payment for grout overruns.

**3.2.5 Drilling.** The drilling equipment and methods shall be suitable for drilling through the conditions to be encountered, without causing damage to any overlying or adjacent structures or services. Upon drilling completion ensure drill cuttings and/or other loose debris is removed from the bottom of the hole. The drill hole must be open along its full length to at least the design minimum drill hole diameter prior to placing grout and reinforcement. Develop methods of stabilizing borehole that do not have a deleterious effect on the grout-to-ground bond development. All installation techniques shall be determined and scheduled such that there will be no interconnection or damage to piles in which grout has not achieved final set. Use of drilling fluid containing bentonite is not allowed.

**3.2.6 Pipe Casing and Reinforcing Bar Placement and Splicing.** Reinforcement shall be placed into the drill hole prior to grouting. Reinforcement surface shall be free of deleterious substances, such as soil, mud, grease or oil that might contaminate the grout or coat the reinforcement and impair bond.

The Contractor shall check pile top elevations and adjust all installed micropiles to the planned elevations.

Centralizers and spacers shall be provided at 10-foot centers maximum spacing. The upper and lower most centralizers shall be located a maximum of 2 feet from the top and bottom of the micropile. Centralizers and spacers shall permit the free flow of grout without misalignment of the reinforcing bar(s)

and permanent casing. The central reinforcement bars with centralizers shall be lowered into the stabilized drillhole and set. The reinforcing steel shall be inserted into the drill hole to the desired depth without difficulty. Partially inserted reinforcing bars shall not be driven or forced into the hole. Contractor shall redrill and reinsert reinforcing steel when necessary to facilitate insertion.

Lengths of casing and reinforcing bars to be spliced shall be secured in proper alignment and in a manner to avoid eccentricity or angle between the axes of the two lengths to be spliced. Splices and threaded joints shall meet the requirements of Materials Section 2.0. Threaded pipe casing joints shall be located at least two casing diameters (OD) from a splice in any reinforcing bar. When multiple bars are used, the bar splices shall be staggered at least 1 foot.

**3.2.7 Grouting.** Micropiles shall be fully grouted the same day the load transfer bond length is drilled. The grouting equipment used shall produce a grout free of lumps and undispersed cement. The Contractor shall have means and methods of measuring the grout quantity and pumping pressure during the grouting operations. The grout pump shall be equipped with a pressure gauge to monitor grout pressures. A second pressure gauge shall be placed at the point of injection into the pile top. The pressure gauges shall be capable of measuring pressures of at least 150 psi or twice the actual grout pressures used, whichever is greater. The grout shall be kept in constant agitation prior to pumping. Grout shall be placed within one hour of mixing. The grouting equipment shall be sized to enable each pile to be grouted in one continuous operation.

Tremie grout from the lowest point of the drill hole until uncontaminated grout flows from the top of the pile. The grout may be pumped through grout tubes, casing, hollow-stem augers, or drill rods. All grouting operations, including tremie grout pumping, casing extraction and subsequent pressure grouting operations, must ensure complete continuity of the grout column. The grout pressures and grout takes shall be controlled to prevent excessive heave or fracturing of rock or soil formations. Upon completion of grouting, the grout tube may remain in the hole, but must be filled with grout.

Grout within the micropiles shall be allowed to attain the required design strength prior to being loaded.

If the Contractor elects to use a post-grouting system, Working Drawings and details shall be submitted to the Engineer for review in accordance with Section 3.1.3, Construction Submittals.

**3.2.8 Grout Testing.** Grout within the micropile verification and proof test piles shall attain the required minimum 28-day compressive strength shown on the Plans prior to load testing. Previous test results for the proposed grout mix completed within one year of the start of work may be submitted for initial verification of the required compressive strengths for installation of pre-production verification test piles. During production, micropile grout shall be tested by the Contractor for compressive strength in accordance with AASHTO T106/ASTM C109 at a frequency of no less than one set of three 2-inch grout cubes from each grout plant each day of operation or per every 10 piles, whichever occurs more frequently. At a minimum, compressive strength tests shall be taken at 3, 7 and 28 days after grouting. For each time interval, the compressive strength shall be the average of the set of 3 cubes tested.

Grout consistency, as measured by grout density, shall be determined by the Contractor per ASTM C188/AASHTO T133 or API RP-13B-1 at a frequency of at least one test per pile, conducted just prior to start of pile grouting. The Baroid Mud Balance used in accordance with API RP-13B-1 is an approved device for determining the grout density of neat cement grout.

Grout samples shall be taken directly from the grout plant. Provide grout cube compressive strength and grout density test results to the Engineer within 24 hours of testing.

**3.2.9 Micropile Installation Records.** Contractor shall prepare and submit to the Engineer full-length installation records for each micropile installed. The records shall be submitted within one work shift after that pile installation is completed. The records shall include the following minimum information:

- 1) Reference number of micropile
- 2) Date and time begun and completed for both drilling and grouting
- 3) Equipment used and operator
- 4) Factored Design load (compression and/or tension)
- 5) Micropile drilling logs indicating:
  - a) penetration rates (feet depth per minute)
  - b) downpressure



- c) materials encountered, including flush return description
  - d) elevation of obstructions, if any
  - e) elevation of karst, solution features or voids, if any
  - f) ground elevation
  - g) elevation of groundwater or seepage encountered
  - h) final tip elevation
  - i) casing length above and below bottom of footing
  - j) plunge length
  - k) bond length
  - l) total micropile length
  - m) description of unusual installation behavior or conditions
- 6) grouting rates (cubic yards per foot depth)
  - 7) grouting pressures (pounds per square inch per foot depth)
  - 8) total grout quantities (cubic yards)
  - 9) casing materials and dimensions
  - 10) reinforcing material, size and lengths, and
  - 11) compliance with tolerances.

The data shall be recorded on a micropile installation log. A separate log shall be provided for each micropile.

**3.3 Pile Load Tests.** Perform verification and proof testing of piles at the locations specified herein or designated by the Engineer based on the design axial load(s) as shown in the Plans. Perform compression load testing in accordance with ASTM D1143 and tension load testing in accordance with ASTM D3689, except as modified herein.

When the required axial compression design load is greater than the required axial tension design load and the design assumes that tip resistance adds capacity, compression load testing shall be performed. Otherwise, tension load testing shall be performed.

**3.3.1 Testing Equipment and Data Recording.** Testing equipment shall include dial gauges, dial gauge support, jack and pressure gauge, electronic load cell, and a reaction frame. The load cell is required only for the creep test portion of the verification test. The contractor shall provide a description of test setup and jack, pressure gauge and load cell calibration curves in accordance with the Submittals Section.

Design the testing reaction frame to be sufficiently rigid and of adequate dimensions such that excessive deformation of the testing equipment does not occur. Align the jack, bearing plates, and stressing anchorage such that unloading and repositioning of the equipment will not be required during the test.

Apply and measure the test load with a hydraulic jack and pressure gauge, or load cell when present. The jack and pressure gauge shall have a pressure range not exceeding twice the anticipated maximum test pressure. Jack ram travel shall be sufficient to allow the test to be done without resetting the equipment. Monitor the creep test load hold during verification tests with both the pressure gauge and the electronic load cell. Use the load cell to accurately maintain a constant load hold during the creep test load hold increment of the verification test.

Measure the pile top movement with a dial gauge capable of measuring to 0.001 inch. The dial gauge shall have a travel sufficient to allow the test to be done without having to reset the gauge. Visually align the gauge to be parallel with the axis of the micropile and support the gauge independently from the jack, pile or reaction frame. Use a minimum of two dial gauges when the test setup requires reaction against the ground or single reaction piles on each side of the test pile.

Production piles may be utilized as reaction piles for proof tests. The Contractor is responsible for any modifications to the production piles to facilitate testing. No additional payment will be made to repair or replace damaged production piles utilized as reaction piles. Production piles may not be utilized as reaction piles for verification tests.

**3.3.2 Verification Tests.** Perform pre-production verification pile load testing on sacrificial (non-production) test piles, unless noted otherwise in the Plans, to verify the design of the pile system and the

construction methods proposed prior to installing any production piles. Sacrificial verification test piles shall be constructed in conformance with the Plans and the accepted Working Drawings. The number and approximate locations of verification test piles shall be as shown on the Plans.

Verification load tests shall be performed to verify that the Contractor installed micropiles will meet the required compression and tension load capacities and load test acceptance criteria and to verify that the length of the micropile bond zone is adequate. Provide the Engineer a written report confirming micropile geometry, construction, testing details, and verification test results within 7 working days following completion of the pre-production verification load tests. The micropile verification load test results must verify the design and installation methods, and be reviewed and accepted by the Engineer prior to beginning installation of production micropiles.

The drilling-and-grouting method, casing length and outside diameter, reinforcing bar lengths, and depth of embedment for the verification test pile(s) shall be identical to those specified for the production piles at the given locations. The verification test micropile structural steel sections and reinforcing shall be sized to safely resist the maximum test load.

The maximum verification and proof test loads applied to the micropile shall not exceed 80 percent of the structural capacity of the micropile structural elements, to include steel yield in tension, steel yield or buckling in compression, or grout crushing in compression. Any required increase in strength of the verification test pile elements above the strength required for the production piles shall be provided for in the contractor's bid price.

The jack shall be positioned at the beginning of the test such that unloading and repositioning during the test will not be required. When both compression and tension load testing is to be performed on the same pile, the pile shall be tested under compression loads prior to testing under tension loads.

**3.3.3 Verification Test Loading Schedule.** Test verification piles designated for compression or tension load testing to a maximum test load equal to the required nominal geotechnical resistance, or Nominal Resistance (NR) shown on the Plans. NR is typically calculated by dividing the Factored Design Load (FDL) for the micropile by the Geotechnical Resistance Factor ( $\Phi$ ).

The verification pile load tests shall be made by incrementally loading the micropile in accordance with the following cyclic load schedule for both compression and tension loading:

VERIFICATION TEST LOADING SCHEDULE			
STEP	LOADING	APPLIED LOAD	HOLD TIME (Min.)
1	Apply AL		2.5
2	Cycle 1	0.10 NR	2.5
		0.20 NR	2.5
		0.30 NR	2.5
		AL	1
3	Cycle 2	0.10 NR	1
		0.20 NR	1
		0.30 NR	1
		0.40 NR	2.5
		0.50 NR	2.5
		AL	1
4	Cycle 3	0.10 NR	1
		0.50 NR	1
		0.60 NR	2.5
		0.70 NR	60 minutes (Creep Test)
		0.80 NR	2.5
		AL	1

VERIFICATION TEST LOADING SCHEDULE			
STEP	LOADING	APPLIED LOAD	HOLD TIME (Min.)
5	Cycle 4	0.10 NR	1
		0.80 NR	1
		0.90 NR	2.5
		1.00 NR	10
		0.75 NR	5
		0.50 NR	5
		0.25 NR	5
		AL	5
AL = Alignment Load not to exceed 0.05 NR NR = Nominal Geotechnical Resistance (As Shown on Plans)			

Pile top movement shall be measured at each load increment relative to a fixed reference. The load-hold period shall start as soon as each test load increment is applied. The verification test pile shall be monitored for creep at the 0.70 Nominal Resistance (NR). Pile movement during the creep test shall be measured and recorded at 1, 2, 3, 4, 5, 6, 10, 20, 30, 50 and 60 minutes. The alignment load shall not exceed 5 percent of the NR load. Dial gauges shall be reset to zero after the initial AL is applied.

The acceptance criteria for micropile verification load tests are:

- 1) The pile shall sustain the first 0.50 NR test load (compression or tension) with no more than 1/2" total vertical movement at the top of the pile, relative to the position of the top of the pile prior to testing.
- 2) At the end of the 0.70 NR creep test load increment, test piles shall have a creep rate not exceeding 0.040 inch/log cycle time (1 to 10 minutes) or 0.080 inch/log cycle time (6 to 60 minutes or the last log cycle if held longer). The creep rate shall be linear or decreasing throughout the creep load hold period.
- 3) Failure does not occur at the NR maximum test load. Failure is defined as load where the slope of the load versus head settlement curve first exceeds 0.025 inch/kip.

**3.3.4 Verification Test Pile Rejection.** If the micropile verification test fails to meet the acceptance criteria, establish the cause(s) and provide modifications to the design, the construction procedures, or both. Retest the new system, as directed by the Engineer. These modifications include, but are not limited to, installing replacement test micropiles, modifying the installation methods, increasing the bond length, regrouting via pre-placed re-grout tubes, or changing the micropile type. Any modification which requires changes to the structure must have prior review and acceptance of the Engineer through submittals. Determine the cause for any modifications of design or construction procedures to appropriately determine any additional cost implications.

**3.3.5 Proof Load Tests.** Unless shown otherwise on the Plans, perform proof tests on 5 percent of the production piles with a minimum of 1 pile per substructure unit. The proof test piles or locations shall be as shown on the Plans or as directed by the Engineer. Provide the Engineer a written report confirming micropile geometry, construction, testing details, and proof test results within 7 working days following completion of the production pile proof load tests.

**3.3.6 Proof Test Loading Schedule.** Test piles designated for compression or tension proof load testing to a maximum test load of the Factored Design Load (FDL) shown on the Plans or Working Drawings. Proof tests shall be made by incrementally loading the micropile in accordance with the following schedule, to be used for both compression and tension loading:

PROOF TEST LOADING SCHEDULE			
STEP	LOADING	APPLIED LOAD	HOLD TIME (Min.)
1	Apply AL		2.5
2	Load Cycle	0.10 FDL	2.5
		0.20 FDL	2.5
		0.30 FDL	2.5
		0.40 FDL	2.5
		0.50 FDL	2.5
		0.60 FDL	2.5
		0.70 FDL	2.5
		0.80 FDL	10 to 60 minutes (Creep Test)
		0.90 FDL	2.5
		1.00 FDL	2.5
3	Unload Cycle	0.75 FDL	4
		0.50 FDL	4
		0.25 FDL	4
		AL	4
AL = Alignment Load not to exceed 0.05 FDL FDL = Factored Design Load (As Shown on Plans)			

Depending on performance, either a 10-minute or 60-minute creep test shall be performed at the 0.80 FDL Test Load. Where the pile top movement between 1 and 10 minutes exceeds 0.040 inch, the test load shall be maintained an additional 50 minutes. Movements shall be recorded at 1, 2, 3, 5, 6, 10, 20, 30, 50 and 60 minutes. The alignment load shall not exceed 5 percent of FDL. Dial gauges shall be reset to zero after the initial AL is applied.

The acceptance criteria for micropile proof load tests are:

- 1) The pile shall sustain a 0.70 FDL test load (compression or tension) with no more than 1/2" total vertical movement at the top of the pile, relative to the position of the top of the pile prior to testing.
- 2) At the end of the 0.80 FDL creep test load increment, test piles shall have a creep rate not exceeding 0.040 inch/log cycle time (1 to 10 minutes) or 0.080 inch/log cycle time (6 to 60 minutes). The creep rate shall be linear or decreasing throughout the creep load hold period.
- 3) Failure does not occur at the FDL maximum test load. Failure is defined as load where the slope of the load versus head settlement curve first exceeds 0.025 inch/kip.

**3.3.7 Proof Test Pile Rejection.** If a proof-tested micropile fails to meet the acceptance criteria, proof test another micropile in the immediate vicinity. For failed piles and further construction of other piles, modify the design, the construction procedure, or both. These modifications include, but are not limited to, installing replacement micropiles, incorporating piles of reduced load capacities, modifying the installation methods, increasing the bond length, or changing the micropile type. Any modification which requires changes to the structure must have prior review and acceptance of the Engineer through submittals. Determine the cause for any modifications of design or construction procedures to appropriately determine any additional cost implications.

#### 4.0 MEASUREMENT AND PAYMENT

Micropiles are incidental to the price for "Prefabricated Steel Truss Bridge." The Department will consider payment under "Prefabricated Steel Truss Bridge" as full compensation for all work required in this note. The Department will not measure for payment any micropiles (production or non-production), casings, micropile reinforcement, grout, failed test piles, reaction piles, verification tests, and proof tests. The contractor is responsible for estimating the grout take. There will be no extra payment for grout overruns or special installation materials, procedures or equipment to prevent or reduce grout overruns.

## SPECIAL NOTE FOR HOT-DIP GALVANIZING STEEL

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

**I. DESCRIPTION.** This work shall consist of surface preparation and hot-dip galvanizing structural steel specified on the plans. An additional coating system as described in Section 607.03.23 of the Specifications is not required when this note is included in the contract.

**II. MATERIALS.**

- A. Steel.** Use steel specified in the plans; however, fabricator must confirm that the steel material has silicon content either below 0.4% or between 0.15% and 0.22% to ensure galvanizing will perform and bond as required. Steel material out of this range shall be rejected. This specification can only be utilized for rolled steel beam bridges (no plate girders) and associated hardware.
- B. Zinc.** In accordance with AASHTO M111.

**III. HOT-DIP GALVANIZING.**

**A. Application.**

Steel members, fabrications and assemblies shall be galvanized by the hot-dip process in the shop according to AASHTO M111 (*Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products*).

Bolts, nuts, washers and steel components shall be galvanized in the shop according to AASHTO M232 (*Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware*).

**B. Safeguarding against embrittlement, distortion, and cracking**

All steel shall be safeguarded against embrittlement according to ASTM A143 (*Standard Specification for Safeguarding against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement*). Water quenching or chromate conversion coatings shall not be used on any steel work that is to be painted.

All galvanized steel work shall be handled in a manner to avoid mechanical damage and minimize distortion. Members shall be supported during galvanization to prevent permanent distortion. The contractor/fabricator/galvanizer must propose changes to the element prior to preparing shop drawings if necessary to minimize the chances of permanent distortion or cracking during hot-dip galvanizing. Pre-heating must be utilized if necessary to minimize the chance of permanent distortion or cracking.

The contractor is required to inspect each element for distortion following hot-dip galvanizing prior to dipping the next element. Consult the Engineer if distortion is detected before proceeding to the next element.

**C. Fabrication**

Hot-dip galvanizing shall be indicated on the shop drawings. The fabricator shall coordinate with the galvanizer to incorporate additional steel detail required to facilitate galvanizing of the steel. These additional details shall be indicated on the shop drawings.

To insure identification after galvanizing, piece marks shall be supplemented with metal tags for all items where fit-up requires matching specific pieces.

After fabrication (cutting, welding, drilling, etc.) is complete, all holes shall be deburred and all fins, scabs or other surface/edge anomalies shall be ground or repaired per ASTM A6. The items shall then be cleaned per Steel Structures Painting Council's Surface Preparation Specification SSPC-SP1 (Solvent Cleaning) and SSPC-SP6 (Commercial Blast Cleaning). All surfaces shall be inspected to verify no fins, scabs or other similar defects are present.

All welded attachments shall be connected prior to hot dip galvanization, including shear studs.

Beams shall be handled, stored and transported with their webs vertical and with proper cushioning to prevent damage to the member and coating. Members shall be supported during galvanizing to prevent permanent distortion.

**D. Surface Preparation**

The Contractor/Fabricator shall consult with the galvanizer to insure proper removal of grease, paint and other deleterious materials prior to galvanizing. The members shall be abrasive blasted/cleaned to SSPC SP6/NACE 3 to remove all mill scale.

**E. Coating Requirements**

Coating weight, surface finish, appearance and adhesion shall conform to requirements of ASTM A385 (*Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip)*) and AASHTO M111 or AASHTO M232, as appropriate.

**F. Testing Requirements**

Inspection and testing of hot-dip galvanized coatings shall follow the guidelines provided in the American Galvanizers Association publication "*Inspection of Products Hot-dip Galvanized after Fabrication*". Sampling, inspection, rejection and retesting for conformance with requirements shall be according to AASHTO M111 or AASHTO M232 as applicable, with the target coating thickness of 152 microns (6 mils). Coating thickness shall be measured according to AASHTO M111, for magnetic thickness gage measurement and AASHTO M232 as appropriate. The Cabinet may elect to conduct testing in addition to the Standards required testing.

All galvanized steel will be visually inspected for finish and appearance.

Bolts, nuts, washers, and steel components shall be packaged according to AASHTO M232. Identity of bolts, nuts and washers shall be maintained for lot-testing after galvanizing according to Article 505.04(f)(2) for high strength steel bolts.

**G. Connection Treatment**

After galvanizing and prior to shipping, contact surfaces for any bolted connections shall be roughened by hand wire brushing or according to SSPC-SP7 (Brush-Off Blast Cleaning). Power wire brushing is not allowed.

All bolt holes shall be reamed or drilled to their specified diameters after galvanizing. All bolts shall be installed after galvanizing.

**H. Repair of Hot-dip Galvanized Coating**

Surfaces with inadequate zinc thickness will be repaired using zinc based solder in accordance to ASTM A780 (*Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings*) Section 4.2.1 and AASHTO M111. Any fins or slivers present after galvanizing will be removed and repaired ASTM A780 (*Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings*) Section 4.2.1 and AASHTO M111.

Surfaces of galvanized steel that are damaged after the galvanizing operation shall be repaired according to ASTM A780. Damage that occurs in the shop shall be repaired in the shop. Damage that occurs during transport or in the field shall be repaired in the field. Any drips or runs in the galvanizing will be removed by grinding to match the surrounding surface.

All bolt holes shall be reamed or drilled to their specified diameters after galvanizing.

The Cabinet's Project Team must inspect and approve the galvanized steel prior to the subsequent Phase of Work.

**V. PAYMENT**

The cost of all surface preparation, galvanizing, and all other work described herein shall be the considered as included in the lump sum price bid for Prefabricated Steel Truss Bridge.

The Department will consider payment as full compensation for all work required by these notes and detail drawings.

***SPECIAL NOTE***

**For Tree Removal**

**Woodford/Scott Counties  
Weisenberger Mill Road Bridge Replacement over Elkhorn  
Creek  
Item No. 07-8642**

**NO CLEARING OF TREES 5 INCHES OR GREATER  
(DIAMETER BREAST HEIGHT) FROM  
JUNE 1 – JULY 31**

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



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

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

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



**Matthew G. Bevin**  
Governor

**COMMONWEALTH OF KENTUCKY**  
**TRANSPORTATION CABINET**  
Frankfort, Kentucky 40622  
[www.transportation.ky.gov/](http://www.transportation.ky.gov/)

**Greg Thomas**  
Secretary

## **Asbestos Inspection Report**

To: Becky Barrick

District: 7

Date: June 21, 2016

Conducted By: O'Dail Lawson

Report Prepared By: O'Dail Lawson

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### **Project and Structure Identification**

Project Number: Woodford 07-8642

Structure ID: 120C00006N

Structure Location: Wiesenberger Mill Road over South Elkhorn Creek

Sample Description: The sample collected were negative for asbestos.

Inspection Date: June 16, 2016

### **Results and Recommendations**

The results of the samples collected were negative for the presence of asbestos above 1%.  
No abatement is required at this time.

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.







**ENVIRONMENTAL TRAINING CONCEPTS, INC**

P.O Box 99603 Louisville, KY 40269  
(502)640-2951

Certification Number: ETC-AIR-071415-00276

**O'Dail Lawson**

has on 07-14-2015, attended and successfully completed the requirements and passed the examination with a score of 70% of better on the entitled course.

**ASBESTOS INSPECTOR REFRESHER**

Training was in accordance with 40 CFR Part 763 (AHERA) approved by the Commonwealth of Kentucky, the Indiana Department of Environmental Management and Tennessee Department of Environment & Conservation The above student received requisite training for Asbestos Accreditation under Title II of the Toxic Substance Act (TSCA).

Conducted at: 1220 Kentucky Mills Drive, Louisville, KY

  
Name - Training Manager

Expiration Date: 07-14-2016

  
Name - Instructor



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

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

**RIGHT OF WAY CERTIFICATION**

<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>	
7-8642.00		Scott/Woodford		1381 JL03 120 86761 01R		n/a	
<b>PROJECT DESCRIPTION</b>							
Replace the Weisenberger Mill Road Bridge							
<input 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 checked="" 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		3	EXCEPTION (S) Parcel #		ANTICIPATED DATE OF POSSESSION WITH EXPLANATION		
Number of Parcels That Have Been Acquired							
Signed Deed		3					
Condemnation		0					
Signed ROE		0					
<b>Notes/ Comments (Use Additional Sheet if necessary)</b>							
<b>LPA RW Project Manager</b>				<b>Right of Way Supervisor</b>			
Printed Name				Printed Name		Cecil Smith	
Signature				Signature			
Date				Date		4/30/2019	
<b>Right of Way Director</b>				<b>FHWA</b>			
Printed Name				Printed Name			
Signature				Signature			
Date				Date			

## UTILITIES AND RAIL CERTIFICATION NOTE

**Woodford County, BRZ 0703(334)**  
**12F0 FD52 120 86761 01U**  
**Mile point: 2.499 TO 2.522**  
**ADDRESS DEFICIENCIES OF THE WEISENBURG MILL ROAD BRIDGE AT THE WOODFORD/SCOTT COUNTY**  
**LINE. (10CCN)(120C00006N)**  
**ITEM NUMBER: 07-8642.00**

### PROJECT NOTES ON UTILITIES

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

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs. The utility facilities as noted 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 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.

## UTILITIES AND RAIL CERTIFICATION NOTE

Woodford County, BRZ 0703(334)  
12F0 FD52 120 86761 01U  
Mile point: 2.499 TO 2.522  
ADDRESS DEFICIENCIES OF THE WEISENBURG MILL ROAD BRIDGE AT THE WOODFORD/SCOTT COUNTY  
LINE. (10CCN)(120C00006N)  
ITEM NUMBER: 07-8642.00

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

Kentucky Utilities Company - Electric Distribution

Crosses Weisenberger Mill Road at bridge

Windstream Communications

Telephone fiber and copper crosses Weisenberger Mill Road at bridge

**\*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**

Kentucky Utilities – Electric Distribution

Kentucky Utilities relocated existing lines to higher elevation at crossing of bridge



## UTILITIES AND RAIL CERTIFICATION NOTE

Woodford County, BRZ 0703(334)  
12F0 FD52 120 86761 01U  
Mile point: 2.499 TO 2.522  
ADDRESS DEFICIENCIES OF THE WEISENBURG MILL ROAD BRIDGE AT THE WOODFORD/SCOTT COUNTY  
LINE. (10CCN)(120C00006N)  
ITEM NUMBER: 07-8642.00

**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**

### Windstream Communications

Windstream Communication plans to relocate approximately 300 feet of aerial copper cable and one fiber optic cable to Kentucky Utilities poles that are located at North side of the bridge. The cabinet currently has Windstream's plans/estimate and are waiting on the requested utility funds to be approved for further processing of the agreement. Projected completion date 8/31/2019.

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

Not Applicable

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

No Rail Involvement    Rail Involved    Rail Adjacent

## AREA FACILITY OWNER CONTACT LIST

## UTILITIES AND RAIL CERTIFICATION NOTE

**Woodford County, BRZ 0703(334)**  
**12F0 FD52 120 86761 01U**  
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**ADDRESS DEFICIENCIES OF THE WEISENBURG MILL ROAD BRIDGE AT THE WOODFORD/SCOTT COUNTY**  
**LINE. (10CCN)(120C00006N)**  
**ITEM NUMBER: 07-8642.00**

<b>Facility Owner</b>	<b>Address</b>	<b>Contact Name</b>	<b>Phone</b>	<b>Email</b>
Kentucky Utilities Company - Electric Distribution	820 West Broadway Louisville KY 40232	Caroline Justice	5026487418	Caroline.Justice@LGE-KU.com
Windstream Communications - Telephone	130 West New Circle Road Lexington KY 40505	Steve Johnson	8593576209	Steve.Johnson@windstream.com

# *N O T I C E*

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**DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS  
(NATIONWIDE PERMIT & GENERAL WQC AUTHORIZATION)**

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**PROJECT:** Woodford County, Item No. 7-8642.00  
Bridge Maintenance

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The Section 404 & 401 activities for this project have been previously permitted under the authority of the Department of the Army Nationwide Permit No. 3 “Maintenance” & Division of Water General Water Quality Certification. In order for these authorizations to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Permit & General WQC in a conspicuous location at the project site for the duration of construction and comply with the general conditions as required.

To more readily expedite construction, the contractor may elect to alter the design or perform the work in a manner different from what was originally proposed and specified. Prior to commencing such alternative work, the contractor shall obtain **written** permission from the Division of Construction and the Corps of Engineers. A copy of any request to the Corps of Engineers to alter this proposal and subsequent responses shall be forwarded to the Division of Environmental Analysis, DA Permit Coordinator, for office records and for informational purposes.



**DEPARTMENT OF THE ARMY**  
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE  
CORPS OF ENGINEERS  
P.O. BOX 59  
LOUISVILLE KY 40201-0059  
FAX: (502) 315-6677  
<http://www.lrl.usace.army.mil/>

December 20, 2018

Regulatory Division  
South Branch  
ID No. LRL-2017-124-ncc

Mr. Roy Collins  
Kentucky Transportation Cabinet, DEA  
200 Mero Street  
Frankfort, Kentucky 40622

Dear Mr. Collins:

This is in response to your request for authorization to perform in-place replacement of the Weisenberger mill Bridge and to replace approaches on KY 1015 (Weisenberger Mill Road). In addition, the project may involve the construction of a temporary low water crossing. The project would impact approximately 43 linear feet (0.05 acre) of the South Fork of Elkhorn Creek near Midway, Woodford County, Kentucky. 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 404 of the Clean Water Act.

Your project is considered maintenance of a structure which has been previously authorized, either by DA Permit or by having been constructed prior to current Federal laws. Therefore, the project is authorized under the provisions of 33 CFR 330 Nationwide Permit (NWP) No. 3, Maintenance, 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. 3, and the following Special Conditions:

To address impacts to the Weisenberger Bridge, the enclosed Memorandum of Agreement (MOA) between the Federal Highway Administration (FHWA), the Kentucky State Historic Preservation Office (SHPO) and the Kentucky Transportation Cabinet (KYTC) includes measures to be implemented in order to take into account the effect of the project on the bridge. The authorization under this Corps permit is conditional upon your compliance with all the terms and conditions associated with the MOA, which are incorporated by reference in this permit. Failure to comply with the MOA would constitute non-compliance with the Corps permit.

To avoid impacts to the Indiana bat and the northern long-eared bat, the permittee shall comply with the 2015 Interim Programmatic Agreement for Forest Dwelling Bats between the FHWA, KYTC and the U.S. Fish and Wildlife Service.

To compensate for impacts to the gray bat, the permittee shall implement sediment and erosion control measures as outlined in KYTC's Biological Assessment (BA) for the project (pages 10-11) that will be used to minimize potential adverse effects on gray bat foraging habitat.

You must also comply with the enclosed Water Quality Certification (WQC) Conditions for Nationwide Permit No. 3 dated March 19, 2017, issued by the Kentucky Division of Water (KDOW). Once you obtain your certification, or if no application was required, you may proceed with the project without further contact or verification from us.

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 this office by writing to the above address, ATTN: CELRL-RDS, or by calling Norma Condra at (502) 315-6680. All correspondence pertaining to this matter should refer to our ID No. LRL-2017-124-ncc.

Sincerely,



David Baldrige  
Chief, South Branch  
Regulatory Division

Enclosures

ADDRESS FOR COORDINATING AGENCY

Ms. Beth Harrod  
Kentucky Energy & Environment Cabinet  
Division of Water  
300 Sower Boulevard, 3rd Floor  
Frankfort, KY 40601

Mr. Lee Andrews  
U.S. Fish & Wildlife Service  
JC Watts Federal Building  
330 West Broadway, Room 265  
Frankfort, KY 40601

Mr. Craig Potts  
Executive Director  
State Historic Preservation Officer  
Kentucky Heritage Council  
300 Washington Street  
Frankfort, KY 40601

Compliance Certification:

Permit Number: LRL-2017-124-ncc

Name of Permittee: Kentucky Transportation Cabinet

Date of Issuance: December 20, 2018

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  
P.O. Box 59  
Louisville, Kentucky 40201

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

Terms for Nationwide Permit No. 3  
Maintenance

(a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP also authorizes the removal of previously authorized structures or fills. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project. This NWP also authorizes the removal of accumulated sediment and debris within, and in the immediate vicinity of, the structure or fill. This NWP also authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris outside the immediate vicinity of existing structures (e.g., bridges, culverted roadcrossings, water intake structures, etc.). The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization.

(c) This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After conducting the maintenance activity, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.



(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation. This NWP does not authorize beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 32). The pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Authorities: Section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act (Sections 10 and 404))

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act section 404(f) exemption for maintenance.



**MATTHEW G. BEVIN**  
GOVERNOR

**CHARLES G. SNAVELY**  
SECRETARY

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

**R. BRUCE SCOTT**  
COMMISSIONER

300 SOWER BOULEVARD  
FRANKFORT, KENTUCKY 40601

## **General Certification--Nationwide Permit # 3 Maintenance**

This General Certification is issued March 19, 2017, in conformity with the requirements of Section 401 of the Clean Water Act of 1977, as amended (33 U.S.C. §1341), as well as Kentucky Statute KRS 224.16-050.

For this and all nationwide permits, the definition of surface water is as per 401 KAR 10:001 Chapter 10, Section 1(80): Surface Waters means those waters having well-defined banks and beds, either constantly or intermittently flowing; lakes and impounded waters; marshes and wetlands; and any subterranean waters flowing in well-defined channels and having a demonstrable hydrologic connection with the surface. Lagoons used for waste treatment and effluent ditches that are situated on property owned, leased, or under valid easement by a permitted discharger are not considered to be surface waters of the commonwealth.

The Commonwealth of Kentucky hereby certifies under Section 401 of the Clean Water Act (CWA) that it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 304, 306 and 307 of the CWA, will not be violated for the activity covered under NATIONWIDE PERMIT 3, namely Maintenance, provided that the following conditions are met:

1. The activity will not occur within surface waters of the Commonwealth identified by the Kentucky Division of Water as Outstanding State or National Resource Water, Cold Water Aquatic Habitat, or Exceptional Waters.
2. The activity will not occur within surface waters of the Commonwealth identified as perpetually-protected (e.g. deed restriction, conservation easement) mitigation sites.
3. The activity will impact less than 1/2 acre of wetland/marsh.
4. The activity will impact less than 300 linear feet of surface waters of the Commonwealth.

**General Certification--Nationwide Permit # 3**  
**Maintenance**  
**Page 2**

5. The Kentucky Division of Water may require submission of a formal application for an individual certification for any project if the project has been determined to likely have a significant adverse effect upon water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.
6. Activities that do not meet the conditions of this General Water Quality Certification require an Individual Section 401 Water Quality Certification.
7. Activities qualifying for coverage under this General Water Quality Certification are subject to the following conditions:
  - Projects requiring in-stream stormwater detention/retention basins shall require individual water quality certifications.
  - Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that violations of state water quality standards do not occur.
  - Sediment and erosion control measures, such as check-dams constructed of any material, silt fencing, hay bales, etc., shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without prior approval by the Kentucky Division of Water's Water Quality Certification Section. If placement of sediment and erosion control measures in surface waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in such a manner that may result in instability of streams that are adjacent to, upstream, or downstream of the structures. All sediment and erosion control devices shall be removed and the natural grade restored within the completion timeline of the activities.
  - Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
  - Removal of riparian vegetation shall be limited to that necessary for equipment access.
  - To the maximum extent practicable, all in-stream work under this certification shall be performed under low-flow conditions.
  - Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances in which such in-stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.
  - Any fill shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If rip-rap is utilized, it should be of such weight and size that bank stress or slump conditions will not be created because of its placement.

**General Certification--Nationwide Permit # 3**  
**Maintenance**  
**Page 3**

- If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when such work will be done.
- Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling (800) 928-2380.

Non-compliance with the conditions of this general certification or violation of Kentucky state water quality standards may result in civil penalties.

## 2017 Nationwide Permits Regional and Permit-Specific Conditions COMMONWEALTH OF KENTUCKY

These regional conditions are in addition to, but do not supersede, the requirements in the Federal Register (Volume 82, No. 4 of January 6, 2017, pp 1860).

Notifications for all Nationwide Permits (NWP) shall be in accordance with General Condition No. 32.

1. For activities that would impact Outstanding State or National Resource Waters (OSNRWs), Exceptional Waters (EWs), Coldwater Aquatic Habitat Waters (CAHs) under the Endangered Species Act for the NWP listed below, a Pre-Construction Notification (PCN) will be required to the Corps. The Corps will coordinate with the appropriate resource agencies (see attached list) on these NWP (Section 404 activities), for impacts to these waters.

NWP 3 (Maintenance)

NWP 4 (Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities)

NWP 5 (Scientific Measurement Devices)

NWP 6 (Survey Activities)

NWP 7 (Outfall Structures and Associated Intake Structures)

NWP 12 (Utility Line Activities)

NWP 13 (Bank Stabilization)

NWP 14 (Linear Transportation Projects)

NWP 15 (U.S. Coast Guard Approved Bridges)

NWP 16 (Return Water from Upland Contained Disposal Areas)

NWP 17 (Hydropower Projects)

NWP 18 (Minor Discharges)

NWP 19 (Minor Dredging)

NWP 20 (Response Operations for Oil or Hazardous Substances)

NWP 21 (Surface Coal Mining Activities)

NWP 22 (Removal of Vessels)

NWP 23 (Approved Categorical Exclusions)

NWP 25 (Structural Discharges)

NWP 27 (Aquatic Habitat Restoration, Establishment, and Enhancement Activities)

NWP 29 (Residential Developments)

NWP 30 (Moist Soil Management for Wildlife)

NWP 31 (Maintenance of Existing Flood Control Facilities)

NWP 32 (Completed Enforcement Actions)

NWP 33 (Temporary Construction, Access, and Dewatering)

NWP 34 (Cranberry Production Activities)

NWP 36 (Boat Ramps)

NWP 37 (Emergency Watershed Protection and Rehabilitation)

NWP 38 (Cleanup of Hazardous and Toxic Waste)

NWP 39 (Commercial and Institutional Developments)

NWP 40 (Agricultural Activities)

- NWP 41 (Reshaping Existing Drainage Ditches)
- NWP 42 (Recreational Facilities)
- NWP 43 (Stormwater Management Facilities)
- NWP 44 (Mining Activities)
- NWP 45 (Repair of Uplands Damaged by Discrete Events)
- NWP 46 (Discharges in Ditches)
- NWP 48 (Commercial Shellfish Aquaculture Activities)
- NWP 49 (Coal Remining Activities)
- NWP 50 (Underground Coal Mining Activities)
- NWP 51 (Land-Based Renewable Energy Generation Facilities)
- NWP 52 (Water-Based Renewable Energy Generation Pilot Projects)
- NWP 53 (Removal of Low-Head Dams)
- NWP 54 (Living Shorelines)

2. In addition to the notification and agency coordination requirements in the NWPs, for impacts greater than 0.25 acres in all “waters of the U.S.” for the NWPs listed below, a PCN will be required to the Corps. The Corps will coordinate with the appropriate resource agencies (see attached list) on these NWPs:

- NWP 3 (Maintenance)
- NWP 7 (Outfall Structures and Associated Intake Structures)
- NWP 12 (Utility Line Activities)
- NWP 14 (Linear Transportation Projects)
- NWP 29 (Residential Developments)
- NWP 39 (Commercial and Institutional Developments)
- NWP 40 (Agricultural Activities)
- NWP 41 (Reshaping Existing Drainage Ditches)
- NWP 42 (Recreational Facilities)
- NWP 43 (Stormwater Management Facilities)
- NWP 44 (Mining Activities)
- NWP 51 (Land-Based Renewable Energy Generation Facilities)
- NWP 52 (Water-Based Renewable Energy Generation Pilot Projects)
- NWP 53 (Removal of Low-Head Dams)

3. For activities in all “waters of the U.S.” for the NWPs listed below, a PCN will be required to the Corps. The Corps will coordinate with the appropriate resource agencies (see attached list) on these NWPs:

- NWP 21 (Surface Coal Mining Activities)
- NWP 27 (Aquatic Habitat Restoration, Establishment & Enhancement Activities)
- NWP 49 (Coal Remining Activities)
- NWP 50 (Underground Coal Mining Activities)

4. Nationwide Permit No. 14 – Linear Transportation Projects.

- (a) New road alignments or realignments are limited to a permanent loss of 500 linear feet of intermittent or perennial stream length at each crossing. Road crossings with permanent losses greater than 500 linear feet of intermittent or perennial stream associated with new

alignments or realignments will be evaluated as an individual permit (i.e., a Letter of Permission or as a Standard Individual Permit).

- (b) In addition to the notification requirements contained in NWP 14, the permittee must submit a PCN to the district engineer prior to commencing the activity for the permanent loss of greater than 300 feet of ephemeral, intermittent and perennial stream of all "waters of the U.S." (See General Condition 32 and the definition of "loss of waters of the United States" in the Nationwide Permits for further information.)
5. Notification in accordance with General Condition 32 is required to the Corps for all activities which are subject to jurisdiction under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
  6. All applications are required as both a paper copy and in an electronic media format, including electronic mail or compact disc.
  7. For all activities, the applicant shall review the U.S. Fish and Wildlife Service's IPaC website: <http://ecos.fws.gov/ipac> to determine if the activity might affect threatened and/or endangered species or designated critical habitat. If federally-listed species or designated critical habitat are identified, a PCN in accordance with General Condition 18 and 32 would be triggered and the official species list generated from the IPaC website must be submitted with the PCN.

Further information:

Outstanding State or National Resource Water (OSNRWs), Exceptional Waters (EWs), and Coldwater Aquatic Habitat Waters (CAHs) are waters designated by the Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet. The list can be found at the following link: <http://eppcapp.ky.gov/spwaters/>

Information on Pre-Construction Notification (PCN) can be found at NWP General Condition No. 32 in the Federal Register (Volume 81, No. 105 of June 1, 2017, pp 35211).

**COORDINATING RESOURCE AGENCIES**

Chief, Wetlands Regulatory Section  
U.S. Environmental Protection Agency  
Region IV  
Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, Georgia 30303

Supervisor  
U.S. Fish & Wildlife Service  
JC Watts Federal Building, Room 265  
330 West Broadway  
Frankfort, Kentucky 40601

Supervisor  
401 Water Quality Certification  
Kentucky Division of Water  
300 Sower Boulevard, 3<sup>rd</sup> Floor  
Frankfort, KY 40601

Commissioner  
Department of Fish and Wildlife Resources  
#1 Game Farm Road  
Frankfort, Kentucky 40601

Executive Director and State Historic Preservation Officer  
Kentucky Heritage Council  
410 High Street  
Frankfort, Kentucky 40601

**ADDITIONAL COORDINATING RESOURCE AGENCY  
FOR NWPS 21, 49, AND 50**

Kentucky Department for Natural Resources  
Division of Mine Permits  
300 Sower Boulevard  
Frankfort, KY 40601



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



**Kentucky Transportation Cabinet**

**Highway District 7**

**And**

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

**Kentucky Pollutant Discharge Elimination System**

**Permit KYR10**

**Best Management Practices (BMP) plan**

**Groundwater protection plan**

**For Highway Construction Activities**

**For**

**Scott / Woodford County**

**Weisenberger Mill Bridge**

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

KPDES BMP Plan Page 1 of 15

Revised 3/4/2016

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

### Project information

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

1. Owner – Kentucky Transportation Cabinet, District 7
2. Resident Engineer: (2)
3. Contractor name: (2)  
Address: (2)  
  
Phone number: (2)  
Contact: (2)  
Contractors agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number (2)
5. Route: Weisenberger Mill Road
6. Latitude/Longitude: 38/07/41 North, 84/38/13 West
7. County: Scott / Woodford
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

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

### A. Site description:

1. Nature of Construction Activity: Bridge Replacement with Grade and Drain Plans
2. Order of major soil disturbing activities (2) and (3)
3. Projected volume of material to be moved: 18 Excavation & 6 Embankment
4. Estimate of total project area: 0.391 acres
5. Estimate of area to be disturbed: 0.391 acres
6. Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information.(1)
7. Data describing existing soil condition (1) & (2)
8. Data describing existing discharge water quality (if any) (1) & (2)
9. Receiving water name: South Elkhorn Creek
10. TMDLs and Pollutants of Concern in Receiving Waters: (1 DEA)
11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.
12. Potential sources of pollutants:

The primary source of pollutants is solids that are mobilized during storm events. Other sources of pollutants include oil/fuel/grease from servicing

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

and operating construction equipment, concrete washout water, sanitary wastes and trash/debris. (3)

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

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

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

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

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

Areas that have not been opened by the contractor will be inspected periodically (once per month) to determine if there is a need to employ BMPs to keep pollutants from entering storm water.

- Clearing and Grubbing – The following BMP's will be considered and used where appropriate.
  - Leaving areas undisturbed when possible.
  - Silt basins to provide silt volume for large areas.
  - Silt Traps Type A for small areas.
  - Silt Traps Type C in front of existing and drop inlets which are to be saved
  - Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
  - Brush and/or other barriers to slow and/or divert runoff.
  - Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
  - Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
  - Non-standard or innovative methods.
- Cut & Fill and placement of drainage structures - The BMP Plan will be modified to show additional BMP's such as:
  - Silt Traps Type B in ditches and/or drainways as they are completed
  - Silt Traps Type C in front of pipes after they are placed
  - Channel Lining
  - Erosion Control Blanket
  - Temporary mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
  - Non-standard or innovative methods
- Profile and X-Section in place – The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probably changes include:
  - Silt Trap Type A, Brush and/or other barriers, Temporary Mulch, and any other BMP which had to be removed for final grading to take place.
  - Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
  - Additional Channel Lining and/or Erosion Control Blanket.
  - Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
  - Special BMP's such as Karst Policy
- Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probably changes include:

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

- Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMP's which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
  - Permanent Seeding and Protection
  - Placing Sod
  - Planting trees and/or shrubs where they are included in the project
- BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are : NONE (1)

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

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

#### 2. Waste Materials

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

#### 3. Hazardous Waste

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

#### 4. Spill Prevention

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

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

### ➤ **Good Housekeeping:**

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

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

### ➤ **Hazardous Products:**

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

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

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

### ➤ **Petroleum Products:**

Vehicles and equipment that are fueled and maintained on site will be monitored for leaks, and receive regular preventative maintenance to reduce the chance of

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

leakage. Petroleum products onsite will be stored in tightly sealed containers, which are clearly labeled and will be protected from exposure to weather.

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

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

### ➤ **Fertilizers:**

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

### ➤ **Paints:**

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

### ➤ **Concrete Truck Washout:**

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

### ➤ **Spill Control Practices**

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

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.



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

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

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

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. (1)

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

### E. Maintenance

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

### F. Inspections

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

- All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.
- Inspections will be conducted by individuals that have successfully completed the KEPSC-RI course as required by Section 213.02.02 of the Standard Specifications for Road and Bridge Construction, current edition.
- Inspection reports will be written, signed, dated, and kept on file.
- Areas at final grade will be seeded and mulched within 14 days.
- Areas that are not at final grade where construction has ceased for a period of 21 days or longer and soil stock piles shall receive temporary mulch no later than 14 days from the last construction activity in that area.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported.
- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.

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- Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 50 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

### **G. Non – Storm Water discharges**

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

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

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

### **H. Groundwater Protection Plan (3)**

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

- Contractors statement: (3)

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

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

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

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

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

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

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

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

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

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

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

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

- (a) General information about this project is covered in the Project information;
- (b) Activities that require a groundwater protection plan have been identified above;
- (c) Practices that will protect groundwater from pollution are addressed in section C. Other control measures.
- (d) Implementation schedule – all practices required to prevent pollution of groundwater are to be in place prior to conducting the activity;
- (e) Training is required as a part of the ground water protection plan. All employees of the contractor, sub-contractor and resident engineer personnel will be trained to understand the nature and requirements of this plan as they pertain to their job

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

function(s). Training will be accomplished within one week of employment and annually thereafter. A record of training will be maintained by the contractor with a copy provide to the resident engineer.

- (f) Areas of the project and groundwater plan activities will be inspected as part of the weekly sediment and erosion control inspections
- (g) Certification (see signature page.)



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

### Sub-Contractor Certification

The following sub-contractor shall be made aware of the BMP plan and responsible for implementation of BMPs identified in this plan as follows:

Subcontractor

Name:  
Address:  
Address:

Phone:

The part of BMP plan this subcontractor is responsible to implement is:

I certify under penalty of law that I understand the terms and conditions of the general Kentucky Pollutant Discharge Elimination System permit that authorizes the storm water discharges, the BMP plan that has been developed to manage the quality of water to be discharged as a result of storm events associated with the construction site activity and management of non-storm water pollutant sources identified as part of this certification.

Signed \_\_\_\_\_ title \_\_\_\_\_, \_\_\_\_\_  
Typed or printed name<sup>1</sup> signature

1. Sub Contractor Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601. Reference the Project Control Number (PCN) and KPDES number when one has been issued.



**Item Number:** 07-8642.00    **Contract ID:** Unavailable    **County:** SCOTT  
**Letting Date:** 07/26/2019    **Project Manager:** KYTC\CASEY.SMITH BR-KY  
**Description:**  
 ADDRESS DEFICIENCIES OF THE WEISENBERG MILL ROAD BRIDGE AT THE WOODFORD/SCOTT COUNTY LINE. (10CCN)  
 (120C00006N)

**Info:** Welcome to the Clear View Production site. All changes here will affect Production SYP.

Search    Project    Reports

- Milestones
- Funding
- CAP
- Evaluations
- Details

Open CAP Report							
#	Requestor	Location	Request Date	CAP Description	Modified By	Modified	
1	Mac Weisenberger, Property Owner	Project	05/03/2017	<p>Delivery trucks entering and exiting the Weisenberger Mill shall be allowed to approach the existing bridge in order to back up to and away from the Weisenberger Mill's loading docks.</p> <p>Customers to the Weisenberger Mill shall have access to the Weisenberger Mill's parking area.</p> <p>If it becomes necessary to block the access of the trucks or the customers to the Weisenberger Mill, it shall be coordinated with the Engineer on Construction, and relayed to the Weisenberger Mill's owners ahead of time. The blockage shall be for a short period of time.</p>	ky\anania.calvin	05/03/2017	
2	Casey Smith	Right of Way	05/06/2019	<p>The Contractor, Sub-Contractors, and anyone working on behalf of the State shall not encroach in any way into the property labeled "Bryan K Pryor" in the roadway plans. The contractor is responsible in keeping all construction activities, equipment, materials, and personnel within existing right of way when along the Bryan K Pryor property.</p> <p>The existing rock wall along the Bryan K Pryor property shall not be disturbed.</p>	ky\casey.smith	05/06/2019	
3	Casey Smith	Project	05/06/2019	<p>Vibration monitoring shall be conducted during construction activities for the Weisenberger Mill Property. See Special Note for Vibration Monitoring.</p>	ky\casey.smith	05/10/2019	

**New**



# MATERIAL SUMMARY

**CONTRACT ID: 191031****121GR19D031-BRZ****DE10512541931**

WEISENBERGER MILL ROAD(CR-1015) ADDRESS DEFICIENCIES OF THE WEISENBERGER MILL ROAD BRIDGE AT THE WOODFORD/SCOTT COUNTY LINE BRIDGE REPLACEMENT, A DISTANCE OF .01 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0175	00001	DGA BASE	35.00	TON
0180	00212	CL2 ASPH BASE 1.00D PG64-22	37.00	TON
0185	00301	CL2 ASPH SURF 0.38D PG64-22	6.00	TON
0190	02200	ROADWAY EXCAVATION	15.00	CUYD
0195	02545	CLEARING AND GRUBBING - 0.217 ACRES- SCOTT	1.00	LS
0200	05985	SEEDING AND PROTECTION	769.00	SQYD
0205	05953	TEMP SEEDING AND PROTECTION	415.00	SQYD
0210	05963	INITIAL FERTILIZER	.03	TON
0215	05964	MAINTENANCE FERTILIZER	.04	TON
0220	05989	SPECIAL SEEDING CROWN VETCH	62.00	SQYD
0225	05952	TEMP MULCH	554.00	SQYD
0230	02701	TEMP SILT FENCE	50.00	LF
0235	02351	GUARDRAIL-STEEL W BEAM-S FACE	75.00	LF
0240	02355	GUARDRAIL-STEEL W BEAM-S FACE A	50.00	LF
0245	02369	GUARDRAIL END TREATMENT TYPE 2A	2.00	EACH
0250	02726	STAKING - SCOTT	1.00	LS
0255	02242	WATER	.50	MGAL
0260	02562	TEMPORARY SIGNS	40.50	SQFT
0265	02014	BARRICADE-TYPE III	3.00	EACH
0270	02671	PORTABLE CHANGEABLE MESSAGE SIGN	1.00	EACH
0275	02381	REMOVE GUARDRAIL	98.00	LF
0280	02720	SIDEWALK-4 IN CONCRETE	7.00	SQYD
0285	03287	SIDEWALK RAMP TYPE 1	1.00	EACH
0290	05992	AGRICULTURAL LIMESTONE	.51	TON
0295	20603ED	SOIL NAIL WALL	1,342.00	SQFT
0300	08003	FOUNDATION PREPARATION - SCOTT	1.00	LS
0305	02572	QUALITY CONTROL - SCOTT	1.00	LS
0310	24550EC	VIBRATION MONITORING - SCOTT	1.00	LS
0315	23158ES505	DETECTABLE WARNINGS	10.00	SQFT
0320	24601EC	INSTALL - SCOTT	2.00	EACH
0325	06410	STEEL POST TYPE 1	40.00	LF
0330	06406	SBM ALUM SHEET SIGNS .080 IN	8.50	SQFT
0335	24631EC	BARCODE SIGN INVENTORY	4.00	EACH
0340	06407	SBM ALUM SHEET SIGNS .125 IN	23.00	SQFT
0345	02569	DEMOBILIZATION	1.00	LS

# MATERIAL SUMMARY

**CONTRACT ID: 191031**

**121GR19D031-BRZ**

**DE12010151931**

WEISENBERGER MILL ROAD(CR-1015) ADDRESS DEFICIENCIES OF THE WEISENBERGER MILL ROAD BRIDGE AT THE WOODFORD/SCOTT COUNTY LINE BRIDGE REPLACEMENT, A DISTANCE OF .03 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	00001	DGA BASE	14.00	TON
0010	00212	CL2 ASPH BASE 1.00D PG64-22	14.00	TON
0015	00301	CL2 ASPH SURF 0.38D PG64-22	3.00	TON
0020	02014	BARRICADE-TYPE III	3.00	EACH
0025	02200	ROADWAY EXCAVATION	3.00	CUYD
0030	02242	WATER	.50	MGAL
0035	02351	GUARDRAIL-STEEL W BEAM-S FACE	100.00	LF
0040	02355	GUARDRAIL-STEEL W BEAM-S FACE A	50.00	LF
0045	02369	GUARDRAIL END TREATMENT TYPE 2A	2.00	EACH
0050	02381	REMOVE GUARDRAIL	91.00	LF
0055	02545	CLEARING AND GRUBBING - 0.174 ACRES	1.00	LS
0060	02562	TEMPORARY SIGNS	40.50	SQFT
0065	02572	QUALITY CONTROL - WOODFORD	1.00	LS
0070	02671	PORTABLE CHANGEABLE MESSAGE SIGN	1.00	EACH
0075	02701	TEMP SILT FENCE	40.00	LF
0080	02704	SILT TRAP TYPE B	2.00	EACH
0085	02707	CLEAN SILT TRAP TYPE B	2.00	EACH
0090	02726	STAKING - WOODFORD	1.00	LS
0095	02731	REMOVE STRUCTURE - WOODFORD	1.00	LS
0100	05952	TEMP MULCH	246.00	SQYD
0105	05953	TEMP SEEDING AND PROTECTION	185.00	SQYD
0110	05963	INITIAL FERTILIZER	.01	TON
0115	05964	MAINTENANCE FERTILIZER	.02	TON
0120	05985	SEEDING AND PROTECTION	273.00	SQYD
0125	05989	SPECIAL SEEDING CROWN VETCH	96.00	SQYD
0130	05992	AGRICULTURAL LIMESTONE	.23	TON
0135	08003	FOUNDATION PREPARATION - WOODFORD	1.00	LS
0140	20603ED	SOIL NAIL WALL	240.00	SQFT
0145	23989EC	PRECAST STEEL TRUSS BRIDGE - WOODFORD	1.00	LS
0150	06406	SBM ALUM SHEET SIGNS .080 IN	8.50	SQFT
0155	06407	SBM ALUM SHEET SIGNS .125 IN	23.00	SQFT
0160	06410	STEEL POST TYPE 1	80.00	LF
0165	02569	DEMOBILIZATION	1.00	LS
0170	24631EC	BARCODE SIGN INVENTORY	6.00	EACH

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

### **SPECIFICATIONS REFERENCE**

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

## **SUPPLEMENTAL SPECIFICATIONS**

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

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

### **SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS**

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

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

### **2.0 MATERIALS.**

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

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

**2.2 Sign and Controls.** All signs must:

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

- 12) Allow an on-off flashing sequence at an adjustable rate.
- 13) Provide a sight to aim the message.
- 14) Provide a LED display color of approximately 590 nm amber.
- 15) Provide a controller that is password protected.
- 16) Provide a security device that prevents unauthorized individuals from accessing the controller.
- 17) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

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

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

**2.3 Power.**

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

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

Maintain the sign in proper working order, including repair of any damage done by others, until completion of the project. When the sign becomes inoperative, immediately repair or replace the sign. Repetitive problems with the same unit will be cause for rejection and replacement.

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

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

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

11

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



### SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS

**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:

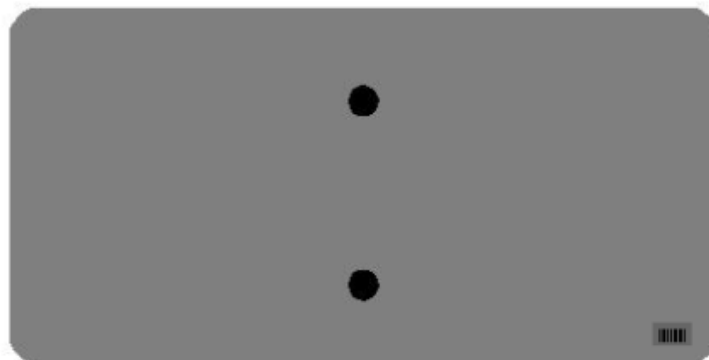
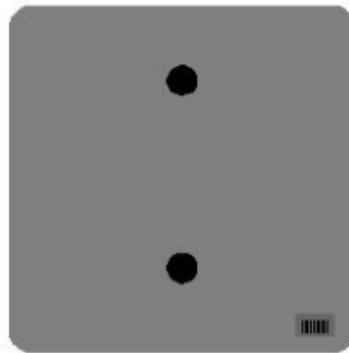
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24631EC	Barcode Sign Inventory	Each

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.

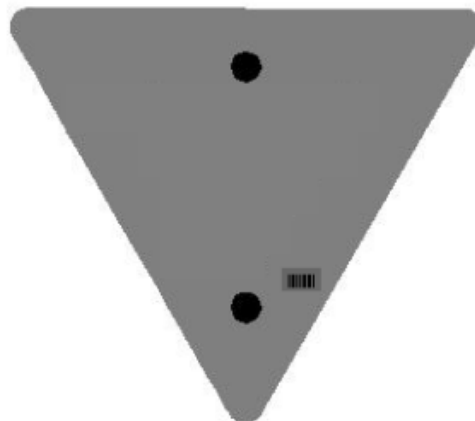
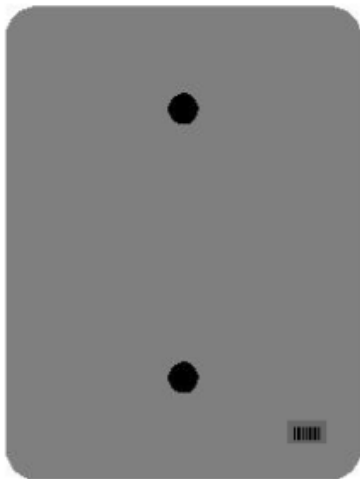
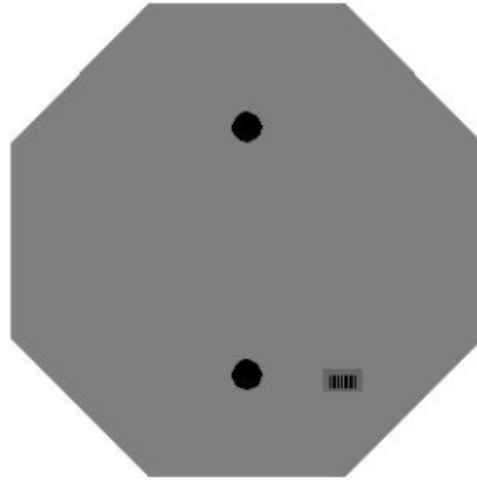
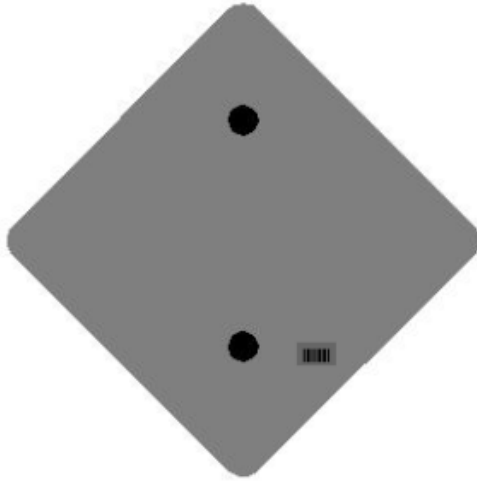
### One Sign Post



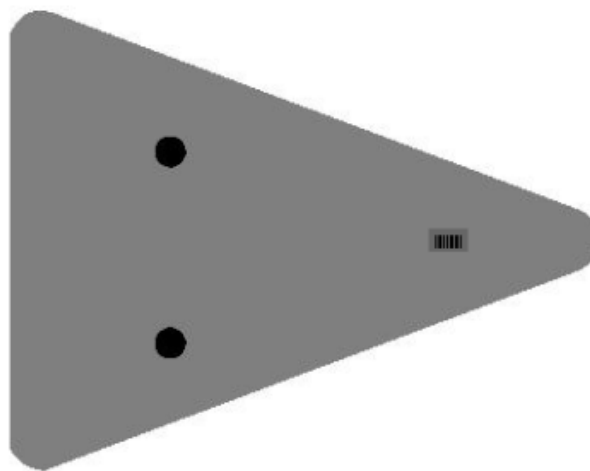
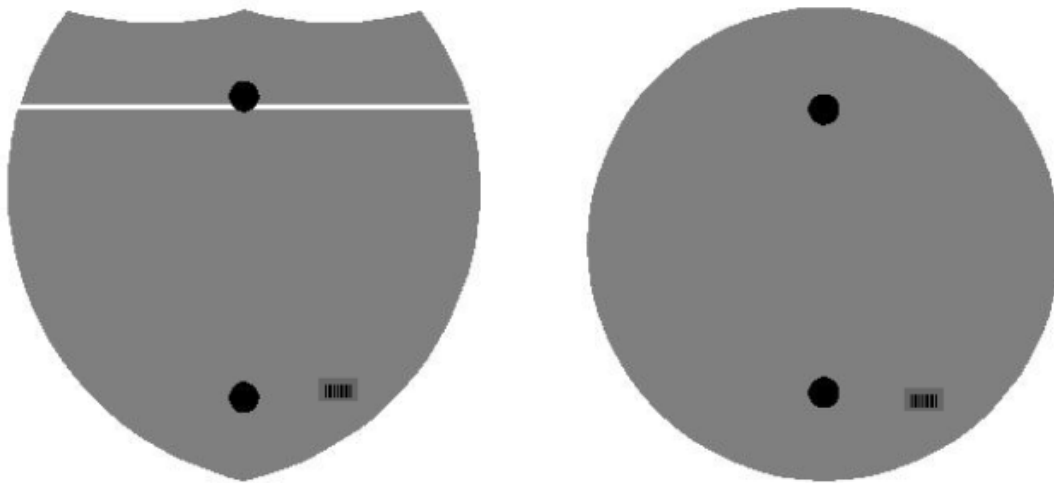
↑  
2" Wide Post



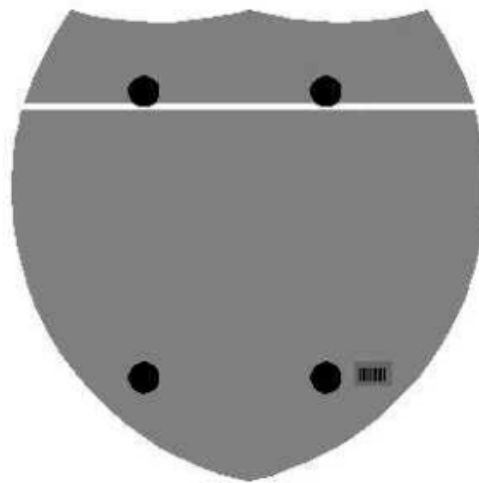
### One Sign Post



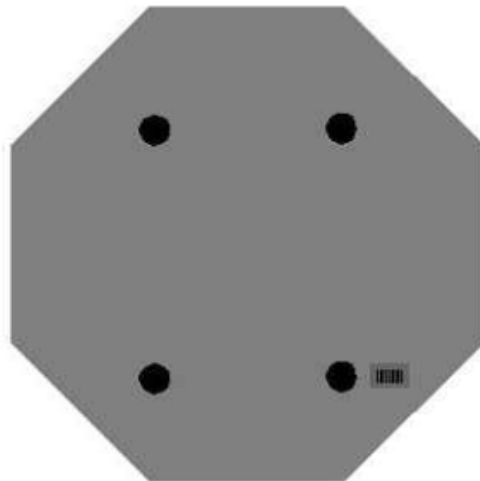
### One Sign Post



### Double Sign Post



Interstate  
Shield

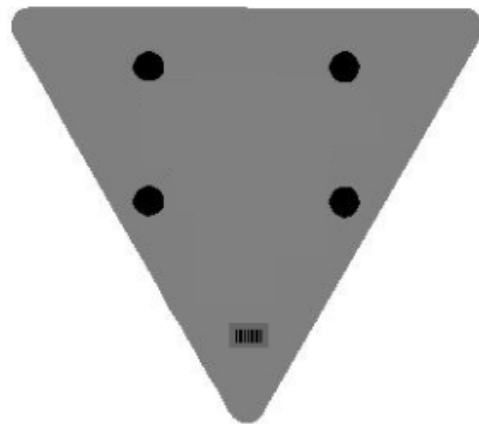


48" Stop

### 2 Post Signs



↑  
2" Wide Post



## **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: KY190038 02/15/2019 KY38

Superseded General Decision Number: KY20180100

State: Kentucky

Construction Type: Highway

Counties: Anderson, Bath, Bourbon, Boyd, Boyle, Bracken, Breckinridge, Bullitt, Carroll, Carter, Clark, Elliott, Fayette, Fleming, Franklin, Gallatin, Grant, Grayson, Greenup, Hardin, Harrison, Henry, Jefferson, Jessamine, Larue, Lewis, Madison, Marion, Mason, Meade, Mercer, Montgomery, Nelson, Nicholas, Oldham, Owen, Robertson, Rowan, Scott, Shelby, Spencer, Trimble, Washington and Woodford Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 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 \$10.60 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 2019. 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	01/04/2019
1	02/15/2019

BRIN0004-003 06/01/2017

BRECKENRIDGE COUNTY

Rates                      Fringes



BRICKLAYER.....\$ 26.80 12.38  
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BRKY0001-005 06/01/2017

BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE,  
MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, & TRIMBLE  
COUNTIES:

Rates Fringes  
BRICKLAYER.....\$ 26.80 12.38  
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BRKY0002-006 06/01/2017

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

Rates Fringes  
BRICKLAYER.....\$ 27.81 13.01  
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BRKY0007-004 06/01/2017

BOYD, CARTER, ELLIOT, FLEMING, GREENUP, LEWIS & ROWAN COUNTIES:

Rates Fringes  
BRICKLAYER.....\$ 32.98 19.02  
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BRKY0017-004 06/01/2017

ANDERSON, BATH, BOURBON, BOYLE, CLARK, FAYETTE, FRANKLIN,  
HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS,  
OWEN, SCOTT, WASHINGTON & WOODFORD COUNTIES:

Rates Fringes  
BRICKLAYER.....\$ 26.47 12.76  
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CARP0064-001 05/01/2015

Rates Fringes  
CARPENTER.....\$ 27.50 16.06  
Diver.....\$ 41.63 16.06  
PILEDRIVERMAN.....\$ 27.75 16.06  
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ELEC0212-008 06/04/2018

BRACKEN, GALLATIN and GRANT COUNTIES

Rates Fringes  
ELECTRICIAN.....\$ 28.39 18.98  
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\* ELEC0212-014 11/26/2018

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
Sound & Communication Technician.....	\$ 24.35	10.99
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ELEC0317-012 06/01/2018		

BOYD, CARTER, ELLIOT & ROWAN COUNTIES:

	Rates	Fringes
ELECTRICIAN (Wiremen)		
Cable Splicer.....	\$ 32.68	18.13
Electrician.....	\$ 33.75	20.03
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ELEC0369-007 05/30/2018		

ANDERSON, BATH, BOURBON, BOYLE, BRECKINRIDGE, BULLITT, CARROLL, CLARK, FAYETTE, FRAONKLIN, GRAYSON, HARDIN, HARRISON, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, MONTGOMERY, NELSON, NICHOLAS, OLDHAM, OWEN, ROBERTSON, SCOTT, SHELBY, SPENCER, TRIMBLE, WASHINGTON, & WOODFORD COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 31.66	17.01
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* ELEC0575-002 12/31/2018		

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 32.75	16.69
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ENGI0181-018 07/01/2017		

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 31.95	15.15
GROUP 2.....	\$ 29.09	15.15
GROUP 3.....	\$ 29.54	15.15
GROUP 4.....	\$ 28.77	15.15

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller; Batcher Plant; Bituminous Paver; Bituminous Transfer Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All Scoop; Carry Deck Crane; Central Compressor Plant; Cherry Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over); Concrete Paver; Truck-Mounted Concrete Pump; Core Drill; Crane; Crusher Plant; Derrick; Derrick Boat; Ditching & Trenching Machine; Dragline; Dredge Operator; Dredge Engineer; Elevating Grader & Loaders; Grade-All; Gurries; Heavy Equipment Robotics Operator/Mechanic; High Lift; Hoe-Type Machine; Hoist (Two or More Drums); Hoisting Engine (Two or More Drums); Horizontal Directional Drill

Operator; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

GROUP 2 - Air Compressor (Over 900 cu. ft. per min.); Bituminous Mixer; Boom Type Tamping Machine; Bull Float; Concrete Mixer (Under 21 cu. ft.); Dredge Engineer; Electric Vibrator; Compactor/Self-Propelled Compactor; Elevator (One Drum or Buck Hoist); Elevator (When used to Hoist Building Material); Finish Machine; Firemen & Hoist (One Drum); Flexplane; Forklift (Regardless of Lift Height); Form Grader; Joint Sealing Machine; Outboard Motor Boat; Power Sweeper (Riding Type); Roller (Rock); Ross Carrier; Skid Mounted or Trailer Mounted Concrete Pump; Skid Steer Machine with all Attachments; Switchman or Brakeman; Throttle Valve Person; Tractair & Road Widening Trencher; Tractor (50 H.P. or Over); Truck Crane Oiler; Tugger; Welding Machine; Well Points; & Whirley Oiler

GROUP 3 - All Off Road Material Handling Equipment, including Articulating Dump Trucks; Greaser on Grease Facilities servicing Heavy Equipment

GROUP 4 - Bituminous Distributor; Burlap & Curing Machine; Cement Gun; Concrete Saw; Conveyor; Deckhand Oiler; Grout Pump; Hydraulic Post Driver; Hydro Seeder; Mud Jack; Oiler; Paving Joint Machine; Power Form Handling Equipment; Pump; Roller (Earth); Steerman; Tamping Machine; Tractor (Under 50 H.P.); & Vibrator

CRANES - with booms 150 ft. & Over (Including JIB), and where the length of the boom in combination with the length of the piling leads equals or exceeds 150 ft. - \$1.00 over Group 1 rate

EMPLOYEES ASSIGNED TO WORK BELOW GROUND LEVEL ARE TO BE PAID 10% ABOVE BASIC WAGE RATE. THIS DOES NOT APPLY TO OPEN CUT WORK.

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IRON0044-009 06/01/2018

BRACKEN, GALLATIN, GRANT, HARRISON, ROBERTSON,  
BOURBON (Northern third, including Townships of Jackson, Millersburg, Ruddel Mills & Shawhan);  
CARROLL (Eastern third, including the Township of Ghent);  
FLEMING (Western part, excluding Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);  
MASON (Western two-thirds, including Townships of Dover,

Lewisburg, Mays Lick, Maysville, Minerva, Moranburg, Murphysville, Ripley, Sardis, Shannon, South Ripley & Washington);  
 NICHOLAS (Townships of Barefoot, Barterville, Carlisle, Ellisville, Headquarters, Henryville, Morningglory, Myers & Oakland Mills);  
 OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook, Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita & Wheatley);  
 SCOTT (Northern two-thirds, including Townships of Biddle, Davis, Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers Gap, Sadieville, Skinnersburg & Stonewall)

	Rates	Fringes
IRONWORKER		
Fence Erector.....	\$ 26.76	21.20
Structural.....	\$ 28.17	21.20

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 IRON0070-006 06/01/2018

ANDERSON, BOYLE, BRECKINRIDGE, BULLITT, FAYETTE, FRANKLIN, GRAYSON, HARDIN, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE, WASHINGTON & WOODFORD  
 BOURBON (Southern two-thirds, including Townships of Austerlity, Centerville, Clintonville, Elizabeth, Hutchison, Littlerock, North Middletown & Paris);  
 CARROLL (Western two-thirds, including Townships of Carrollton, Easterday, English, Locust, Louis, Prestonville & Worthville);  
 CLARK (Western two-thirds, including Townships of Becknerville, Flanagan, Ford, Pine Grove, Winchester & Wyandotte);  
 OWEN (Eastern eighth, including Townships of Glenmary, Gratz, Monterey, Perry Park & Tacketts Mill);  
 SCOTT (Southern third, including Townships of Georgetown, Great Crossing, Newtown, Stampling Ground & Woodlake);

	Rates	Fringes
IRONWORKER.....	\$ 28.79	22.50

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 IRON0769-007 06/01/2018

BATH, BOYD, CARTER, ELLIOTT, GREENUP, LEWIS, MONTGOMERY & ROWAN  
 CLARK (Eastern third, including townships of Bloomingdale, Hunt, Indian Fields, Kiddville, Loglick, Rightangele & Thomson);  
 FLEMING (Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksville, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);  
 MASON (Eastern third, including Townships of Helena, Marshall, Orangeburg, Plumville & Springdale);  
 NICHOLAS (Eastern eighth, including the Township of Moorefield Sprout)

Rates Fringes

IRONWORKER

ZONE 1.....	\$ 31.67	25.27
ZONE 2.....	\$ 31.67	25.27
ZONE 3.....	\$ 31.67	25.27

ZONE 1 - (no base rate increase) Up to 10 mile radius of Union Hall, 1643 Greenup Ave, Ashland, KY.

ZONE 2 - (add \$0.40 per hour to base rate) 10 to 50 mile radius of Union Hall, 1643 Greenup Ave, Ashland, KY.

ZONE 3 - (add \$2.00 per hour to base rate) 50 mile radius & over of Union Hall, 1643 Greenup Ave, Ashland, KY.

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LABO0189-003 07/01/2018

BATH, BOURBON, BOYD, BOYLE, BRACKEN, CARTER, CLARK, ELLIOTT, FAYETTE, FLEMING, FRANKLIN, GALLATIN, GRANT, GREENUP, HARRISON, JESSAMINE, LEWIS, MADISON, MASON, MERCER, MONTGOMERY, NICHOLAS, OWEN, ROBERTSON, ROWAN, SCOTT, & WOOLFORD COUNTIES

Rates Fringes

Laborers:

GROUP 1.....	\$ 23.07	14.21
GROUP 2.....	\$ 23.32	14.21
GROUP 3.....	\$ 23.37	14.21
GROUP 4.....	\$ 23.97	14.21

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman;  
Gunnite Operator & Mixer; Grout Pump Operator; Side Rail  
Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free  
Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;  
& Tunnel Mucker (Free Air); Directional & Horizontal  
Boring; Air Track Drillers (All Types); Powdermen &  
Blasters; Troxler & Concrete Tester if Laborer is Utilized

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LABO0189-008 07/01/2018

ANDERSON, BULLITT, CARROLL, HARDIN, HENRY, JEFFERSON, LARUE,  
MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE &  
WASHINGTON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 23.07	14.21
GROUP 2.....	\$ 23.32	14.21
GROUP 3.....	\$ 23.37	14.21
GROUP 4.....	\$ 23.97	14.21

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement  
Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter  
Tender; Cement Mason Tender; Cleaning of Machines;  
Concrete; Demolition; Dredging; Environmental - Nuclear,  
Radiation, Toxic & Hazardous Waste - Level D; Flagperson;  
Grade Checker; Hand Digging & Hand Back Filling; Highway  
Marker Placer; Landscaping, Mesh Handler & Placer; Puddler;  
Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail  
& Fence Installer; Signal Person; Sound Barrier Installer;  
Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper;  
Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer);  
Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;  
Burner & Welder; Bushhammer; Chain Saw Operator; Concrete  
Saw Operator; Deckhand Scow Man; Dry Cement Handler;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Level C; Forklift Operator for Masonary; Form Setter;  
Green Concrete Cutting; Hand Operated Grouter & Grinder  
Machine Operator; Jackhammer; Pavement Breaker; Paving  
Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven  
Georgia Buggy & Wheel Barrow; Power Post Hole Digger;  
Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind  
Trencher; Sand Blaster; Concrete Chipper; Surface Grinder;  
Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman;  
Gunnite Operator & Mixer; Grout Pump Operator; Side Rail  
Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free

Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;  
& Tunnel Mucker (Free Air); Directional & Horizontal  
Boring; Air Track Drillers (All Types); Powdermen &  
Blasters; Troxler & Concrete Tester if Laborer is Utilized

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LABO0189-009 07/01/2018

BRECKINRIDGE & GRAYSON COUNTIES

Rates Fringes

Laborers:

GROUP 1.....	\$ 23.07	14.21
GROUP 2.....	\$ 23.32	14.21
GROUP 3.....	\$ 23.37	14.21
GROUP 4.....	\$ 23.97	14.21

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement  
Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter  
Tender; Cement Mason Tender; Cleaning of Machines;  
Concrete; Demolition; Dredging; Environmental - Nuclear,  
Radiation, Toxic & Hazardous Waste - Level D; Flagperson;  
Grade Checker; Hand Digging & Hand Back Filling; Highway  
Marker Placer; Landscaping, Mesh Handler & Placer; Puddler;  
Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail  
& Fence Installer; Signal Person; Sound Barrier Installer;  
Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper;  
Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer);  
Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;  
Burner & Welder; Bushhammer; Chain Saw Operator; Concrete  
Saw Operator; Deckhand Scow Man; Dry Cement Handler;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Level C; Forklift Operator for Masonary; Form Setter;  
Green Concrete Cutting; Hand Operated Grouter & Grinder  
Machine Operator; Jackhammer; Pavement Breaker; Paving  
Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven  
Georgia Buggy & Wheel Barrow; Power Post Hole Digger;  
Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind  
Trencher; Sand Blaster; Concrete Chipper; Surface Grinder;  
Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman;  
Gunnite Operator & Mixer; Grout Pump Operator; Side Rail  
Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free  
Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;  
& Tunnel Mucker (Free Air); Directional & Horizontal  
Boring; Air Track Drillers (All Types); Powdermen &

Blasters; Troxler & Concrete Tester if Laborer is Utilized

PAIN0012-005 06/11/2005

BATH, BOURBON, BOYLE, CLARK, FAYETTE, FLEMING, FRANKLIN,  
HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS,  
ROBERTSON, SCOTT & WOODFORD COUNTIES:

	Rates	Fringes
PAINTER		
Bridge/Equipment Tender and/or Containment Builder..\$	18.90	5.90
Brush & Roller.....\$	21.30	5.90
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement.....\$	22.30	5.90
Sandblasting & Waterblasting.....\$	22.05	5.90
Spray.....\$	21.80	5.90

PAIN0012-017 05/01/2015

BRACKEN, GALLATIN, GRANT, MASON & OWEN COUNTIES:

	Rates	Fringes
PAINTER (Heavy & Highway Bridges - Guardrails - Lightpoles - Striping)		
Bridge Equipment Tender and Containment Builder.....\$	20.73	9.06
Brush & Roller.....\$	23.39	9.06
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement.....\$	24.39	9.06
Sandblasting & Water Blasting.....\$	24.14	9.06
Spray.....\$	23.89	9.06

PAIN0118-004 06/01/2018

ANDERSON, BRECKINRIDGE, BULLITT, CARROLL, GRAYSON, HARDIN,  
HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY,  
SPENCER, TRIMBLE & WASHINGTON COUNTIES:

	Rates	Fringes
PAINTER		
Brush & Roller.....\$	22.00	12.52
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning.....\$	23.00	12.52

PAIN1072-003 12/01/2018

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS and ROWAN COUNTIES



Rates Fringes

Painters:

Bridges; Locks; Dams; Tension Towers & Energized Substations.....	\$ 33.33	18.50
Power Generating Facilities.	\$ 30.09	18.50

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PLUM0248-003 06/01/2018

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS & ROWAN COUNTIES:

Rates Fringes

Plumber and Steamfitter.....	\$ 36.00	20.23
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PLUM0392-007 06/01/2018

BRACKEN, CARROLL (Eastern Half), GALLATIN, GRANT, MASON, OWEN & ROBERTSON COUNTIES:

Rates Fringes

Plumbers and Pipefitters.....	\$ 32.01	19.67
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PLUM0502-003 08/01/2018

BRECKINRIDGE, BULLITT, CARROLL (Western Half), FRANKLIN (Western three-fourths), GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES

Rates Fringes

PLUMBER.....	\$ 34.62	20.78
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SUKY2010-160 10/08/2001

Rates Fringes

Truck drivers:

GROUP 1.....	\$ 16.57	7.34
GROUP 2.....	\$ 16.68	7.34
GROUP 3.....	\$ 16.86	7.34
GROUP 4.....	\$ 16.96	7.34

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Mobile Batch Truck Tender

GROUP 2 - Greaser; Tire Changer; & Mechanic Tender

GROUP 3 - Single Axle Dump; Flatbed; Semi-trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Distributor; Mixer; & Truck Mechanic

GROUP 4 - Euclid & Other Heavy Earthmoving Equipment &

Lowboy; Articulator Cat; 5-Axle Vehicle; Winch & A-Frame  
when used in transporting materials; Ross Carrier; Forklift  
when used to transport building materials; & Pavement  
Breaker

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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>
10.8%	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 Scott County.

**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>
10.8%	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.

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**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 Woodford County.

**PART IV**  
**INSURANCE**



## INSURANCE

The Contractor shall procure and maintain the following insurance in addition to the insurance required by law:

- 1) Commercial General Liability-Occurrence form – not less than \$2,000,000 General aggregate, \$2,000,000 Products & Completed Aggregate, \$1,000,000 Personal & Advertising, \$1,000,000 each occurrence.
- 2) Automobile Liability- \$1,000,000 per accident
- 3) Employers Liability:
  - a) \$100,000 Each Accident Bodily Injury
  - b) \$500,000 Policy limit Bodily Injury by Disease
  - c) \$100,000 Each Employee Bodily Injury by Disease
- 4) The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
  - a) "policy contains no deductible clauses."
  - b) "policy contains \_\_\_\_\_ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured."
- 5) KENTUCKY WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

The cost of insurance is incidental to all contract items. All subcontractors must meet the same minimum insurance requirements.

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

**PROPOSAL BID ITEMS**

191031

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Report Date 5/29/19

**Section: 0001 - PAVING**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	49.00	TON		\$	
0020	00212		CL2 ASPH BASE 1.00D PG64-22	51.00	TON		\$	
0030	00301		CL2 ASPH SURF 0.38D PG64-22	9.00	TON		\$	

**Section: 0002 - ROADWAY**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0040	02014		BARRICADE-TYPE III	6.00	EACH		\$	
0050	02200		ROADWAY EXCAVATION	18.00	CUYD		\$	
0060	02242		WATER	1.00	MGAL		\$	
0070	02351		GUARDRAIL-STEEL W BEAM-S FACE	175.00	LF		\$	
0080	02355		GUARDRAIL-STEEL W BEAM-S FACE A	100.00	LF		\$	
0090	02369		GUARDRAIL END TREATMENT TYPE 2A	4.00	EACH		\$	
0100	02381		REMOVE GUARDRAIL	189.00	LF		\$	
0110	02545		CLEARING AND GRUBBING 0.174 ACRES	1.00	LS		\$	
0120	02545		CLEARING AND GRUBBING 0.217 ACRES- SCOTT	1.00	LS		\$	
0130	02562		TEMPORARY SIGNS	81.00	SQFT		\$	
0140	02572		QUALITY CONTROL SCOTT	1.00	LS		\$	
0150	02572		QUALITY CONTROL WOODFORD	1.00	LS		\$	
0160	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		\$	
0170	02701		TEMP SILT FENCE	90.00	LF		\$	
0180	02704		SILT TRAP TYPE B	2.00	EACH		\$	
0190	02707		CLEAN SILT TRAP TYPE B	2.00	EACH		\$	
0200	02720		SIDEWALK-4 IN CONCRETE	7.00	SQYD		\$	
0210	02726		STAKING SCOTT	1.00	LS		\$	
0220	02726		STAKING WOODFORD	1.00	LS		\$	
0230	02731		REMOVE STRUCTURE WOODFORD	1.00	LS		\$	
0240	03287		SIDEWALK RAMP TYPE 1	1.00	EACH		\$	
0250	05952		TEMP MULCH	800.00	SQYD		\$	
0260	05953		TEMP SEEDING AND PROTECTION	600.00	SQYD		\$	
0270	05963		INITIAL FERTILIZER	.04	TON		\$	
0280	05964		MAINTENANCE FERTILIZER	.06	TON		\$	
0290	05985		SEEDING AND PROTECTION	1,042.00	SQYD		\$	
0300	05989		SPECIAL SEEDING CROWN VETCH	158.00	SQYD		\$	
0310	05992		AGRICULTURAL LIMESTONE	.74	TON		\$	
0320	08003		FOUNDATION PREPARATION SCOTT	1.00	LS		\$	
0330	08003		FOUNDATION PREPARATION WOODFORD	1.00	LS		\$	
0340	20603ED		SOIL NAIL WALL	1,582.00	SQFT		\$	
0350	23158ES505		DETECTABLE WARNINGS	10.00	SQFT		\$	

### PROPOSAL BID ITEMS

191031

Page 2 of 2

Report Date 5/29/19

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0360	23989EC		PRECAST STEEL TRUSS BRIDGE WOODFORD	1.00	LS		\$	
0370	24550EC		VIBRATION MONITORING SCOTT	1.00	LS		\$	
0380	24601EC		INSTALL SCOTT	2.00	EACH		\$	

#### Section: 0003 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0390	06406		SBM ALUM SHEET SIGNS .080 IN	17.00	SQFT		\$	
0400	06407		SBM ALUM SHEET SIGNS .125 IN	46.00	SQFT		\$	
0410	06410		STEEL POST TYPE 1	120.00	LF		\$	
0420	24631EC		BARCODE SIGN INVENTORY	10.00	EACH		\$	

#### Section: 0004 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0430	02569		DEMOBILIZATION	1.00	LS		\$	