CALL NO. 200

CONTRACT ID. 221321

CLINTON - RUSSELL COUNTIES

FED/STATE PROJECT NUMBER NHPP 1271 (122)

DESCRIPTION US127

WORK TYPE GRADE & DRAIN AND PAVEMENT ALTERNATES

PRIMARY COMPLETION DATE 9/30/2026

LETTING DATE: May 26,2022

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME May 26,2022. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

PLANS AVAILABLE FOR THIS PROJECT.

DBE CERTIFICATION REQUIRED - 11%

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

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PART I

SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 08

CONTRACT ID - 221321

NHPP 1271 (122)

COUNTY - CLINTON

PCN - DE02701272210
NHPP 1271 (122)

US127 CONSTRUCT NEW ROAD BEGINNING 1.14 MILES NORTH OF INTERSECTION OF KY3063 AND US127 EXTENDING NORTH 1.437 MILES TO THE RUSSELL COUNTY LINE, A DISTANCE OF 01.44 MILES.GRADE & DRAIN AND PAVEMENT ALTERNATES SYP NO. 08-08601.26.

GEOGRAPHIC COORDINATES LATITUDE 36:52:27.00 LONGITUDE 85:09:37.00

ADT

COUNTY - RUSSELL

PCN - DE10401272210
NHPP 1271 (122)

US127 CONSTRUCT NEW ROAD BEGINNING AT THE CLINTON COUNTY LINE EXTENDING N 3.859 MI TO THE NORTH BANK OF THE CUMBERLAND RI (SURFACE ONLY-BEGINNING AT THE NORTH BANK OF THE CUMBERLAND RI EXTENDING N 2.184 MI TO THE INTERSECTION OF KY55 AND US127 AT FREEDOM), A DISTANCE OF 06.04 MILES.GRADE & DRAIN AND PAVEMENT ALTERNATES SYP NO. 08-08601.21.

GEOGRAPHIC COORDINATES LATITUDE 36:52:27.00 LONGITUDE 85:09:37.00

ADT

COMPLETION DATE(S):

COMPLETED BY 09/30/2026 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) 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. 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). 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.

FEDERAL CONTRACT NOTES

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

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

CIVIL RIGHTS ACT OF 1964

The Kentucky Transportation Cabinet, Department of Highways, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, disability, income- level, or Limited English Proficiency (LEP)in consideration for an award.

NOTICE TO ALL BIDDERS

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

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

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

SECOND TIER SUBCONTRACTS

Second tier subcontracts are acceptable per Section 108.01 of the Standard Specifications for Road and Bridge Construction. Sub-Contractors fulfilling a disadvantaged business enterprise goal on a project may enter into a 2nd tier subcontract with a Non-DBE Subcontractor. However, in this instance, none of the work subcontracted to the Non-DBE Contractor will count toward fulfilling the established Disadvantaged Goal for the project.

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

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

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

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

DBE GOAL

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

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

OBLIGATION OF CONTRACTORS

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

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

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

CERTIFICATION OF CONTRACT GOAL

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

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

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

DBE PARTICIPATION PLAN

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

The DBE Participation Plan shall include the following:

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

b) The dollar value of services provided by DBEs such as quality control testing, equipment repair and maintenance, engineering, staking, etc.;
c) The dollar value of joint ventures. DBE credit for joint ventures will be limited to the dollar amount of the work actually performed by the DBE in the joint venture;

4. Written and signed documentation of the bidder's commitment to use a DBE contractor whose participation is being utilized to meet the DBE goal; and
5. Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment.

UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED

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

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

CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS

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

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

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

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

FAILURE TO MEET GOOD FAITH REQUIREMENT

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

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

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

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

SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT

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

- Suspension of Prequalification;
- 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 and Non-DBE Subcontractors within seven (7) working days after he or she has received payment from the Kentucky Transportation Cabinet for work performed or materials furnished.

CONTRACTOR REPORTING

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

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

******* IMPORTANT *******

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

Office for Civil Rights and Small Business Development
6th Floor West 200 Mero Street
Frankfort, KY 40622

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

DEFAULT OR DECERTIFICATION OF THE DBE

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

PROHIBITION ON TELECOMMUNICATIONS EQUIPMENT OR SERVICES

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

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

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

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

SECTION 7 is expanded by the following new Article:

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

Pursuant to Title 46CFR Part 381, the Contractor agrees

- To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
- To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph 1 of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
- To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

TRAINEES

In Compliance with the "TRAINING SPECIAL PROVISION" included in Part III of the Proposal, the Contractor will be required to employ a trainee(s) for this contract.

NATIONAL HIGHWAY

Be advised this project is on the NATIONAL HIGHWAY SYSTEM.

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.

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.

JPC RIDE QUALITY

The Department will apply JPC Ride Quality requirements on this project in accordance with Section 501.03.19(B).

ASPHALT PAVEMENT RIDE QUALITY CATEGORY A

The Department will apply Pavement Rideability Requirements on this project in accordance with Section 410, Category A.

OPTION A

Be advised that the Department will accept compaction of asphalt mixtures furnished for driving lanes and ramps, at 1 inch (25mm) or greater, on this project according to OPTION A in accordance with Section 402 and Section 403 of the current Standard Specifications. The Department will require joint cores as described in Section 402.03.02 for surface mixtures only. The Department will accept compaction of all other asphalt mixtures according to OPTION B.

MATERIAL TRANSFER VEHICLE (MTV)

Provide and use a MTV in accordance with Sections 403.02.10 and 403.03.05.

8/5/2021

Clinton-Russell Counties
Item Number: 8-108, 8-8601.26, 8-8601.21

SPECIAL NOTE
ALTERNATE PAVEMENT BID ADJUSTMENT

This project includes alternate bidding for asphalt or concrete pavement. There are specific items listed for each pavement type to be bid with the alternate selected by the Contractor. There is also a line item in the alternate categories for each alternate to adjust for the projected out-year life-cycle costs to the Cabinet. These line item adjustments are as follows:

Asphalt Pavement Adjustment = **$980,202**

Concrete Pavement Adjustment = **$727,923**

The amount reflective of the pavement type selected by each contractor will be added to their respective bid for comparison of the low bid. The adjustment ***shall be used only for determination of the lowest bidder*** *and* ***shall not be used to determine the final payment*** to the contractor when the project is completed.

Please note that these adjustments should not be used for the calculation of the maximum Mobilization amount and are not required to be included in the minimum Demobilization amount.

Proposal Guaranty

As a supplement to Section 102 of the Standard Specifications, it will not be necessary for the Proposal Guaranty to include an amount necessary to cover the amount of the bid adjustment.

Special Note for Staking

Perform Contractor Staking according to Section 201; except, in addition to the requirements of Section 201, perform the following:

1. Using stakes, paint marks on the pavement, mag nails, and/or any other means approved by the Engineer, the Contractor shall mark and/or stake the proposed sign locations in the field. NOTE: The proposed signs are listed in the proposal by approximate location and are NOT to be taken as the exact location for the signs. During staking operations the Contractor shall review the signing layout and existing field conditions and look for potential conflicts, including but not limited to utilities, driveways, visual obstructions, etc. When conflicts are found, adjust the staked location of signs to mitigate conflicts. Because the sign locations in the proposal are approximate and the location of some signs may need to be adjusted due to conflicts, during staking operations the Contractor shall refer to and utilize the information in the Manual on Uniform on Traffic Control Devices (MUTCD), current edition. The MUTCD cover items such as: appropriate sign location, advance placement distances, and spacing requirements for signing. The intent is for the proposed signs to be consistent with, and meet the requirements of, the MUTCD. Once the proposed sign locations have been staked, notify and coordinate with the District Traffic Engineer, and perform a review of the staked locations. Adjust the staked locations, as directed by the District Traffic Engineer and obtain approval of the final staked locations. This review will also be used to determine if there are any existing signs that require removal and/or relocation. Provide the District Traffic Engineer with 2 weeks of notice when a route will be ready for a review of the staked locations. NOTE: The District Traffic Engineer may determine that the proposed signing, including sign types and messages, needs to be adjusted and/or modified from what is shown in the proposal. Therefore, the Contractor shall not order any sign material for a route until the route has been staked and final sign location approval has been given by the District Traffic Engineer.
2. Using paint marks on the pavement, and/or any other means approved by the Engineer, the Contractor shall layout and pre-mark the proposed striping, pavement markings, etc. Adjust as necessary to accommodate the existing site conditions and to provide proper alignment of the proposed thru and turning lanes. Obtain approval of the pre-marked layout from the Engineer and/or District Traffic Engineer prior to installing the striping and/or pavement markings.

Special Note for Signage

The final advisory speeds and some sign types will have to be determined after the final surfacing operations have been completed. The Contractor shall notify the Engineer and District Traffic Engineer when all of the surfacing operations have been completed. Once notified, the District Traffic Engineer will ball-bank the newly surfaced curves to determine the appropriate advisory speeds and work with the Contractor to determine the final Signing Plan. The Engineer and/or District Traffic Engineer will provide the Contractor with the final advisory speeds, any changes to proposed sign types, and the final quantities within three (3) weeks of being notified by the Contractor that final surfacing operations are complete. After the Contractor has received this information from the Engineer and/or the District Traffic Engineer, the Contractor shall then proceed to layout and stake the signing according to the Special Note for Staking, included elsewhere in this Proposal.

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

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

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

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

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

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

Special Note for Signing

I. DESCRIPTION

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

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

II. MATERIALS

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

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

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

III. CONSTRUCTION METHODS

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

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

C. Staking. See Special Note for Staking.

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

Fabricate sheet signs from .080 or .125 gauge aluminum alloy 5052-H38 or 6061-T6, in accordance with ASTM B-209, and to the size and shape specified. Prepare the side of the sheet to be used as the sign face to receive the retroreflective background material according to the recommendations of the sheeting and retroreflective material manufacturer(s). Sheeting used as background material for sign faces is to be the color specified and visually in accordance with the standard requirements of ASTM D-4956, and meet the requirements of Section 830 of the Standard Specifications. Contrary to Section 830.02.06, only the types and colors of sheeting as specified in the proposal will be

accepted. All retroreflective material shall be fabricated and assembled in accordance with the specifications and/or recommendations of the manufacturer(s).

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

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

When listed in the summaries, Reflective Sign Post Panels shall be 2” wide x 60” tall (or 84” tall for urban installations) and shall have three 3/8” holes (one hole in the top 3”, one hole near the center, and one hole in the bottom 3”) that align with the holes on the Type I steel post. Sheeting for the Reflective Sign Post Panels shall be the same Type and color as the sign installed on the post. Examples include:

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

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

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

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

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

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

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

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

H. Control. Perform all work under the absolute control of the Department. Obtain the Engineer's approval of all designs required to be furnished by the Contractor prior to incorporation into the work. The Department reserves the right to have other work performed by other contractors and its own forces, and to permit public utility companies and others to do work during the construction within the limits of, or adjacent to, the project. Conduct operations and cooperate with such other parties so that interference with such other work will be reduced to a minimum. The Department

will not honor any claims for money or time extension created by the operations of such other parties.

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

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

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

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

IV. METHOD OF MEASUREMENT

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

B. **Site Preparation.** Other than the bid items listed, the Department will NOT measure Site Preparation for payment, but shall be incidental to the project bid items.

C. **Signs.** The Department will measure the finished in-place area of signs in Square Feet.

D. **Sign Posts.** The Department will measure the finished in-place length of sign posts in Linear Feet, from the top of the anchor, or top of the sign support, to the top of the sign post. Laps, cutoffs, excess, and waste will NOT be measured for payment.

E. **Type D Breakaway Sign Supports.** The Department will measure Type D sign supports as Each support installed.

F. **Type D Surface Mounts.** The Department will measure Type D Surface Mounts as Each surface mount installed.

G. **Class A Concrete for Signs.** The Department will measure the Class A Concrete used in conjunction with Type D breakaway sign support installations in Cubic Yards. Any concrete that is required as backfill due to hitting rock during a standard installation shall be incidental to the bid item STEEL POST TYPE I, and soil stabilizers will not be required.

H. Clean Up, Disposal of Waste, Final Dressing, Seeding and Protection. The Department will NOT measure for payment the following activities: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental. Seeding and Protection shall be measured according to Section 212.

I. Erosion Control. See Special Note for Erosion Control.

J. Remove Sign. The Department will consider all signs attached to one or more connected posts as a single sign. The Department will measure as Each sign assembly removed and NOT each individual sign removed.

K. Items Provided by KYTC. The Department will NOT measure for payment the installation of signs and/or surface mounts provided by KYTC. These activities shall be incidental to the bid item STEEL POST TYPE I.

V. BASIS OF PAYMENT

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

B. Signs. The Department will make payment for the completed and accepted quantities under the bid item SBM ALUM SHEET SIGNS .125 IN or .080 IN. The Department will consider payment full compensation for all work and incidentals necessary to install the signs, as required by these notes and the details found elsewhere in the proposal, at the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.

C. Sign Posts. The Department will make payment for the completed and accepted quantities under the bid item STEEL POST TYPE I. The Department will consider payment full compensation for all work and incidentals necessary to install the sign posts as required by these notes and the details found elsewhere in the proposal.

D. Type D Breakaway Sign Supports. The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D. The Department will consider payment full compensation for all work and incidentals necessary to install the Type D breakaway sign supports as required by Standard Drawing RGX-065, current edition.

E. Type D Surface Mounts. The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D (SURFACE MOUNT). The Department will consider payment full compensation for all work and incidentals necessary to install the Type D surface mounts according to all applicable manufacturer requirements.
NOTE: The permissible Type D Surface Mount alternative is: Kleen Break Model 425 for Surface Mount Concrete Installations by Xcessories Squared of Auburn, IL

F. Class A Concrete for Signs. The Department will make payment for the completed and accepted quantities, used in conjunction with Type D breakaway sign support installations, under the bid item CLASS A CONCRETE FOR SIGNS. The Department will consider payment full compensation for all work

and incidentals necessary to install the concrete as required by Standard Drawing RGX-065, current edition.

G. Remove Sign. The Department will make payment for the completed and accepted quantities under the bid item REMOVE SIGN. The Department will consider payment full compensation for all work and incidentals necessary to remove the existing signs, posts, anchors, and any other sign material or hardware, from the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.

H. Erosion Control. See Special Note for Erosion Control.

SPECIAL NOTE FOR TREATMENT OF END BENT OR ABUTMENT BACKFILLS USING GEOTEXTILE REINFORCEMENT AND ELASTIC INCLUSION

May 21, 2013

I. DESCRIPTION

Geotextile Reinforced Backfill and Elastic Inclusion work shall consist of installation of an elasticized Expanded Polystyrene (EPS) and geotextile separation fabric between the back of concrete surfaces and backfill material, in accordance with these specifications and in conformity with manufacturer's recommendations, the lines shown on the plans or as established by the Engineer. It also includes placing Geotextile reinforcement within the granular backfill. Construction shall be in accordance with Special Provision No. 69, Embankment at End Bent Structures, Standard Drawing RGX-100 (Sepia), and Standard Drawing RGX-105(Sepia) except where the requirement of this note direct otherwise.

II. MATERIALS

(a) **Geotextile Reinforcement:** The Geotextile Reinforcement utilized in the backfill shall be a woven fabric meeting the requirements Type V High Strength Geotextile Fabric of Section 843 of the Standard Specifications except that the Geotextile Reinforcement shall have a minimum Ultimate Strength of 1350 lb/ft and a minimum Strength at 2% strain of 380 lb/ft when tested by ASTM D 4595.

(b) **Elasticized Expanded Polystyrene (EPS):** The EPS shall have a size tolerance of 1/8 inch for each dimension and conform to the following:

Physical Property	ASTM Test Method	Requirements
Compressive strength	D-1621	720 psf +/-60 psf @10% strain
Water absorption	C-272	Max. 3% by volume
Insect Resistance	D-3345-74	Resistance to ants, termites, etc.

The EPS shall be elasticized, with a linear-elastic stress-strain behavior up to 10 percent strain and linear proportional stress-strain behavior up to 30 percent strain.

The EPS shall contain no chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs) or formaldehyde. It shall be chemically and biologically inert when in contact with acidic and alkaline soils. It shall be treated to prevent insect attack.

Materials shall withstand temperature variations from 0ºF to 140ºF without deforming and shall maintain their original dimensions and placement without chipping, spalling, or cracking. Material shall not deteriorate because of contact with sodium chloride, calcium chloride, mild alkalis and acids, or other ice control materials.

The EPS shall contain a flame retardant additive.

(c) **Spill Protection Layer**: The exposed top and side surfaces of the blocks shall be protected against chemical spill, particularly petroleum products, using a geomembrane liner. The geomembrane shall be resistant to petroleum products such as gasoline and diesel fuel. The geomembrane shall be manufactured from a tripolymer consisting of polyvinyl chloride, ethylene interpolymer alloy, and polyurethane, or a similar combination. The geomembrane shall have a minimum thickness of 0.7 mm. Seaming, if required, shall be by thermal or solvent methods. The geomembrane shall extend a minimum of twelve inches beyond the EPS surface and overlap with adjacent concrete surfaces. The geomembrane shall be stored and installed according to the manufacturer's recommendations or as directed by the Engineer.

(d) **Geotextile Separation Fabric**: Geotextile Fabric Type IV meeting the requirements of Section 843 of the Standard Specifications shall be placed between the geomembrane wrapped EPS and the backfill material. Fabric joints shall have a minimum overlap of twelve inches. Fabric shall extend a minimum of twelve inches beyond the EPS surface and overlap with adjacent concrete or geomembrane surfaces. Geotextile separation fabric for subsurface installation shall not be exposed to direct sunlight for more than 24 hours during installation.

(e) **Adhesive**: Adhesive shall be used to bond the EPS to concrete surfaces, the geomembrane to the EPS and concrete, and the separation fabric to the geomembrane wrapped EPS or concrete. It shall be applied in accordance with the EPS, geomembrane, and separation fabric manufacturer's recommendations.

(f) **Granular Backfill:** Granular Backfill material shall be crushed stone meeting the requirements of Section 805 of the Standard Specifications and conform to the following gradation:

Sieve Size	**Percent Passing**
1-1/2 inch	100%
No. 4	0 – 25%
No. 8	0 – 5%

III. PROCEDURES

(a) **Preparation of Concrete Surface:** Before placement of EPS, concrete surfaces shall be abrasive blast cleaned with a positive contact sandblaster or adhesives manufacturer's recommendation and approved by the Engineer to remove all non-adherent laitance, oil, grease or other foreign or deleterious matter.

(b) **Installation of EPS Material and Geotextile Separation Fabric:** The EPS shall be attached to the back of the concrete surfaces with an adhesive compatible with the material.

The concrete surface must be thoroughly dry and clean for adhesive for the application of the EPS. Adhesive shall be applied in accordance with the adhesive manufacturer's recommendation or approval.

The geomembrane and separation fabric may be installed after the EPS has been installed or it may be pre-attached to the EPS. The geomembrane shall cover all exposed surfaces of the EPS. The separation fabric shall cover all exposed surfaces of the geomembrane.

EPS, geomembrane, and separation fabric shall be installed in accordance with the manufacturer's recommendations.

(c) **Installation of Wrapped Geotextile Reinforcement and Backfill:** Place Geotextile Fabric Type IV in accordance with Section 214 of the Standard Specifications where the Granular Backfill material will come in contact with embankment material. The Granular Backfill material shall be completely wrapped with Geotextile Fabric Type IV.

Place two 4-inch perforated underdrain pipes wrapped with Geotextile fabric in the bottom of the backfill trench at the base of the end bent/abutment as shown on the attached drawing. Place Granular Backfill in the bottom of the trench and compact as noted below. A minimum of 1 foot but no more than 2 feet of Granular Backfill should be placed in the bottom of the trench, and the actual depth should be determined in the field such that the 1 foot lifts of Geotextile Reinforcement and Granular Backfill will result in the required final grade.

Place Geotextile Reinforcement and Granular Backfill as shown in the attached drawing in lifts not to exceed 1 foot. The Geotextile Reinforcement shall be placed so that the strongest direction is perpendicular to the end bent/abutment and shall be laid so that it is taut and free of wrinkles prior to

backfilling. If needed the Geotextile fabric may be overlapped or mechanically connected (sewn) in accordance with the manufacturer's specifications except that overlaps may not be used within 4 feet of the back wall of the end bent/abutment. Vehicles shall not be allowed to operate directly on the fabric. The Geotextile Reinforcement shall wrap around to enclose the backfill material on three sides (at the end bent and side slopes).

Granular Backfill material shall be placed and spread starting at the back of the End Bent/Abutment and moving perpendicularly away from the End Bent/Abutment so that the Geotextile Reinforcement does not become wrinkled or develop slack. Each lift of the backfill material shall be compacted using a suitable compactor until there is no visible sign of further compression. A minimum of four passes shall be applied per lift. Hand operated compaction equipment such as lightweight mechanical tampers, vibratory plates, or rollers are required within 3 feet of the back of the end bent/abutment.

IV. TESTING

Elasticized EPS shall be tested by an independent commercial laboratory, to verify the material requirements specified herein. The Contractor shall provide written documentation of all tests specified. Documentation shall include style, lot, roll numbers, and actual results of each test. In addition, the name, address, phone number of the testing laboratory, and date of testing shall be provided.

Geotextile Reinforcement and geomembranes shall be tested by an independent commercial laboratory, to verify the material requirements specified herein. The Contractor shall provide written documentation of all tests specified. Documentation shall include style, lot, roll numbers, and actual results of each test. In addition, the name, address, phone number of the testing laboratory, and date of testing shall be provided.

After the EPS has been installed and before the work has been accepted, the Contractor and Inspector shall perform a visual inspection of EPS coverage and adhesion to the concrete surface. Any area deemed unacceptable and questionable as to remaining in position during the placement of the backfill material shall be replaced or repaired, as required.

V. REPAIR OF FAILED AREA OF EPS

Unacceptable portion of the EPS shall be removed and the concrete surface shall be prepared and the EPS installed in accordance with this special provision. New EPS in the repair areas shall be visually inspected after curing. The cost of all additional work for repairing or replacing of the defective joint material shall be borne by the Contractor.

VI. MEASUREMENT AND PAYMENT

Elasticized EPS will be measured in square yards along the back of backwall surface area, complete-in-place, and will be paid for at the contract unit price per square yard. Such price shall be full compensation for cleaning surface, for furnishing and installing the EPS material in accordance with these Specifications and the manufacturer's recommendations, testing, and for all material, labor, tools, equipment and incidentals necessary to complete the work. The department will not measure for payment the geomembrane and will consider it incidental to the Elasticized EPS.

Granular Backfill will be measured in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204 of the Standard Specifications. The Department will not measure for payment any Granular Backfill not called for in the plans. The Department will not measure for payment the 4-inch perforated underdrain pipe or the Geotextile Fabric Type IV and will consider it incidental to the Granular Backfill.

High Strength Geotextile Fabric will be measured as specified in Section 214 of the Standard Specifications. See detail sheet in the Plans.

Special Note for Treatment of End Bent or Abutment Backfills
Using Geotextile Reinforcement and Elastic Inclusion
May 21, 2013

Payment will be made under:

Pay Item	**Pay Unit**
Elasticized EPS (Thickness)	Square Yard
High Strength Geotextile Fabric	Square Yard
Granular Backfill	Cubic Yard

Russell County, Item No. 8-8601.21
US 127 over the Cumberland River

SPECIAL NOTE FOR NON-DESTRUCTIVE TESTING IN DRILLED SHAFTS

Russell County – US 127 Bridge over the Cumberland River

The following sections provide the requirements for non-destructive testing (Crosshole Sonic Logging and Thermal Integrity Profiling) of the drilled shaft foundations, including technique shafts, schedule requirements for submittals, reporting requirements and Contractor/Testing Subcontractor/Department responsibilities. The purpose of the non-destructive testing is to evaluate whether the Contractor's means and methods are suitable for proposed drilled shaft foundation construction and to potentially detect air-, clay- or debris-filled voids or other discontinuities within and along the perimeter of the drilled shafts.

1.0 Crosshole Sonic Logging

1.1 Description

Crosshole Sonic Logging (CSL) is a nondestructive method to test the integrity of drilled shafts. It is the responsibility of the Contractor to supply all equipment and materials necessary to perform this testing and for obtaining the services of a CSL Testing Firm, which is experienced with CSL testing in accordance with Section 1.4.1 of this note and approved by the Engineer, to perform the testing.

The Contractor will be responsible for providing:

1. access tubes to be used for CSL testing of the drilled shafts;
2. watertight shoes, watertight caps, and non-shrink grout;
3. suitable working space and access to every shaft;
4. a reliable 600 watt (minimum) generator; and
5. any other equipment or materials necessary to accomplish the testing.

1.2 Materials

1.2.1 Access Tubes

1. Provide access tubes meeting the requirements below:
   a. 2 inch ID schedule 40 steel pipe conforming to ASTM A 53, Grade A or B, Type E, F, or S;
   b. contains round, regular internal diameters free of defects or obstructions, including any at pipe joints;
   c. capable of permitting the free, unobstructed passage of a 1.5-inch-diameter source and receiver probes; and
   d. watertight and free from corrosion with clean internal and external faces to ensure passage of the probes and a good bond between the concrete and the tubes.
2. Provide watertight shoes on the bottom and removable watertight caps on the top of the tubes.

3. The Engineer will accept access tubes based on visual inspection, certification, and that the steel pipe meets the requirements above.

1.2.2 Grout

Provide non-shrink grout to fill the access tubes and any cored holes at the completion of the CSL tests. Use grout conforming to Section 601.03.03 of the Standard Specifications.

1.3 Execution

1.3.1 Access Tube Installation

1. Install 8 access tubes in each of the 8 ft. diameter drilled shafts and 4 access tubes in each of the 4 ft. diameter drilled shafts as shown in Section 1.4.2 of this Special Note (Page 5 of 13).
2. Securely attach the CSL tubes that are along the inside periphery to the spiral reinforcement. Wire-tie the tubes a minimum of every 3 ft. so they will stay in position during placement of reinforcement and concrete. Place the tubes so they will be parallel with each other and as near to vertical as possible in the finished shaft. Even moderate bending of the tubes will result in large regional variations in the data.
3. Place the tubes from 6 inches above the shaft tip to at least 3 ft. above the top of rebar cage, at least 3 ft. above water level, at least to the top of concrete, and at least 3 ft. above the top of casing. Under no circumstances may the tubes be allowed to come to rest on the bottom of the excavation.
4. Ensure that any joints in the tubes are watertight.
5. During placement of the reinforcement cage, exercise care so that the tubes will not be damaged to the extent that would prevent a 1.5 inch diameter probe from passing through them.
6. After placing the reinforcing cage and before beginning concrete placement, **fill the tubes with clean potable water** and cap or seal the tube tops to keep debris out of the tubes. Replace the watertight caps immediately after filling the tubes with water.
7. Before placing concrete, investigate at least one tube per shaft to make sure that there are no bends, crimps, obstructions or other impediments to the free passage of the testing probes.
8. During removal of the caps from the tubes, exercise care so as not to apply excess torque, hammering, or other stresses which could break the bond between the tubes and concrete.
9. After concrete placement and before the beginning of CSL testing, inspect the access tubes and report any access tubes that the 1.5 inch diameter test probe cannot pass through to the Engineer. The Engineer will make an evaluation to determine if the CSL testing can

be successfully performed without the tube(s); the Engineer may require the contractor to, at its own expense, replace one or more tubes with 2-inch-diameter holes cored through the concrete for the entire length of the shaft, excluding the bottom 6 inches. Unless directed otherwise by the Engineer, locate core holes approximately 6 inches inside the reinforcement such that it does not damage the reinforcement. For each core hole drilled, record a log with descriptions of inclusions and voids in the cored holes and submit a copy of the log and photographs to the Engineer. Preserve the cores, identify as to location and make available for inspection by the Engineer.

1.3.2 Grouting

After completion of the CSL and TIP testing, evaluation of results and upon being directed by the Engineer, remove the water from the access tubes and any cored holes, completely fill the tubes and holes with approved grout. After grouting, cut the tubes flush with the tops of the drilled shafts.

1.4 CSL Testing and Evaluation of Test Results

Make submittals electronically in accordance with the Project requirements for submittals. See Table 1 below. The Department will respond to the Contractor regarding acceptability of submittals within ten (10) business days, unless indicated otherwise in this special note. A “Business Day” is defined as any day except Saturdays, Sundays and Holidays, as defined in Section 101.03 of the Standard Specifications.

Table 1 – Schedule of CSL Submittals

Submittal Number	Submittal Item	Calendar Days	Event
1	Technical Proposal with CSL Testing Firm qualifications	60 before	Start of Drilled Shaft Construction
2	CSL Testing Reports	5 After	Completion of testing on an individual drilled shaft
Provide all submittals and reports in .pdf format			

Russell County, Item No. 8-8601.21
US 127 over the Cumberland River

1.4.1 Technical Proposal

Submit a technical proposal prepared by the CSL Testing Firm that addresses the testing procedures and qualifications and experience of the testing firm. Include at least 3 similar deep foundation projects for which the testing organization has been engaged in CSL Testing. Use personnel having a minimum of 3 similar deep foundation projects experience in CSL Testing and interpretation. Within 10 business days, the Department will review the proposal and report to the Contractor whether the CSL Testing Firm is approved.

1.4.2 Testing

1. Provide access to the top of the shaft for testing personnel and equipment.
2. Perform CSL testing on all shafts, unless directed otherwise by the Engineer.
3. Perform CSL testing in general accordance with ASTM D 6760.
4. Perform CSL testing on all completed shafts designated for testing by the Engineer, after the shaft concrete has cured at least 72 hours and has obtained a minimum strength of 2500 psi.
5. For drilled shafts with diameters of 5.5 feet and greater, obtain a minimum of 20 CSL logs per shaft (8 perimeter, 4 major diagonal and 8 minor diagonal logs), unless otherwise directed by the Engineer (see figure below). For drilled shafts with diameters of 3.5 feet to 5 feet, obtain a minimum of 6 CSL logs per shaft (4 perimeter and 2 major diagonal logs), unless otherwise directed by the Engineer (see figure below).
6. If the CSL testing firm believes that additional testing is required (such as Angled CSL, Crosshole Tomography, Singlehole Sonic Logging, or Sonic Echo/Impulse Response, etc.), contact the Engineer immediately. The Department will determine if additional testing is required, and such testing, if not due to a drilled shaft defect, would be paid for using a change order.

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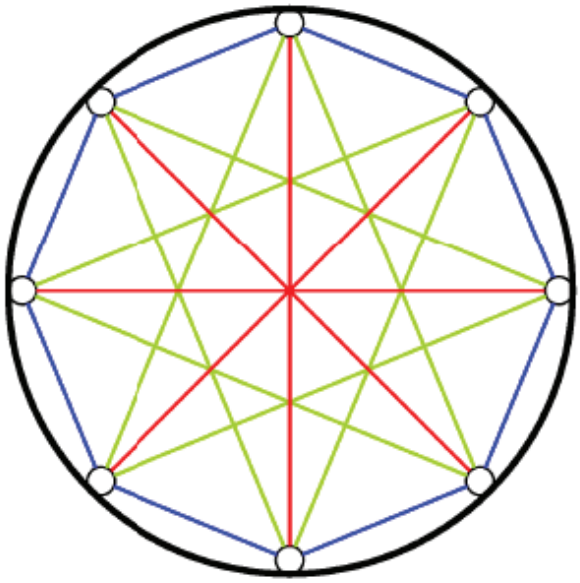
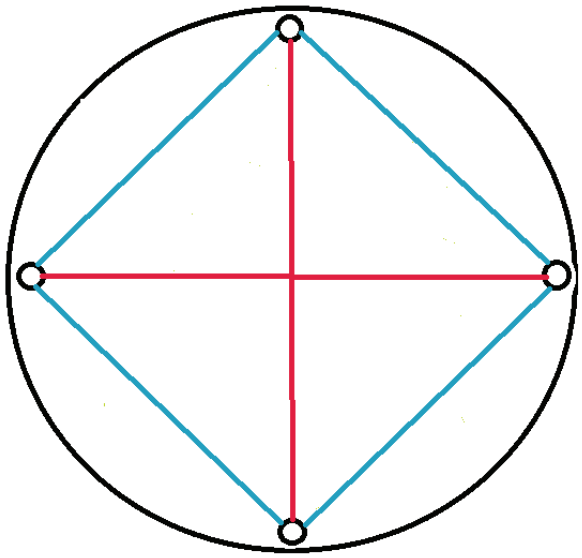


Proposed CSL Tube and Reading Configuration
8 ft. Diameter Shafts – 8 CSL Tubes
4 Major Diagonal Readings
8 Perimeter Readings
8 Minor Diagonal Readings



Proposed CSL Tube and Reading Configuration
4 ft. Diameter Shafts – 4 CSL Tubes
2 Major Diagonal Readings
4 Perimeter Readings

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1.4.3 Test Reports

1. Submit a test report prepared by the CSL Testing Firm within 5 business days of completion of testing which, as a minimum, contains:
   a. Date of test;
   b. Plan Shaft No. and Reference Elevation;
   c. Schematic showing a plan view of the access tube locations;
   d. CSL logs with reference elevations;
   e. CSL logs presented for each tube pair tested with any discontinuity. zones indicated on the logs and discussed in the report as appropriate;
   f. Analyses of initial pulse arrival time versus depth or velocity versus depth and
   g. Analyses of pulse energy/amplitude versus depth.
   h. A narrative portion of the report will be used to present items a through f.
2. Complete all reports using English units.

1.4.4. Evaluation of CSL Test Results

1. Allow direct communication between the CSL Testing Firm and the Department.
2. The Department will evaluate the CSL test results in the test report to determine whether or not the drilled shaft integrity is acceptable. Within 5 business days after receiving a test report, the Engineer will report to the Contractor whether the construction is acceptable or additional analyses are needed. Thermal Integrity Testing (TIP) as described in Section 2.0 will also be used by the Department to determine the presence of anomalies.
3. Perform CSL testing on the first shaft constructed. Continue with subsequent drilled shaft rock socket excavation and concrete placement only after receiving written approval and acceptance of the first shaft of each specified diameter, based on the results and analysis of the CSL testing for the first shaft. Drilled shaft operations such as casing placement and overburden excavation will be allowed during the waiting period.
4. Continue with construction of the structure above the drilled shafts only after receiving written approval from the Engineer to do so, based on evaluation of the CSL test results.
5. If the CSL records are inconclusive (e.g. records do not clearly indicate discontinuity, good conditions or missing data), the Engineer may require additional testing, such as Angled CSL, or Singlehole Sonic Logging or concrete cores to sample the concrete in question to verify shaft conditions. If core samples are needed, obtain cores with a minimum diameter of 2 inches using a double tube core barrel at a minimum of 4 locations selected by the Department, unless directed otherwise by the Engineer. Unless directed otherwise by the

Engineer, locate core holes approximately 6 inches inside the reinforcement such that they do not damage the reinforcement. For each core hole drilled, record a log with descriptions of inclusions and voids in the cored holes and submit a copy of the log to the Engineer. Place the cores in crates properly marked showing the shaft depth at each interval of core recovery. Transport the cores and logs to the Geotechnical Branch in Frankfort for inspection and testing. Grout the core holes in accordance with Section 1.3.2 above.

6. If the additional testing or evaluation of cores indicate that concrete for any drilled shaft on which additional testing or coring was required is acceptable, the Department will pay for the direct cost of additional testing and concrete coring and grouting by change order. If the additional testing or evaluation of cores indicates that the concrete for any drilled shaft concrete is unacceptable, the additional testing and concrete coring and grouting will be at the expense of the Contractor.
7. If discontinuities are found, an independent structural and/or geotechnical consultant hired by the Contractor will perform structural and/or geotechnical evaluation at the expense of the Contractor. Hire consultants who are prequalified by KYTC in applicable areas. Based on the design criteria established for the structure and the evaluation of the independent structural engineer, the Engineer will assess the effects of the defects on the structural performance of the drilled shaft. If the results of the analyses indicate that there is conclusive evidence that the discontinuity will result in inadequate or unsafe performance under the design loads, as defined by the design criteria for the structure, the Engineer will reject the shaft.
8. If any shaft is rejected, provide a plan for remedial action to the Engineer for approval. Any modifications to the foundation shafts and/or other substructure elements caused by the remedial action will require calculations and working drawings by consultant(s) hired by the contractor, at the expense of the Contractor, which will be subject to review by the Engineer. Begin remediation operations only after receiving approval from the Engineer for the proposed remediation. All remedial action will be at no cost to the Department and with no extension of contract time.

2.0 Thermal Integrity Profiling

2.1 Description

Thermal Integrity Profiling (TIP) will be used as part of the program to test the integrity of drilled shafts. The Contractor will be responsible for supplying all equipment and materials necessary to perform this testing, and obtaining the services of a TIP Testing Firm, experienced with TIP testing and approved by the Engineer, to perform the testing. TIP testing will be performed using the CSL

tubes installed in the drilled shafts. Proposed alternate methods of performing the TIP testing may be considered by the Department.

Alternate methods of performing the TIP testing would be subject to acceptance by the Department, and installation of any sensors/instrumentation to the reinforcing cage would be incidental to the applicable contract unit bid price for TIP Testing. Ensuring that the TIP instrumentation is operational and provides the required information is the responsibility of the TIP Testing Firm. Overseeing the installation of the TIP testing instrumentation and properly training the Contractor in the installation of the TIP testing instrumentation is the responsibility of the TIP Testing Firm and is incidental to applicable unit bid price for TIP Testing. If any additional training for the Contractor is required for the TIP instrumentation, it is the responsibility of the TIP Testing Firm and is incidental to applicable unit bid price for TIP Testing.

The Contractor will be responsible for providing:

1. wires or probes which will be used for TIP testing of the drilled shafts;
2. dewatering equipment for CSL tubes if probes will be used;
3. suitable working space and access to every shaft;
4. a reliable 600 watt (minimum) generator; and
5. other equipment or materials necessary to accomplish the testing.

2.2 Materials

Refer to Section 1.2 for CSL tube materials.

2.3 Execution

2.3.1 Access Tube Installation

Refer to CSL access tube installation in Section 1.3.1 of this Special Note.

2.3.2 Grouting

After completion of the TIP and CSL testing, evaluation of results and upon being directed by the Engineer, remove the water from the access tubes and any cored holes, completely fill the tubes and holes with approved grout. After grouting, cut the tubes flush with the tops of the drilled shafts.

2.4 TIP Testing and Evaluation of Test Results

Make submittals electronically in accordance with the Project requirements for submittals. See Table 2 below. The Department will respond to the Contractor regarding acceptability of submittals within ten (10) business days, unless indicated otherwise in this special note. A “Business Day” is defined as

any day except Saturdays, Sundays and Holidays, as defined in Section 101.03 of the Standard Specifications.

Table 2 – Schedule of TIP Submittals

Submittal Number	Submittal Item	Calendar Days	Event
1	Technical Proposal with TIP Testing Firm qualifications, including any alternate testing methods and information required for alternate methods discussed in Section 2.1	60 before	Start of Drilled Shaft Construction
2	TIP Testing Reports	5 After	Completion of testing on an individual drilled shaft
Provide all submittals and reports in .pdf format			

2.4.1 Technical Proposal

Submit a technical proposal prepared by the TIP Testing Firm that addresses the testing procedures and qualifications and experience of the testing firm. It is acceptable for the TIP and CSL Testing Firm to be the same firm, provided they meet requirements for both TIP (this Section) and CSL (Section 1.4.1) Testing Firms. Include at least 3 similar deep foundation projects for which the testing organization has been engaged in TIP Testing. Documented participation in the development of ASTM Standard Test Method D7949-14 may be counted as one project for the purposes of this pre-qualification. Experience in at least one similar project using CSL Testing and interpretation may be counted as one project. If used, this CSL project must be a different project than that used to satisfy the actual TIP Testing project experience. Include at least one project where TIP Testing was performed and interpreted. Use personnel having a minimum of 3 similar deep foundation projects experience in TIP Testing and interpretation. Within 10 business days, the Engineer will review the proposal and report to the Contractor whether the TIP Testing Firm is approved.

2.4.2 Testing

1. Provide access to the top of the shaft for testing personnel and equipment.
2. Perform TIP testing on all shafts, unless directed otherwise by the Engineer.
3. Perform TIP testing in accordance with generally accepted TIP Testing methods.

4. Perform TIP testing on all completed shafts designated for testing by the Engineer, within the time frame indicated by the TIP testing firm after of the completion of concrete placement in the drilled shaft. Do not exceed 60 hours after completion of the placement of the drilled shaft concrete.
5. If embedded thermal sensor wires are used, securely attach the wires to the full length of the longitudinal reinforcing steel, per the manufacturer's recommendations and at the same spacing and number as the CSL tubes.
6. If probes are used, verify the length of the tubes and pump water from the tubes prior to testing.
7. Perform TIP testing in the shafts designated for testing using either thermal probes in each CSL tube or the embedded thermal wire array, and in accordance with the ASTM Test Method D7949-14.
8. Immediately report potential local discontinuities indicated by locally low temperatures relative to the average temperature at that depth, or average temperatures significantly lower than the average temperatures at other depths to the Department.
9. If shaft discontinuities or thermal sensor/probe damage/defects are detected in the field, perform any confirmatory TIP testing deemed necessary by the TIP Testing Firm at no additional cost to the Department.

2.4.3 Test Reports

1. Submit a test report prepared by the TIP Testing Firm within 5 business days of completion of testing which, as a minimum, contains:
   a. Date of test;
   b. Plan Shaft No. and Reference Elevation;
   c. Schematic showing a plan view of the access tube locations;
   d. Graphical displays of all temperature measurements versus depth;
   e. Indication of unusual temperatures, particularly significantly cooler local deviations of the average at any depth from the overall average over the entire length;
   f. The overall average temperature. This temperature is proportional to the average radius computed from the actual total concrete volume installed (assuming a consistent concrete mix throughout). Radius at any point can then be determined from the temperature at that point compared to the overall average temperature;
   g. Variations in temperature between wires (at each depth) which may correspond to variations in cage alignment (where concrete volume is known, the cage alignment or offset from center should be noted); and
   h. Where shaft specific construction information is available (e.g. elevations of the top of shaft, bottom of casing, bottom of shaft, etc.), these values should be noted on all pertinent graphical displays.

i. Drilled shaft radius calculations and the shaft quality, based upon the collected data, as well other available data, such as, as shaft alignment and wall profile from the SC Testing, top/bottom shaft/concrete elevations and concrete volume records collected during construction of the drilled shaft.
j. A narrative portion of the report which addresses items a through i above.

2. Complete all reports using English units.

2.4.4 Evaluation of TIP Test Results

1. Allow direct communication between the TIP Testing Firm and the Department.
2. The Engineer will evaluate the TIP test results in the test report to determine whether or not the drilled shaft integrity is acceptable. Within 5 business days after receiving a test report, the Engineer will report to the Contractor whether the construction is acceptable or additional more detailed analyses are needed.
3. Perform TIP testing on the first shaft constructed. Continue with subsequent drilled shaft rock socket excavation and concrete placement only after receiving written approval and acceptance of the first shaft, based on the results and analysis of the TIP testing for the first shaft. Drilled shaft operations such as casing placement and overburden excavation will be allowed during the waiting period.
4. Continue with construction of the structure above the drilled shafts only after receiving written approval from the Engineer to do so, based on evaluation of the TIP and CSL test results.
5. If the TIP and the CSL records are inconclusive, the Engineer may require additional testing (such as Angled CSL, Crosshole Tomography, Singlehole Sonic Logging, or Sonic Echo/Impulse Response, etc.) or concrete cores to sample the concrete in question to verify shaft conditions. If either the TIP or CSL records are inconclusive, the Engineer may elect to require additional testing, based on the results of the conclusive TIP or CSL records. If core samples are needed, obtain cores with a minimum diameter of 2 inches, double tube core barrel at a minimum of four locations specified by the Department, unless directed otherwise by the Engineer. Unless directed otherwise by the Engineer, locate core holes approximately 6 inches inside the reinforcement such that they do not damage the reinforcement. For each core hole drilled, record a log with descriptions of inclusions and voids in the cored holes and submit a copy of the log to the Engineer. Place the cores in crates properly marked showing the shaft depth at each interval of core recovery. Transport the cores and logs to the Geotechnical Branch in Frankfort for inspection and testing. Grout the core holes in accordance with Section 2.3.2 above.

6. If the additional testing or evaluation of cores indicate that concrete for any drilled shaft on which additional testing or coring was required is acceptable, the Department will pay for the direct cost of additional testing and concrete coring and grouting by change order. If the additional testing or if evaluation of cores indicate that the concrete for any drilled shaft concrete is unacceptable, the additional testing and concrete coring and grouting will be at the expense of the Contractor.
7. If defects are found, the original structural designer will perform structural and/or geotechnical analyses, at the expense of the Contractor, based on the design criteria established for the structure to assess the effects of the defects on the structural performance of the drilled shaft. If the results of the analyses indicate that there is conclusive evidence that the defects will result in inadequate or unsafe performance under the design loads, as defined by the design criteria for the structure, the Engineer will reject the shaft.
8. If any shaft is rejected, provide a plan for remedial action to the Engineer for approval. Any modifications to the foundation shafts and/or other substructure elements caused by the remedial action will require calculations and working drawings by independent consultant(s) hired by the Contractor, at the expense of the Contractor. The calculations and working drawings will be reviewed by the Engineer. Begin remediation operations only after receiving acceptance from the Engineer for the proposed remediation. All remedial action will be at no cost to the Department and with no extension of contract time.

3.0 Measurement and Payment

3.1 Method of Measurement CSL Testing

The Department will pay for the authorized and accepted quantities of “CSL Testing” at the contract unit price per each shaft tested (production and technique drilled shafts). This will constitute full compensation for all costs associated with providing access for testing personnel and equipment, performing the CSL Testing in a single shaft, and reporting the results to the Engineer.

Installation of CSL Access Tubing is incidental to the applicable contract unit bid price for Drilled Shaft, Common, and Drilled Shaft, Solid Rock. This will constitute all costs and delays associated with installing the CSL Access Tubing in a single shaft, including but not limited to providing and installing access tubing, providing and installing all required bracing for access tubes, providing and placing grout in access tubes.

The Department will pay using a change order for the direct cost of additional testing and concrete coring, authorized by the Engineer, required to investigate

shafts with inconclusive CSL records if evaluation of the additional testing or cores indicates that concrete for that drilled shaft is acceptable. This will constitute full compensation for all costs and delays associated with performing additional tests, obtaining and delivering concrete cores to the Geotechnical Branch, and grouting core holes.

3.2 Method of Measurement TIP Testing

The Department will pay for the authorized and accepted quantities of "TIP Testing" at the contract unit price per each shaft tested (production and technique drilled shafts). This will constitute full compensation for all costs associated with providing access for testing personnel and equipment, performing the TIP Testing in a single shaft, and reporting the results to the Engineer.

Installation of CSL/TIP Access Tubing and/or thermal sensor wires is incidental to the applicable contract unit bid price for Drilled Shaft, Common, and Drilled Shaft, Solid Rock. This will constitute all costs and delays associated with installing the CSL Access Tubing in a single shaft, including but not limited to providing and installing access tubing, providing and installing all required bracing for access tubes, providing and placing grout in access tubes.

The Department will pay using a change order for the direct cost of additional testing and concrete coring, authorized by the Engineer, required to investigate shafts with complex or inconclusive TIP records if evaluation of the additional testing or cores indicates that concrete for that drilled shaft is acceptable. This will constitute full compensation for all costs and delays associated with performing additional tests, obtaining and delivering concrete cores to the Geotechnical Branch, and grouting core holes.

3.3 Payment

The Department will pay for the completed and accepted quantities under the following. The Pay Unit of "Each" refers to each individual shaft.

Code	Pay Item	Pay Unit
24875EC	CSL Testing (8 tubes)	Each
21321NC	CSL Testing (4 tubes)	Each
24874EC	TIP Testing	Each

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

SPECIAL NOTE

Ground Disturbance Restriction
Archaeological Site 15Ru162

Russell County
Item No. 8-8601.21

DUE TO THE PRESENCE OF AN ARCHAEOLOGICAL SITE THAT REQUIRES INVESTIGATION, NO GROUND DISTURBANCE MUST OCCUR AT THIS LOCATION UNTIL CLEARANCE IS GRANTED BY KYTC.

LOCATION:
Site 15Ru162 is wholly within a temporary easement for the construction of a proposed farm access road and a drainage culvert, located between Stations 606+00 and 607+70.
<SEE ATTACHED MAPPING>.

STIPULATIONS:

1 – The contractor shall fence off the perimeter around Site 15Ru162 with approximately 900 linear feet of fencing to protect the site from inadvertent ground disturbance. See attached mapping for the location and limits of the site boundary.

2 – Due to the nearby terrain, priority should be given to facilitate the stream crossing at Station 613+60, which will allow reasonable access for a backhoe or track hoe to access Site 15Ru162 from the existing roadway. See attached mapping for location of stream crossing.

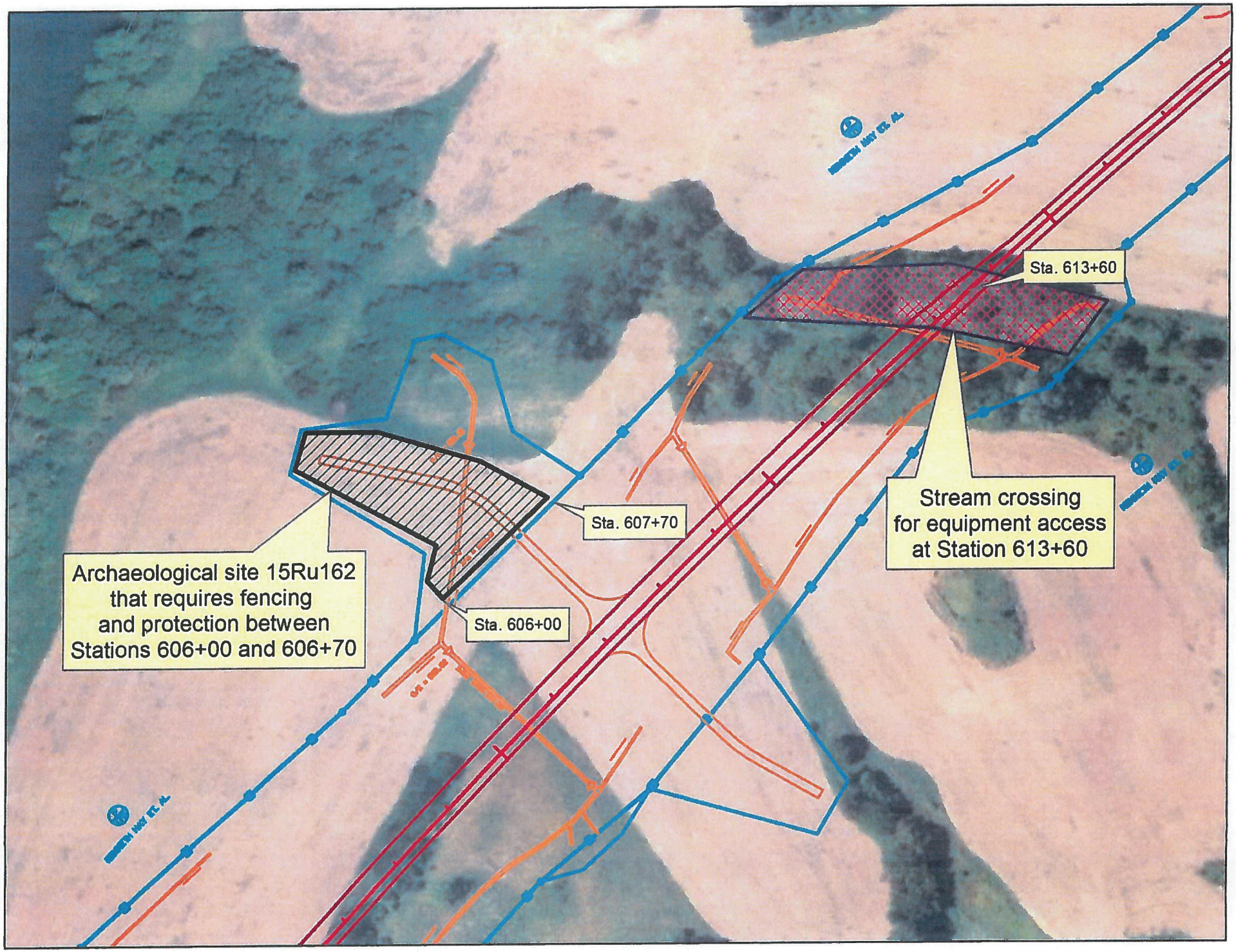
3 – When a timeline for providing reasonable access to Site 154Ru162 is developed by the contractor, notify KYTC Environmental Personnel so they may coordinate a schedule and access between the contractor and archaeologists to complete their work.

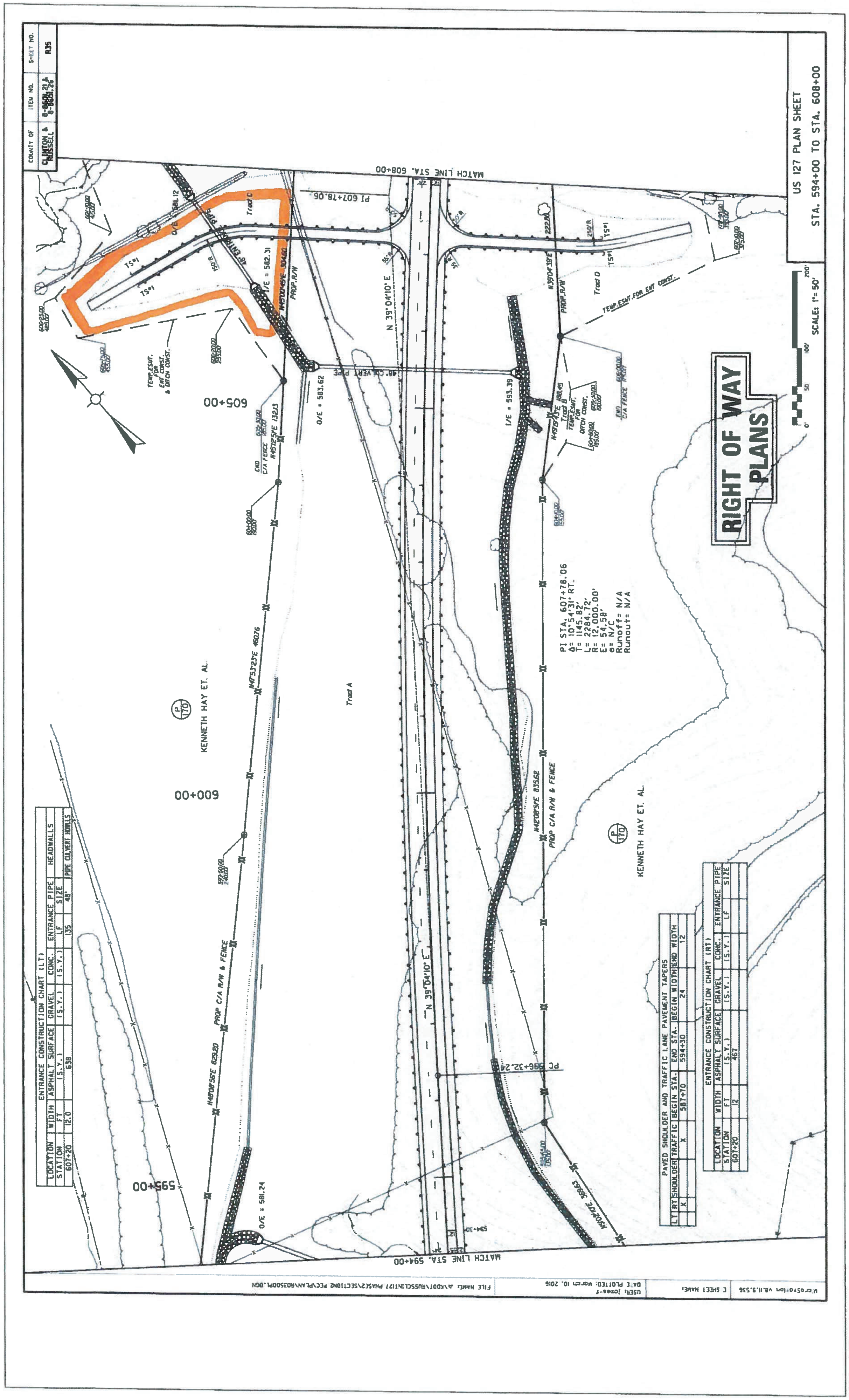
Carl Shields, Archaeologist, Division of Environmental Analysis, KYTC. (502) 564-7250
Jami West, Environmental Coordinator, District 8 Office, KYTC. (606) 677-4017

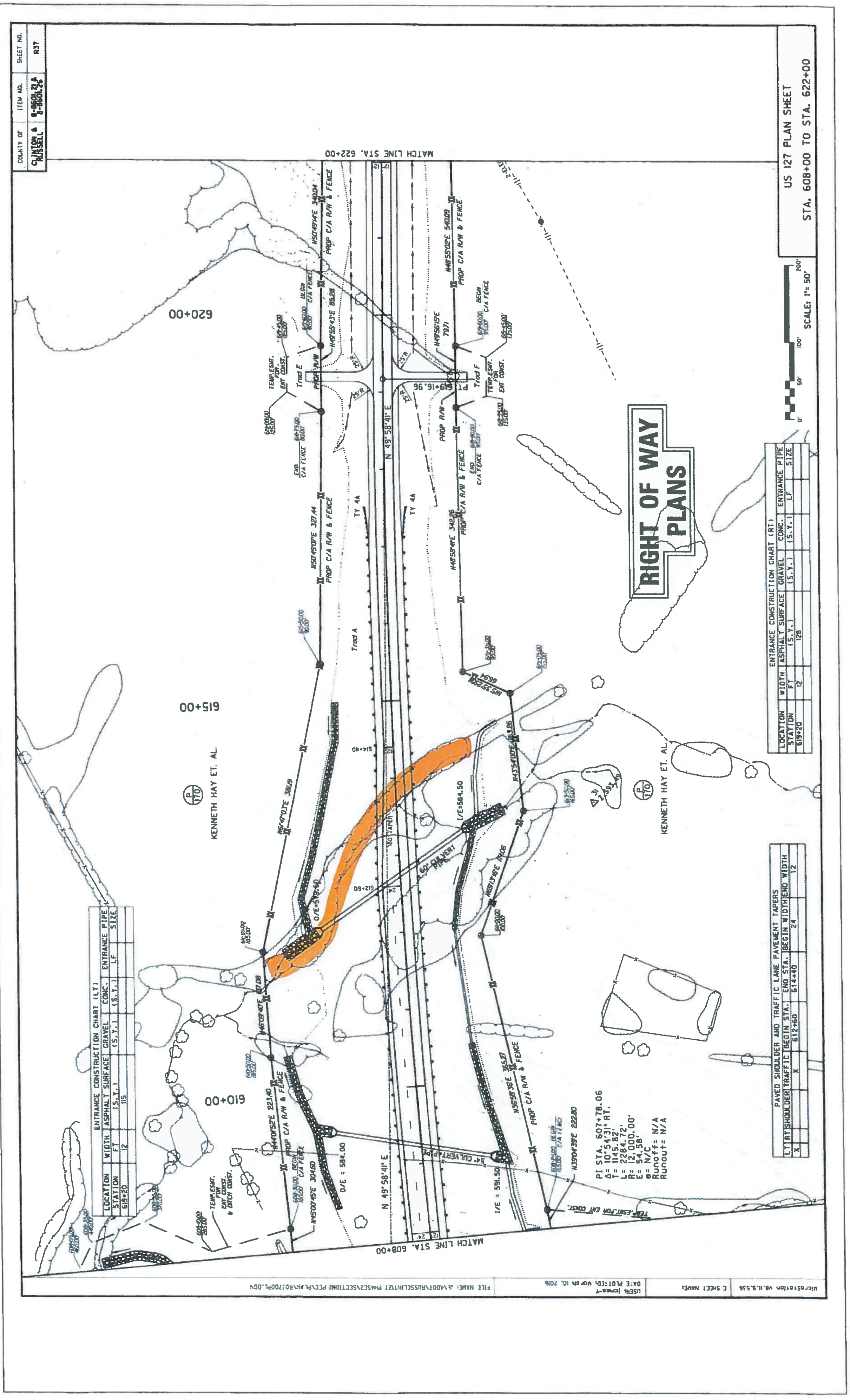
4 – Once archaeological clearance is obtained for Site 15Ru162 and the site is clear for construction, the contractor will be notified by KYTC Environmental Personnel.

5 – Any inadvertent ground disturbance prior to receiving clearance from KYTC environmental personnel falls under the responsibility of the contractor. If Site 15Ru162 is damaged by ground disturbance prior to clearance being obtained, the contractor will be responsible for all reasonable costs to mitigate the damage.

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


Sta. 613+60
Stream crossing
for equipment access
at Station 613+60
Sta. 607+70
Archaeological site 15Ru162
that requires fencing
and protection between
Stations 606+00 and 606+70
Sta. 606+00


COUNTY OF CLINTON & RUSSELL
ITEM NO. 8-8601.21 & 8-8601.26
SHEET NO. R35
US 127 PLAN SHEET
STA. 594+00 TO STA. 608+00
RIGHT OF WAY PLANS
SCALE: 1"= 50'
MATCH LINE STA. 608+00
MATCH LINE STA. 594+00
KENNETH HAY ET. AL.
N 39°04'10" E
PI STA. 607+78.06
Δ= 10°54'31" RT.
T= 1145.82'
L= 2284.72'
R= 12,000.00'
E= 54.58'
e= N/C
Runoff= N/A
Runout= N/A
ENTRANCE CONSTRUCTION CHART (LT)
LOCATION STATION 607+20 | WIDTH FT 12.0 | ASPHALT SURFACE (S.Y.) 638 | ENTRANCE PIPE LF 135 | SIZE 48" | HEADWALLS PIPE CULVERT HDWLLS
ENTRANCE CONSTRUCTION CHART (RT)
LOCATION STATION 607+20 | WIDTH FT 12 | ASPHALT SURFACE (S.Y.) 467
PAVED SHOULDER AND TRAFFIC LANE PAVEMENT TAPERS
RT SHOULDER X | BEGIN STA. 587+10 | END STA. 594+30 | BEGIN WIDTH 24 | END WIDTH 12
PROP C/A R/W & FENCE
TEMP. ESMT. FOR ENT CONST.


US 127 PLAN SHEET
STA. 608+00 TO STA. 622+00
SCALE: 1"= 50'
RIGHT OF WAY PLANS
MATCH LINE STA. 622+00
MATCH LINE STA. 608+00
KENNETH HAY ET. AL.
KENNETH HAY ET. AL.
620+00
615+00
610+00
N 49°58'41" E

SPECIAL NOTE FOR DRILLED SHAFTS

Russell County – US 127 Bridge over B Mann Road

1.0 GENERAL

1.1 Description

This work consists of furnishing all tools, equipment, materials, services, labor and incidentals necessary for constructing drilled shafts in accordance with details shown on the plans. The Kentucky Standard Specifications for Road and Bridge Construction, current edition governs unless otherwise specified in this special note or in the plans. This Special Note completely replaces Special Note 11C, and Special Note 11C does not apply to this bridge.

For the purposes of this Special Note, “Department” refers to the Kentucky Department of Highways and/or consultants acting on behalf of the Department of Highways. “Engineer” is defined in Section 101.03 of the Standard Specifications.

1.2 Site, Subsurface Information and Samples Inspection

Bidders are encouraged to consult available geological literature including but not necessarily limited to the Wolf Creek Dam Geologic Quadrangle Map and the U.S. Geological Survey Professional Paper 1151-H, “The Geology of Kentucky -- A Text to Accompany the Geologic Map of Kentucky”, Edited by Robert C. McDowell. Additional geotechnical information may be available via the KYTC Division of Construction Procurement Website under “Project Related Information”. The referenced geological literature and geotechnical information are for information only and are not contract documents. However, available subsurface data are included in the bridge plans which are contract documents.

Karst activity exists in the project vicinity. **Voids were encountered in several borings at the substructure locations. These voids indicate that karstic features may be present within the project vicinity. The potential for karstic features should always be anticipated in limestone bedrock. As such, the presence of karstic features at specific locations other than those indicated in the contract documents will not be a cause for Differing Site Conditions as defined in Section 104.02.03 of the Standard Specifications.**

Soils encountered in the borings consist of low to high plasticity clays, low plasticity silts, clayey sands, and clayey gravels. The borings indicate that soils vary in thickness depending on the topography from approximately 0.4 to 26.5 feet in thickness. Soils encountered in Boring 1064 at Pier Two contained quartz geodes.

The rock core specimens obtained in the borings consist primarily of dolomites and limestone with zones that have interbedded shale. The dolomites (Cumberland Formation) were described as bluish gray and fine grained. The limestones (Leipers Limestone Formation) were described as light gray to dark gray in color,

irregular and nodular bedded, fossiliferous, and having shale partings and zones. At Abutment Two black, carbonaceous, pyritic shales (Chattanooga Formation) were encountered above the dolomite. Please refer to the Subsurface Data Sheets included in the Structure Plans.

Voids were encountered in some of the rock cores obtained at Piers One, Two, and Three. A void was also encountered in the rock core obtained for Abutment Two. Stabilization of the noted voids and cavities will likely be necessary as part of the construction process.

The prospective bidders are strongly encouraged to visit the project site, and the drilled shaft contractors are required to inspect available rock cores prior to the letting date. Representatives of the prime contractor and the drilled shaft subcontractor(s) (if applicable) will be required to inspect the rock cores prior to beginning drilled shaft construction. To schedule a viewing of the rock cores, contact the Division of Structural Design, Geotechnical Branch (502-564-2374), a minimum of two business days in advance. The bidders are also responsible to familiarize themselves with the available geotechnical data, which provides further information regarding the anticipated soil and bedrock conditions that will impact the installation of the drilled shafts. Failure to view the available rock cores will result in the forfeiture of the right to file a claim based on site conditions and may result in disqualification from the project.

1.3 Disclaimer

Acceptance of any of the contractor's submissions required by this note does not constitute endorsement or approval. The acceptance is acknowledgement of the work performed and authorization for the contractor to proceed. The Department is not bound by acceptance of any of the submissions required by this note. Final acceptance will be contingent on the satisfactory completion of the work required by this note.

2.0 SUBMITTALS

Make submittals in accordance with the Project requirements for submittals. See Table 1 below. The Department will respond to the Contractor regarding acceptability of submittals within ten (10) business days, unless indicated otherwise in this special note. A "Business Day" is defined as any day except Saturdays, Sundays and Holidays, as defined in Section 101.03 of the Standard Specifications.

Russell County, Item No. 8-115.10
US 127 Bridge over B Mann Road

Table 1 – Schedule of Drilled Shaft Submittals			
Submittal Number	Submittal Item	Calendar Days	Event
1	Drilled shaft contractor/subcontractor to be used	30 After	Notice to Begin Work
2	Drilled shaft supervisor experience and qualifications	30 After	Notice to Begin Work
3	Drilled Shaft Installation Plan (includes initial cavity stabilization plan)	45 Before	Start of Drilled Shaft Construction
4	Concrete trial mix reports (includes initial cavity stabilization plan)	30 Before	Start of Drilled Shaft Construction
5	Drilled shaft preconstruction meeting	20 Before	Start of Drilled Shaft Construction
6	Revised Cavity Stabilization Plan(s)	10 After	Installation of drilled shafts requiring stabilization
7	Drilled Shaft Installation Plan (includes Revised Cavity Stabilization Plan(s))	7 before	Installation of drilled shafts requiring stabilization
Provide all submittals and reports in .pdf format			

2.1 Contractor Pre-Qualification

The drilled shaft contractor is required to be pre-qualified by the Department for “Drilled Shafts”. These pre-qualification requirements apply to both a prime contractor who self-performs drilled shaft construction and subcontractor(s) who perform drilled shaft construction. This prequalification is optional for placing reinforcing steel and concrete for the drilled shafts. However, the applicable Drilled Shaft pre-qualification is required in order to perform other drilled shaft operations such as drilling, casing installation, etc. If the prequalified drilled shaft contractor does not place concrete then the drilled shaft supervisor is required to be present to oversee those operations.

2.2 Drilled Shaft Construction Personnel Experience

2.2.1 Drilled Shaft Supervisor(s)

Provide documentation that current company personnel who will be directly responsible for field operations meet the requirements below:

1. A minimum of 10 years of experience in drilled shaft construction including at least five (5) years of supervisory experience.
2. At least one (1) project constructing rock socket drilled shafts with rock socket diameters 5 feet or larger.
3. At least one (1) project constructing rock socket drilled shafts in hard bedrock where cavities/voids were encountered that required remediation and/or stabilization (e.g. sealing with steel casing, or pumping concrete and re-drilling or a combination of steel casing and pumping concrete).

NOTE: Item 3 is in addition to the personnel requirements for Drilled Shaft pre-qualification. The Contractor will be required to assign personnel meeting the requirements of Items 1-3 specifically to this project and may need to hire additional personnel after meeting pre-qualification requirements.

Some or all of the experience may be with a previous employer. If necessary, more than one drilled shaft superintendent or foreman can be used to meet the requirements if all are actively involved in the project.

2.2.2 Project Engineer(s)

Provide documentation that current company personnel includes a licensed Professional Engineer(s) with at least five (5) years of experience in design of concrete mixes and design of drilled shaft installations. Also provide documentation that the Professional Engineer(s) have experience designing installation plans within drilled shaft rock sockets in bedrock containing cavities due to karst conditions on at least one (1) prior drilled shaft project. The engineer(s) can be employees of the contractor or can be hired consultants. Multiple engineers can be used to satisfy the experience criteria in this section and are not required to be assigned full-time to this project; however, they need to be familiar with and have visited the project.

2.3 Pre-Construction Submittals

No later than 45 calendar days prior to constructing drilled shafts, submit a Drilled Shaft Installation Plan for review by the Department. Final acceptance of the Drilled Shaft Installation Plan by the Department will be subject to satisfactory performance in the field of the construction. Provide a plan containing detailed information regarding this project including the following:

(a) List and size of proposed equipment including cranes, drills, augers, bailing buckets, final cleaning equipment, desanding equipment, slurry pumps, core sampling equipment, tremies or concrete pumps, casings, etc.
(b) Details of overall construction operation sequence and the sequence of shaft construction.

(c) Details of shaft excavation methods and method that will be used to ensure that rock socket is centered and method to ensure that soil and rock remain stable during shaft excavation.
(d) Details of casing to be used including calculations showing ability of casing to withstand anticipated hydraulic and earth pressures and to withstand stresses due to installation without undue deformation. Include detailed methods for casing handling, splicing, straightening, and out-of-round correction with any associated timetables.
(e) Details of slurry (if used). See requirements for Slurry Submittals in Section 3.4 of this Special Note.
(f) Details of proposed methods to clean shaft and inside of casing after initial excavation.
(g) Details of reinforcement handling, lifting, and placement including support and method to center in shaft, must include rebar cage support during concrete placement.
(h) Details of concrete placement including proposed operational procedures for concrete tremie or pump including initial placement (including method(s) to ensure the required minimum 10 feet tremie immersion is achieved), raising during placement, and overfilling of the shaft to expel contaminated concrete.
(i) Details of temporary casing removal if contractor elects to use temporary casing.
(j) Required submittals including shop drawings and concrete design mixes.
(k) Other information shown in the plans or requested by the Engineer.
(l) Special considerations for wet construction.
(m) Details of environmental control procedures to protect the environment from discharge of excavation spoil, dry polymer slurry (if used) and concrete overpour.
(n) Method for measuring and determining vertical and horizontal alignment during construction.
(o) How excavated material is to be disposed.
(p) Stabilization plans for encountered voids within the excavated bedrock, including: 1) smaller voids and 2) more cavernous type voids that would require excessive concrete placement. Include items required in Section 4.6 of this special note.
(q) Proposed method to provide inspectors access to the top of permanent and/or temporary casing to allow inspection of the shafts.
(r) Provide a plan to install the CSL tubes and TIP sensors within the planned reinforcing cages as specified in the Special Note for Non-Destructive Testing.

Within 10 business days after receipt of the plan, the Department will notify the contractor of any additional information required and/or changes necessary to meet the contract requirements. Any part of the plan that is unacceptable will be rejected. Resubmit changes agreed upon for reevaluation to the Department. The Department will notify the Contractor within 10 business days after receipt of proposed changes of their acceptance or rejection. All procedural acceptance given by the Department are subject to trial and satisfactory performance in the

field by the contractor and do not relieve the contractor of the responsibility to satisfactorily complete the work as detailed in the plans and specifications. Do not start construction on any items affected by the Drilled Shaft Installation Plan until the plan is accepted by the Department. No additional costs or time extensions from Delays due to resubmission of the Drilled Shaft Installation Plan will be accepted by the Department.

2.4 Concrete Trial Batch Reports

At least 30 days prior to starting drilled shaft construction, submit reports of concrete trial batches as specified in Section 3.1.2 of this Special Note. These reports will be subject to review and acceptance by the Department.

2.5 Drilled Shaft Pre-Construction Meeting

A pre-construction meeting to discuss drilled shaft construction will be required. This meeting will be held after all drilled shaft submittals have been received and reviewed by the Department and at least 10 working days prior to the beginning of drilled shaft construction. The purpose of the meeting is to discuss construction procedures, personnel, and equipment to be used. The following are required to attend:

1. Representing the Contractor – Project Superintendent, Drilled Shaft Superintendent or Foreman, and Foreman in charge of the following operations (if different than the Drilled Shaft Superintendent or Foreman): placing casing, excavating shafts, mixing slurry, tying and setting steel reinforcement, and pumping and placing concrete.
2. Representing KYTC – Drilled Shaft Inspector(s), Section Engineer, Central Office Construction Engineer, Geotechnical Branch 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 drilled shaft construction procedures, an additional drilled shaft pre-construction meeting may be required at the discretion of the Engineer.

2.6 Revised Cavity (Karst) Stabilization Plan(s)

After completing the first cavity stabilization and evaluating the data, revise the cavity stabilization plan for karst conditions in the bedrock if revisions are determined necessary by the Contractor or Engineer. Submit the plan if the Contractor or the Engineer is of the opinion that the conditions encountered warrant modification of the original cavity stabilization plan indicated in Item (p) of Section 2.3 of this Special Note. Submit the plan to the Department within 10 calendar days after completing the drilled shafts requiring stabilization (See Section 4.5 for further requirements). The Department will notify the Contractor within 10 business days after receipt of proposed changes of their acceptance or

rejection of the revised plan. All procedural acceptance given by the Department is subject to trial and satisfactory performance in the field by the contractor during installation of the drilled shafts where cavities were encountered in the bedrock and do not relieve the contractor of the responsibility to satisfactorily complete the work as detailed in the plans and specifications.

If the Contactor does not intend to revise the initial stabilization plan, submit in writing that in the Contractor's opinion, no revisions are required to the initial stabilization plan within 10 calendar days after completing the first cavity stabilization.

3.0 MATERIALS

3.1 Concrete Mixes

3.1.1 Design concrete mixes for the drilled shafts having a minimum compressive strength at 28 days of 5000 psi with an air content of 5% +/- 2%. Maintain the slump of the concrete at the time of placement between 7.5 to 10 inches, the maximum coarse aggregate size is 3/8", and maintain the water/cementious material ratio not to exceed 0.45. Use water reducing and retarding admixtures as required. Type F high range water reducers used in combination with retarding admixtures or type G high range water reducers fully meeting trial batch requirements are permitted. Class F fly ash is permitted in conformance with Section 601. Design the concrete mix to have a slump-time relationship ("slump loss") of the concrete exceeding 6 inches after 4 hours from initial mixing and also exceeding 4 inches at 10 hours after batching or 2 hours after estimated placement time per drilled shaft, whichever is longer. Use of a hydration stabilizer that has been approved for experimental use in the Kentucky Product Evaluation List (KyPEL) is permitted for the purpose of controlling slump loss.

3.1.2 Perform trial batches prior to beginning drilled shaft construction in order to demonstrate the adequacy of the proposed concrete mix per Standard Section 601 and the modifications in this section. Through trial batches, demonstrate that the mix to be used will meet the requirements for temperature, minimum target slump, slump-time relationship ("slump loss"), air content, water/cementious material ratio, and compressive strength. Trial batch compressive strength requirements will be in accordance with ACI 318, Section 5.3.2. Develop trial batches using the ingredients, proportions and equipment (including batching, mixing, and delivery) to be used on the project. Produce at least two independent consecutive trial batches of 3 cubic yards each using the same mix proportions and meeting all specification requirements prior to the mix design being accepted by the Department. Department personnel will observe all phases of the trial batching. Submit a report containing the

results for slump, air content, water/cement ratio, temperature, and compressive strength and mix proportions for each trial batch to the Engineer for review and acceptance. Failure to demonstrate the adequacy of the concrete mix, methods, or equipment to the Engineer is cause for the Engineer to require appropriate alterations in concrete mix, equipment, and/or method by the Contractor to eliminate unsatisfactory results. Provide any additional trial batches required to demonstrate the adequacy of the concrete mix, method, or equipment at no additional cost to the Department and with no extension of contract time.

3.1.3 Provide estimated concrete placement durations for each location. Adjust admixture dosages on a case-by-case basis as placement times and ambient temperature variables change. Perform additional trial batching to ensure dosage adjustments are correct at no additional cost to the Department and no extension of contract time.

3.1.4 Cavity stabilization concrete/grout – Provide concrete meeting the requirements of Sections 3.1.1 and 3.1.2 above or grout meeting the applicable requirements for “grout” in Section 601.03.03 B) of the Standard Specifications. The Department will consider allowing an alternate mix design if proposed by the Contractor.

3.2 Permanent Casing

3.2.1 Provide permanent structural casing meeting the requirements of ASTM A252 Grade 3 or better unless specified otherwise in the plans. Manufacture the casing using ASTM A-1018, Grade 55, Class 1 steel or accepted equivalent. Furnish two copies of certification from the Fabricator detailing the designated specification with which the furnished casings comply. Welds made at a permanent manufacturing facility shall be made by either automatic fusion weld or electric resistance weld process. Visually inspect 100% of the inside and outside of all welds per AWS D1.1:2105 Section 9.25 (Part F, Inspection). A minimum of 25% of each longitudinal, circumferential or spiral weld shall receive nondestructive testing by either radiographic, radioscopic, real time imaging systems or ultrasonic methods compliant with AWS D1.1:2015.

3.2.2 Splice the permanent structural casing in accordance with Section 6.13.3 of the LRFD Bridge Design Specifications and AWS D1.1:2105 Section 9. Use full penetration groove welds for splicing. Produce casing splices that are true and straight. Do not use interior splice plates.

3.2.3 Provide permanent casing of ample strength to resist damage and deformation from transportation and handling, installation stresses, and all pressures and forces acting on the casing.

3.2.4 Where the minimum thickness of the permanent casing is specified in the Plans, it is specified so as to satisfy in-service structural design requirements only. Increase the casing thickness from the minimum specified thickness, as necessary, to satisfy the construction installation requirements with approval by the Engineer. In addition to "Permissible Variations in Widths and Dimensions" specified in ASTM A252, provide permanent casing meeting the following dimensional tolerance requirements: (1) Straightness: do not allow the straightness to vary more than 0.001 times the length of the shaft (1/8 in. in any 10-ft length); (2) Radial offset (misalignment) of plate edges in weld seams: transition weld any offset exceeding 25% wall thickness with a 3 to 1 slope from both sides. Cut and realign any offset exceeding 33% of the wall thickness.

3.2.5 Provide permanent casing that is smooth, clean, watertight, true and straight, and of ample strength to withstand handling, installation, and the pressure of concrete, water and the surrounding earth materials. Provide casing with diameters and sizes not less than the specified diameter of the drilled shaft on the plans. No extra compensation will be allowed for concrete required to fill an oversized casing or oversized excavation. Ensure casing field splices and fit-up conform to the current edition of AWS D1.1 with no exterior or interior splice plates and produce true and straight casing, as well as the following additional requirements.

a. Provide full penetration butt welds at all welds.
b. Visually inspect the full length of all welds.
c. Test 33% of the length of each circumferential field weld by radiographic, ultrasonic or other suitable methods. Conform with all testing, repair and acceptance to the requirements of AWS D1.1:2015 Section 9. If repairs are required, test all repairs using nondestructive testing on both sides of the repair for a length equal to 10% of the length of the casing outside circumference.
d. Subject all field welding of casings to the approval of the Engineer. Provide results of weld tests to the Engineer in digital format. The Department will respond to the Contractor regarding acceptability of field welds within five (5) business days, unless indicated otherwise in this special note.
e. Space all field welds for permanent casing at a minimum of 60 feet along the length of the casing.
f. Produce final casing meeting the fit-up requirements of AWS D1.1:2015 Section 9.24.1, “Girth Weld Alignment (Tubular),” when the project requires the material be spliced utilizing a girth weld.

3.2.6 Provide non-contaminated concrete from the bottom of rock socket elevation to the top of concrete elevation in each drilled shaft without a cold joint. Embed the permanent casing into the rock a sufficient amount to create and maintain a concrete tight seal and prevent collapse or excessive deformation of soil outside the permanent casing. Cut off the

casing at the prescribed elevation and trim to within tolerances prior to acceptance. Provide cutting teeth or cutting shoes capable of adequately embedding and sealing the casing into the bedrock.

3.2.7 When accepted by the Department, installation of casing using rotating or oscillating methods will be permitted. Use this casing method in accordance with the equipment and procedures shown in the accepted Drilled Shaft Installation Plan, and comply with all other requirements specified herein. Provide casing equipped with cutting teeth or cutting shoe when using rotator and/or oscillator methods to seal the casing into the bedrock. Provide cutting teeth or cutting shoes capable of adequately embedding and sealing the casing into the bedrock. If used, cutting shoes shall conform to ASTM A148, Grade 90-60.

3.2.8 Submit details concerning the proposed casing design with the Drilled Shaft Installation Plan that are consistent with the minimum casing requirements indicated in the design drawings.

3.3 Temporary Casing

3.3.1 If the contractor elects to use temporary casing for any reason, provide temporary casing with smooth wall structural steel that is of ample strength to resist damage deformation from transportation and handling, installation stresses, and all pressures and forces acting on the casing. Prior to placement in the excavation, provide temporary casing that is watertight and clean. Provide temporary casing capable of being removed without deforming and causing damage to the permanent casing or completed shaft, and without disturbing the surrounding soil. The Department will not allow additional costs and will allow no extension of contract time for the use of temporary casings. Leave no temporary casing in-place without the prior acceptance of the Department. Provide temporary casing of uniform outside diameter not less than the specified diameter of the drilled shaft being installed. The method of temporary casing installation and removal must result in intimate contact between the permanent casing and the soil below the design scour elevation.

3.3.2 The annulus between temporary casing and the permanent casing must be completely filled with grout or other material allowed by the Department. Place all grout using a tremie tube inserted to the bottom of the temporary casing. As the temporary casing is withdrawn, maintain a sufficient head (minimum 5 feet) of fluid grout in the annulus between the permanent casing and the temporary casing to ensure intimate contact between the permanent casing, the grout and the adjacent soil. Extract temporary casing at a slow, uniform rate with the pull in the line with the shaft axis.

3.3.3 When allowed by the Department, installation of temporary casing using rotating or oscillating methods will be permitted. Use this casing method in accordance with the equipment and procedures shown in the accepted Drilled Shaft Installation Plan, and comply with all other requirements specified herein. Provide casing equipped with cutting teeth or cutting shoe when using rotator and/or oscillator methods to seal the casing into the bedrock. Provide cutting teeth or cutting shoes capable of adequately embedding and sealing the casing into the bedrock, if required as part of the Contractor's plan.

3.3.4 Remove all temporary casings unless otherwise shown on the plans.

3.4 Slurries

If used, provide a sufficient quantity of slurry mix meeting the material requirements. Provide slurry containing material not detrimental to the concrete or surrounding ground strata. Any use of polymer or any other slurry at the contractor's option will be included in the unit bid prices for Drilled Shaft, Common and Drilled Shaft, Rock. Slurry use and requirements in drilled shafts where karst conditions exist may depend on the cavity stabilization method. If the Department decides that the slurry construction method is failing to produce the desired final results, discontinue operations and propose an alternate method for acceptance by and at no additional cost to the Department.

3.4.1 Slurry Submittals

As part of the Drilled Shaft Installation Plan, submit a Proposed Method of Slurry Use (if used), including the following prepared by the Slurry Supplier:

1. a detailed slurry mix design, specific slurry properties, time for hydration, and a discussion of suitability for the anticipated subsurface conditions;
2. methods to mix, circulate, and de-sand the slurry; details of the proposed testing, test methods, sampling methods, and test equipment;
3. the name and current phone number of the supplier's representative for the project; and
4. any other information the slurry supplier deems necessary.

Also, include the following, prepared by the Contractor or Slurry Supplier:

1. Proposed method and location to dispose of slurry.

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3.4.2 Slurry Supplier Technical Representative

Provide a technical representative of the slurry supplier for the purpose of:

1. training project inspectors and contractor personnel regarding the slurry properties, handling, placement and proper testing procedures.
2. being at the site during premixing prior to introduction of slurry into the first shaft and during the first 8 hours of drilling or until the mix shows consistent behavior, as determined by the Engineer.
3. being available to provide technical assistance and consultation to the Contractor and/or the Department during construction of all shafts.

Allow direct communication between the technical representative and the Department at all times.

3.4.3 Polymer Slurry Materials – Dry Polymer and Emulsified Polymer

Provide PHPA Dry Polymer and mix with water without additives to form a slurry mix meeting the material requirements below. Note higher viscosities may be required to maintain excavation stability in loose or gravelly sand deposits.

Property	Allowable Range	Units	Test Apparatus
Marsh Funnel Viscosity	50-80	sec/qt	Marsh Funnel
pH	7-11		pH paper or pH meter
Density	≤ 64	pcf	Density Balance
Sand Content, at introduction	≤ 1	% by volume	API Sand Content Kit
Sand Content, Immediately prior to placing concrete	≤ 1	% by volume	API Sand Content Kit

Provide Emulsified Polymer and mix with water without additives to form a slurry mix meeting the material requirements below. Note higher viscosities may be required to maintain excavation stability in loose or gravelly sand deposits.

Property	Allowable Range	Units	Test Apparatus
Marsh Funnel Viscosity	33-43	sec/qt	Marsh Funnel
pH	8-11		pH paper or pH meter
Density	≤ 64	pcf	Density Balance
Sand Content, at introduction	≤ 1	% by volume	API Sand Content Kit
Sand Content, Immediately prior to placing concrete	≤ 1	% by volume	API Sand Content Kit

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3.4.4 Mineral Slurry Materials

The Department will not allow mineral slurry materials on this project.

3.4.5 Water Slurry

Water may be used as slurry when casing is used for the entire length of the drilled hole, provided that the method of drilled shaft installation maintains stability at the bottom of the shaft excavation. Maintain the water as clean as possible during its use as a slurry. Maintain water slurry with the following requirements.

Property	Allowable Range	Units	Test Apparatus
Density	≤ 66	pcf	Density Balance
Sand Content, Immediately prior to placing concrete	≤ 1	% by volume	API Sand Content Kit

3.4.6 Construction and Testing

Provide a set of slurry testing equipment, including a carrying case, which contains all equipment necessary to test the slurry properties in the applicable table(s) above. This testing equipment is for the exclusive use of project inspectors to perform comparison tests and is in addition to test equipment to be used by the Contractor. This testing equipment will become the property of the Department. Provide this testing equipment at no additional cost the Department.

Designate one person to be responsible for mixing and testing slurry.

Prior to beginning excavation in any shaft where slurry is designated in the Drilled Shaft Installation Plan, premix slurry in tanks using an approved water supply. Only use tanks for slurry mixing, the Department will not permit the use of slurry pits. Use water that does not have characteristics detrimental to the slurry, drilled shaft excavation, or concrete. Additives are not allowed unless approved in writing by the Engineer. Use air diaphragm pumps or other similar non-shearing mixing devices to mix the slurry and pump it into the shaft. Allow adequate time (as prescribed by the slurry supplier) for hydration prior to introduction into the shaft. Provide slurry tanks with adequate capacity for slurry mixing, circulation, storage, and treatment. Sample the slurry in the tanks at a rate of 1 sample per 10,000 gallons and perform control tests on the slurry to evaluate viscosity, pH, density, and sand content of the freshly mixed slurry. At the discretion of the Engineer, sand content tests may be omitted on selected samples. Representatives of the Department may perform comparison tests as necessary. If any portion of slurry is not within the specified ranges, adjust the mix and retest at no additional cost

to the Department.

Prior to beginning drilling, pump slurry meeting the material requirements into the shaft, as directed by the Engineer. Pump slurry to the bottom of the shaft through a hose or tremie pipe. Pump until the slurry is at least 4 ft. above the ground water level, unless directed otherwise by the Engineer. Perform a set of tests to evaluate the properties of the slurry mix in the shaft and report the values to the Engineer immediately. (See the definition of a test set below.)

Perform tests to establish a consistent working pattern taking into account the mixing process and blending of freshly mixed slurry with previously used slurry. Perform a set of tests every 4 hours of slurry use, during drilling. Perform a set of tests immediately prior to and immediately after every drilling shift. Perform at least 1 test set per day after drilling is complete and prior to concreting. Representatives of the Department may perform comparison tests as necessary.

A set of tests is defined as: viscosity, pH, density, and sand content tests performed on samples extracted from within 3 ft. of the shaft bottom and approximately mid-length of the shaft at the time of testing. At the discretion of the Engineer, sand content tests may be omitted on selected samples. Take samples using a sampling tool marked so that the depth of the slurry sample can be determined.

Report all test results to the Engineer immediately and add additional slurry, meeting the material requirements, and/or remove slurry to adjust the mix in the shaft when the slurry does not meet the requirements above; pump through a hose or tremie pipe

Take all steps necessary to prevent the slurry from caking along the sides of the shaft at no additional cost to the Department. Such methods may include but are not limited to agitation, circulation, re-reaming and or roughening with appropriate new bottom cleaning and slurry testing prior to placing concrete.

Prior to placing concrete in any shaft excavation, ensure that heavily contaminated suspensions which could impair the free flow of concrete have not accumulated in the bottom of the shaft excavation. Settling time after the completion of drilling may be necessary to accomplish this. Perform a set of tests after completing shaft excavation and initial cleanout. At no additional cost to the Department, remove suspended solids until all values of density and sand content are within the specification herein for the respective slurry type. Clean, re-circulate, de-sand or replace the slurry, as needed, in order to maintain the required slurry properties. Reuse of slurry will be permitted provided the slurry is

cleaned, re-circulated, de-sanded, etc. to return the slurry to the specified properties.

Furnish written reports of all tests required above, signed by an authorized representative of the Contractor, to the Engineer on completion of each drilled shaft. Include shaft number, sampling and test times and dates, sample depths and elevations, and all test results.

3.4.7 Disposal

Dispose of all slurry after use. Dispose of slurry off site in areas approved by the Engineer at no additional cost to the Department and with no extension of contract time. Exercise care to ensure that slurry does not spill into any adjacent streams.

Take precautions to ensure that slurry within 15 to 20 ft. of the rising concrete head does not contaminate slurry to be mixed for subsequent shaft excavation. If this slurry is pumped into a mixing tank, use a separate tank. If this tank is to be for used for subsequent slurry mixing, clean the tank thoroughly after slurry disposal to ensure that concrete contamination has been removed. Verify that the tank has been sufficiently cleaned by filling it with water and performing a minimum of 3 pH tests. Continue cleaning the tank until the pH is below 9.

4.0 EXECUTION

4.1 Subsurface Exploration

Take subsurface exploration borings when shown on the plans or as the Engineer directs to determine the character of the material that the shaft extends through and the material directly below the shaft excavation. Complete subsurface exploration borings prior to beginning excavation for any drilled shaft in a group. Extend subsurface exploration borings a minimum depth of 3 shaft diameters but not less than 10 feet below the bottom of the anticipated tip of drilled shaft excavation as shown on the plans unless otherwise specified. For subsurface exploration borings in soil use thin-wall tube samples and perform standard penetration tests according to the Department’s Geotechnical Manual. When shafts extend into rock, soil samples are not required unless otherwise specified. Perform rock core drilling according to the Department’s Geotechnical Manual. When the Engineer directs, perform additional subsurface exploration borings prior to and/or during the course of the drilled shaft excavations. Measure soil samples and/or rock cores and visually identify and describe them on the subsurface log. Subsurface exploration borings must be performed by contractors/consultants on the Geotechnical Branch’s approved list.

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

The Engineer will inspect the soil samples and/or cores and determine the final depth of required excavation (final drilled shaft tip elevation) based on evaluation of the material's suitability. The Engineer will establish the final tip elevations for shaft locations, other than those for which subsurface exploration borings have been performed, based on the results of the subsurface exploration. Within 15 calendar days after completion of the subsurface exploration borings, the Engineer will notify the contractor of the final tip elevations for shaft locations.

4.2 Equipment

Perform the excavations required for the shafts through whatever materials are encountered to the dimensions and elevations shown in the plans. Ensure the methods and equipment are suitable for the intended purpose and the materials encountered. Provide equipment capable of constructing shafts to the deepest shaft depth shown in the plans plus 15 feet, 20 percent greater than the longest shaft (measured from the ground surface to the tip of the shaft), or three times the shaft diameter, whichever is greater.

4.3 Construction Method

Construct drilled shafts as indicated in the plans or described in this Special Note. Propose a construction method on the basis of its suitability to the site conditions and submit it in the Drilled Shaft Installation Plan for acceptance by the Department. Provide a plan for installation of permanent casing from the rock socket to a level required for the proposed drilling method or to the casing cut-off elevation, whichever is higher. After shaft has been cast and reached a minimum strength of 2500 psi, remove permanent casing to the elevation indicated on the plans.

4.4 Templates

The Contractor shall provide a detailed plan on the methods to maintain shaft position and alignment during all excavation and concreting operations. Design of templates is the responsibility of the Contractor.

4.5 Excavations

The plans indicate the expected bottom of rock socket, top of rock socket, and top of shaft/bottom of footing elevations. Drilled shafts may be extended deeper if the

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Engineer determines that the material encountered while drilling the shaft excavation is unsuitable and/or is not the same as anticipated in the design of the drilled shaft.

Cleanout will be by cleanout bucket, air lift or other accepted method. The cost of replacing water or slurry removed during cleanout is the responsibility of the contractor.

If the Contractor fails to satisfy the cleanout criteria on a shaft, submit, in writing, a remedial plan to the Engineer. Until the plan is accepted by the Engineer, no additional drilled shaft excavations can be started on the project. No additional compensation or working days will be allowed for any delays for work stoppage associated with non-compliance of the cleanout criteria.

Do not excavate shafts or install casing within 50 feet of a shaft containing concrete less than 24 hours old. Do not excavate a rock socket within 3 shaft diameters of an existing open rock socket until the adjacent rock socket has been cleaned and filled with reinforced concrete at least 24 hours old. Where karst is encountered in the bedrock, no more than one rock socket can be open in a single substructure location at the same time.

Maintain a construction method log during shaft installation. Include the following information in the log, including but not limited to the description and approximate top and bottom elevation of each soil or rock material, and remarks. Refer to FHWA publication FHWA-NHI-10-016, Appendix, F, dated May 2010 for sample forms for information to be recorded.

https://www.fhwa.dot.gov/engineering/geotech/foundations/nhi10016/nhi10016.pdf

Provide the Department with the following records:

(1) Drilled Shaft Excavation Log
(2) Record of bottom cleanout and reinforcement cage placement.
(2) Drilled Shaft Concrete Placement Log
(3) Field and Theoretical Concreting Curves
(4) Drilling Slurry test data, if used.

The Engineer may request the submittal of other records.

Dispose of excavated materials which are removed from the shaft in accordance with the Standard Specifications and requirements of other regulatory agencies.

Do not permit workmen to enter the shaft excavation for any reason unless both a suitable casing has been installed and adequate safety equipment and procedures meeting applicable OSHA requirements have been provided to workmen entering

the excavation. Recommended Procedures for the Entry of Drilled Shaft Foundation Excavations, prepared by ADSC: The International Association of Foundation Drilling, provides guideline recommendations for down-hole entry of drilled excavations.

If the Contractor intends to use divers for any reason to inspect wet drilled shafts or decides after the start of drilled shaft installation to use divers inside the drilled shafts, submit a plan meeting applicable OSHA requirements to the Department for review and acceptance.

4.6 Horizontal Cavity and Vertical Crevice Stabilization

Horizontal cavities and vertical crevices are anticipated to be encountered in one or more of the drilled shaft rock sockets. Borings made at or near the proposed bridge substructure locations are shown on the Subsurface Data Sheets. Voids are noted on the Subsurface Data Sheet drawings when encountered in the geotechnical exploration programs. The borings have revealed the presence of occasional cavities.

Submit an initial plan to stabilize karst (cavities) conditions based on the available boring and rock core information at the time of bidding, per Section 2.3 of this Special Note. After completing the first cavity stabilization, submit a revised cavity stabilization plan based upon the conditions encountered during the installation of the drilled shaft with stabilization, per Section 2.6 of this Special Note. The revised cavity stabilization plan only needs to be submitted if conditions are encountered that warrant revision of the initial cavity stabilization plan. Provide written details addressing the possibility of encountering cavities/voids in drilled shaft construction if they were not encountered in any boring performed by the Department.

Seal all cavities encountered within the drilled shafts greater than 3 inches in any dimension (or as directed by the Engineer) sufficiently to prevent concrete loss or clay or other cavity-filling material from entering the drilled shaft during shaft construction. A possible method for sealing these includes filling the cavities with concrete or grout and redrilling the rock sockets. However, the Department will consider alternate methods if proposed by the Contractor.

4.7 Obstructions

Remove any subsurface obstructions as they are encountered. Such obstructions may include man-made materials such as old concrete foundations or natural materials such as boulders or trees. Employ special procedures and/or tools when the hole cannot be advanced using conventional augers fitted with soil teeth, drilling buckets, and/or underreaming tools. Such special procedures or tools may include but are not limited to rock augers, core barrels, air tools, hand excavation, temporary casing, or increasing the hole diameter. Blasting is not permitted. No

extra payment will be made for obstruction removal and is incidental to the applicable unit price bid for "Drilled Shafts".

Remove all drilling tools which are lost by the Contractor in the excavation promptly without compensation. All costs due to tool removal are at the sole expense of the contractor including but not limited to costs associated with excavation degradation due to removal operations or the time the hole remains open.

4.8 Inspection of Excavations

Provide safe access and equipment for checking the dimensions and alignment of each shaft and for conducting any required inspections. Use a safe device with handrails meeting all applicable OSHA requirements and approved by the Engineer to provide access for project inspectors at the top of casing at the center and any plan location in the shaft. Evaluate the dimensions and alignment of the shaft under the observation and direction of the Engineer. Cooperate with the Department in the use of any inspection device.

Measure final shaft depths with a weighted tape or other approved methods after final cleaning. Ensure the base of each shaft has less than ½ inch of sediment at the time of concrete placement. For dry excavations, do not allow the depth of water to exceed 3 inches for tremie or pump methods of concrete placement. Verify shaft cleanliness to the Engineer using direct visual inspection or other methods the Engineer determines acceptable. Inspect the side surface of rock sockets to ensure they are rough and of such condition to ensure bond between the shaft concrete and the rock. When the Engineer directs, mechanically roughen surfaces found to be smooth.

Upon evaluation of the test data, the KYTC Geotechnical Branch may inspect the drilled shaft rock socket with a down hole camera. The contractor must assist in access for personnel and equipment.

The cost of inspection equipment and time, including any down hole camera inspections of the sidewalls of the rock sockets conducted by KYTC, is incidental to the price per foot of shaft. Crosshole Sonic Logging (CSL) and Thermal Integrity Profiling (TIP), are separate pay items for production shafts as defined in the Special Note for Non-Destructive Testing in Drilled Shafts.

4.9 Construction Tolerances

The following construction tolerances apply to drilled shafts:

a) Construct drilled shaft within three inches of plan position in the horizontal plane at the top of the shaft.
b) Provide vertical alignment of a shaft excavation that does not vary from the plan alignment by more than 1/4 inch per foot of depth or six inches total.

c) Extend the vertical reinforcement a minimum value into the footing, as shown on the plans. Extend the horizontal or spiral reinforcement above the top of permanent casing into the footing as shown in the plans.
d) Maintain the top of the reinforcing steel cage no more than 6 inches above and no more the 3 inches below plan position.
e) All drilled shaft diameters are shown on the plans. The contractor may provide a thicker-walled casing than shown in the plans at no additional cost to the Department, but do not increase the inside diameter of the casing shown on the plans. For out-of-round tolerance of steel casings before and after installation, the departure of any point on the periphery of the casing from the true circle, the maximum tolerable departure of any point is 1 inch measured radially.
f) Maintain the top of shaft concrete within $\pm$ 3 inches from the plan top of shaft elevation, measured after excess shaft concrete has been removed.
g) Design excavation equipment and methods so that the completed shaft excavation will have a planar bottom. Maintain the cutting edges of excavation equipment normal to the vertical axis of the equipment within a tolerance of ± 3/8 inch per foot of diameter. Maintain the tip elevation of the shaft within 6 inches from final shaft tip elevation unless otherwise specified in the plans.
h) Place any additional steel reinforcement or concrete needed in the footings or caps due to the misalignment of the shafts at no additional cost to the Department.

Drilled shaft excavations and completed shafts not constructed within the required tolerances are unacceptable. Correct all unacceptable shaft excavations and complete shafts to the satisfaction of the Engineer. Furnish materials and work necessary to complete corrections for out of tolerance drilled shaft excavations without either additional cost to the Department or an extension of the contract time. Engineering analysis and redesign for out of tolerance drilled shaft excavations shall be conducted by an independent structural and/or geotechnical consultant hired by and at the expense of the Contractor. Use consultants who are prequalified by KYTC in applicable areas. Alternatively, the Engineer may require the Department's designer to perform the referenced evaluations and the Department may require the cost of these evaluations to be borne by the Contractor. Based on the design criteria established for the structure and the evaluation, the Engineer will assess the effects of the defects on the structural performance of the drilled shaft. If the results of the analyses indicate that there is conclusive evidence that the discontinuity will result in inadequate or unsafe performance under the design loads, as defined by the design criteria for the structure, the Engineer will reject the shaft.

The contractor is responsible for proposing, developing, and after acceptance by the Engineer, implementing corrective work when a shaft excavation is completed with unacceptable tolerances. Typical corrective work includes:

a) Over-drilling the shaft excavation to a larger diameter and/or depth to permit accurate placement of the reinforcing steel cage with the required minimum concrete cover.
b) Increasing the number and/or size of the steel reinforcement bars.
c) Removing the cage and drilling out the green concrete and reforming the hole.

The acceptance of correction procedures is dependent on analysis of the effect of misalignment and improper positioning. Submit redesigned drawings and computations that are signed by a Professional Engineer licensed in Kentucky.

4.10 Reinforcing Steel Cage Fabrication and Placement

Assemble the reinforcing steel cage, consisting of vertical bars, ties, spirals and/or hoops as shown in plans, cage stiffener bars, spacers, centering devices, and other necessary appurtenances, as a prefabricated unit and place the reinforcing cage immediately after the shaft excavation is inspected and accepted, and just prior to concrete placement. Provide steel reinforcement meeting the requirements indicated in the drawings.

Provide reinforcing steel 100% double-wire tied and supported so that it will remain within allowable tolerances for position. Use approved mechanical couplers for splicing the vertical reinforcement. Splice no more than 50% of the vertical reinforcing at any horizontal plane. Provide three feet clear between the couplers of adjacent splices. Use bands, temporary cross ties, etc. as required to provide a reinforcement cage of sufficient rigidity to prevent racking, permanent deformations, etc. during installation.

Provide concrete centering devices or other acceptable noncorrosive centering devices at sufficient intervals along the length of the reinforcement cage to insure concentric spacing for the entire cage length. Provide, as a minimum, a set of non-corrosive centering devices at intervals not exceeding 10 feet throughout the length of the shaft. As a minimum, provide a set of centering devices within 2 feet of the top and 2 feet of the bottom of the shaft. In addition, provide one set of centering devices 2 feet above and 2 feet below each change in shaft diameter. As a minimum, provide non-corrosive centering devices at sixty degree intervals around the circumference of the shaft to maintain the required reinforcement clearances. Provide the centering devices with adequate dimension to maintain the specified annular clearance between the outside of the reinforcing cage and the side of the excavated hole or casing.

Concrete centering devices and feet will be constructed of concrete equal in quality and durability to the concrete specified for the shaft. Provide acceptable cylindrical feet (bottom supports) to insure that the bottom of the cage is maintained a minimum of 3 inches clear above the bottom of the drilled shaft excavation. The feet are not intended to support the weight of the cage.

In the event that the shaft has been excavated below the anticipated tip elevation, extend the reinforcing cage at the direction of the Engineer with mechanical connectors in conformance with the Standard Specifications and project documents

Maintain the top of the reinforcing steel cage no more than 6 inches above and no more than 3 inches below plan position.

During concrete placement, support the reinforcing cage at or near the top of shaft such that the bottom of the vertical cage reinforcing bars are positioned approximately 3 inches above the design plan bottom of rock socket elevation. Top of cage supports may be removed twenty-four (24) hours after the completion of concrete placement, but not before shaft concrete has reached a compressive strength of 2500 psi.

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

4.11 Concrete Placement

Perform concrete placement in accordance with applicable portions of the Standard Specifications and with the requirements set forth herein. Do not apply the provisions of structural mass concrete requirements to concrete placement of the Drilled Shafts.

Begin concrete placement as soon as practicable after reinforcing steel placement but no later than twenty four (24) hours after acceptance of the shaft excavation by the Engineer. Maintain continuous concrete placement from the bottom to above the top elevation of the shaft. If the Contractor would like to pour the drilled shaft to an elevation different than indicated on the plans, submit a request and the reason for a different top of concrete elevation in the drilled shaft to the Engineer for review and acceptance. The Contractor is responsible for ensuring that sound concrete is present at the top of the shaft and will be required to remove any unsound concrete at no additional cost to the Department. Carefully remove any remaining concrete and excess casing above plan top of shaft after curing.

Maintain the slump requirements in Section 3.1.1 of this Special Note. Adjust the admixtures, when accepted for use, in the concrete mix for the conditions encountered on the project so that the concrete remains in a workable plastic state throughout the placement. Satisfactorily perform slump loss tests that demonstrate that the concrete will maintain the requirements in Section 3.1.1 of

this Special Note. Conduct the slump loss tests using concrete and ambient temperatures appropriate for site conditions.

Provide an acceptable backup plan that accounts for potential breakdowns in placement equipment or the batch plants equipment that will permit the operation to continue with a maximum of one hour delay.

Failure to demonstrate the adequacy of the concrete placement methods, and/or equipment during construction of any production shafts is cause for the Engineer to require appropriate alterations in equipment and/or methods by the Contractor to eliminate unsatisfactory results.

Place concrete through a tremie. Provide tremies used to place concrete consisting of a tube of sufficient length, weight, and diameter to discharge concrete at the shaft base elevation. The tremie pipe needs to be located within 3 ft. of the center of the shaft. Tremies containing aluminum parts that will be in contact with the concrete are not acceptable. Provide a tremie with an inside diameter of at least 6 times the maximum size coarse aggregate to be used in the concrete mix but not be less than 10 inches. Provide tremie pipes with inside and outside surfaces that are clean and smooth to permit both flow of concrete and unimpeded withdrawal during concreting. Provide tremies with a wall thickness that is adequate to prevent crimping and without sharp bends that restrict concrete placement.

Construct tremies to deposit concrete so that they are watertight and will readily discharge concrete. Provide tremies with sufficient weight so that it will rest on the shaft bottom before start of concrete placement. Provide a tremie with sufficient length to extend to the bottom of the excavation. Do not begin underwater placement until the tremie is at the shaft base elevation. Valves, bottom plates, or plugs may be used only if concrete discharge can begin within approximately 2 inches above the excavation bottom. Remove plugs from the excavation, or provide plugs consisting of a material accepted by the Engineer that will not cause defects in the completed drilled shaft if not removed. Construct the discharge end of the tremie to permit the free radial flow of concrete during placement operations. Keep the tremie discharge end at or near the bottom of excavation as long as practical during concrete placement. Sustain the tremie discharge end immersed as deep as practical in the concrete but not less than 10 feet at all times. Excessive immersion may cause the rebar cage to rise. Maintain continuous flow of the concrete during placement. Maintain the concrete in the tremie at a positive pressure differential at all times to prevent water or slurry intrusion into the shaft concrete.

If at any time during the concrete pour the tremie line orifice is removed from the fluid concrete column and discharges concrete above the rising concrete surface, the entire drilled shaft will be considered defective. In such case, remove the reinforcing cage, concrete, and repour the shaft. Replacement of defective shafts

and all associated costs are the responsibility of the contractor at no additional cost to the Department and with no extension of contract time.

Concrete pumps and lines may be used for concrete placement. Five inches is the minimum diameter for all pump lines. Construct all pump lines with watertight joints.

Drilled shafts which are completed but do not meet the concrete placement requirements of this Special Note or contract plans are unacceptable. Correction of all unacceptable completed shafts to the satisfaction of the Engineer is the responsibility of the Contractor. Furnish materials and work necessary to complete corrections for out of tolerance drilled shaft excavations without either additional cost to the Department or an extension of the contract time. Engineering analysis and redesign for out of tolerance drilled shaft excavations shall be conducted by an independent structural and/or geotechnical consultant hired by and at the expense of the Contractor. Use consultants who are prequalified by KYTC in applicable areas. Alternatively, the Engineer may require the Department's designer to perform the referenced evaluations and the Department may require the cost of these evaluations to be borne by the Contractor. Based on the design criteria established for the structure and the evaluation, the Engineer will assess the effects of the defects on the structural performance of the drilled shaft. If the results of the analyses indicate that there is conclusive evidence that the discontinuity will result in inadequate or unsafe performance under the design loads, as defined by the design criteria for the structure, the Engineer will reject the shaft. Propose, develop, and implement corrective work, after acceptance by the Engineer. Typical corrective procedures are outlined in Section 4.9 of this Special Note.

4.12 Acceptance of First Shafts Constructed at Each Substructure Unit

Since technique shafts are not required, all non-destructive testing reports for the first drilled shaft at each substructure unit must be submitted and accepted before beginning drilling activities on the remainder of the drilled shafts at that substructure unit. This includes completion and acceptance of any corrective items that are a result of failed materials tests, non-destructive testing results, or out-of-tolerance measurements. Account for delays to complete non-destructive testing, corrective work, and review time for acceptance in the schedule and bid prices. Proceed only with written notification by the Engineer.

5.0 METHOD OF MEASUREMENT

5.1 Drilled Shaft, Common and Drilled Shaft, Rock

The drilled shafts will be measured for payment to the nearest 0.1 foot of shaft in place. Drilled shaft top of rock elevation will be determined by the subsurface exploration borings as defined in Section 4.1 of this Special Note. For pay

purposes, the length of any drilled shaft installed above the Drilled Shaft Top of Rock Elevation as determined by the subsurface exploration borings will be measured and paid for at the applicable unit price bid for 'Drilled Shaft, Common'. Drilled shaft installed below the Drilled Shaft Top of Rock Elevation as determined by the subsurface exploration borings will be measured and paid for at the applicable unit price bid for 'Drilled Shaft, Rock'. Permanent Casing is incidental to the applicable unit price bid for ‘Drilled Shaft, Common.’

5.2 Slurry and Temporary Casing

The use of “Polymer Slurry” or “Temporary Casing” will be incidental to the drilled shaft installation. There will be no payment for water used as a drilling slurry. The permanent steel casing indicated in the plans is incidental to the Drilled Shaft-Common unit price. Grouting between any temporary steel casing and permanent steel casing is incidental to the applicable unit price bid for ‘Drilled Shaft Common’.

5.3 Cavity Stabilization and Redrilling Cavity Stabilization

Concrete or grout used to seal cavities in the bedrock will be measured in cubic yards. Redrilling through the cavity stabilization will be measured to the nearest 0.1 foot from the top of the concrete/grout to the elevation in the bedrock where the Contractor stopped drilling prior to placing cavity stabilization.

6.0 BASIS OF PAYMENT

6.1 Drilled Shaft, Common and Drilled Shaft, Rock

Payment for the accepted quantities of drilled shafts will be paid for at the applicable contract unit price bid per linear foot of drilled shaft of the size and type shown. This will constitute full compensation for all material, labor and incidental costs necessary to complete the drilled shafts. No additional compensation will be permitted for shafts constructed larger in diameter than those shown on the plans.

6.2 Payment

Payment will be made under:

Code	Pay Item	Pay Unit
XXXXXXX	Drilled Shaft – ## IN Common	Linear Foot
XXXXXXX	Drilled Shaft – ## IN Rock	Linear Foot
24737EC	Cavity Stabilization	Cubic Yard
24738EC	Redrilling Cavity Stabilization	Linear Foot
20745ED	Rock Sounding	Linear Foot
20746ED	Rock Coring	Linear Foot

SPECIAL NOTE

For Tree Removal

Clinton and Russell Counties
RELOCATE US-127 FROM NORTH OF THE KY-3063 AND OLD US-127 INTERSECTION, AND EXTENDING NORTHERLY TO EAST OF KY-1730 AND MANTOWN INTERSECTION
Item No. 8-8601.26

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

ADDITIONALLY, THE CONTRACTOR WILL BE RESPONSIBLE FOR RECORDING AND REPORTING TREE CLEARING PROGRESS THROUGHOUT THE LENGTH OF THE PROJECT. REPORTING SHALL IDENTIFY THE LOCATION AND AMOUNT OF FORESTED HABITAT REMOVED SINCE THE PREVIOUS REPORTING PERIOD. THIS REPORT SHALL BE PRODUCED BY THE CONTRACTOR AS THE PROJECT PROGRESSES AND BE PROVIDED TO KYTC DIVISION OF ENVIRONMENTAL ANALYSIS (DAVE HARMON; dave.harmon@ky.gov) BY APRIL 15TH, FOR THE PERIOD RUNING OCTOBER 16TH THROUGH MARCH 31ST, AND AGAIN BY NOVEMBER 1ST FOR THE PERIOD RUNNING APRIL 1ST THROUGH OCTOBER 15TH STARTING AT PROJECT INITIATION AND CONTINUING UNTIL PROJECT COMPLETION.

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

SPECIAL NOTE FOR INTELLIGENT COMPACTION OF ASPHALT MIXTURES

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

1.0 DESCRIPTION. Provide and use Intelligent Compaction (IC) Rollers for compaction of all asphalt mixtures.

2.0 MATERIALS AND EQUIPMENT. In addition to the equipment specified in Subsection 403.02, a minimum of one (1) IC roller is to be used on the project at all times, two (2) IC rollers will be required when the paving train consists of three (3) or more rollers. The Contractor is to only the IC roller(s) for compaction as the breakdown and/or intermediate roller(s). All IC rollers will meet the following minimum characteristics:

1) Are self propelled double-drum vibratory rollers equipped with accelerometers mounted in or about the drum to measure the interactions between the rollers and compacted materials in order to evaluate the applied compactive effort. The IC rollers must have the approval of the Engineer prior to use. Examples of rollers equipped with IC technology can be found at www.IntelligentCompaction.com.

2) Are equipped with non-contact temperature sensors for measuring pavement surface temperatures.

3) The output from the roller is designated as the IC-MV which represents the stiffness of the materials based on the vibration of the roller drums and the resulting response from the underlying materials.

4) Are equipped with integrated on-board documentation systems that are capable of displaying real-time color-coded maps of IC measurement values including the stiffness response values, location of the roller, number of roller passes, machine settings, together with the material temperature, speed and the frequency and amplitude of roller drums. Ensure the display unit is capable of transferring the data by means of a cloud based system.

5) Are equipped with a mounted Global Positioning System GPS radio and receiver either a Real Time Kinematic (RTK-GPS) or Global Navigational Satellite System (GNSS) units that monitor the location and track the number of passes of the rollers. Accuracy of the positioning system is to be a minimum of 12 inches.

3.0 WORK PLAN. Submit to the Engineer an IC Work Plan at the Preconstruction Conference and at least 2 weeks prior to the beginning construction. Describe in the work plan the following:

1. Compaction equipment to be used including:
   - Vendor(s)
   - Roller model(s),
   - Roller dimensions and weights,
   - Description of IC measurement system,
   - GPS capabilities,
   - Documentation system,
   - Temperature measurement system, and
   - Software.

2. Roller data collection methods including sampling rates and intervals and data file types.

3. Transfer of data to the Engineer including method, timing, and personnel responsible. At the preconstruction meeting, provide the Cabinet with rights to allow for web access to the data file location. Access to the data is not to be hindered in any way. The Contractor will provide the Cabinet with any vendor specific software, user id, passwords, etc. needed to access the data through this service, cost of this access is incidental to the thermal profile bid item. The Cabinet is to have access to all data as it is being collected. If a third party is used for collecting and distributing the data the Cabinet is to have the same access rights and time as the Contractor.

4. Training plan and schedule for roller operators, project foreman, project surveyors, and Cabinet personnel; including both classroom and field training. Training should be conducted at least 1 week before beginning IC construction. The training is to be performed by a qualified representative(s) from the IC Roller manufacture(s) to be used on the project. This training shall include how to access and use the data from the cloud data source.

5. Provide the Engineer with the following list of equipment. Ensure that all of the equipment is compatible with all Cabinet equipment such as other survey devices and computers. This equipment is for use on the project and the Cabinet will retain possession of the equipment upon completion of the project.

Part No.	Description	Qty
85986-90	Kit - GNSS, SPS855 & SPS986, 900 MHz USA/CAN	1
VW50990-14	Option - Premium Precise Rover, SPS986 Construction	1
IS50990-11	Upgrade - Precise Base, SPS985 / SPS985L / SPS855 / SPS585, Construction	1
IS51951-80	Option - Combo GLN/GAL/BeiDou/L5, SPS985/SPS855/SPS555H, Construction	1
192670-03-HH	Kit - Batteries, Li-Ion, 7.4V, 2700mAHr (3 Pack)	1
56500-90	Kit - External Radio Antenna, 900MHz, Reverse Polarity	1
28959-00-HH	Tripod - Adjustable Height, 2m for GPS	1
TSC701	Trimble TSC7 Controller - QWERTY, USB/Serial boot	1
SCS900-20	Siteworks/SCS900 Core	1
SCS900-22	Siteworks/SCS900 Roading	1
SCS900-23	Siteworks/SCS900 Advanced Measurement Module	1
121349-01-HH	TSC7 Accessory - Pole Bracket with Pole Mount Clamp	1
121350-01-HH	Trimble TSC7 Accessory - Ext. Bat Charger, Batt 2 Pack	1
55201-00	GPS Kit - 2m Range Pole, Quick Release Bipod, Topo Shoe, Bag	1
121354-01	Tablet Shoulder Carry Bag	1

4.0 CONSTRUCTION. Do not begin work until the Engineer has approved the IC submittals and the IC equipment.

Follow requirements established in Section 400 for production and placement, materials, equipment, acceptance plans and adjustments except as noted or modified in this Specification. Provide the Engineer at least one day's notice prior to beginning construction or prior to resuming production if operations have been temporarily suspended. Ensure paving equipment complies with all requirements specified in Section 400. The IC roller temperatures will be evaluated by the Department with the data from a Paver Mounted Infrared Temperature Gauge.

A. Pre-Construction Test Section(s) Requirements

1. Three to five days prior to the start of production, ensure the proper setup of the GPS, IC roller(s) and the rover(s) by conducting joint GPS correlation and verification testing between the Contractor, GPS representative and IC roller manufacturer using the same datum.

1. Ensure GPS correlation and verification testing includes the following minimum processes:

    a. Establish the GPS system to be used either one with a base station or one with mobile receivers only. Ensure all components in the system are set to the correct coordinate system; then,

b. Verify that the roller and rover are working properly and that there is a connection with the base station; then,

c. Record the coordinates of the two edges where the front drum of the roller is in contact with the ground from the on-board, color-coded display; then,

d. Mark the locations of the roller drum edges and move the roller, and place the mobile receiver at each mark and record the readings; then,

2. Compare coordinates between the roller and rover receivers. If the coordinates are within 12.0 in. of each other, the comparison is acceptable. If the coordinates are not within 12.0 in., diagnose and perform necessary corrections and repeat the above steps until verification is acceptable.

3. Do not begin work until acceptable GPS correlation and verification has been obtained.

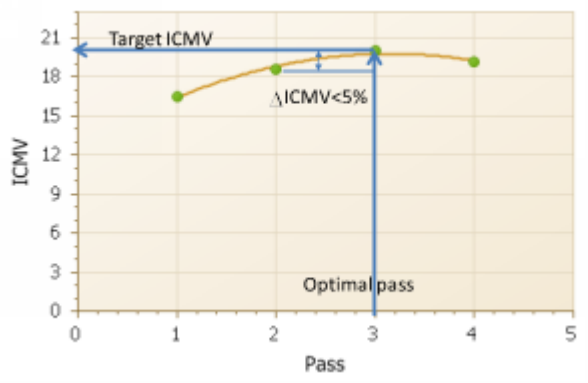
4. The Contractor and the Department should conduct random GPS verification testing during production to ensure data locations are accurate. The recommended rate is once per day with a requirement of at least once per week.

5. All acceptance testing shall be as outlined in Standard Specifications section 400.

B. Construction Test Section(s) Requirements

Construct test section(s) at location(s) agreed on by the Contractor and the Engineer within the project limits. The test section is required to determine a compaction curve of the asphalt mixtures in relationship to number of roller passes and to the stiffness of mixture while meeting the Department in-place compaction requirements. All rollers and the respective number of passes for each is to be determined via control strip each time a material change, equipment change or when the Engineer deems necessary.

Conduct test section(s) on every lift and every asphalt mixture. Ensure test section quantities of 500 to 1,000 tons of mainline mixtures. Operate IC rollers in the low to medium amplitude range and at the same settings (speed, frequency) throughout the section while minimizing overlapping of the roller, **the settings are to be used throughout the project with no changes.** After each roller pass, the qualified technician from the contractor observed by the Department will use a nondestructive nuclear gauge that has been calibrated to the mixture to estimate the density of the asphalt at 10 locations uniformly spaced throughout the test section within the width of a single roller pass. The density readings and the number of roller passes needed to achieve the specified compaction will be recorded. The estimated target density will be the peak of the average of the nondestructive readings within the desired compaction temperature range for the mixture. The IC roller data in conjunction with the Veda software will create an IC compaction curve for the mixture. The target IC-MV is the point when the increase in the IC-MV of the material between passes is less than 5 percent on the compaction curve. The IC compaction curve is defined as the relationship between the IC-MV and the roller passes. A compaction curve example is as follows:



Subsequent to the determination of the target IC-MV, compact an adjoining > 250 < 500 tons section using same roller settings and the number of estimated roller passes and allow the Department to verify the compaction with the same calibrated nondestructive nuclear gauge following the final roller pass. **The Department will obtain cores at 10 locations (No cores for calibration are to be taken in the surface layer, use non-destructive density results only!!)** uniformly spaced throughout the test section within the width of the single roller. Obtain GPS measurement of the core locations with a GPS rover. Use the Veda software to perform least square linear regression between the core data and IC-MV in order to correlate the production IC-MV values to the Department specified in-place air voids. A sample linear regression curve example is as follows.

C. Construction Requirements
Use the IC roller on all lifts and types of asphalt within the limits of the project.

Ensure the optimal number of roller passes determined from the test sections has been applied to a minimum coverage of 80% of the individual IC Construction area. Ensure a minimum of 75% of the individual IC Construction area meets the target IC-MV values determined from the test sections.

Do not continue paving operations if IC Construction areas not meeting the IC criteria are produced until they have been investigated by the Department. Obtain the Engineer's approval to resume paving operations. Non-IC rollers are allowed

to be used as the third roller on the project; one of the breakdown or the finish rollers is to be equipped with IC technology.

IC Construction areas are defined as subsections of the project being worked continuously by the Contractor. The magnitude of the IC Construction areas may vary with production but must be at least 750 tons per mixture for evaluation. Partial IC Construction areas of < 750 tons will be included in the previous area evaluation. IC Construction areas may extend over multiple days depending on the operations.

The IC Construction Operations Criteria does not affect the Department's acceptance processes for the materials or construction operations

5.0 MEASUREMENT. The Department will measure the total tons of asphalt mixtures compacted using the IC roller(s). Compaction is to be performed by a minimum of one (1) IC roller for a two (2) roller operation and a minimum of two (2) IC rollers when three (3) or more rollers are used for compaction. Material compacted by rollers not equipped with properly functioning IC equipment will not be accepted for payment of the bid item asphalt mixtures IC rolled. Use of non-IC rollers can be accepted on small areas due to equipment malfunctions at the written approval of the Engineer. Paving operations should be suspended for equipment malfunctions that will extend over three days of operation.

Time for data transfer

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

1. Payment is full compensation for all work associated with providing IC equipped rollers, laptop computer, transmission of electronic data files, two copies of IC roller manufacturer software, and training.

2. Delays due to GPS satellite reception of signals to operate the IC equipment or IC roller breakdowns will not be considered justification for contract modifications or contract extensions.

Code	Pay Item	Pay Unit
24781EC	Intelligent Compaction for Asphalt	TON

Rev 9/2021

SPECIAL NOTE FOR PAVER MOUNTED TEMPERATURE PROFILES

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

1.0 DESCRIPTION. Provide a paver mounted infrared temperature equipment to continually monitor the temperature of the asphalt mat immediately behind all paver(s) during the placement operations for all mainline pavements (including ramps for Interstates and Parkways) within the project limits. Provide thermal profiles that include material temperature and measurement locations.

2.0 MATERIALS AND EQUIPMENT. In addition to the equipment specified in Subsection 403.02 Utilize a thermal equipment supplier that can provide a qualified representative for on-site technical assistance during the initial setup, pre-construction verification, and data management and processing as needed during the Project to maintain equipment within specifications and requirements.

Provide operator settings, user manuals, required viewing/export software for analysis. Ensure the temperature equipment will meet the following:

(A) A device with one or more infrared sensors that is capable of measuring in at least 1 foot intervals across the paving width, with a minimum width of 12 feet, or extending to the recording limits of the equipment, whichever is greater. A Maximum of two (2) brackets are allowed in the influence area under the sensors. A temperature profile must be made on at least 1 foot intervals longitudinally down the road:

(B) Infrared sensor(s):

(1) Measuring from 32°F to 400°F with an accuracy of ± 2.0% of the sensor reading.

(C) Ability to measure the following:

(1) The placement distance using a Global Positioning System (GPS) or a Distance Measuring Instrument (DMI) and a Global Positioning System (GPS).

(2) Stationing

(D) GPS: Accuracy ± 4 feet in the X and Y Direction

(E) Latest version of software to collect, display, retain and analyze the mat temperature readings during placement. The software must have the ability to create and analyze:

(1) Full collected width of the thermal profiles,

(2) Paver speed and

(3) Paver stops and duration for the entire Project.

(F) Ability to export data automatically to a remote data server ("the cloud").

At the preconstruction meeting, provide the Cabinet with rights to allow for web access to the data file location. Access to the data is not to be hindered in any way. The Contractor will provide the Cabinet with any vendor specific software, user id, passwords, etc. needed to access the data through this service, cost of this access is incidental to the thermal profile bid item. The Cabinet is to have access to all data as it is being collected. If a third party is used for collecting and distributing the data the Cabinet is to have the same access rights and time as the Contractor.

This web-based software must also provide the Department with the ability to download the raw files and software and to convert them into the correct format.

(G) The thermal profile data files must provide the following data in a neat easy to read table format.

(1) Project information including Road Name and Number, PCN, Beginning and Ending MPs.

(2) IR Bar Manufacturer and Model number

(3) Number of Temperature Sensors (N)

(4) Spacing between sensors and height of sensors above the asphalt mat

(5) Total number of individual records taken each day (DATA BLOCK)

(a) Date and Time reading taken
(b) Latitude and Longitude
(c) Distance paver has moved from last test location
(d) Direction and speed of the paver
(e) Surface temperature of each of the sensors

3.0 CONSTRUCTION. Provide the Engineer with all required documentation at the pre-construction conference.

(A) Install and operate equipment in accordance with the manufacturer's specifications.

(B) Verify that the temperature sensors are within ± 2.0% using an independent temperature device on a material of known temperature. Collect and compare the GPS coordinates from the equipment with an independent measuring device.

(1) Ensure the independent survey grade GPS measurement device is calibrated to the correct coordinate system (using a control point), prior to using these coordinates to validate the equipment GPS.

(2) The comparison is considered acceptable if the coordinates are within 4 feet of each other in the X and Y direction.

(C) Collect thermal profiles on all Driving Lanes during the paving operation and transfer the data to the "cloud" network or if automatic data transmission is not available, transfer the data to the Engineer at the end of daily paving.

(D) Contact the Department immediately when System Failure occurs. Daily Percent Coverage will be considered zero when the repairs are not completed within two (2) working days of System Failure. The start of this two (2) working day period begins the next working day after System Failure.

(E) Evaluate thermal profile segments, every 150 feet, and summarize the segregation of temperature results. Results are to be labeled as Minimal 0°-25°F, Moderate 25.1°-50°F and Severe >50°. Severe readings over 3 consecutive segments or over 4 or more segments in a day warrant investigation on the cause of the differential temperature distribution.

4.0 MEASUREMENT. The Department will measure the total area of the pavement lanes mapped by the infrared scanners. Full payment will be provided for all lanes with greater than 85% coverage. Partial payment will be made for all areas covered from 50% coverage to 85% coverage at the following rate Coverage area percentage X Total bid amount. And area with less than 50% coverage will not be measured for payment.

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

1. Payment is full compensation for all work associated with providing all required equipment, training, and documentation.
2. Delays due to GPS satellite reception of signals or equipment breakdowns will not be considered justification for contract modifications or contract extensions.

Code	Pay Item	Pay Unit
24891EC	PAVE MOUNT INFRARED TEMP EQUIPMENT	SQFT

SPECIAL NOTE FOR EXPERIMENTAL KYCT AND HAMBURG TESTING

1.0 General

1.1 Description. The KYCT (Kentucky Method for Cracking Test) and the Hamburg test results will help determine if the mixture is susceptible to cracking and rutting. During the experimental phase, data will be gathered and analyzed by the Department to determine the durability of the bituminous mixes. Additionally, the data will help the Department to create future performance based specifications which will include the KYCT and Hamburg test methods.

2.0 Equipment

2.1 KYCT Testing Equipment. The Department will require a Marshall Test Press with digital recordation capabilities. Other CT testing equipment may be used for testing with prior approval by the Department.

2.2 Water Baths. One or more water baths will be required that can maintain a temperature of 77^{o} +/- 1.8^{o} F with a digital thermometer showing the water bath temperature. Also, one water bath shall have the ability to suspend gyratory specimen fully submerged in water in accordance with AASHTO T-166, current edition.

2.3 Hamburg Wheel Track Testing. The department encourages the use of the PTI APA/Hamburg Jr. test equipment to perform the loaded wheel testing. The Department will allow different equipment for the Hamburg testing, but the testing device must be approved by the Department prior to testing.

2.4 Gyratory Molds. Gyratory molds will be required to assist in the production of gyratory specimens in accordance with AASHTO T-312, current edition.

2.5 Ovens. Adequate (minimum of two ovens) will be required to accommodate the additional molds and asphalt mixture necessary to perform the acceptance testing as outlined in Section 402 of the Kentucky Standard Specifications for Road and Bridge Construction, current edition.

2.6 Department Equipment. The Department will provide gyratory molds, PINE 850 Test Press with digital recordation, and CT testing equipment to assist during this experimental phase so data can be gathered. Hamburg test specimens will be submitted to the Division of Materials for testing on the PTI APA/Hamburg Jr if the asphalt contractor or district materials office does not have an approved Hamburg testing device.

3.0 Testing Requirements

3.1 Acceptance Testing. Perform all acceptance testing and aggregate gradation as according with Section 402 and Section 403 of the Kentucky Standard Specifications for Road and Bridge Construction, current edition.

3.2 KYCT Testing. Perform crack resistance analysis (KYCT) in accordance with the current Kentucky Method for KYCT Index Testing during the mix design phase and during the plant production of all surface mixtures. For mix design approvals, submit KYCT results on the Department MixPack. For Class 4 mixtures, submit ingredient materials to the Division of Materials for informational verification.

3.2.1 KYCT Frequency. Obtain an adequate sample of hot mix asphalt to insure the acceptance testing, gradation, and KYCT gyratory samples can be fabricated and is representative of the bituminous mixture. Acceptance specimens shall be fabricated first, then immediately after, fabricate the KYCT samples with the gyratory compactor in accordance with Section 2.4 of this Special Note. Analysis of the KYCT specimens and gradation will be required one per sublot produced from the same asphalt material and at the same time as the acceptance specimen is sampled and tested.

3.2.2 Number of Specimens and Conditioning. Fabricate specimens in accordance with the Kentucky Method for KYCT Index Testing. Contrary to the method, fabricate a minimum of 3 and up to 6 test specimens. The specimens shall be compacted at the temperature in accordance to KM 64-411. KYCT mix design specimens shall be short-term conditioned for four hours at compaction temperature in accordance to KM 64-411. Contrary to the Kentucky Method, plant produced bituminous material shall be short-term conditioned immediately after sampling for two hours at compaction temperature in accordance to KM 64-411. Additionally, fabricated specimens shall be allowed to cool in air (fan is permissible) for 30 minutes +/- 5 minutes and conditioned in a 77 °F water bath for 30 minutes +/- 5 minutes. To insure confidence and reliability of the test results provided by KYCT testing and Hamburg testing, reheating of the asphalt mixture is prohibited.

3.2.3 Record Times. For each sublot, record the time required between drying aggregates in the plant to KYCT specimen fabrication. The production time may vary due to the time that the bituminous material is held in the silo. Record the preconditioning time when the time exceeds the one hour specimen cool down time as required in accordance to The Kentucky Method for KYCT Index Testing. The preconditioning time may exceed an hour if the technician is unable to complete the test on the same day or within the specified times as outlined in The Kentucky Method for KYCT Index Testing. The production time and the preconditioning time shall be recorded on the AMAW.

3.2.4 File Name. As according to section 7.12 of The Kentucky Method for KYCT Index Testing, save the filename with the following format; “CID_Approved Mix Number_Lot Number_Sublot Number_ Date”

3.3 Hamburg Testing. Perform the rut resistance analysis (Hamburg) in accordance to AASTHO T-324, not to exceed 20,000 passes for all bituminous mixtures during the mix design phase and production. For mix design approvals, submit Hamburg results on the Department MixPack. For Class 4 mixtures, submit ingredient materials to the Division of Materials for informational verification.

3.3.1 Hamburg Testing Frequency. Perform testing and analysis per lot of material. The plant produced bituminous material sampled for the Hamburg test does not have to be obtained at the same time as the acceptance and KYCT sample. If the Hamburg test sample is not obtained at the same time as the KYCT sample, determine the Maximum Specific Gravity of the KYCT sample in accordance with AASHTO T-209 coinciding with the Hamburg specimens.

3.3.2 Record Times. Record the production time as according to section 3.2.3 in this special note. Also record the time that the specimens were fabricated and the time the Hamburg testing was started. All times shall be recorded on the AMAW.

3.3.3 File Name. Save the Excel spreadsheet with the following file name; "Hamburg_CID_Approved Mix Number_Lot Number_Sublot Number_Date" and upload the file into the AMAW.

4.0 Data

Submit the AMAW and all test data that was obtained for acceptance, gradation, KYCT, and Hamburg testing within five working days once all testing has been completed for a lot to Central Materials Lab and the District Materials Engineer. Also, any data and or comments that the asphalt contractor or district personnel deem informational during this experimental phase, shall also be submitted to the Central Materials Lab and the District Materials Engineer. Any questions or comments regarding any item in this Special Note can be directed to the Central Office, Division of Materials, Asphalt Branch.

5.0 KYCT Video Demonstration

https://youtu.be/84j0bM45-hg

6.0 Payment

Any additional labor and testing equipment that is required to fabricate and test the KYCT and Hamburg specimens shall be considered to be incidental to the asphalt surface line item. The Department will perform the testing for the KYCT and Hamburg specimens if a producer does not possess the proper equipment.

October 8, 2020

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

☐ Original ☒ Re-Certification — **RIGHT OF WAY CERTIFICATION**

ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
08-8601.21	Russell/Clinton	12FO FD52 027 91673 01R	NHPP 1271 (117)

PROJECT DESCRIPTION

Relocate US 127 from Approx .36 mi E of Intersection of KY 1730 & Manntown Rd Extend N to N Bank of Cumberland River

☐ **No Additional Right of Way Required**

Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.

☒ **Condition # 1 (Additional Right of Way Required and Cleared)**

All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.

☐ **Condition # 2 (Additional Right of Way Required with Exception)**

The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract

☐ **Condition # 3 (Additional Right of Way Required with Exception)**

The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.

Total Number of Parcels on Project	25	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed	18		
Condemnation	6		
Signed ROE	6		

Notes/ Comments (Use Additional Sheet if necessary)

Notes/ Comments (Use Additional Sheet if necessary)
Parcel 176 (United States of America) is Waters of the United States/Waters of the Commonwealth and does not require a ROW acquisition. Easement is shown for construction and maintenance purposes.
Parcel 165 (United States of America) is an easement acquisition from the US Army Corp of Engineers. Signed Easement received 10/25/19, on file in District parcel file.

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Charles Hale
Signature		Signature	Charles Hale 2019.10.31 11:29:55 -04'00'
Date		Date	
Right of Way Director		**FHWA**	
Printed Name		Printed Name	
Signature	DM Loy Digitally signed by DM Loy Date: 2019.10.31 14:58:07 -04'00'	Signature	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date		Date	

UTILITIES AND RAIL CERTIFICATION NOTE

RUSSELL / CLINTON COUNTY, NHPP 1271, (118)
FD52 104/027 91673 01U
RECONSTURCTION OF US 127 SECTION 2
Item No. 08-8601.21/8-8601.26

GENERAL PROJECT NOTE ON UTILITY PROTECTION

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

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

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

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for 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

UTILITIES AND RAIL CERTIFICATION NOTE

RUSSELL / CLINTON COUNTY, NHPP 1271, (118)
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RECONSTURCTION OF US 127 SECTION 2
Item No. 08-8601.21/8-8601.26

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.

Utility coordination efforts determined that no significant utility relocation work is required to complete the project. Any work pertaining to these utility facilities is defined in the bid package and is to be carried out as instructed by the Kentucky Transportation Cabinet. The contractor will be responsible for any coordination or adjustments that are discussed or quantified in the proposal.

NOTE: DO NOT DISTURB THE FOLLOWING UTILITIES LOCATED WITHIN THE PROJECT DISTURB LIMITS

City of Jamestown Water has a water line relocated and incased within the Russell County project disturb limit crossing at Sta 635+00 and Sta 534+00.

South Kentucky RECC has an aerial electric service lines Crossing over the project disturb limit on the project in both counties and relocated incased buried lines under bridges at Sta 488+10 and Sta 535+55 in Russell County.

Duo County Telephone has an aerial telephone service line located within the project disturb limit along in the Russell County and have a relocated incased buried line under bridges at Sta 488+10 and Sta 535+55 in Russell County of this project

Windstream has an aerial cable service line located within the project disturb limit in Clinton County.

City of Albany Water has a water line relocated and cased at Sta 388+50 within the Clinton County project disturb limit.

Tennessee Valley Authority (TVA) has an aerial electric Transmission service line located within the project disturb limit on the project in both counties.

THE FOLLOWING COMPANIES ARE RELOCATING/ADJUSTING THEIR UTILITIES WITHIN THE PROJECT LIMITS AND WILL BE COMPLETE PRIOR TO CONSTRUCTION

City of Jamestown Water has a water line located within the Russell County project disturb limit. We have an executed keep cost agreement with the City of Jamestown. All water lines have been moved outside or incased and lowered under the proposed disturb limits at the time of this note and are no longer in the way of construction.

UTILITIES AND RAIL CERTIFICATION NOTE

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South Kentucky RECC has an aerial electric service line located within the project disturb limit on the project in both counties. We have an executed lump sum agreement with RECC. All electric lines have been moved outside or incased and lowered under or raised above the proposed disturb limits at the time of this note and are no longer in the way of construction.

Duo County Telephone has an aerial telephone service line located within the project disturb limit along in the Russell County section of this project. We have an executed lump sum relocation delivery order with Dou County Telephone. All telephone lines have been moved outside or incased and lowered under or raised above the proposed disturb limits at the time of this note and are no longer in the way of construction.ne.

Windstream has an aerial cable service line located within the project disturb limit in Clinton County. We have an executed lump sum relocation delivery order with Windstream. All telephone lines have been moved outside the proposed disturb limits at the time of this note and are no longer in the way of construction.

City of Albany Water has a water line located within the Clinton County project disturb limit. We have an executed keep cost agreement with the City of Albany. All water lines have been moved outside or incased and lowered under the proposed disturb limits at the time of this note and are no longer in the way of construction.

Tennessee Valley Authority (TVA) has an aerial electric Transmission service line located within the project disturb limit on the project in both counties. TVA has granted KYTC provision to work within their Transmission power supply line easements/Right-of way by complying with their general condition for a crossing and land use on TVA Transmission line right of way.

THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE COMPANY OR THE COMPANY'S SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT

None when applicable

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

None when applicable

THE FOLLOWING RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

☒ **No Rail Involved** ☐ **Minimal Rail Involved (See Below)** ☐ **Rail Involved (See Below)**

UTILITIES AND RAIL CERTIFICATION NOTE

RUSSELL / CLINTON COUNTY, NHPP 1271, (118)
FD52 104/027 91673 01U
RECONSTURCTION OF US 127 SECTION 2
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UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

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.

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

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

UTILITIES AND RAIL CERTIFICATION NOTE

RUSSELL / CLINTON COUNTY, NHPP 1271, (118)
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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.

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

AREA UTILITIES CONTACT LIST

Utility Company/Agency	Contact Name	Contact Information
City of Jamestown Water	Tyler McGowan	P.O. Box 587 Jamestown, KY 42629 (270) 343-4594
South Kentucky RECC	Bruce Parkey	P.O. Box 910 Somerset, KY. 42502 (606) 678-4121 ext. 1273 (606) 872-5570 cell
Duo County Telephone	Rick Eldridge	P.O. Box 80 2150 N Main Street Jamestown, KY. 42629 (270) 343-1152 office (270) 866-1101 cell
Windstream	David Karnes	1715 E. Broadway Campbellsville, KY 42718 (270)465-2480

UTILITIES AND RAIL CERTIFICATION NOTE

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City of Albany Water	Lyle Pierce	P.O. Box 129 Albany, KY 42602 (606) 387-6011
Tennessee Valley Authority	Stephen William	1101 Market St. Chattanooga, TN 37402 (423)413-8493

N O T I C E

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
(LETTER OF PERMISSION & LOP WQC AUTHORIZATION)

PROJECT: Russell County, Item No. 8-108.00
Relocation (US 127)

The Section 404 & 401 activities for this project have been previously permitted under the authority of the Department of the Army Letter of Permission (LOP) & Division of Water LOP 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 LOP Permit & LOP 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/

November 22, 2016

Operations Division
Regulatory Branch (South)
ID No. LRL-2016-461-ncc

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

Dear Mr. Collins:

This is in regard to your application for a Department of the Army (DA) permit dated May 4, 2016, concerning a plan to reconstruct U.S. 127 near Lake Cumberland in Clinton and Russell Counties, Kentucky. We have reviewed your application and have made the following determinations: the work is minor in nature, will not have a significant impact on the environment, and should encounter no opposition.

Based on these determinations, your proposed work satisfies the Letter of Permission criteria, as specified in our regulations. Therefore, you are authorized, in accordance with 33 USC 403, to discharge fill material into 0.18 acre of forested wetland, 1.09 acres of emergent wetlands, 15,672 linear feet (0.94 acre) of ephemeral streams, 26,423 linear feet (3.5 acres) of intermittent streams and 3,326 linear feet (1.3 acres) of perennial streams. This permission is granted with the following Special Conditions:

a. The project shall be constructed in accordance with plans included in the May 4, 2016 application for Kentucky Transportation Cabinet, Item No. 8-108.00 and all subsequent information received regarding changes to the original submittal.

b. The permittee shall comply with the agreement outlined in the letter of October 27, 2016 from the U.S. Fish and Wildlife Service regarding the Biological Opinion on endangered species within the project area.

c. The permittee shall comply with the Memorandum of Agreement dated November 14, 2011 between the Federal Highway

Administration, the Kentucky Transportation Cabinet, and the Kentucky State Historic Preservation Officer.

d. Two weeks after receipt of the signed LOP from KYTC, the Corps will update the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) by debiting 2.16 wet-sedge meadow Adjusted Mitigation Units (AMUs) and 0.36 forested wetland AMUs for a total of 2.52 AMUs to compensate for impacts to 1.08 acres of emergent wetlands and 0.18 acre of forested wetland from the KYTC Wayne County Wetland Mitigation Site. This update will confirm the use of the AMUs.

e. Two weeks after receipt of the signed LOP from KYTC, the Corps will update the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) by debiting 22,715 AMUs from KYTC's Pumphrey-Buck Creek Mitigation Project to compensate for 19,054.9 linear feet of stream impacts. This update will confirm the use of the remaining AMUs and the closure of the Pumphrey-Buck Creek Mitigation Project.

f. To compensate for the remaining 6,980.1 linear feet of intermittent stream and 3,288 linear feet of perennial stream impacts, KYTC shall provide a receipt from the KDFWR Stream and Wetland Mitigation Trust for the purchase of 19,442 AMUs. AMUs must be purchased prior to the discharge of fill into "waters of the U.S." The Corps ID number LRL-2016-461-ncc must accompany the payment. Inquiries regarding credit purchase may be made directly to KDFWR by calling Mr. Clifford Scott (502) 564-5101, by email at: clifford.scott@ky.gov, or in writing at: Kentucky Department of Fish and Wildlife Resources, Division of Fisheries, #1 Sportsman's Lane, Frankfort, Kentucky 40601.

g. The permittee shall obtain an easement from the Nashville District U.S. Army Corps of Engineers prior to performing work on federal property.

h. The time limit for completing the work authorized ends on November 30, 2021. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.

i. Upon completion of construction you are to notify the District Engineer. The enclosed Completion Report form must be completed and returned to this office.

j. You must agree to comply with the enclosed General Conditions.

This authorization will be effective as soon as we receive your signed acceptance of these conditions. Please sign and date the duplicate copy of this letter in the space provided and return the

signed copy in the enclosed envelope. Note that we also perform periodic inspections to ensure compliance with our permit conditions and appropriate Federal laws.

Copies of this letter will be sent to the appropriate coordinating agencies (see enclosure for addresses).

FOR THE DISTRICT ENGINEER:

David Baldridge
Chief, South Branch
Regulatory Division

Enclosures

(I accept the conditions of this authorization):

Kentucky Transportation Cabinet

11/22/16
Date

GENERAL CONDITIONS:

1. Discharges of dredged or fill material into "waters of the U.S." must be minimized or avoided to the maximum extent practicable at the project site (i.e. on-site). In determining the minimal impact threshold, the Districts will consider the direct, secondary, and cumulative impacts of the fill or work and any mitigation measures.

2. The permittee shall provide a mitigation/monitoring plan for impacts resulting from the placement of fill into "waters of the U.S." in excess of 300 linear feet of intermittent or perennial stream; the filling of greater than 0.10 acre (4,356 sq. feet) of waters of the U.S; or work causing more than minimal effects, to compensate for impacts to the "waters of the U.S." These impact thresholds are applied for each crossing. When mitigation is required, the permittee will develop the mitigation site concurrently with, or in advance of, the site construction unless the Corps determines on a project specific basis that it is not practical to do so. This will ensure that aquatic functions are not lost for long periods of time (e.g. temporal loss) which could adversely affect water quality and wildlife. The requirement for conservation easements or deed restrictions will be determined on a project specific basis.

3. The permittee shall ensure that sedimentation and soil erosion control measures are in place prior to commencement of construction activities. These measures will remain in place and be properly maintained throughout construction. Sedimentation and soil control measures shall include the installation of straw bale barriers, silt fencing and/or other approved methods to control sedimentation and erosion. Sedimentation and erosion controls will not be placed in "waters of the U.S." except if specifically approved by the District.

4. The permittee shall ensure that areas disturbed by any construction activity, including channel and stream banks, are immediately stabilized and revegetated with a combination of non-invasive plants (grasses, legumes and shrubs) which are compatible with the affected area and will not compete with native vegetation.

5. The permittee shall ensure that no in-stream construction activity is performed during periods of high stream flow or during the fish spawning season (April 1 through June 30) without first contacting the Kentucky Department of Fish and Wildlife Resources (KDFWR) for their expertise on impacts to the fishery resource. Additionally, the discharge of dredged and/or fill material in known waterfowl breeding and wintering areas must be avoided to the maximum extent practicable.

6. The permittee will ensure that the activity authorized will not disrupt movement of those aquatic species indigenous to the waterbody, including those species which normally migrate through the area, unless the activity's specific purpose is to impound water.

7. The permittee shall ensure that all construction equipment is refueled and maintained on an upland site away from existing streams, drainageways and wetland areas. Heavy equipment working in wetlands must be placed on mats or other measures must be taken to minimize soil disturbance.

8. The permittee must comply with any case specific special conditions added by the Corps or by the State Section 401 Water Quality Certification (WQC). The conditions imposed in the State Section 401 WQC are also conditions of this LOP.

9. The permittee shall ensure that no activity authorized by the LOP may cause more than a minimal adverse effect on navigation.

10. The permittee shall ensure proper maintenance of any structure or fill authorized by the LOP, in good condition and in conformance with the terms and conditions of the LOP, including maintenance to ensure public safety. The permittee is not relieved of this requirement if the permitted activity is abandoned, although the permittee may make a good faith transfer to a third party. Should the permittee wish to cease to maintain the authorized activity or desire to abandon it without a good faith transfer, the permittee must obtain a modification to the LOP from the Corps, which may require restoration of the area.

11. The permittee shall not perform any work within any Wild and Scenic Rivers or in any river officially designated as a "study river" for possible inclusion in the system, unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity authorized by the LOP will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal Land Management agency in the area (e.g. U.S. Forest Service, Bureau of Land Management, the National Parks Service, or the U.S. Fish and Wildlife Service).

12. The permittee shall not perform any work under the LOP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act, or which is likely to destroy or adversely modify the critical habitat of such species. The permittee shall notify the Corps and coordinate the proposed action with the USFWS to determine if any listed species or critical habitat might be affected and/or adversely modified by the proposed work. No activity is authorized under the LOP which “may affect” a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed. At the direction of the Corps, the permittee shall complete the necessary consultation with the USFWS, satisfying the requirements of Section 7(a)(2) of the Endangered Species Act. The permittee shall not begin work until notified by the District Engineer that the requirements of the Endangered Species Act have been satisfied and that the activity is authorized. Authorization of an activity under the LOP does not authorize the "take" of a threatened or endangered species as defined under the Federal Endangered Species Act. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. Fish and Wildlife Service, both lethal and non-lethal "takes" of protected species are in violation of the Endangered Species Act.

Obligations under Section 7 of the Act must be reconsidered by the Corps Districts if (1) new information reveals impacts of the proposed action may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during consultation, or (3) new species are listed or critical habitat designated that might be affected

by the proposed action.

13. The permittee shall not perform any activity under the LOP which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places until the District Engineer has complied with the provisions of 33 CFR Part 325, Appendix C. The permittee must notify the District Engineer if the activity authorized by the LOP may affect any historic properties listed, determined to be eligible or which the permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin construction until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the Kentucky Heritage Council.

If the permittee discovers any previously unknown historic or archaeological remains while accomplishing the activity authorized by the LOP, work must be immediately stopped and this office immediately notified regarding the discovery. The District will initiate the Federal, Tribal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

14. The permittee shall not perform any work under the LOP where the discharge of dredged and/or fill material will occur in the proximity of a public water supply intake.

15. No activity, including structures or work in “waters of the U.S.” or discharges of dredged or fill material may consist of unsuitable materials (e.g. trash, debris, car bodies, asphalt, etc.) and that materials used for construction or discharge must be free from toxic pollutants in toxic amounts.

16. The permittee shall, to the maximum extent practicable, design the project to maintain pre-construction downstream flow conditions. Furthermore, the work must not permanently restrict or impede the passage of normal or expected high flows and the structure or discharge of fill must withstand expected high flows. The project must provide, to the maximum extent practicable, for retaining excess flows from the site and for establishing flow rates from the site similar to pre-construction conditions.

17. The permittee shall ensure that all temporary fills, authorized under the LOP, be removed in their entirety and the affected areas returned to pre-construction elevation.

18. Representatives from the Corps of Engineers and/or the State of Kentucky may inspect any authorized activity or mitigation site at any time deemed necessary to ensure compliance with the terms and conditions of the LOP, Section 401 WQC, and applicable laws.

19. All work authorized by this LOP must be completed within five years after the date of the Corps authorization letter. If you find you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least three months before the expiration date.

20. The permittee, after completion of work under the LOP, shall submit a signed certification letter regarding the completed work and required mitigation, if applicable. The certification letter will include a statement that the work was done in accordance with the LOP authorization including compliance with all general and special conditions and completion of mitigation work.

21. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of the LOP.

22. For Section 10 waters, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

AARON B. KEATLEY
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

August 2, 2016

David Waldner
KYTC Environmental Analysis
200 Mero St 5th Fl
Frankfort, KY 40622

Re: Water Quality Certification #2016-068-7
US 127 - Russell Co
AI No.: 125149; Activity ID: APE20160001
KYTC Item No.: 8-108.00 & 8-8601.27
USACE Public Notice No.: LRL-2016-461
Cumberland River, UT to Cumberland River UT to West Fork Indian Creek, UT to Salt Lick Creek, UT to Rock Lick Creek, UT to Blackfish Creek, Clifty Creek, UT to Clifty Creek, UT to Greasy Creek, and adjacent wetlands
Russell & Clinton Counties, Kentucky

Dear Mr. Waldner:

Pursuant to Section 401 of the Clean Water Act (CWA), the Commonwealth of Kentucky certifies it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 303, 304, 306, and 307 of the CWA, will not be violated by the above referenced project provided that the U.S. Army Corps of Engineers authorizes the activity under 33 CFR part 330, and the attached conditions are met.

All future correspondence on this project must reference **AI No. 125149**. **The attached document is your official Water Quality Certification; please read it carefully**. If you should have any questions concerning the conditions of this water quality certification, please contact Cody Thayer of my staff by calling (502) 782-7090.

Sincerely,

Stephanie Hayes

Stephanie Hayes, Supervisor
Water Quality Certification Section
Kentucky Division of Water

Attachment

cc: Roy Collins, KYTC: Frankfort (via email: RoyC.Collins@ky.gov)
Danny Peake, KYTC: Frankfort (via email: Danny.Peake@ky.gov)
Dave Harmon, KYTC: Frankfort (via email: Dave.Harmon@ky.gov)
David Baldridge, USACE: Louisville (via email: David.E.Baldridge@usace.army.mil)
Norma Condra, USACE: Louisville (via email: Norma.C.Condra@usace.army.mil)
Lee Andrews, USFWS: Frankfort (via email: Teresa_Hyatt@fws.gov)
Brian Crump, KDOW: Columbia Regional Office (via email: Brian.Crump@ky.gov)
Jon Cambron, KDOW: Upper Cumberland River Basin Coordinator
(via email: Jonathan.Cambron@ky.gov)

KTC Water Quality Certification

US 127 - Russell Co

Facility Requirements

Permit Number: 2016-068-7

Activity ID No.:APE20160001

ACTV0000000001 ((Transportation Project - KYTC Item No.:8-108.00)) Cumberland River, Salt Lick Creek, Rock Lick Creek, Clifty Creek, UT West Fork Indian Creek, UT Blackfish Creek, UT Greasy Creek:

Submittal/Action Requirements:

Condition No.	Condition
S-1	The Kentucky Transportation Cabinet shall submit notification : Due prior to any construction activity to the Kentucky Division of Water, 401 Water Quality Certification Section Project Manager. [Clean Water Act]
S-2	The Kentucky Transportation Cabinet shall submit notification : Due when construction is complete to the Kentucky Division of Water, 401 Water Quality Certification Section Project Manager no later than two weeks post-construction. [Clean Water Act]
S-3	The Kentucky Transportation Cabinet shall submit a written report: Due when construction is complete to the Kentucky Division of Water, 401 Water Quality Certification Section Project Manager. The report shall contain photographs and a written description of the completed work at Site No. 100: (36.901105, -85.129711; Station 654+00 to Station 660+00) bridge construction at Cumberland River (OSRW). [Clean Water Act]
S-4	All Mitigation required by the United States Army Corps of Engineers shall be shall be debited from the Pumphrey - Buck Creek Mitigation Site. If available credits are exhausted, the remainder shall be paid to the Kentucky Department of Fish and Wildlife Resources, Wetland and Stream In-Lieu Fee Mitigation Program. A ledger detailing the debit of credits from the Pumphyey - Buck Creek Mitigation site and a receipt from the Kentucky Department of Fish and Wildlife Resources, Wetland and Stream In-Lieu Fee Mitigation Program shall be submitted to the Kentucky Division of Water, 401 Water Quality Certification Section Project Manager before the beginning of project activities. [Clean Water Act]

KTC Water Quality Certification

US 127 - Russell Co

Facility Requirements

Permit Number: 2016-068-7

Activity ID No.:APE20160001

ACTV0000000001 ((Transportation Project - KYTC Item No.:8-108.00)) Cumberland River, Salt Lick Creek, Rock Lick Creek, Clifty Creek, UT West Fork Indian Creek, UT Blackfish Creek, UT Greasy Creek:

Narrative Requirements:

Condition No.	Condition
T-1	The work approved by this certification shall be limited to the proposed Kentucky Transportation Cabinet (KYTC Item No.: 8-108.00 & 8-8601.27) U.S. 127 improvement project near Lake Cumberland, Kentucky in Russell and Clinton Counties (Latitude: 36.901105 N; Longitude: -85.129711 W). Proposed Impacts to streams and wetlands include: - 15,677 linear feet of ephemeral stream (Unnamed Tributaries (UTs) of: Cumberland River, Greasy Creek, Clifty Creek, Blackfish Creek, Rock Lick Creek, Salt Lick Creek, and West Fork Indian Creek); - 26,423 linear feet of intermittent stream (UTs of: Cumberland River, Clifty Creek, Blackfish Creek, Rock Lick Creek, Salt Lick Creek, and West Fork Indian Creek); - 3,326 linear feet of perennial stream (Cumberland River, Clifty Creek, and UTs of: Clifty Creek, Blackfish Creek, Rock Lick Creek, and Salt Lick Creek) - 1.087 acres of palustrine emergent wetland; - 0.183 acre of palustrine forested wetland. [Clean Water Act]
T-2	All work performed under this certification shall adhere to the design and specifications set forth in the following documents: - Application for Permit to Construct Across or Along a Stream and/or Water Quality Certification dated April 13, 2016; - Correspondence concerning mitigation dated June 28, 2016; - Updated Stream Impact Table and Summary received July 19, 2016. [Clean Water Act]
T-3	The Kentucky Transportation Cabinet is responsible for preventing degradation of waters of the Commonwealth from soil erosion. An erosion and sedimentation control plan must be designed, implemented, and maintained in effective operating condition at all times during construction. [Clean Water Act]
T-4	The Division of Water reserves the right to modify or revoke this certification should it be determined that the activity is in noncompliance with any condition set forth in this certification. [Clean Water Act]
T-5	If construction does not commence within three years of the date of this letter, this certification will become void. A letter requesting a renewal should be submitted. [Clean Water Act]
T-6	Other permits from the Division of Water may be required for this activity. If this activity occurs within a floodplain, a Permit to Construct Across or Along a Stream may be required. Please contact the Floodplain Section Supervisor for more information. If the project will disturb one acre or more of land, or is part of a larger common plan of development or sale that will ultimately disturb one acre or more of land, a Kentucky Pollution Discharge Elimination System (KPDES) stormwater permit shall be required from the Surface Water Permits Branch. This permit requires the development of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must include erosion prevention and sediment control measures. Contact: Surface Water Permits Branch (SWPB) Support (SWPBSupport@ky.gov). [Clean Water Act]

KTC Water Quality Certification

US 127 - Russell Co

Facility Requirements

Permit Number: 2016-068-7

Activity ID No.:APE20160001

ACTV0000000001 ((Transportation Project - KYTC Item No.:8-108.00)) Cumberland River, Salt Lick Creek, Rock Lick Creek, Clifty Creek, UT West Fork Indian Creek, UT Blackfish Creek, UT Greasy Creek:

Narrative Requirements:

Condition No.	Condition
T-7	Dredging work shall not be conducted during the fish spawning season, April 15th through June 15th. [Clean Water Act]
T-8	Check dams are not allowed within the stream channel. [Clean Water Act]
T-9	Remove all sediment and erosion control measures after re-vegetation has become well-established. [Clean Water Act]

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NASHVILLE DISTRICT
110 9TH AVENUE SOUTH, ROOM A-405
NASHVILLE, TN 37203-3817

Honorable Greg Thomas
Secretary, Kentucky Transportation Cabinet
Commonwealth of Kentucky
200 Mero Street
Frankfort, Kentucky 40622

Dear Mr. Thomas:

Enclosed for your record is a fully executed First Supplemental Agreement to Department of the Army Easement No. DA-40-058-CIVENG-59-177. This easement supplement is to relocate approximately 425 linear feet of roadway on Tract A-101, at the Wolf Creek Dam Lake Cumberland Project.

Should you have any questions, please contact Courtney Eason of this office at (615) 736-7184. Your continued cooperation is appreciated.

Sincerely,

Michael T. Abernathy
District Chief of Real Estate
Real Estate Contracting Officer

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NASHVILLE DISTRICT

Easement No. DA-40-058-CIVENG-59-177
Wolf Creek Dam Lake Cumberland Project

FIRST SUPPLEMENTAL AGREEMENT

THIS FIRST SUPPLEMENTAL AGREEMENT, made between the Secretary of the Army and **Kentucky Transportation Cabinet**;

W I T N E S S E T H:

WHEREAS, by Easement No. DA-40-058-CIVENG-59-177, dated 28 November 1958, the Secretary of the Army granted **Kentucky Transportation Cabinet, an easement for a road right-of-way**, over, under and across 8.36 acres, more or less, on fee simple land and within the Wolf Creek Dam Lake Cumberland Project, and as shown on Exhibit "A" of said easement. Said easement was granted for an indefinite term; and

WHEREAS, the grantee has requested permission to relocate approximately 425 linear feet of the existing road easement located on Kentucky Highway 1730, on Tract A-101; and

WHEREAS, Executive Order 13658 was signed on 12 February 2014 and requires amended leases to contain a condition on the minimum wage; and

WHEREAS, Executive Order 13706 was signed on 7 September 2016 and requires amended leases to contain a condition on paid sick leave to federal contractors; and

WHEREAS, it has been administratively determined that amendment of the easement to include aforementioned changes will be in the public interest.

NOW, THEREFORE, for and in consideration of the above premises, and other good and valuable consideration, Easement No. DA-40-058-CIVENG-59-177 is amended, effective as of the date of execution of this First Supplemental Agreement, in the following particulars only:

1) Exhibit "B-1" depicting the area of road relocation is attached hereto and incorporated herein by reference.

2) That **Condition 15. Executive Order 13658** is hereby added and is as follows:

15. EXECUTIVE ORDER 13658

Any reference in this section to "prime contractor" or "contractor" shall mean the grantee and any reference to "contract" shall refer to the easement.

The parties expressly stipulate this contract is subject to Executive Order 13658, the regulations issued by the Secretary of Labor in 29 CFR part 10 pursuant to the Executive Order, and the following provisions.

a. Minimum Wages.

(1) Each worker (as defined in 29 CFR 10.2) engaged in the performance of this contract by the prime contractor or any subcontractor, regardless of any contractual relationship which may be alleged to exist between the contractor and worker, shall be paid not less than the applicable minimum wage under Executive Order 13658.

(2) The minimum wage required to be paid to each worker performing work on or in connection with this contract between January 1, 2015 and December 31, 2015, shall be $10.10 per hour. The minimum wage shall be adjusted each time the Secretary of Labor's annual determination of the applicable minimum wage under section 2(a) (ii) of Executive Order 13658 results in a higher minimum wage. Adjustments to the Executive Order minimum wage under section 2(a) (ii) of Executive Order 13658 will be effective for all workers subject to the Executive Order beginning January 1 of the following year. If appropriate, the contracting officer, or other agency official overseeing this contract shall ensure the contractor is compensated only for the increase in labor costs resulting from the annual inflation increases in the Executive Order 13658 minimum wage beginning on January 1, 2016. The Secretary of Labor will publish annual determinations in the Federal Register no later than 90 days before such new wage is to take effect. The Secretary will also publish the applicable minimum wage on www.wdol.gov (or any successor Web site). The applicable published minimum wage is incorporated by reference into this contract.

(3) The contractor shall pay unconditionally to each worker all wages due free and clear and without subsequent deduction (except as otherwise provided by 29 CFR 10.23), rebate, or kickback on any account. Such payments shall be made no later than one pay period following the end of the regular pay period in which such wages were earned or accrued. A pay period under this Executive Order may not be of any duration longer than semi-monthly.

(4) The prime contractor and any upper-tier subcontractor shall be responsible for the compliance by any subcontractor or lower-tier subcontractor with the Executive Order minimum wage requirements. In the event of any violation of the minimum wage obligation of this clause, the contractor and any subcontractor(s) responsible therefore shall be liable for the unpaid wages.

(5) If the commensurate wage rate paid to a worker on a covered contract whose wages are calculated pursuant to a special certificate issued under 29 U.S.C. 214(c), whether hourly or piece rate, is less than the Executive Order minimum wage, the contractor must pay the Executive Order minimum wage rate to achieve compliance with the Order. If the commensurate

wage due under the certificate is greater than the Executive Order minimum wage, the contractor must pay the 14(c) worker the greater commensurate wage.

b. Withholding. The agency head 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 prime contractor under this or any other Federal contract with the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay workers the full amount of wages required by Executive Order 13658.

c. Contract Suspension/Contract Termination/Contractor Debarment. In the event of a failure to pay any worker all or part of the wages due under Executive Order 13658 or 29 CFR part 10, or a failure to comply with any other term or condition of Executive Order 13658 or 29 CFR part 10, the contracting agency may on its own action or after authorization or by direction of the Department of Labor and written notification to the contractor, take action to cause suspension of any further payment, advance or guarantee of funds until such violations have ceased. Additionally, any failure to comply with the requirements of this clause may be grounds for termination of the right to proceed with the contract work. In such event, the Government may enter into other contracts or arrangements for completion of the work, charging the contractor in default with any additional cost. A breach of the contract clause may be grounds for debarment as a contractor and subcontractor as provided in 29 CFR 10.52.

d. The contractor may not discharge any part of its minimum wage obligation under Executive Order 13658 by furnishing fringe benefits or, with respect to workers whose wages are governed by the Service Contract Act, the cash equivalent thereof.

e. Nothing herein shall relieve the contractor of any other obligation under Federal, State or local law, or under contract, for the payment of a higher wage to any worker, nor shall a lower prevailing wage under any such Federal, State, or local law, or under contract, entitle a contractor to pay less than $10.10 (or the minimum wage as established each January thereafter) to any worker.

f. Payroll Records.

(1) The contractor shall make and maintain for three years records containing the information specified in paragraphs (f)(1) (a) through (f) of this section for each worker and shall make the records available for inspection and transcription by authorized representatives of the Wage and Hour Division of the U.S. Department of Labor:

a. Name, address, and social security number.

b. The worker's occupation(s) or classification(s).

c. The rate or rates of wages paid.

d. The number of daily and weekly hours worked by each worker.

e. Any deductions made; and

f. Total wages paid.

(2) The contractor shall also make available a copy of the contract, as applicable, for inspection or transcription by authorized representatives of the Wage and Hour Division.

(3) Failure to make and maintain or to make available such records for inspection and transcription shall be a violation of 29 CFR part 10 and this contract, and in the case of failure to produce such records, the contracting officer, upon direction of an authorized representative of the Department of Labor, or under its own action, shall take such action as may be necessary to cause suspension of any further payment or advance of funds until such time as the violations are discontinued.

(4) The contractor shall permit authorized representatives of the Wage and Hour Division to conduct investigations, including interviewing workers at the worksite during normal working hours.

(5) Nothing in this clause limits or otherwise modifies the contractor's payroll and recordkeeping obligations, if any, under the Davis-Bacon Act, as amended, and its implementing regulations; the Service Contract Act, as amended, and its implementing regulations; the Fair Labor Standards Act, as amended, and its implementing regulations; or any other applicable law.

g. The contractor (as defined in 29 CFR 10.2) shall insert this clause in all of its covered subcontracts and shall require its subcontractors to include this clause in any covered lower-tier subcontracts. The prime contractor and any upper-tier subcontractor shall be responsible for the compliance by any subcontractor or lower-tier subcontractor with this contract clause.

h. Certification of Eligibility.

(1) By entering into this contract, the contractor (and officials thereof) 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 the sanctions imposed pursuant to section 5 of the Service Contract Act, section 3(a) of the Davis-Bacon Act, or 29 CFR 5.12(a)(1).

(2) No part of this contract shall be subcontracted to any person or firm whose name appears on the list of persons or firms ineligible to receive Federal contracts.

(3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

i. Tipped employees. In paying wages to a tipped employee as defined in section 3(t) of the Fair Labor Standards Act, 29 U.S.C. 203(t), the contractor may take a partial credit against the wage payment obligation (tip credit) to the extent permitted under section 3(a) of Executive Order 13658. In order to take such a tip credit, the employee must receive an amount of tips at least equal to the amount of the credit taken; where the tipped employee does not receive sufficient tips to equal the amount of the tip credit the contractor must increase the cash wage paid for the workweek so that the amount of cash wage paid and the tips received by the

employee equal the applicable minimum wage under Executive Order 13658. To utilize this proviso:

(1) The employer must inform the tipped employee in advance of the use of the tip credit.

(2) The employer must inform the tipped employee of the amount of cash wage that will be paid and the additional amount by which the employee's wages will be considered increased on account of the tip credit.

(3) The employees must be allowed to retain all tips (individually or through a pooling arrangement and regardless of whether the employer elects to take a credit for tips received); and

(4) The employer must be able to show by records that the tipped employee receives at least the applicable Executive Order minimum wage through the combination of direct wages and tip credit.

j. Anti-retaliation. It shall be unlawful for any person to discharge or in any other manner discriminate against any worker because such worker has filed any complaint or instituted or caused to be instituted any proceeding under or related to Executive Order 13658 or 29 CFR part 10, or has testified or is about to testify in any such proceeding.

k. Disputes concerning labor standards. Disputes related to the application of Executive Order 13658 to this contract shall not be subject to the general disputes clause of the contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR part 10. Disputes within the meaning of this contract clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the workers or their representatives.

l. Notice. The contractor must notify all workers performing work on or in connection with a covered contract of the applicable minimum wage rate under the Executive Order. With respect to service employees on contracts covered by the Service Contract Act and laborers and mechanics on contracts covered by the Davis-Bacon Act, the contractor may meet this requirement by posting, in a prominent and accessible place at the worksite, the applicable wage determination under those statutes. With respect to workers performing work on or in connection with a covered contract whose wages are governed by the FLSA, the contractor must post a notice provided by the Department of Labor in a prominent and accessible place at the worksite so it may be readily seen by workers. Contractors that customarily post notices to workers electronically may post the notice electronically provided such electronic posting is displayed prominently on any Web site that is maintained by the contractor, whether external or internal, and customarily used for notices to workers about terms and conditions of employment

m. If a duly authorized representative of the United States discovers or determines, whether before or subsequent to executing this contract, that an erroneous determination regarding the applicability of Executive Order 13658 was made, contractor, to the extent permitted by law, agrees to indemnify and hold harmless the United States, its officers, agents, and employees, for and from any and all liabilities, losses, claims, expenses, suits, fines,

penalties, judgments, demands or actions, costs, fees, and damages directly or indirectly arising out of, caused by, related to, resulting from or in any way predicated upon, in whole or in part, the erroneous Executive Order 13658 determination. This includes contractor releasing any claim or entitlement it would otherwise have to an equitable adjustment to the contract and indemnifying and holding harmless the United States from the claims of subcontractors and contractor employees.

3) That **Condition 16. Executive Order 13706** is hereby added and is as follows:

16. EXECUTIVE ORDER 13706

It has been determined this contract is subject to Executive Order13706 or the regulations issued by the Secretary of Labor in 29 CFR part 13 pursuant to the Executive Order.

Any reference in this section to "prime contractor" or "contractor" shall mean the grantee and any reference to "contract" shall refer to the easement.

(a) Executive Order 13706. This contract is subject to Executive Order 13706, the regulations issued by the Secretary of Labor in 29 CFR part 13 pursuant to the Executive Order, and the following provisions.

(b) Paid Sick Leave. (1) The contractor shall permit each employee (as defined in 29 CFR 13.2) engaged in the performance of this contract by the prime contractor or any subcontractor, regardless of any contractual relationship that may be alleged to exist between the contractor and employee, to earn not less than 1 hour of paid sick leave for every 30 hours worked. The contractor shall additionally allow accrual and use of paid sick leave as required by Executive Order 13706 and 29 CFR part 13. The contractor shall in particular comply with the accrual, use, and other requirements set forth in 29 CFR 13.5 and 13.6, which are incorporated by reference in this contract.

(2) The contractor shall provide paid sick leave to all employees when due free and clear and without subsequent deduction (except as otherwise provided by 29 CFR 13.24), rebate, or kickback on any account. The contractor shall provide pay and benefits for paid sick leave used no later than one pay period following the end of the regular pay period in which the paid sick leave was taken.

(3) The prime contractor and any upper-tier subcontractor shall be responsible for the compliance by any subcontractor or lower-tier subcontractor with the requirements of Executive Order 13706, 29 CFR part 13, and this clause.

(c) Withholding. The contracting officer 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 prime contractor under this or any other Federal contract with the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay employees the full amount owed to compensate for any violation of the requirements of Executive Order 13706, 29 CFR part 13, or this clause, including any pay and/or benefits denied or lost by reason of the violation; other actual monetary losses sustained as a direct result of the violation, and liquidated damages.

(d) Contract Suspension/Contract Termination/Contractor Debarment. In the event of a failure to comply with Executive Order 13706, 29 CFR part 13, or this clause, the contracting agency may on its own action or after authorization or by direction of the

Department of Labor and written notification to the contractor, take action to cause suspension of any further payment, advance, or guarantee of funds until such violations have ceased. Additionally, any failure to comply with the requirements of this clause may be grounds for termination of the right to proceed with the contract work. In such event, the Government may enter into other contracts or arrangements for completion of the work, charging the contractor in default with any additional cost. A breach of the contract clause may be grounds for debarment as a contractor and subcontractor as provided in 29 CFR 13.52.

(e) The paid sick leave required by Executive Order 13706, 29 CFR part 13, and this clause is in addition to a contractor's obligations under the Service Contract Act and Davis-Bacon Act, and a contractor may not receive credit toward its prevailing wage or fringe benefit obligations under those Acts for any paid sick leave provided in satisfaction of the requirements of Executive Order 13706 and 29 CFR part 13.

(f) Nothing in Executive Order 13706 or 29 CFR part 13 shall excuse noncompliance with or supersede any applicable Federal or State law, any applicable law or municipal ordinance, or a collective bargaining agreement requiring greater paid sick leave or leave rights than those established under Executive Order 13706 and 29 CFR part 13.

(g) Record keeping. (1) Any contractor performing work subject to Executive Order 13706 and 29 CFR part 13 must make and maintain, for no less than three (3) years from the completion of the work on the contract, records containing the information specified in paragraphs (i) through (xv) of this section for each employee and shall make them available for inspection, copying, and transcription by authorized representatives of the Wage and Hour Division of the U.S. Department of Labor:

(i) Name, address, and Social Security number of each employee;

(ii) The employee's occupation(s) or classification(s);

(iii) The rate or rates of wages paid (including all pay and benefits provided);

(iv) The number of daily and weekly hours worked;

(v) Any deductions made;

(vi) The total wages paid (including all pay and benefits provided) each pay period;

(vii) A copy of notifications to employees of the amount of paid sick leave the employee has accrued, as required under 29 CFR 13.5(a)(2);

(viii) A copy of employees' requests to use paid sick leave, if in writing, or, if not in writing, any other records reflecting such employee requests;

(ix) Dates and amounts of paid sick leave taken by employees (unless a contractor's paid time off policy satisfies the requirements of Executive Order 13706 and 29 CFR part 13 as described in § 13.5(f)(5), leave must be designated in records as paid sick leave pursuant to Executive Order 13706);

(x) A copy of any written responses to employees' requests to use paid sick leave, including explanations for any denials of such requests, as required under 29 CFR 13.5(d)(3);

(xi) Any records reflecting the certification and documentation a contractor may require an employee to provide under 29 CFR 13.5(e), including copies of any certification or documentation provided by an employee;

(xii) Any other records showing any tracking of or calculations related to an employee's accrual or use of paid sick leave;

(xiii) The relevant covered contract;

(xiv) The regular pay and benefits provided to an employee for each use of paid sick leave; and

(xv) Any financial payment made for unused paid sick leave upon a separation from employment intended, pursuant to 29 CFR 13.5(b)(5), to relieve a contractor from the obligation to reinstate such paid sick leave as otherwise required by 29 CFR 13.5(b)(4).

(2)(i) If a contractor wishes to distinguish between an employee's covered and noncovered work, the contractor must keep records or other proof reflecting such distinctions. Only if the contractor adequately segregates the employee's time will time spent on non-covered work be excluded from hours worked counted toward the accrual of paid sick leave. Similarly, only if that contractor adequately segregates the employee's time may a contractor properly refuse an employee's request to use paid sick leave on the ground that the employee was scheduled to perform non-covered work during the time she asked to use paid sick leave.

(ii) If a contractor estimates covered hours worked by an employee who performs work in connection with covered contracts pursuant to 29 CFR 13.5(a)(i) or (iii), the contractor must keep records or other proof of the verifiable information on which such estimates are reasonably based. Only if the contractor relies on an estimate that is reasonable and based on verifiable information will an employee's time spent in connection with non-covered work be excluded from hours worked counted toward the accrual of paid sick leave. If a contractor estimates the amount of time an employee spends performing in connection with covered contracts, the contractor must permit the employee to use her paid sick leave during any work time for the contractor.

(3) In the event a contractor is not obligated by the Service Contract Act, the DavisBacon Act, or the Fair Labor Standards Act to keep records of an employee's hours worked, such as because the employee is exempt from the FLSA's minimum wage and overtime requirements, and the contractor chooses to use the assumption permitted by 29 CFR 13.5(a)(1)(iii), the contractor is excused from the requirement in paragraph (1)(d) of this section to keep records of the employee's number of daily and weekly hours worked.

(4)(i) Records relating to medical histories or domestic violence, sexual assault, or stalking, created for purposes of Executive Order 13706, whether of an employee or an employee's child, parent, spouse, domestic partner, or other individual related by blood or affinity whose close association with the employee is the equivalent of a family relationship, shall be maintained as confidential records in separate files/records from the usual personnel files.

(ii) If the confidentiality requirements of the Genetic Information Nondiscrimination Act of 2008 (GINA), section 503 of the Rehabilitation Act of 1973, and/or the Americans withDisabilities Act (ADA) apply to records or documents created to comply with the recordkeeping requirements in this contract clause, the records and documents must also be maintained in compliance with the confidentiality requirements of the GINA, section 503 of the Rehabilitation Act of 1973, and/or ADA as described in 29 CFR 1635.9, 41CFR60-741.23(d), and 29 CFR 1630.14(c)(1), respectively.

(iii) The contractor shall not disclose any documentation used to verify the need to use 3 or more consecutive days of paid sick leave for the purposes listed in 29 CFR 13.5(c)(1)(iv) (as described in 29 CFR 13.5(e)(1)(ii)) and shall maintain confidentiality about any domestic abuse, sexual assault, or stalking, unless the employee consents or when disclosure is required by law.

(5) The contractor shall permit authorized representatives of the Wage and Hour Division to conduct interviews with employees at the worksite during normal working hours.

(6) Nothing in this contract clause limits or otherwise modifies the contractor's record keeping obligations, if any, under the Davis-Bacon Act, the Service Contract Act, the Fair Labor Standards Act, the Family and Medical Leave Act, Executive Order 13658, their respective implementing regulations, or any other applicable law.

(h) The contractor (as defined in 29 CFR 13.2) shall insert this clause in all of its covered subcontracts and shall require its subcontractors to include this clause in any covered lower-tier subcontracts.

(i) Certification of Eligibility. (1) By entering into this contract, the contractor (and officials thereof) 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 the sanctions imposed pursuant to section 5 of the Service Contract Act, section 3(a) of the Davis-Bacon Act, or 29 CFR 5.12(a)(1).

(2) No part of this contract shall be subcontracted to any person or firm whose name appears on the list of persons or firms ineligible to receive Federal contracts currently maintained on the System for Award Management Web site, http://www.SAM.gov.

(3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(j) Interference/Discrimination. (1) A contractor may not in any manner interfere with an employee's accrual or use of paid sick leave as required by Executive Order 13706 or29 CFR part 13. Interference includes, but is not limited to, miscalculating the amount of paid sick leave an employee has accrued, denying or unreasonably delaying a response to a proper request to use paid sick leave, discouraging an employee from using paid sick leave, reducing an employee's accrued paid sick leave by more than the amount of such leave used, transferring an employee to work on non-covered contracts to prevent the accrual or use of paid sick leave, disclosing confidential information contained in certification or other documentation provided to verify the need to use paid sick leave, or making the use of paid sick leave contingent on the employee's finding a replacement worker or the fulfillment of the contractor's operational needs.

(2) A contractor may not discharge or in any other manner discriminate against any employee for:

(i) Using, or attempting to use, paid sick leave as provided for under Executive Order 13706 and 29 CFR part 13;

(ii) Filing any complaint, initiating any proceeding, or otherwise asserting any right or claim under Executive Order 13706 and 29 CFR part 13;

(iii) Cooperating in any investigation or testifying in any proceeding under Executive Order 13706 and 29 CFR part 13; or

(iv) Informing any other person about his or her rights under Executive Order 13706 and 29 CFR part 13.

(k) Waiver. Employees cannot waive, nor may contractors induce employees to waive, their rights under Executive Order 13706, 29 CFR part 13, or this clause.

(l) Notice. The contractor must notify all employees performing work on or in connection with a covered contract of the paid sick leave requirements of Executive Order 13706, 29 CFR part 13, and this clause by posting a notice provided by the Department of Labor in a prominent and accessible place at the worksite so it may be readily seen by employees. Contractors that customarily post notices to employees electronically may post the notice electronically, provided such electronic posting is displayed prominently on any Web site that is maintained by the contractor, whether external or internal, and customarily used for notices to employees about terms and conditions of employment.

(m) Disputes concerning labor standards. Disputes related to the application of Executive Order 13706 to this contract shall not be subject to the general disputes

clause of the contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR part 13. Disputes within the meaning of this contract 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.

All other terms and conditions of the lease shall be and remain the same.

THIS SUPPLEMENTAL AGREEMENT is not subject to Title 10, United States Code, Section 2662, as amended.

IN WITNESS WHEREOF, I have hereunto set my hand by authority of the Secretary of the Army, this 22 day of October, 2019.

Michael T. Abernathy
District Chief of Real Estate
Real Estate Contracting Office

THIS SUPPLEMENTAL AGREEMENT is also executed by the grantee this 12th day of August, 2019.

Greg Thomas
Secretary, Kentucky Transportation Cabinet
Commonwealth of Kentucky

ACKNOWLEDGMENT

STATE OF Kentucky)
: **ss**
COUNTY OF Franklin)

On this 12 day of August, 2019, before me the undersigned Notary Public, personally appeared Greg Thomas, known to me to be the person described in the foregoing instrument, who acknowledged that he executed the same in the capacity therein stated and for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

Mary Ann Coleman Kelley
Notary Public

My Commission Expires:
Oct. 11 2020

ACKNOWLEDGMENT

STATE OF TENNESSEE)

: ss

COUNTY OF DAVIDSON)

On this 22 day of October, 2019, before me the undersigned Notary Public, personally appeared, Michael T. Abernathy, District Chief of Real Estate, Real Estate Contracting Officer, U.S. Army Corps of Engineers, Nashville District, known to me to be the person described in the foregoing instrument, who acknowledged that he executed the same in the capacity therein stated and for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

Notary Public

COURTNEY EASON
STATE OF TENNESSEE NOTARY PUBLIC
DAVIDSON COUNTY
MY COMMISSION EXPIRES 11-3-2020

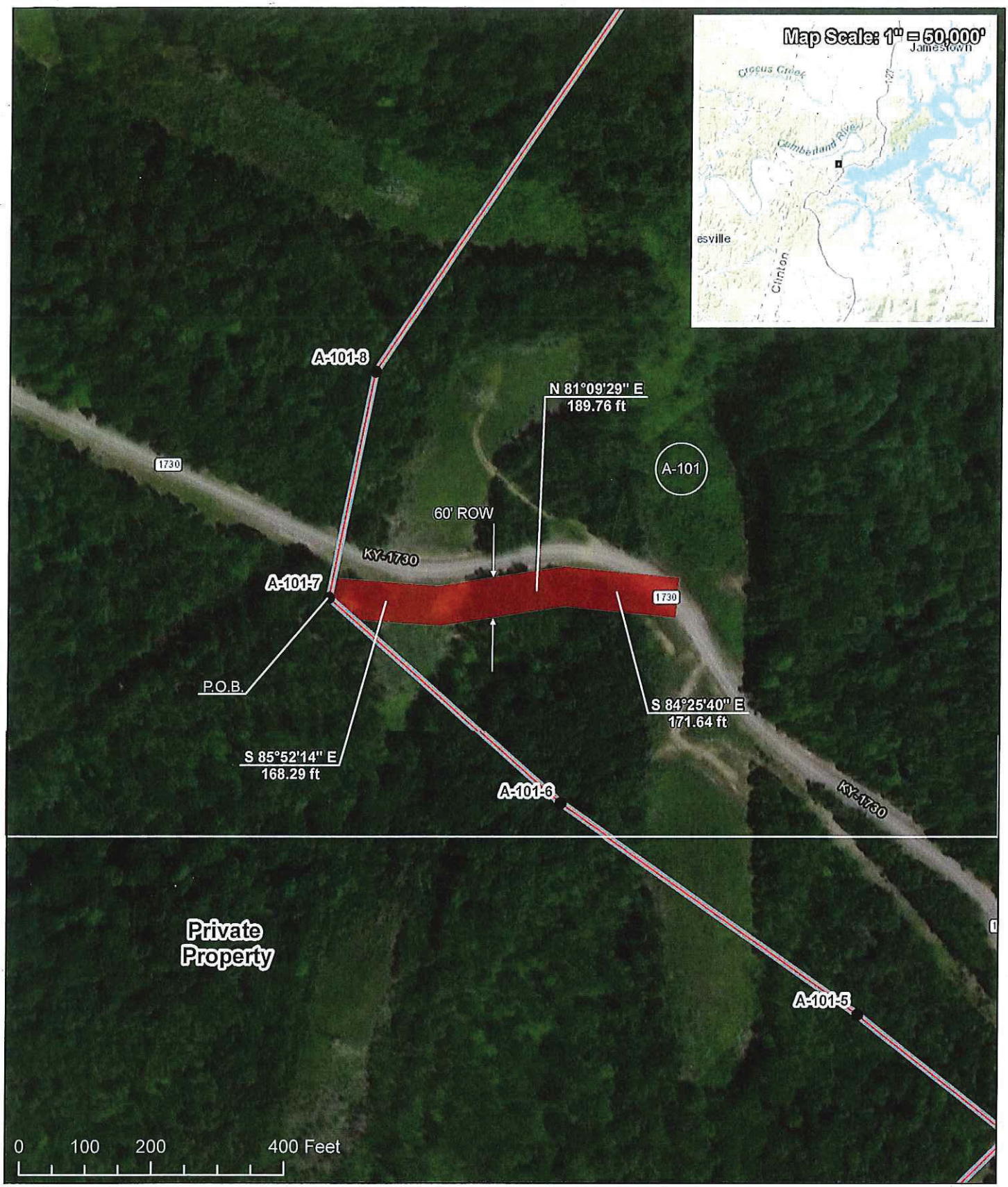
My Commission Expires:
3 Nov 2020

THIS INSTRUMENT PREPARED BY:

Courtney Eason, Realty Specialist
U.S. Army Corps of Engineers
110 9th Avenue South, Room A-405
Nashville, Tennessee 37203

REVIEWED FOR LEGAL SUFFICIENCY BY:

Kirsten S. Rønholt, Attorney
615-736-7637



Legend

- Tracts
- Monuments
- Easement = +/- 0.71 ac
- Government Boundary Line

N

US ARMY ENGINEER DISTRICT
NASHVILLE DISTRICT CORPS OF ENGINEERS
REAL ESTATE DIVISION

SCALE	COUNTY
1" = 200'	Russell County, Kentucky
DATE	MAPPER
June 2019	Matthew Brunt

Wolf Creek Dam and Lake Cumberland
Easement DA-40-058-CIVENG-59-177
Tract A-101 = +/- 0.71 ac
to
Commonwealth of Kentucky
Transportation Cabinet
for
Relocation of Highway 1730/Manntown Road
Exhibit "B-1"

Kentucky Transportation Cabinet

Highway District 8

And

_____(2), Construction

Kentucky Pollutant Discharge Elimination System
Permit KYR10
Best Management Practices (BMP) plan

Groundwater protection plan

For Highway Construction Activities

For

US 127 Relocation – Section 2
Contract ID 22-1310

Six Year Plan 08-6601.26 & 8-8601.21

Revised
1-28-08

KYTC BMP Plan for Contract ID ######

Project Information

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

1. Owner – Kentucky Transportation Cabinet, District 8
2. Resident Engineer: Tracy Taylor
3. Contractor Name: (2)
   Address: (2)
   Phone number: (2)
   Contact: (2)
   Responsible Person: (3)
4. Contract ID Number: CID 22-1310
5. Route (Address): US 127 Russell County
6. Latitude/Longitude (project mid-point) 36°53’10”N, 85°08’57”W
7. County (project mid-point): Russell
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

1.0 SITE DESCRIPTION.

1) Nature of construction activity (from letting project description). Reconstruction of US 127 Section 1
2) Order of major soil disturbing activities. (2) and (3)
3) Projected volume of material to be moved. 5.03 million CY
4) Estimate of total project area (acres). 299AC
5) Estimate of area to be disturbed (acres). 299 AC
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. Cumberland River
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 and operating construction equipment, concrete washout water, sanitary wastes and trash/debris. (3)

2.0 SEDIMENT AND EROSION CONTROL MEASURES.

2.1 Erosion Control Sheets. 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.

2.2 Annotations. 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 BMPs 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 BMPs in place before being disturbed.

2.3 Disturbed Drainage Areas. As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:

A) 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.

B) Sources. At the beginning of the project, all DDAs for the project will be inspected for areas that are a source of storm water pollutants. Areas that are a source of pollutants will receive appropriate cover or BMPs to arrest the introduction of pollutants into storm water. Areas that have not been opened by the contractor will be inspected periodically (once per month) to determine if there is a need to employ BMPs to keep pollutants from entering storm water.

C) Clearing and Grubbing. The following BMPs will be considered and used where appropriate.

1) Leaving areas undisturbed when possible.
2) Silt Basins to provide silt volume for large areas.
3) Silt Traps Type A for small areas.
4) Silt Traps Type C in front of existing and drop inlets which are to be saved.
5) Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
6) Brush and/or other barriers to slow and/or divert runoff.
7) Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
8) Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
9) Non-standard or innovative methods.

D) Cut and Fill and Placement of Drainage Structures. The BMP Plan will be modified to show additional BMPs such as:

1) Silt Traps Type B in ditches and/or drainways as they are completed.
2) Silt Traps Type C in front of pipes after they are placed.
3) Channel Lining
4) Erosion Control Blanket
5) Temporary Mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
6) Non-standard or innovative methods.

E) Profile and X-Section in Place. The BMP Plan will be modified to show elimination of BMPs which had to be removed and the addition of new BMPs as the roadway was shaped. Probably changes include:

1) 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.
2) Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
3) Additional Channel Lining and/or Erosion Control Blanket.
4) Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
5) Special BMPs such as Karst Policy.

F) Finish Work (Paving, Seeding, Protect, etc.). A final BMP Plan will result from modifications during this phase of construction. Probable changes include:

1) Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMPs which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
2) Permanent Seeding and Protection.
3) Placing Sod.
4) Planting trees and/or shrubs where they are included in the project.

G) Post Construction. BMPs including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMPs to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are: (1)

3.0 OTHER CONTROL MEASURES.

1) Solid Materials. 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 Resident Engineer if there are 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. 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.

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

1) An effort will be made to store only enough product required to do the job.
2) 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.
3) Products will be kept in their original containers with the original manufacturer's label.
4) Substances will not be mixed with one another unless recommended by the manufacturer.
5) Whenever possible, all of the product will be used up before disposing of the container.
6) Manufacturers' recommendations for proper use and disposal will be followed
7) The site contractor will inspect daily to ensure proper use and disposal of materials onsite.

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

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

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

A) 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 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.

B) 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.

C) 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.

D) 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

E) 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**:**

1) 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.
2) 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.
3) All spills will be cleaned up immediately after discovery.
4) The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contract with a hazardous substance.
5) Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.
6) The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
7) Spills of products will be cleaned up promptly. Wastes from spill clean up will be disposed in accordance with appropriate regulations.

4.0 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 Contract ID ######

5.0 MAINTENANCE. The BMP plan shall include a clear description of the maintenance procedures necessary to keep the control measures in good and effective operating condition.

Maintenance of BMPs during construction shall be a result of weekly and post rain event inspections with action being taken by the contractor to correct deficiencies.

Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for the purpose of post construction storm water management with specific guidance for any non-routine maintenance. (1)

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

1) All erosion prevention and sediment control measures will be inspected by the contractor at least once each week and following any rain of one-half inch or more.
2) Inspections will be conducted by individuals that have received KYTC Grade Level II training or other qualification as prescribed by the cabinet that includes instruction concerning sediment and erosion control.
3) Inspection reports will be written, signed, dated, and kept on file.
4) Areas at final grade will be seeded and mulched within 14 days.
5) 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.
6) All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported and completed within 5 days.
7) Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
8) Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.
9) Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 70 percent of the design capacity and at the end of the job.
10) 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.
11) 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.
12) 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.

7.0 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:

1) Water from water line flushings.
2) Water form cleaning concrete trucks and equipment.

3) Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
4) 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.

8.0 GROUNDWATER PROTECTION PLAN.

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

Contractor's statement: (3)

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

_____ (e) Land treatment or land disposal of a pollutant;

_____ (f) Storing, treating, disposing, or related handling of hazardous waste, solid waste or special waste, or special waste in landfills, incinerators, surface impoundments, 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);

_____ (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;

_____ (j) Storing or related handling of road oils, dust suppressants, or deicing agents at a central location;

_____ (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);

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

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

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

The contractor is responsible for the preparation of a plan that addresses the 401 KAR 5:037 Section 3. (3) Elements of site specific groundwater protection plan:

(a) General information about this project is covered in the Project information;

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

KYTC BMP Plan for Contract ID ######

Contractor and Resident Engineer Plan Certification

The contractor that is responsible for implementing this BMP plan is identified in the Project Information section of this plan.

The following certification applies to all parties that are signatory to this BMP plan:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Further, this plan complies with the requirements of 401 KAR 5:037. By this certification, the undersigned state that the individuals signing the plan have reviewed the terms of the plan and will implement its provisions as they pertain to ground water protection.

Contractor and Resident Engineer Certification:

(3)
Signed _____ title _____ , _____
typed or printed name[1] *signature*

(2)
Signed _____ title _____ , _____
typed or printed name[2] *signature*

1. *Contractors 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 Contract ID number and KPDES number when one has been issued.*

2. *KYTC Note: to be signed by the Chief District Engineer or a person designated to have the authority to sign reports by such a person (usually the resident engineer) 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 Contract ID number and KPDES number when one has been issued.*

KYTC BMP Plan for Contract ID ######

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:

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[1] *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 Contract ID number and KPDES number when one has been issued.*

ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

March 10, 2022

James Jones
KYTC District 8
PO Box 780
Somerset, KY 42502

Re: KYR10 Coverage Acknowledgment
KPDES No.: KYR10Q189
US127 Section 2 (8-8601.21 & .26)
Permit Type: Construction
AI ID: 125149
Russell County, Kentucky

Dear James Jones :

The discharges associated with the Notice of Intent you submitted have been approved for coverage under the "Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Storm Water Discharges Associated with Construction Activities (KYR100000)" master general permit. Your coverage becomes effective on the date of this letter, and will automatically terminate two years from the effective date of your coverage unless an extension is requested prior to the termination date, until the KYR100000 master general permit expires on November 30, 2024, or the Division of Water revokes coverage, whichever comes first. During this period of coverage all discharges shall comply with the conditions of the KYR100000 master general permit. This permit and links to the eNOI (and permit coverage extension) and eNOT forms can be found on our website:
https://eec.ky.gov/Environmental-Protection/Water/PermitCert/KPDES/Documents/KYR10PermitPage.pdf.

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

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

Construction Site GPS Coordinates: 36.922777, -85.105555
Receiving Water: Cumberland River

Sincerely,

Karina Villanueva
Surface Water Permits Branch
Division of Water

cc: Jami West, eNOI Preparer
Brian Crump, Columbia Regional Office
Shawn Hokanson, Division of Water

Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

June 28, 2017

Mr. Steven McClendon
Kentucky Transportation Cabinet Department of Highways, District 8
P.O. Box 780
Somerset, Kentucky 42502

Dear Mr. McClendon:

RUR 00453-2017-DEVELOPMENT - WOLF CREEK HP (USCE) - SUMMER SHADE NO 1 & 2 161 KV TVA TRANSMISSION LINES (L5700 & L5701) - IMPACT REVIEW OF PROPOSED ROAD RELOCATION BETWEEN STRUCTURES 3 & 5 - KENTUCKY TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS - RUSSELL COUNTY, KENTUCKY

This letter is in response to your request to construct a project under/across or adjacent to transmission line easements owned by the United States of America and entrusted to the Tennessee Valley Authority (TVA).

We have completed our review of the application for a proposed road relocation within TVA's right-of-way for the Wolf Creek HP-Summer Shade No. 1 & No. 2 161-kV TL (L5700 & L5701) between structures 3 and 5. It is understood that no additional obstructions will be installed within TVA's right-of-way other than what was included in the submitted plans. If this is not correct or changes, please let us know. Since the documents provided did not show any lighting, it is assumed that no lighting will be inside the right-of-way.

TVA has no objection to your proposed plans for the project adjacent to or crossing TVA easements at this time, so long as it is constructed in conformance with the drawings and specifications (Plans) you, your company or successors, agents or contractors have provided, which are attached as Attachment A - Project Plans to this letter and at no time interferes or potentially interferes with TVA's property rights or operations, and that you comply with the General Conditions listed in Attachment B. If at any time the project interferes or potentially interferes with TVA's property rights or operations, you will make any necessary changes or alterations at your own cost such that the construction/project no longer interfere with TVA's rights. Any plans for future modifications of the work shall be submitted well in advance of work activities being performed.

Of course, this letter does not in any way diminish or reduce the easement rights acquired by TVA, such as, the right to patrol, clear, construct, maintain, erect, repair, build, rebuild and operate transmission lines and poles for any permitted purpose or to remove vegetation, buildings, fire hazards or danger trees from within or near the right-of-way, nor does it affect TVA's rights of ingress and egress. Your Plans should allow TVA to exercise these rights

without having to take any special precautions when operating heavy equipment near or over the right-of- way, or otherwise exercising the above easement rights.

Extra caution should be taken to ensure the safety of anyone operating equipment in the vicinity of high voltage transmission lines and excavations shall not take place within twenty five (25) feet of any TVA transmission line structure, guy or counterpoise. Because the transmission line is normally energized, any metal poles or fences shall also be properly grounded.

If blasting is to be done on the right-of-way, the transmission line and structure shall be protected against damage. In addition, before blasting or operating cranes on the right-of-way, TVA must be given at least 10 days advance notice. Contact this office at 423-413-8493 between the hours of 7:00 a.m.–2:30 p.m. CST Monday-Friday. This will allow us to schedule a TVA representative to be present and to take appropriate precautions, if necessary.

Additionally, TVA's easements shall not be used as temporary storage or an area for the loading/unloading of materials. The easements shall not be the location of stock or spoil piles. TVA will seek reimbursement for repairs to any damages to its facilities that result from construction or other activities.

This letter does not render an opinion as to the ownership of the underlying property or relieve anyone associated with the project from the obligation to obtain other applicable permissions or regulatory approvals. You should immediately notify us if your plans should change from those detailed in the attached drawing. Even minor deviations may only be approved if TVA is notified and given a project drawing showing the actual location of all changes occurring upon the right-of-way. Any project elevations proposed by you must be met. Any elevation changes from the existing grades that cause the TVA transmission line not to be in compliance with any applicable standards, or otherwise interfere or potentially interfere with TVA's rights, as determined by TVA in its sole discretion, will be the responsibility of the you to meet and/or remedy any clearance issues. Except in the event of an emergency or other TVA deadline, you will have 90 days to bring any areas of concern or in violation into compliance.

Finally, TVA's approval does not certify that your Plans are correct or safe, nor will TVA be responsible for any damage to your project caused by TVA's exercise of its easement rights or facilities. If the project has not begun one year from the date of issue of this letter all Plans need to be resubmitted. TVA assumes no liability and undertakes no obligation or duty (in tort, contract, strict liability, or otherwise) to you or to any third party for any damages to property (real or personal) or personal injuries (including death) arising out of or in any way connected with your project.

Sincerely,

Stephen Williams
Program Manager
ROW Support Services

Attachment A, Plans
Attachment B, General Conditions

TENNESSEE VALLEY AUTHORITY

TRANSMISSION POWER SUPPLY
GENERAL CONDITIONS FOR A CROSSING AND LAND USE ON A TVA TRANSMISSION LINE EASEMENT/RIGHT-OF-WAY

TVA offers no objection to the crossing or other type of requested land use so long as there is no interference or potential inference with TVA's operations or property rights, as determined by TVA in its sole discretion. Further TVA's no objection is contigent upon adherence to the plans submitted to and reviewed by TVA. Moreover, TVA's no objection to use property encumbered by a transmission line right-of-way does not in any way diminish or reduce the easement rights acquired by TVA, such as the right to patrol, clear, construct, maintain, erect, repair, rebuild and operate lines and poles for any permitted purpose or to remove vegetation fire hazards or danger trees, nor does it affect TVA's rights of ingress and egress. TVA's no objection does not render an opinion as to the ownership of the underlying fee or relieve anyone from the obligation to obtain appropriate land-owner, environmental, land-use, regulatory or other approvals.

Construction forces must not operate cranes or other equipment in a manner that would endanger TVA's line or any person near the property. Construction forces must also follow all applicable laws including state laws and Occupational Safety and Health Adminitration (OSHA) requirements, including those related to construction activities near energized electric facilities. If blasting is performed on the right-of-way, TVA's lines shall be protected against blast damage. TVA shall be given at least 10 days notice before any blasting or crane operation on or near the right-of-way. Damage to TVA's facilities must be fully reimbursed.

Any underground lines or pipes must be buried deep enough that they will withstand repeated crossing by heavy equipment and TVA will not be responsible for any damage to any buried pipes or lines even when caused by TVA's heavy equipment operators or contractors. All buried lines or pipes must be easily identified by permanent markers at regular intervals along the right-of-way. Systems, cathodic or otherwise, that could interfere with or damage TVA's transmission line towers or foundations may not be installed. The integrity of all transmission towers and system must be maintained and any excavation must not come closer than 25 feet from the nearest tower leg, pole or guy wire. All graded surfaces on each right-of-way must be left in a condition to prevent future erosion and TVA ground clearance requirements to transmission line conductors must not be violated.

MATERIAL SUMMARY

CONTRACT ID: 221321 **NHPP 1271 (122)** **DE02701272210**

US127 CONSTRUCT NEW ROAD BEGINNING 1.14 MILES NORTH OF INTERSECTION OF KY3063 AND US127 EXTENDING NORTH 1.437 MILES TO THE RUSSELL COUNTY LINE GRADE & DRAIN AND PAVEMENT ALTERNATES, A DISTANCE OF 1.44 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	00003	CRUSHED STONE BASE	17,935.00	TON
0010	00100	ASPHALT SEAL AGGREGATE	142.00	TON
0015	00103	ASPHALT SEAL COAT	17.00	TON
0020	00190	LEVELING & WEDGING PG64-22	18.00	TON
0025	00212	CL2 ASPH BASE 1.00D PG64-22	12,745.00	TON
0030	00301	CL2 ASPH SURF 0.38D PG64-22	3,404.00	TON
0035	00356	ASPHALT MATERIAL FOR TACK	30.00	TON
0040	10203ND	PAVEMENT ADJUSTMENT	1.00	LS
0045	20071EC	JOINT ADHESIVE	13,055.00	LF
0050	24781EC	INTELLIGENT COMPACTION FOR ASPHALT	11,562.00	TON
0055	24891EC	PAVE MOUNT INFRARED TEMP EQUIPMENT	730,530.00	SF
0060	00003	CRUSHED STONE BASE	17,466.00	TON
0065	00100	ASPHALT SEAL AGGREGATE	142.00	TON
0070	00103	ASPHALT SEAL COAT	17.00	TON
0075	00190	LEVELING & WEDGING PG64-22	18.00	TON
0080	00212	CL2 ASPH BASE 1.00D PG64-22	3,617.00	TON
0085	00301	CL2 ASPH SURF 0.38D PG64-22	969.00	TON
0090	00356	ASPHALT MATERIAL FOR TACK	9.00	TON
0095	02078	JPC PAVEMENT-6 IN SHLD	7,966.00	SQYD
0100	02084	JPC PAVEMENT-8 IN	21,550.00	SQYD
0105	10203ND	PAVEMENT ADJUSTMENT	1.00	LS
0110	20071EC	JOINT ADHESIVE	2,559.00	LF
0115	00003	CRUSHED STONE BASE	17,724.00	TON
0120	00100	ASPHALT SEAL AGGREGATE	142.00	TON
0125	00103	ASPHALT SEAL COAT	17.00	TON
0130	00190	LEVELING & WEDGING PG64-22	18.00	TON
0135	00212	CL2 ASPH BASE 1.00D PG64-22	5,096.00	TON
0140	00301	CL2 ASPH SURF 0.38D PG64-22	1,626.00	TON
0145	00356	ASPHALT MATERIAL FOR TACK	12.00	TON
0150	02084	JPC PAVEMENT-8 IN	21,550.00	SQYD
0155	10203ND	PAVEMENT ADJUSTMENT	1.00	LS
0160	20071EC	JOINT ADHESIVE	2,559.00	LF
0165	24781EC	INTELLIGENT COMPACTION FOR ASPHALT	2,136.00	TON
0170	24891EC	PAVE MOUNT INFRARED TEMP EQUIPMENT	152,352.00	SF
0175	00078	CRUSHED AGGREGATE SIZE NO 2	20.00	TON
0180	01000	PERFORATED PIPE-4 IN	1,013.00	LF
0185	01010	NON-PERFORATED PIPE-4 IN	404.00	LF
0190	01020	PERF PIPE HEADWALL TY 1-4 IN	14.00	EACH
0195	01024	PERF PIPE HEADWALL TY 2-4 IN	1.00	EACH
0200	01028	PERF PIPE HEADWALL TY 3-4 IN	4.00	EACH
0205	01032	PERF PIPE HEADWALL TY 4-4 IN	1.00	EACH
0210	01691	FLUME INLET TYPE 2	2.00	EACH
0215	01984	DELINEATOR FOR BARRIER - WHITE	8.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0220	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	84.00	EACH
0225	02014	BARRICADE-TYPE III	8.00	EACH
0230	02159	TEMP DITCH	5,094.00	LF
0235	02160	CLEAN TEMP DITCH	2,547.00	LF
0240	02200	ROADWAY EXCAVATION	1,475,055.00	CUYD
0245	02242	WATER	145.00	MGAL
0250	02262	FENCE-WOVEN WIRE TYPE 1	16,782.00	LF
0255	02360	GUARDRAIL TERMINAL SECTION NO 1	14.00	EACH
0260	02367	GUARDRAIL END TREATMENT TYPE 1	6.00	EACH
0265	02371	GUARDRAIL END TREATMENT TYPE 7	1.00	EACH
0270	02381	REMOVE GUARDRAIL	3,375.00	LF
0275	02391	GUARDRAIL END TREATMENT TYPE 4A	3.00	EACH
0280	02397	TEMP GUARDRAIL	387.50	LF
0285	02429	RIGHT-OF-WAY MONUMENT TYPE 1	55.00	EACH
0290	02432	WITNESS POST	10.00	EACH
0295	02488	CHANNEL LINING CLASS IV	8,365.00	CUYD
0300	02545	CLEARING AND GRUBBING - (CLINTON-89 ACRES)	1.00	LS
0305	02555	CONCRETE-CLASS B	538.20	CUYD
0310	02562	TEMPORARY SIGNS	355.00	SQFT
0315	02585	EDGE KEY	41.40	LF
0320	02604	FABRIC-GEOTEXTILE CLASS 1A	8,850.00	SQYD
0325	02607	FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	5,200.00	SQYD
0330	02650	MAINTAIN & CONTROL TRAFFIC - (CLINTON)	1.00	LS
0335	02651	DIVERSIONS (BY-PASS DETOURS) - (STA 34+50 - STA 39+50 OLD US 127)	1.00	LS
0340	02651	DIVERSIONS (BY-PASS DETOURS) - (STA 58+60 - STA 60+60 OLD US 127)	1.00	LS
0345	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0350	02696	SHOULDER RUMBLE STRIPS	10,170.00	LF
0355	02697	EDGELINE RUMBLE STRIPS	4,854.00	LF
0360	02701	TEMP SILT FENCE	5,094.00	LF
0365	02703	SILT TRAP TYPE A	89.00	EACH
0370	02704	SILT TRAP TYPE B	89.00	EACH
0375	02705	SILT TRAP TYPE C	89.00	EACH
0380	02706	CLEAN SILT TRAP TYPE A	89.00	EACH
0385	02707	CLEAN SILT TRAP TYPE B	89.00	EACH
0390	02708	CLEAN SILT TRAP TYPE C	89.00	EACH
0395	02711	SEDIMENTATION BASIN	2,590.00	CUYD
0400	02712	CLEAN SEDIMENTATION BASIN	2,590.00	CUYD
0405	02726	STAKING - (CLINTON)	1.00	LS
0410	03171	CONCRETE BARRIER WALL TYPE 9T	80.00	LF
0415	05950	EROSION CONTROL BLANKET	21,720.00	SQYD
0420	05952	TEMP MULCH	289,600.00	SQYD
0425	05953	TEMP SEEDING AND PROTECTION	217,200.00	SQYD
0430	05963	INITIAL FERTILIZER	8.80	TON
0435	05964	MAINTENANCE FERTILIZER	14.70	TON
0440	05985	SEEDING AND PROTECTION	262,200.00	SQYD
0445	05992	AGRICULTURAL LIMESTONE	176.00	TON
0450	06514	PAVE STRIPING-PERM PAINT-4 IN	750.00	LF
0455	06542	PAVE STRIPING-THERMO-6 IN W	16,138.00	LF
0460	06543	PAVE STRIPING-THERMO-6 IN Y	14,904.00	LF

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0465	06547	PAVE STRIPING-THERMO-12 IN Y	22.00	LF
0470	06556	PAVE STRIPING-DUR TY 1-6 IN W	3,838.00	LF
0475	06557	PAVE STRIPING-DUR TY 1-6 IN Y	3,782.00	LF
0480	06568	PAVE MARKING-THERMO STOP BAR-24IN	50.00	LF
0485	06569	PAVE MARKING-THERMO CROSS-HATCH	1,998.00	SQFT
0490	20191ED	OBJECT MARKER TY 3	9.00	EACH
0495	20430ED	SAW CUT	72.00	LF
0500	20458ES403	CENTERLINE RUMBLE STRIPS	5,085.00	LF
0505	21289ED	LONGITUDINAL EDGE KEY	579.00	LF
0510	21802EN	G/R STEEL W BEAM-S FACE (7 FT POST)	6,650.00	LF
0515	23607EC	PAVE MARK THERMO-LANE REDUCTION ARROW	3.00	EACH
0520	24540	R/W MONUMENT TYPE 3	19.00	EACH
0525	24814EC	PIPELINE INSPECTION	2,088.00	LF
0530	25078ED	THRIE BEAM GUARDRAIL TRANSITION TL-3	4.00	EACH
0535	00440	ENTRANCE PIPE-15 IN	40.00	LF
0540	00441	ENTRANCE PIPE-18 IN	63.00	LF
0545	00462	CULVERT PIPE-18 IN	115.00	LF
0550	00466	CULVERT PIPE-30 IN	256.00	LF
0555	00468	CULVERT PIPE-36 IN	389.00	LF
0560	00469	CULVERT PIPE-42 IN	180.00	LF
0565	00470	CULVERT PIPE-48 IN	242.00	LF
0570	00472	CULVERT PIPE-60 IN	610.00	LF
0575	00528	STORM SEWER PIPE-36 IN	244.00	LF
0580	01204	PIPE CULVERT HEADWALL-18 IN	1.00	EACH
0585	01210	PIPE CULVERT HEADWALL-30 IN	2.00	EACH
0590	01212	PIPE CULVERT HEADWALL-36 IN	5.00	EACH
0595	01214	PIPE CULVERT HEADWALL-42 IN	2.00	EACH
0600	01216	PIPE CULVERT HEADWALL-48 IN	2.00	EACH
0605	01220	PIPE CULVERT HEADWALL-60 IN	2.00	EACH
0610	01452	S & F BOX INLET-OUTLET-30 IN	1.00	EACH
0615	01453	S & F BOX INLET-OUTLET-36 IN	3.00	EACH
0620	01490	DROP BOX INLET TYPE 1	3.00	EACH
0625	01493	DROP BOX INLET TYPE 2	4.00	EACH
0630	01580	DROP BOX INLET TYPE 15	1.00	EACH
0635	01644	JUNCTION BOX-30 IN	1.00	EACH
0640	20597EC	DITCH EXCAVATION	280.00	CUYD
0645	24575ES610	HEADWALL - CONC S&P - 18 IN	1.00	EACH
0650	24583EC	HDPE PIPE LINER - -	269.00	LF
0655	02603	FABRIC-GEOTEXTILE CLASS 2	909.00	SQYD
0660	02604	FABRIC-GEOTEXTILE CLASS 1A	4,465.00	SQYD
0665	02998	MASONRY COATING	3,140.00	SQYD
0670	03299	ARMORED EDGE FOR CONCRETE	96.00	LF
0675	08001	STRUCTURE EXCAVATION-COMMON	1,982.00	CUYD
0680	08002	STRUCTURE EXCAV-SOLID ROCK	9,513.00	CUYD
0685	08020	CRUSHED AGGREGATE SLOPE PROT	1,292.00	TON
0690	08033	TEST PILES	138.00	LF
0695	08051	PILES-STEEL HP14X89	3,093.00	LF
0700	08095	PILE POINTS-14 IN	69.00	EACH
0705	08100	CONCRETE-CLASS A	4,160.00	CUYD
0710	08104	CONCRETE-CLASS AA	1,992.00	CUYD

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0715	08150	STEEL REINFORCEMENT	740,246.00	LB
0720	08151	STEEL REINFORCEMENT-EPOXY COATED	722,594.00	LB
0725	08160	STRUCTURAL STEEL - (27542)	1.00	LS
0730	08170	SHEAR CONNECTORS - (27542-15,375)	1.00	LS
0735	23859EC	FINGER EXPANSION JOINT	96.00	LF
0740	24596EN	GRANULAR BACKFILL	1,142.00	CUYD
0745	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	2,643.00	LF
0750	02603	FABRIC-GEOTEXTILE CLASS 2	909.00	SQYD
0755	02604	FABRIC-GEOTEXTILE CLASS 1A	4,465.00	SQYD
0760	02998	MASONRY COATING	3,140.00	SQYD
0765	03299	ARMORED EDGE FOR CONCRETE	96.00	LF
0770	08001	STRUCTURE EXCAVATION-COMMON	1,982.00	CUYD
0775	08002	STRUCTURE EXCAV-SOLID ROCK	9,513.00	CUYD
0780	08020	CRUSHED AGGREGATE SLOPE PROT	1,292.00	TON
0785	08033	TEST PILES	138.00	LF
0790	08051	PILES-STEEL HP14X89	3,093.00	LF
0795	08095	PILE POINTS-14 IN	69.00	EACH
0800	08100	CONCRETE-CLASS A	3,188.00	CUYD
0805	08104	CONCRETE-CLASS AA	2,780.00	CUYD
0810	08150	STEEL REINFORCEMENT	937,144.00	LB
0815	08151	STEEL REINFORCEMENT-EPOXY COATED	722,594.00	LB
0820	08160	STRUCTURAL STEEL - (27542)	1.00	LS
0825	08170	SHEAR CONNECTORS - (27542-15,375)	1.00	LS
0830	23859EC	FINGER EXPANSION JOINT	96.00	LF
0835	24596EN	GRANULAR BACKFILL	1,142.00	CUYD
0840	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	2,643.00	LF
0845	06406	SBM ALUM SHEET SIGNS .080 IN	278.00	SQFT
0850	06407	SBM ALUM SHEET SIGNS .125 IN	123.00	SQFT
0855	06410	STEEL POST TYPE 1	779.00	LF
0860	24631EC	BARCODE SIGN INVENTORY	75.00	EACH
0865	02568	MOBILIZATION	1.00	LS
0870	02569	DEMOBILIZATION	1.00	LS
0875	02742	TRAINEE PAYMENT REIMBURSEMENT - GROUP 2, 3, 4 OPERATOR	1,400.00	HOUR
0880	02742	TRAINEE PAYMENT REIMBURSEMENT - GROUP 2, 3, 4, OPERATOR	1,400.00	HOUR

CONTRACT ID: 221321 **NHPP 1271 (122)** **DE10401272210**

US127 CONSTRUCT NEW ROAD BEGINNING AT THE CLINTON COUNTY LINE EXTENDING N 3.859 MI TO THE NORTH BANK OF THE CUMBERLAND RI (SURFACE ONLY-BEGINNING AT THE NORTH BANK OF THE CUMBERLAND RI EXTENDING N 2.184 MI TO THE INTERSECTION OF KY55 AND US127 AT FREEDOM) GRADE

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0885	00003	CRUSHED STONE BASE	86,822.00	TON
0890	00100	ASPHALT SEAL AGGREGATE	626.00	TON
0895	00103	ASPHALT SEAL COAT	75.00	TON
0900	00190	LEVELING & WEDGING PG64-22	136.00	TON

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0905	00212	CL2 ASPH BASE 1.00D PG64-22	37,655.00	TON
0910	00214	CL3 ASPH BASE 1.00D PG64-22	15,740.00	TON
0915	00301	CL2 ASPH SURF 0.38D PG64-22	10,961.00	TON
0920	00339	CL3 ASPH SURF 0.38D PG64-22	4,051.00	TON
0925	00356	ASPHALT MATERIAL FOR TACK	128.00	TON
0930	10203ND	PAVEMENT ADJUSTMENT	1.00	LS
0935	20071EC	JOINT ADHESIVE	52,823.00	LF
0940	24781EC	INTELLIGENT COMPACTION FOR ASPHALT	60,772.00	TON
0945	24891EC	PAVE MOUNT INFRARED TEMP EQUIPMENT	3,862,242.00	SF
0950	00003	CRUSHED STONE BASE	82,818.00	TON
0955	00100	ASPHALT SEAL AGGREGATE	626.00	TON
0960	00103	ASPHALT SEAL COAT	75.00	TON
0965	00190	LEVELING & WEDGING PG64-22	136.00	TON
0970	00212	CL2 ASPH BASE 1.00D PG64-22	5,876.00	TON
0975	00301	CL2 ASPH SURF 0.38D PG64-22	1,759.00	TON
0980	00339	CL3 ASPH SURF 0.38D PG64-22	472.00	TON
0985	00356	ASPHALT MATERIAL FOR TACK	15.00	TON
0990	02078	JPC PAVEMENT-6 IN SHLD	44,702.00	SQYD
0995	02084	JPC PAVEMENT-8 IN	110,940.00	SQYD
1000	10203ND	PAVEMENT ADJUSTMENT	1.00	LS
1005	20071EC	JOINT ADHESIVE	6,597.00	LF
1010	00003	CRUSHED STONE BASE	85,570.00	TON
1015	00100	ASPHALT SEAL AGGREGATE	626.00	TON
1020	00103	ASPHALT SEAL COAT	75.00	TON
1025	00190	LEVELING & WEDGING PG64-22	136.00	TON
1030	00212	CL2 ASPH BASE 1.00D PG64-22	13,430.00	TON
1035	00301	CL2 ASPH SURF 0.38D PG64-22	5,437.00	TON
1040	00339	CL3 ASPH SURF 0.38D PG64-22	472.00	TON
1045	00356	ASPHALT MATERIAL FOR TACK	35.00	TON
1050	02084	JPC PAVEMENT-8 IN	110,338.00	SQYD
1055	10203ND	PAVEMENT ADJUSTMENT	1.00	LS
1060	20071EC	JOINT ADHESIVE	6,597.00	LF
1065	24781EC	INTELLIGENT COMPACTION FOR ASPHALT	11,704.00	TON
1070	24891EC	PAVE MOUNT INFRARED TEMP EQUIPMENT	858,510.00	SF
1075	00078	CRUSHED AGGREGATE SIZE NO 2	32.00	TON
1080	01000	PERFORATED PIPE-4 IN	1,363.00	LF
1085	01010	NON-PERFORATED PIPE-4 IN	783.00	LF
1090	01020	PERF PIPE HEADWALL TY 1-4 IN	11.00	EACH
1095	01024	PERF PIPE HEADWALL TY 2-4 IN	1.00	EACH
1100	01028	PERF PIPE HEADWALL TY 3-4 IN	17.00	EACH
1105	01032	PERF PIPE HEADWALL TY 4-4 IN	3.00	EACH
1110	01310	REMOVE PIPE	24.00	LF
1115	01691	FLUME INLET TYPE 2	7.00	EACH
1120	01984	DELINEATOR FOR BARRIER - WHITE	13.00	EACH
1125	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	245.00	EACH
1130	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	97.00	EACH
1135	02014	BARRICADE-TYPE III	28.00	EACH
1140	02091	REMOVE PAVEMENT	1,517.00	SQYD
1145	02159	TEMP DITCH	13,407.00	LF
1150	02160	CLEAN TEMP DITCH	6,704.00	LF

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1155	02200	ROADWAY EXCAVATION	3,558,451.00	CUYD
1160	02230	EMBANKMENT IN PLACE	7,981.00	CUYD
1165	02242	WATER	329.00	MGAL
1170	02262	FENCE-WOVEN WIRE TYPE 1	40,843.00	LF
1175	02360	GUARDRAIL TERMINAL SECTION NO 1	22.00	EACH
1180	02367	GUARDRAIL END TREATMENT TYPE 1	13.00	EACH
1185	02367	GUARDRAIL END TREATMENT TYPE 1	12.00	EACH
1190	02369	GUARDRAIL END TREATMENT TYPE 2A	9.00	EACH
1195	02381	REMOVE GUARDRAIL	400.00	LF
1200	02391	GUARDRAIL END TREATMENT TYPE 4A	14.00	EACH
1205	02397	TEMP GUARDRAIL	3,850.00	LF
1210	02429	RIGHT-OF-WAY MONUMENT TYPE 1	144.00	EACH
1215	02432	WITNESS POST	14.00	EACH
1220	02475	PLUG WATER WELL	1.00	EACH
1225	02483	CHANNEL LINING CLASS II	4,779.00	TON
1230	02488	CHANNEL LINING CLASS IV	24,431.00	CUYD
1235	02545	CLEARING AND GRUBBING - (RUSSELL 8-108.00)	1.00	LS
1240	02545	CLEARING AND GRUBBING - (RUSSELL 8-8601.21)	1.00	LS
1245	02555	CONCRETE-CLASS B	612.20	CUYD
1250	02562	TEMPORARY SIGNS	770.00	SQFT
1255	02585	EDGE KEY	596.30	LF
1260	02601	FINAL DRESSING CLASS B	10,533.00	LF
1265	02602	FABRIC-GEOTEXTILE CLASS 1	532.00	SQYD
1270	02603	FABRIC-GEOTEXTILE CLASS 2	12,450.00	SQYD
1275	02604	FABRIC-GEOTEXTILE CLASS 1A	98,550.00	SQYD
1280	02607	FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	13,363.00	SQYD
1285	02610	RETAINING WALL-GABION	1,006.00	CUYD
1290	02650	MAINTAIN & CONTROL TRAFFIC - (RUSSELL 8-108.00)	1.00	LS
1295	02650	MAINTAIN & CONTROL TRAFFIC - (RUSSELL 8-8601.21)	1.00	LS
1300	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
1305	02692	SETTLEMENT PLATFORM	2.00	EACH
1310	02696	SHOULDER RUMBLE STRIPS	34,570.00	LF
1315	02696	SHOULDER RUMBLE STRIPS	19,863.00	LF
1320	02701	TEMP SILT FENCE	13,407.00	LF
1325	02703	SILT TRAP TYPE A	217.00	EACH
1330	02704	SILT TRAP TYPE B	217.00	EACH
1335	02705	SILT TRAP TYPE C	217.00	EACH
1340	02706	CLEAN SILT TRAP TYPE A	217.00	EACH
1345	02707	CLEAN SILT TRAP TYPE B	217.00	EACH
1350	02708	CLEAN SILT TRAP TYPE C	217.00	EACH
1355	02711	SEDIMENTATION BASIN	9,745.00	CUYD
1360	02712	CLEAN SEDIMENTATION BASIN	9,745.00	CUYD
1365	02726	STAKING - (RUSSELL - 8-8601.21)	1.00	LS
1370	02726	STAKING - (RUSSELL 8-108.00)	1.00	LS
1375	03171	CONCRETE BARRIER WALL TYPE 9T	160.00	LF
1380	03340	STEEL PIPE-2 1/2 IN	63.00	LF
1385	03343	STEEL PIPE-4 IN	63.00	LF
1390	05950	EROSION CONTROL BLANKET	60,680.00	SQYD
1395	05952	TEMP MULCH	699,092.00	SQYD
1400	05953	TEMP SEEDING AND PROTECTION	536,800.00	SQYD

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1405	05963	INITIAL FERTILIZER	21.38	TON
1410	05964	MAINTENANCE FERTILIZER	35.76	TON
1415	05985	SEEDING AND PROTECTION	638,031.00	SQYD
1420	05990	SODDING	1,000.00	SQYD
1425	05992	AGRICULTURAL LIMESTONE	512.50	TON
1430	06514	PAVE STRIPING-PERM PAINT-4 IN	19,140.00	LF
1435	06542	PAVE STRIPING-THERMO-6 IN W	67,786.00	LF
1440	06543	PAVE STRIPING-THERMO-6 IN Y	42,353.00	LF
1445	06556	PAVE STRIPING-DUR TY 1-6 IN W	5,660.00	LF
1450	06557	PAVE STRIPING-DUR TY 1-6 IN Y	3,022.00	LF
1455	06568	PAVE MARKING-THERMO STOP BAR-24IN	245.00	LF
1460	06574	PAVE MARKING-THERMO CURV ARROW	15.00	EACH
1465	06575	PAVE MARKING-THERMO COMB ARROW	2.00	EACH
1470	20191ED	OBJECT MARKER TY 3	39.00	EACH
1475	20430ED	SAW CUT	96.00	LF
1480	20458ES403	CENTERLINE RUMBLE STRIPS	29,213.00	LF
1485	21802EN	G/R STEEL W BEAM-S FACE (7 FT POST)	24,425.00	LF
1490	22664EN	WATER BLASTING EXISTING STRIPE	1,000.00	LF
1495	23274EN11F	TURF REINFORCEMENT MAT 1	213.90	SQYD
1500	23607EC	PAVE MARK THERMO-LANE REDUCTION ARROW	6.00	EACH
1505	23649EC	DRAIN POND	1.00	LS
1510	24540	R/W MONUMENT TYPE 3	27.00	EACH
1515	24814EC	PIPELINE INSPECTION	4,856.00	LF
1520	24843EC	VIBRATING WIRE PIEZOMETER	3.00	EACH
1525	25078ED	THRIE BEAM GUARDRAIL TRANSITION TL-3	16.00	EACH
1530	00440	ENTRANCE PIPE-15 IN	218.00	LF
1535	00441	ENTRANCE PIPE-18 IN	68.00	LF
1540	00443	ENTRANCE PIPE-24 IN	82.00	LF
1545	00464	CULVERT PIPE-24 IN	147.00	LF
1550	00466	CULVERT PIPE-30 IN	583.00	LF
1555	00468	CULVERT PIPE-36 IN	180.00	LF
1560	00469	CULVERT PIPE-42 IN	108.00	LF
1565	00470	CULVERT PIPE-48 IN	2,166.00	LF
1570	00471	CULVERT PIPE-54 IN	330.00	LF
1575	00472	CULVERT PIPE-60 IN	752.00	LF
1580	00473	CULVERT PIPE-66 IN	108.00	LF
1585	00501	CULVERT PIPE-60 IN EQUIV	298.00	LF
1590	01208	PIPE CULVERT HEADWALL-24 IN	2.00	EACH
1595	01210	PIPE CULVERT HEADWALL-30 IN	7.00	EACH
1600	01212	PIPE CULVERT HEADWALL-36 IN	1.00	EACH
1605	01214	PIPE CULVERT HEADWALL-42 IN	2.00	EACH
1610	01216	PIPE CULVERT HEADWALL-48 IN	18.00	EACH
1615	01220	PIPE CULVERT HEADWALL-60 IN	4.00	EACH
1620	01221	PIPE CULVERT HEADWALL-60 IN EQUIV	4.00	EACH
1625	01222	PIPE CULVERT HEADWALL-66 IN	2.00	EACH
1630	01434	SLOPED BOX OUTLET TYPE 1-24 IN	2.00	EACH
1635	01452	S & F BOX INLET-OUTLET-30 IN	1.00	EACH
1640	01453	S & F BOX INLET-OUTLET-36 IN	3.00	EACH
1645	01493	DROP BOX INLET TYPE 2	5.00	EACH
1650	20597EC	DITCH EXCAVATION	3,415.00	CUYD

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1655	24026EC	PIPE CULVERT HEADWALL-54 IN	4.00	EACH
1660	24575ES610	HEADWALL - CONC S&P - 15 IN	8.00	EACH
1665	24575ES610	HEADWALL - CONC S&P - 24 IN	2.00	EACH
1670	02603	FABRIC-GEOTEXTILE CLASS 2	1,415.00	SQYD
1675	02604	FABRIC-GEOTEXTILE CLASS 1A	1,503.00	SQYD
1680	02998	MASONRY COATING	5,099.00	SQYD
1685	03299	ARMORED EDGE FOR CONCRETE	84.00	LF
1690	08001	STRUCTURE EXCAVATION-COMMON	854.00	CUYD
1695	08002	STRUCTURE EXCAV-SOLID ROCK	495.00	CUYD
1700	08019	CYCLOPEAN STONE RIP RAP	857.00	TON
1705	08020	CRUSHED AGGREGATE SLOPE PROT	459.00	TON
1710	08033	TEST PILES	86.00	LF
1715	08046	PILES-STEEL HP12X53	1,270.00	LF
1720	08094	PILE POINTS-12 IN	32.00	EACH
1725	08100	CONCRETE-CLASS A	2,040.00	CUYD
1730	08104	CONCRETE-CLASS AA	965.00	CUYD
1735	08150	STEEL REINFORCEMENT	337,219.00	LB
1740	08151	STEEL REINFORCEMENT-EPOXY COATED	318,595.00	LB
1745	08472	EXPANSION DAM-4 IN NEOPRENE	90.00	LF
1750	08637	PRECAST PC I BEAM TYPE 7	3,218.00	LF
1755	24596EN	GRANULAR BACKFILL	583.00	CUYD
1760	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	1,683.00	LF
1765	02231	STRUCTURE GRANULAR BACKFILL	322.20	CUYD
1770	02603	FABRIC-GEOTEXTILE CLASS 2	307.00	SQYD
1775	02998	MASONRY COATING	2,940.00	SQYD
1780	08001	STRUCTURE EXCAVATION-COMMON	963.00	CUYD
1785	08002	STRUCTURE EXCAV-SOLID ROCK	949.00	CUYD
1790	08100	CONCRETE-CLASS A	1,341.30	CUYD
1795	08104	CONCRETE-CLASS AA	938.40	CUYD
1800	08150	STEEL REINFORCEMENT	325,299.00	LB
1805	08151	STEEL REINFORCEMENT-EPOXY COATED	269,541.00	LB
1810	08500	APPROACH SLAB	217.00	SQYD
1815	08635	PRECAST PC I BEAM TYPE 6	2,629.30	LF
1820	20637ED	DRILLED SHAFT-ROCK 48 IN	24.00	LF
1825	20745ED	ROCK SOUNDINGS	81.20	LF
1830	20746ED	ROCK CORINGS	96.00	LF
1835	21321NC	CSL TESTING (4 TUBES)	7.00	EACH
1840	21420ED	DRILLED SHAFT-66 IN (COMMON)	49.80	LF
1845	21421ED	DRILLED SHAFT-60 IN (SOLID ROCK)	40.00	LF
1850	21777EN	DRILLED SHAFT COMMON-54 IN	31.40	LF
1855	23813EC	DECK DRAIN	5.00	EACH
1860	24743EC	TIP TESTING (4 TUBES)	7.00	EACH
1865	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	1,427.60	LF
1870	02231	STRUCTURE GRANULAR BACKFILL	251.00	CUYD
1875	02603	FABRIC-GEOTEXTILE CLASS 2	334.00	SQYD
1880	02998	MASONRY COATING	2,943.00	SQYD
1885	08001	STRUCTURE EXCAVATION-COMMON	1,138.00	CUYD
1890	08002	STRUCTURE EXCAV-SOLID ROCK	717.00	CUYD
1895	08020	CRUSHED AGGREGATE SLOPE PROT	287.00	TON
1900	08033	TEST PILES	66.00	LF

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1905	08039	PRE-DRILLING FOR PILES	84.00	LF
1910	08050	PILES-STEEL HP14X73	425.00	LF
1915	08095	PILE POINTS-14 IN	16.00	EACH
1920	08100	CONCRETE-CLASS A	1,639.19	CUYD
1925	08104	CONCRETE-CLASS AA	901.30	CUYD
1930	08150	STEEL REINFORCEMENT	401,623.00	LB
1935	08151	STEEL REINFORCEMENT-EPOXY COATED	265,404.00	LB
1940	08500	APPROACH SLAB	203.00	SQYD
1945	08635	PRECAST PC I BEAM TYPE 6	2,669.30	LF
1950	23813EC	DECK DRAIN	12.00	EACH
1955	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	1,346.00	LF
1960	02603	FABRIC-GEOTEXTILE CLASS 2	540.00	SQYD
1965	02604	FABRIC-GEOTEXTILE CLASS 1A	2,426.00	SQYD
1970	02998	MASONRY COATING	1,674.00	SQYD
1975	03299	ARMORED EDGE FOR CONCRETE	72.00	LF
1980	08001	STRUCTURE EXCAVATION-COMMON	487.00	CUYD
1985	08002	STRUCTURE EXCAV-SOLID ROCK	19.00	CUYD
1990	08019	CYCLOPEAN STONE RIP RAP	559.00	TON
1995	08020	CRUSHED AGGREGATE SLOPE PROT	445.00	TON
2000	08033	TEST PILES	76.00	LF
2005	08046	PILES-STEEL HP12X53	1,005.00	LF
2010	08094	PILE POINTS-12 IN	14.00	EACH
2015	08100	CONCRETE-CLASS A	1,301.00	CUYD
2020	08104	CONCRETE-CLASS AA	847.00	CUYD
2025	08150	STEEL REINFORCEMENT	188,256.00	LB
2030	08151	STEEL REINFORCEMENT-EPOXY COATED	269,805.00	LB
2035	08472	EXPANSION DAM-4 IN NEOPRENE	72.00	LF
2040	08639	PRECAST PC I BEAM TYPE 9	2,760.00	LF
2045	20745ED	ROCK SOUNDINGS	166.00	LF
2050	20746ED	ROCK CORINGS	407.00	LF
2055	21322NC	CSL TESTING (6 TUBES)	4.00	EACH
2060	23583EC	DRILLED SHAFT-48 IN-COMMON	27.00	LF
2065	23584EC	DRILLED SHAFT-42 IN-ROCK	28.00	LF
2070	24596EN	GRANULAR BACKFILL	521.00	CUYD
2075	24874EC	TIP TESTING	12.00	EACH
2080	24875EC	CSL TESTING (8 TUBES)	8.00	EACH
2085	25003EC	DRILLED SHAFT - 96 IN (COMMON)	139.00	LF
2090	25004EC	DRILLED SHAFT - 90 IN (SOLID ROCK)	151.00	LF
2095	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	1,468.00	LF
2100	06401	FLEXIBLE DELINEATOR POST-M/W	6.00	EACH
2105	06406	SBM ALUM SHEET SIGNS .080 IN	1,041.00	SQFT
2110	06407	SBM ALUM SHEET SIGNS .125 IN	300.00	SQFT
2115	06410	STEEL POST TYPE 1	2,811.00	LF
2120	06490	CLASS A CONCRETE FOR SIGNS	.50	CUYD
2125	21373ND	REMOVE SIGN	2.00	EACH
2130	21596ND	GMSS TYPE D	2.00	EACH
2135	24631EC	BARCODE SIGN INVENTORY	224.00	EACH
2140	24751ED	REMOVE STORE & REINSTALL - -	1.00	EACH
2145	02568	MOBILIZATION	1.00	LS
2150	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
2155	02742	TRAINEE PAYMENT REIMBURSEMENT - IRONWORKER	1,400.00	HOUR
2160	24737EC	CAVITY STABILIZATION	41.00	CUYD
2165	24738EC	REDRILLING CAVITY STABILIZATION	64.00	LF

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2019* and *Standard Drawings, Edition of 2020.*

SUPPLEMENTAL SPECIFICATIONS

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

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

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SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

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

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

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

2.3 Power.

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

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

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

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

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

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

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

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

Code	Pay Item	Pay Unit
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

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SPECIAL NOTE FOR STRUCTURAL MASS CONCRETE

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

1.0 DESCRIPTION. This Special Note covers requirements for structural mass concrete placement. The Department considers mass concrete to be any concrete placement, excluding drilled shafts, with its least plan dimension being 6 feet or greater.

2.0 MATERIALS AND EQUIPMENT.

2.1 Cement. Conform to Section 801 or ASTM C595 for blended cements, Type IS or Type I(SM), except the slag constituent in Type IS is limited to 50 percent of the mass of the portland blast furnace slag.

2.2 Mineral Admixtures. Conform to Section 844 except the Department will permit fly ash Class F and Grade 100 ground granular blast furnace slag (GGBF) in addition to Grade 120.

2.3 Aggregate. Use coarse aggregate conforming to the freeze-thaw expansion requirements of Subsection 805.04.01 for use in all classes of structural mass concrete, excluding seal concrete.

2.4 Temperature Sensing Equipment. Use thermistor type temperature sensing devices, or an approved equal, capable of indicating temperatures over a range of 50 to 200 °F, with an accuracy of ± 1 °F and a precision of 1 °F. Connect the sensors to a device that continuously records and displays temperatures at intervals no greater than 4 hours, and produces a record that can be detached and filed.

3.0 CONSTRUCTION. When placing the mixture, do not allow its temperature to exceed 70 °F. Insulate the concrete until the thermal control is finished. Do not allow the concrete to exceed the maximum temperature of 160 °F at any time during the curing period.

3.1 Thermal Control Plan. Submit for approval a written Thermal Control Plan describing the procedures to be used to minimize temperature differentials within the concrete. Include all items required by this note, and other items deemed necessary or prudent.

Submit the Thermal Control Plan at least 30 calendar days before the first intended structural mass concrete placement. The Engineer will respond within 21 calendar days after receipt of the plan. Make any changes required by the Engineer and resubmit the plan. Continue this process until the Engineer approves the Thermal Control Plan.

Do not place structural mass concrete before receiving written approval of the Thermal Control Plan and having all equipment and materials necessary to facilitate the plan on the site and ready for use.

Approval of the Thermal Control Plan is independent of the submission of the trial mixtures.

The Department will allow the inclusion of the following items in the Thermal Control Plan.

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1) Reduction of the total cement content by the use of mineral admixtures. Mineral admixtures derived from blended cements, used as processing additions, or as ingredient materials will apply toward stated maximums.

    a. Substitution of Class F fly ash for cement at the rate of 25 to 30 percent, by mass, applying a substitution rate of 1.0 to 1.25 pounds of fly ash added.
    b. Substitution of GGBF for cement up to a maximum of 50 percent, by mass, applying a substitution rate of one pound of GGBF for each one pound of cement.
    c. Mixes with both GGBF and Class F fly ash, permit up to but no more than 20 percent of the 50 percent GGBF maximum as Class F fly ash.

2) Sprinkle the mixer trucks' drums for cooling.
3) Arrange with supplier to avoid delivery of hot cement.
4) Cooling of aggregate stockpiles.
5) Use of a nitrogen gas cooling system to cool the concrete mass before placement.
6) Use of shaved, flaked, or chipped ice as part of the mixing water.
7) Embedment in the structural mass concrete of a cooling system, approved by the Engineer, consisting of non-corrosive piping and circulating fresh water. Filling of the pipe with concrete or grout after its usefulness has ended is required.
8) Placing concrete during the coolest part of the day, or during cooler weather.
9) Use of special cements or additives that will reduce heat of hydration without affecting strength or durability.

3.2 Thermal Control.

3.2.1 Temperature Differential Restrictions. Ensure that the temperature differential between the geometric center of each placement and the geometric surface does not exceed 35 °F at any time. Maintain thermal control of each placement until the temperature at the center is within 35 °F of the average outside air temperature. Determine the average outside air temperature by averaging the daily high and low temperatures over the preceding 7 calendar days.

3.2.2 Temperature Sensing and Recording. For each placement of structural mass concrete, install 4 temperature sensors, 2 at separate locations near the geometric center of each concrete placement and 2 at the approximate center of the exterior face that has the least sun exposure with the longest distance to the interior sensors. Place the exterior side sensors two inches below the exterior surface. The Department requires 2 sensors at each location in order to have a primary and secondary backup.

3.2.3 Failure to Comply. If the temperature differential within any structural mass concrete placement exceeds 35 °F, take immediate corrective action, suspend future placement of structural mass concrete, and submit a revised Thermal Control Plan to the Engineer for approval. Do not resume placing mass concrete without written approval from the Engineer.

3.3 Trial Mixtures. At least 30 calendar days prior to concrete placement, for each class of concrete used in structural mass concrete, make trial batches according to Subsection 601.03.02 G).

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3.4 Seal Concrete. Conform to all requirements herein this note for underwater placement of concrete seals, with the following exceptions.

1) The Department will not require thermistor devices.
2) The Department will not require insulation.
3) The Department will not require monitoring of the differential between interior and exterior temperatures.
4) When placing the mixture, do not allow its temperature to exceed 60° F.
5) Ensure seal concrete has the following properties:

Cementitious Content	564 lbs/cy
Maximum Free Water	0.47 lb water/lb cement
Slump	4-8 inches
Air Content	0-5%
28-day Compressive Strength	3,500 psi

3.5 Acceptance Testing. Conform to the specified 28-day compressive strength requirements for each class of concrete. The Department will make extra cylinders at the rate of one set per 100 cubic yards, except seal concrete shall be one set per 200 cubic yards, and will test them at an age of 7 days. The Department will cure the extra cylinders, after the first 24 hours, at a temperature between 60 °F and 80 °F. The extra cylinders will be expected to achieve a minimum 7-day compressive strength of 2,600 psi. If the 2,600 psi is not consistently achieved, take corrective action on future pours.

4.0 MEASUREMENT. The Department will not measure the work required by this Special Note as a separate pay unit and will consider it incidental to the various concrete bid items.

5.0 PAYMENT. When the temperature differential exceeds 35 °F during the thermal control period, the Department will adjust payment for the concrete within the affected placement by multiplying the contract unit price by the appropriate factor in the following table:

Temperature Differential	Pay Factor
36 to 40 °F	0.96
41 to 45 °F	0.90
46 °F or higher	0.80

When the 35 °F differential is exceeded for more than one 24-hour period, the Department will apply the pay factor for the maximum differential that occurs. Begin measuring temperature differential 12 hours after the last concrete placement.

June 15, 2012

11C

SPECIAL NOTE FOR DRILLED SHAFTS

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

2.0 MATERIALS.

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

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

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

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

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

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

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

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

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

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

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

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

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

2.7 Drop Chutes. Do not use aluminum drop chutes.

3.0 CONSTRUCTION.

3.1 Preconstruction.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

4.0 MEASUREMENT.

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

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

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

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

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

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

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

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

* *See Plan Sheets for sizes of shafts*.

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

June 15, 2012

SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS

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

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).

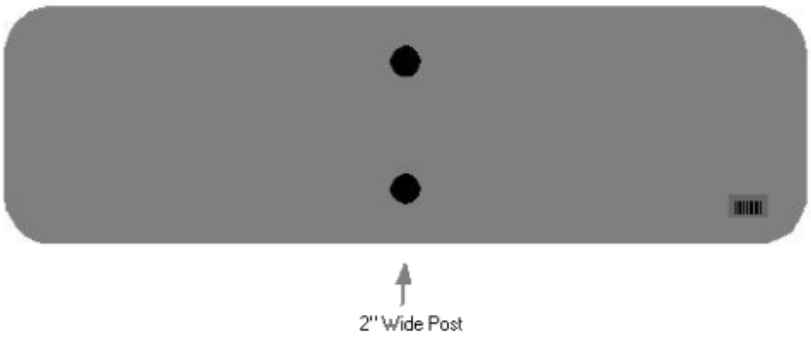
The installation of the permanent sign will be measured in accordance to Section 715.

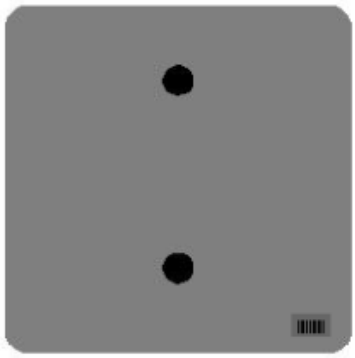
5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
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





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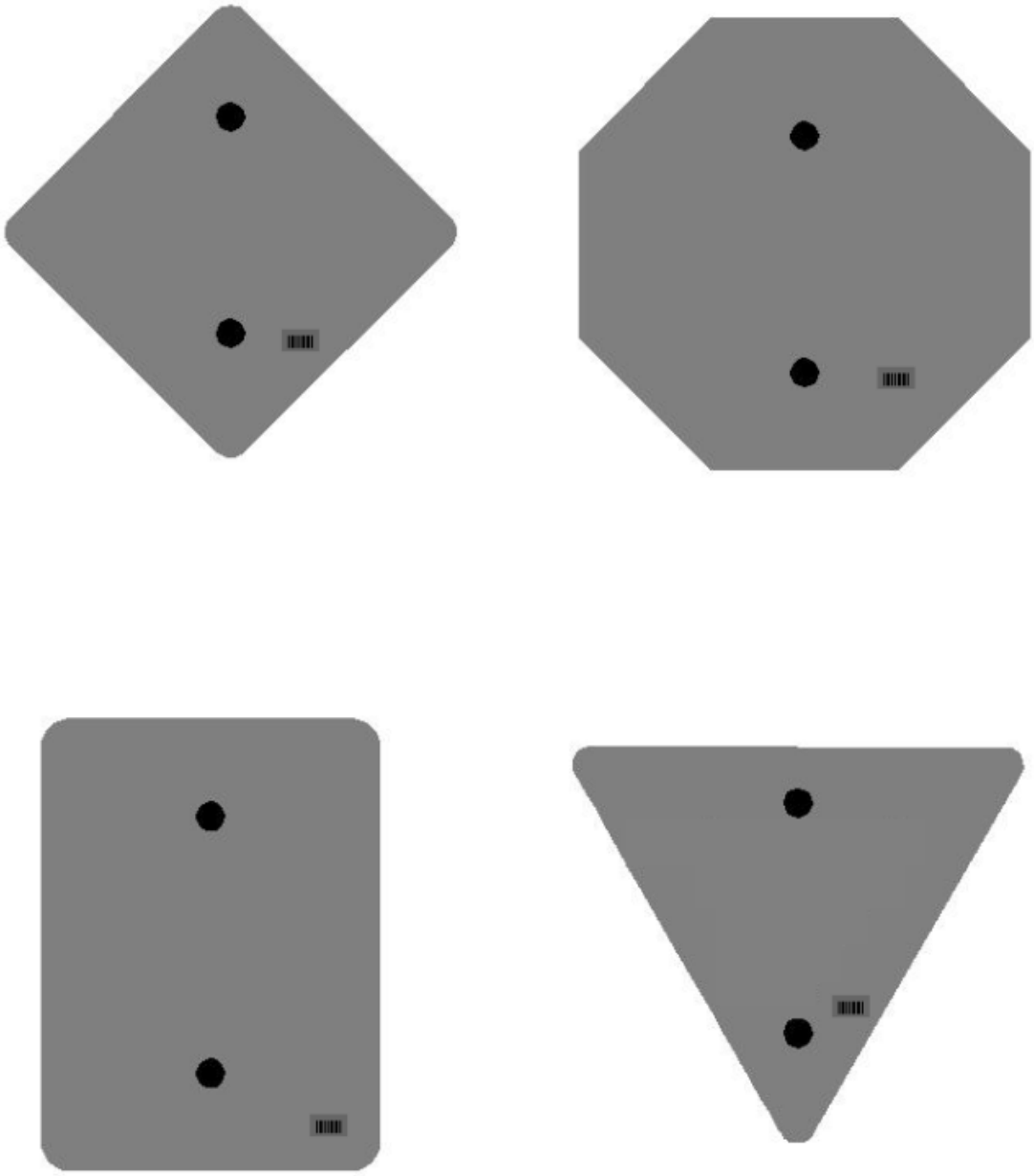

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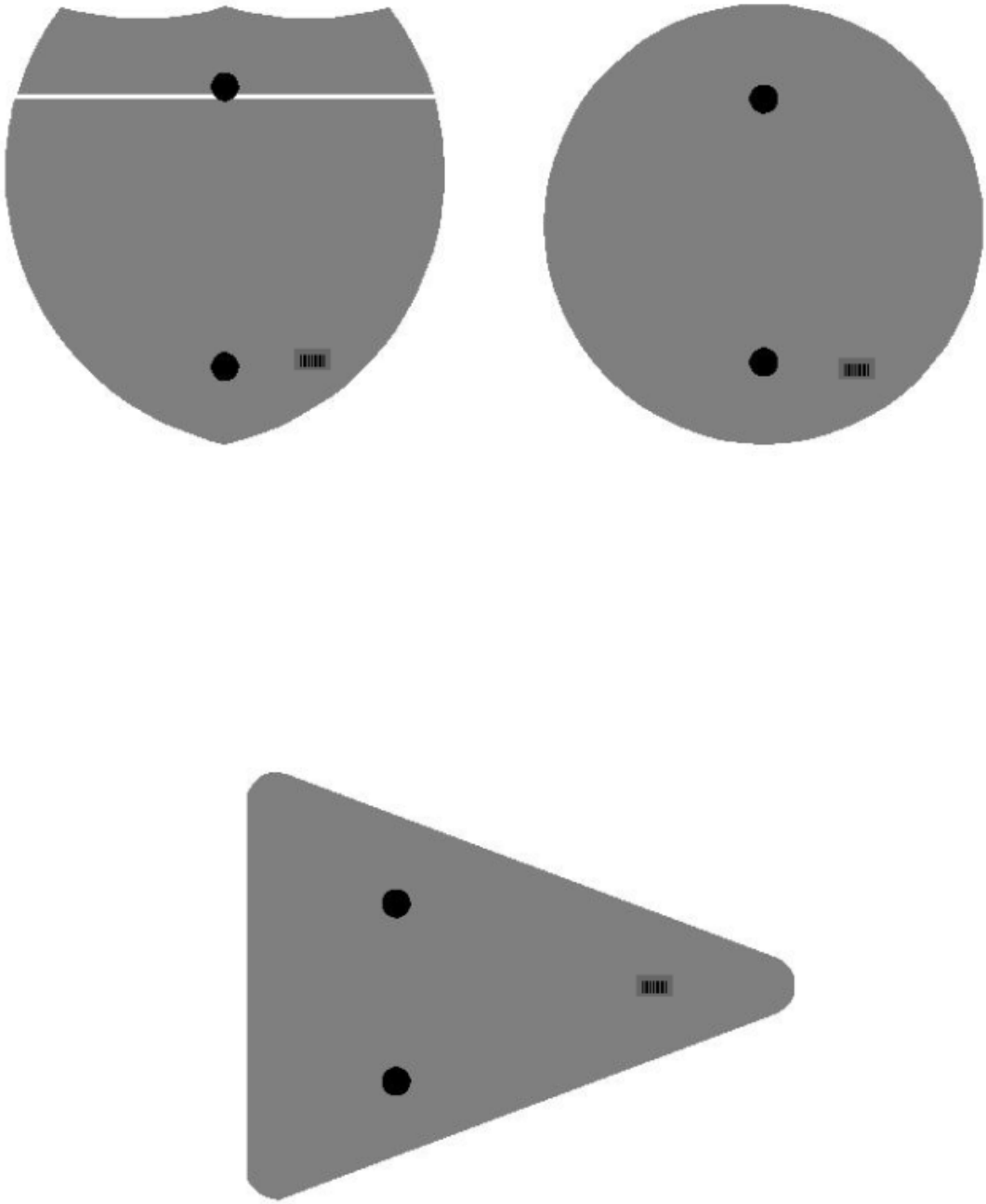
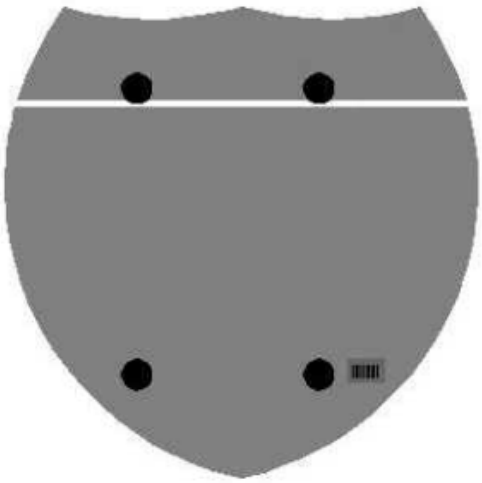
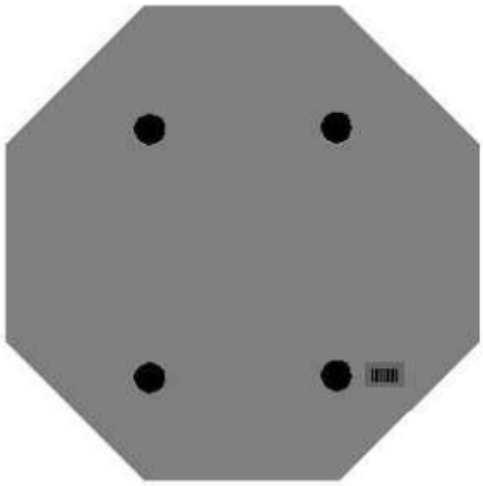


Double Sign Post

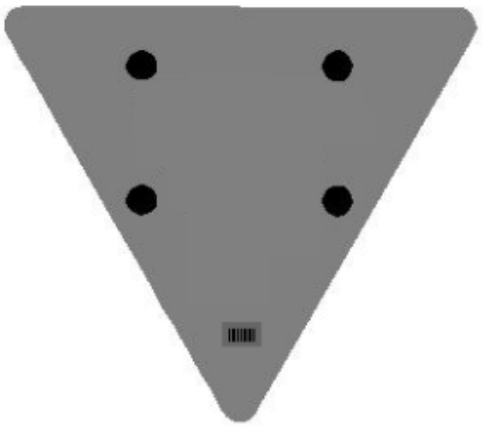


Interstate
Shield



48" Stop

2 Post Signs



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SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE

1. DESCRIPTION. This specification covers the requirements and practices for applying an asphalt adhesive material to the longitudinal joint of the surface course of an asphalt pavement. Apply the adhesive to the face of longitudinal joint between driving lanes for the first lane paved. Then, place and compact the adjacent lane against the treated face to produce a strong, durable, waterproof longitudinal joint.

2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Joint Adhesive. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide an adhesive conforming to the following requirements:

Property	Specification	Test Procedure
Viscosity, 400 ° F (Pa·s)	4.0 – 10.0	ASTM D 4402
Cone Penetration, 77 ° F	60 – 100	ASTM D 5329
Flow, 140 ° F (mm)	5.0 max.	ASTM D 5329
Resilience, 77 ° F (%)	30 min.	ASTM D 5329
Ductility, 77 ° F (cm)	30.0 min.	ASTM D 113
Ductility, 39 ° F (cm)	30.0 min.	ASTM D 113
Tensile Adhesion, 77 ° F (%)	500 min.	ASTM D 5329, Type II
Softening Point, ° F	171 min.	AASHTO T 53
Asphalt Compatibility	Pass	ASTM D 5329

Ensure the temperature of the pavement joint adhesive is between 380 and 410 °F when the material is extruded in a 0.125-inch-thick band over the entire face of the longitudinal joint.

2.2. Equipment.

2.2.1 Melter Kettle. Provide an oil-jacketed, double-boiler, melter kettle equipped with any needed agitation and recirculating systems.

2.2.2 Applicator System. Provide a pressure-feed-wand applicator system with an applicator shoe attached.

2.3 Personnel. Ensure a technical representative from the manufacturer of the pavement joint adhesive is present during the initial construction activities and available upon the request of the Engineer.

3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the pavement joint adhesive, ensure the face of the longitudinal joint is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the joint face by the use of compressed air.

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Ensure this preparation process occurs shortly before application to prevent the return of debris on the joint face.

3.2 Pavement Joint Adhesive Application. Ensure the ambient temperature is a minimum of 40 ^{o} F during the application of the pavement joint adhesive. Prior to applying the adhesive, demonstrate competence in applying the adhesive according to this note to the satisfaction of the Engineer. Heat the adhesive in the melter kettle to the specified temperature range. Pump the adhesive from the melter kettle through the wand onto the vertical face of the cold joint. Apply the adhesive in a continuous band over the entire face of the longitudinal joint. Do not use excessive material in either thickness or location. Ensure the edge of the extruded adhesive material is flush with the surface of the pavement. Then, place and compact the adjacent lane against the joint face. Remove any excessive material extruded from the joint after compaction (a small line of material may remain).

3.3 Pavement Joint Adhesive Certification. Furnish the joint adhesive's certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a random sample of pavement joint adhesive from each manufacturer's lot of material. Extrude two 5 lb. samples of the heated material and forward the sample to the Division of Materials for testing. Reynolds oven bags, turkey size, placed inside small cardboard boxes or cement cylinder molds have been found suitable. Ensure the product temperature is 400°F or below at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of Pavement Joint Adhesive in linear feet. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of Pavement Joint Adhesive, the cleaning of the joint face, or furnishing and placing the adhesive. The Department will consider all such items incidental to the Pavement Joint Adhesive.

5. PAYMENT. The Department will pay for the Pavement Joint Adhesive at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

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Pavement Joint Adhesive Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
Joint Adhesive Referenced in Subsection 2.1.1						
Viscosity, 400 ° F (Pa•s) ASTM D 3236	 4.0-10.0	 3.5-10.5	3.0-3.4 10.6-11.0	2.5-2.9 11.1-11.5	2.0-2.4 11.6-12.0	≤1.9 ≥ 12.1
Cone Penetration, 77 ° F ASTM D 5329	 60-100	 57-103	54-56 104-106	51-53 107-109	48-50 110-112	≤ 47 ≥ 113
Flow, 140 ° F (mm) ASTM D 5329	≤ 5.0	≤ 5.5	5.6-6.0	6.1-6.5	6.6-7.0	≥ 7.1
Resilience, 77 ° F (%) ASTM D 5329	≥ 30	≥ 28	26-27	24-25	22-23	≤ 21
Tensile Adhesion, 77 ° F (%) ASTM D 5329	≥ 500	≥ 490	480-489	470-479	460-469	≤ 459
Softening Point, ° F AASHTO T 53	≥ 171	≥ 169	166-168	163-165	160-162	≤ 159
Ductility, 77 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9
Ductility, 39 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9

Code	Pay Item	Pay Unit
20071EC	Joint Adhesive	Linear Foot

May 7, 2014

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SPECIAL PROVISION FOR EMBANKMENT AT BRIDGE END BENT STRUCTURES

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

1.0 DESCRIPTION. Construct a soil, granular, or rock embankment with soil, granular or cohesive pile core and place structure granular backfill, as the Plans require. Construct the embankment according to the requirements of this Special Provision, the Plans, Standard Drawing RGX 100 and 105, and the Standard Specifications, Current Edition.

2.0 MATERIALS.

2.1 Granular Embankment. Conform to Subsection 805.10. When Granular Embankment materials are erodible or unstable according to Subsection 805.03.04, use the Special Construction Methods found in 3.2 of the Special Provision.

2.2 Rock Embankment. Provide durable rock from roadway excavation that consists principally of Unweathered Limestone, Durable Shale (SDI equal to or greater than 95 according to KM 64-513), or Durable Sandstone.

2.3 Pile Core. Provide a pile core in the area of the embankments where deep foundations are to be installed unless otherwise specified. The Pile Core is the zone indicated on Standard Drawings RGX 100 and 105 designated as Pile Core. Material control of the pile core area during embankment construction is always required. Proper Pile Core construction is required for installation of foundation elements such as drilled or driven piles or drilled shafts. The type of material used to construct the pile core is as directed in the plans or below. Typically, the pile core area will be constructed from the same material used to construct the surrounding embankment. Pile Core can be classified as one of three types:

A) Pile Core - Conform to Section 206 of the Standard Specifications. Provide pile core material consisting of the same material as the adjacent embankment except the material in the pile core area shall be free of boulders or particle sizes larger than 4 inches in any dimension or any other obstructions that may hinder pile driving operations. If the pile core material hinders pile driving operations, take the appropriate means necessary to reach the required pile tip elevation, at no expense to the Department.

B) Granular Pile Core. Granular pile core is required only when specified in the plans. Select a gradation of durable rock to facilitate pile driving that conforms to Subsection 805.11. If granular pile core material hinders pile driving operations, take appropriate means necessary to reach the required pile tip elevation, at no expense to the Department.

C) Cohesive Pile Core. Cohesive Pile Core is required only when specified in the plans. Conform to Section 206 of the Standard Specifications and use soil with at least 50 percent passing a No. 4 sieve having a minimum Plasticity Index (PI) of 10. In addition, keep the cohesive pile core free of boulders, larger than 4 inches in any dimension, or any other obstructions, which would interfere with drilling operations. If cohesive pile core material interferes with drilling operations, take appropriate means necessary to maintain

excavation stability, at no expense to the Department.

2.4 Structure Granular Backfill. Conform to Subsection 805.11

2.5 Geotextile Fabric. Conform to Type I or Type IV in Section 214 and 843.

3.0 CONSTRUCTION.

3.1 General. Construct roadway embankments at end bents according to Section 206 and in accordance with the Special Provision, the Plans, and Standard Drawings for the full embankment section. In some instances, granular or rock embankment will be required for embankment construction for stability purposes, but this special provision does not prevent the use of soil when appropriate. Refer to the plans for specific details regarding material requirements for embankment construction.

Place and compact the pile core and structure granular backfill according to the applicable density requirements for the project. If the embankment and pile core are dissimilar materials (i.e., a granular pile core is used with a soil embankment or a cohesive pile core is used with a granular embankment), a Geotextile Fabric, Type IV, will be required between the pile core and embankment in accordance with Sections 214 and 843 of the Standard Specifications.

When granular or rock embankment is required for embankment construction, conform to the general requirements of Subsection 206.03.02 B. In addition, place the material in no greater than 2-foot loose lifts and compact with a vibrating smooth wheel roller capable of producing a minimum centrifugal force of 15 tons. Apply these requirements to the full width of the embankment for a distance of half the embankment height or 50 feet, whichever is greater, as shown on Standard Drawing RGX-105.

When using granular pile core, install 8-inch perforated underdrain pipe at or near the elevation of the original ground in the approximate locations depicted on the standard drawing, and as the Engineer directs, to ensure positive drainage of the embankment. Wrap the perforated pipe with a fabric of a type recommended by the pipe manufacturer.

After constructing the embankment, excavate for the end bent cap, drive piling, install shafts or other foundation elements, place the mortar bed, construct the end bent, and complete the embankment to finish grade according to the construction sequence shown on the Plans or Standard Drawings and as specified hereinafter.

Certain projects may require widening of existing embankments and the removal of substructures. Construct embankment according to the plans. Substructure removal shall be completed according to the plans and Section 203. Excavation may be required at the existing embankment in order to place the structure granular backfill as shown in the Standard Drawings.

After piles are driven or shafts installed (see design drawings), slope the bottom of the excavation towards the ends of the trench as noted on the plans for drainage. Using a separate pour, place concrete mortar, or any class concrete, to provide a base for forming and placing the cap. Place side forms for the end bent after the mortar has set sufficiently to support workmen and forms without being disturbed.

Install 4-inch perforated pipe in accordance with the plans and Standard Drawings. In the event slope protection extends above the elevation of the perforated pipe, extend the pipe through the slope protection.

After placing the end bent cap and achieving required concrete cylinder strengths, remove adjacent forms and fill the excavation with compacted structure granular backfill material (maximum 1’ loose lifts) to the level of the berm prior to placing beams for the bridge. Place Type IV geotextile fabric between embankment material and structure granular backfill. After completing the end bent backwall, or after completing the span end

wall, place the compacted structure granular backfill (maximum 1' loose lifts) to subgrade elevation. If the original excavation is enlarged, fill the entire volume with compacted structure granular backfill (maximum 1' loose lifts) at no expense to the Department. Do not place backfill before removing adjacent form work. Place structure granular backfill material in trench ditches at the ends of the excavation. Place Geotextile Fabric, Type IV over the surface of the compacted structure granular backfill prior to placing aggregate base course.

Tamp the backfill with hand tampers, pneumatic tampers, or other means approved by the Engineer. Thoroughly compact the backfill under the overhanging portions of the structure to ensure that the backfill is in intimate contact with the sides of the structure.

Do not apply seeding, sodding, or other vegetation to the exposed granular embankment.

3.2 Special Construction Methods. Erodible or unstable materials may erode even when protected by riprap or channel lining; use the special construction method described below when using these materials.

Use fine aggregates or friable sandstone granular embankment at "dry land" structures only. Do not use them at stream crossings or locations subject to flood waters.

For erodible or unstable materials having 50 percent or more passing the No. 4 sieve, protect with geotextile fabric. Extend the fabric from the original ground to the top of slope over the entire area of the embankment slopes on each side of, and in front of, the end bent. Cover the fabric with at least 12 inches of non-erodible material.

For erodible or unstable materials having less than 50 percent passing a No. 4 sieve, cover with at least 12 inches of non-erodible material.

Where erodible or unstable granular embankment will be protected by riprap or channel lining, place Type IV geotextile fabric between the embankment and the specified slope protection.

4.0 MEASUREMENT.

4.1 Granular Embankment. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure for payment any Granular Embankment that is not called for in the plans.

The Department will not measure for payment any special construction caused by using erodible or unstable materials and will consider it incidental to the Granular Embankment regardless of whether the erodible or unstable material was specified or permitted.

4.2 Rock Embankment. The Department will not measure for payment any rock embankment and will consider it incidental to roadway excavation or embankment in place, as applicable. Rock embankments will be constructed using granular embankment on projects where there is no available rock present within the excavation limits of the project.

4.3 Pile Core. Pile core will be measured and paid under roadway excavation or embankment in place, as applicable. The Department will not measure the pile core for separate payment. The Department will not measure for payment the 8-inch perforated underdrain pipe and will consider it incidental to the Pile Core.

4.4 Structure Granular Backfill. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure any additional material required for backfill outside the limits shown on the Plans and Standard Drawings for payment and will

consider it incidental to the work.

The Department will not measure for payment the 4-inch perforated underdrain pipe and will consider it incidental to the Structure Granular Backfill.

4.5 Geotextile Fabric. The Department will not measure the quantity of fabric used for separating dissimilar materials when constructing the embankment and pile core and will consider it incidental to embankment construction.

The Department will not measure for payment the Geotextile Fabric used to separate the Structure Granular Backfill from the embankment and aggregate base course and will consider it incidental to Structure Granular Backfill.

The Department will not measure for payment the Geotextile Fabric required for construction with erodible or unstable materials and will consider it incidental to embankment construction.

4.6 End Bent. The Department will measure the quantities according to the Contract. The Department will not measure furnishing and placing the 2-inch mortar or concrete bed for payment and will consider it incidental to the end bent construction.

4.7 Structure Excavation. The Department will not measure structure excavation on new embankments for payment and will consider it incidental to the Structure Granular Backfill or Concrete as applicable.

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

Code	Pay Item	Pay Unit
02223	Granular Embankment	Cubic Yards
02231	Structure Granular Backfill	Cubic Yards

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

September 16, 2016

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

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 contacting 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 administrating 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

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

TRAINING SPECIAL PROVISIONS

This Training Special Provision supersedes subparagraph 7b of the Special Provision entitled ``Specific Equal Employment Opportunity Responsibilities," (Attachment 1), and is in implementation of 23 U.S.C. 140(a).

As part of the contractor's equal employment opportunity affirmative action program training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeymen in the type of trade or job classification involved.

The number of trainees to be trained under these special provisions and in this contract is shown in “Special Notes Applicable to Project” in the bid proposal.

In the event that a contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided, however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this training special provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction the contractor shall submit to the Kentucky Transportation Cabinet, Department of Highways for its approval, an acceptable training program on forms provided by the Cabinet indicating the number of trainees to be trained in each selected classification. Failure to provide the Cabinet with the proper documentation evidencing an acceptable training program prior to commencing construction shall cause the Cabinet to suspend the operations of the contractor with (if applicable) working days being charged as usual against the contract time or (if applicable), no additional contract time being granted for the suspension period. The Cabinet will not be liable for the payment of any work performed during the suspension period due to the failure of the contractor to provide an acceptable training program. Said suspension period shall be terminated when an acceptable training program is received by the Cabinet. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeymen status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the contractor's records should document the findings in each case. The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Kentucky Transportation Cabinet, Department of Highways and the Federal Highway Administration shall approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed for each hour of training given an employee on this contract in accordance with an approved training program. As approved by the engineer, reimbursement will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training. The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

1-1-93

"General Decision Number: KY20220107 02/25/2022

Superseded General Decision Number: KY20210107

State: Kentucky

Construction Type: Highway

Counties: Adair, Barren, Bell, Breathitt, Casey, Clay, Clinton, Cumberland, Estill, Floyd, Garrard, Green, Harlan, Hart, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lincoln, Magoffin, Martin, McCreary, Menifee, Metcalfe, Monroe, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Russell, Taylor, Wayne, Whitley and Wolfe Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $15.00 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 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at

https://www.dol.gov/agencies/whd/government-contracts.

Modification Number	Publication Date
0	01/07/2022
1	02/25/2022

SUKY2015-047 10/20/2015

	Rates	Fringes
BOILERMAKER	$ 24.65	12.94
BRICKLAYER		
Bricklayer	$ 22.90	8.50
Stone Mason	$ 21.50	8.50
CARPENTER		
Carpenter	$ 24.90	14.50
Piledriver	$ 24.55	14.50
CEMENT MASON	$ 21.25	8.50
ELECTRICIAN		
Electrician	$ 29.36	10.55
Equipment Operator	$ 26.90	10.31
Groundsman	$ 17.79	8.51
Lineman	$ 30.09	10.94

When workmen are required to work from bosum chairs, trusses, stacks, tanks, scaffolds, catwalks, radio and T.V. towers, structural steel (open, unprotected, unfloored raw steel), and bridges or similar hazardous locations where workmen are subject to fall, except where using JLG's and bucket trucks up to 75 feet: Add 25% to workman's base rate for 50 to 75 feet, and add 50% to workman's base rate for over 75 feet.

IRONWORKER	$ 27.56	20.57
LABORER		
Group 1	$ 21.80	12.36
Group 2	$ 22.05	12.36
Group 3	$ 22.10	12.36
Group 4	$ 22.70	12.36

GROUP 1: Aging and Curing of Concrete (Any Mode or Method), Asbestos Abatement Worker, Asphalt Plant Laborers, Asphalt Laborers, Batch Truck Dumpers, Carpenter Tenders, Cement Mason Tenders, Cleaning of Machines, Concrete Laborers, Demolition Laborers, Dredging Laborers, Drill Tender, Environmental Laborer - Nuclear, Radiation, Toxic and Hazardous Waste - Level D, Flagmen, Grade Checkers, All Hand Digging and Hand Back Filling, Highway Marker Placers, Landscaping Laborers, Mesh Handlers and Placers, Puddler, Railroad Laborers, Rip-rap and Grouters, Right of Way Laborers, Sign, Guard Rail and Fence Installers (All Types), Signalmen, Sound Barrier Installer, Storm and Sanitary Sewer Laborers, Swampers, Truck Spotters and Dumpers, Wrecking of Concrete Forms, General Cleanup

GROUP 2: Batter Board Men (Sanitary and Storm Sewer), Brickmason Tenders, Mortar Mixer Operator, Scaffold Builders, Burner and Welder, Bushammers, Chain Saw Operator, Concrete Saw Operators, Deckhand Scow Man, Dry Cement Handlers, Environmental Laborers - Nuclear, Radiation, Toxic and Hazardous Waste - Level C, Forklift Operators for Masonry, Form Setters, Green Concrete Cutting, Hand Operated Grouter and Grinder Machine Operator, Jack Hammers, Lead Paint

Abatement, Pavement Breakers, Paving Joint Machine, Pipe Layers - Laser Operators (Non-metallic), Plastic Pipe Fusion, Power Driven Georgia Buggy and Wheel Barrow, Power Post Hole Diggers, Precast Manhole Setters, Walk-behind Tampers, Walk-behind Trenchers, Sand Blasters, Concrete Chippers, Surface Grinders, Vibrator Operators, Wagon Drillers
GROUP 3: Air Track Driller (All Types), Asphalt Luteman and Rakers, Gunnite Nozzleman, Gunnite Operators and Mixers, Grout Pump Operator, Powderman and Blaster, Side Rail Setters, Rail Paved Ditches, Screw Operators, Tunnel Laborers (Free Air), Water Blasters
GROUP 4: Caisson Workers (Free Air), Cement Finishers, Environmental Laborer - Nuclear, Radiation, Toxic and Hazardous Waste - Level A and B, miners and Drillers (Free Air), Tunnel Blasters, and Tunnel Mockers (Free Air), Directional and Horizontal Boring, Air Track Drillers (All Types), Powder Man and Blasters, Troxler and Concrete Tester if Laborer is Utilized

PAINTER		
All Excluding Bridges	$ 19.92	9.57
Bridges	$ 23.92	10.07
PLUMBER	$ 22.52	7.80
POWER EQUIPMENT OPERATOR:		
Group 1	$ 29.95	14.40
Group 2	$ 29.95	14.40
Group 3	$ 27.26	14.40
Group 4	$ 26.96	14.40

GROUP 1: Auto Patrol, Batcher Plant, Bituminous Paver, Cable-Way, Clamshell, Concrete Mixer (21 cu ft or over), Concrete Pump, Crane, Crusher Plant, Derrick, Derrick Boat, Ditching and Trenching Machine, Dragline, Dredge Engineer, Elevator (regardless of ownership when used for hoisting any building material), Elevating Grader and all types of Loaders, Hoe-type Machine, Hoisting Engine, Locomotive, LeTourneau or Carry-all Scoop, Bulldozer, Mechanic, Orangepeel Bucket, Piledriver, Power Blade, Roller (Bituminous), Roller (Earth), Roller (Rock), Scarifier, Shovel, Tractor Shovel, Truck Crane, Well Point, Winch Truck, Push Dozer, Grout Pump, High Lift, Fork Lift (regardless of lift height), all types of Boom Cats, Multiple Operator, Core Drill, Tow or Push Boat, A-Frame Winch Truck, Concrete Paver, Grade-All, Hoist, Hyster, Material Pump, Pumpcrete, Ross Carrier, Sheepfoot, Sideboom, Throttle-Valve Man, Rotary Drill, Power Generator, Mucking Machine, Rock Spreader attached to Equipment, Scoopmobile, KeCal Loader, Tower Cranes,(French, German and other types), Hydrocrane, Tugger, Backfiller Gurries, Self-propelled Compactor, Self-Contained Hydraulic Percussion Drill
GROUP 2: All Air Compressors (200 cu ft/min or greater), Bituminous Mixer, Concrete Mixer (21 cu. ft. or over), Welding Machine, Form Grader, Tractor (50 hp and over), Bull Float, Finish Machine, Outboard Motor Boat, Brakeman, Mechanic Tender, Whirly Oiler, Tract-air, Road Widening Trencher, Articulating Trucks
GROUP 3: Greaser on Grease Facilities servicing Heavy Equipment
GROUP 4: Bituminous Distributor, Cement Gun, Conveyor, Mud Jack, Paving Joint Machine, Pump, Tamping Machine, Tractor (under 50 hp), Vibrator, Oiler, Air Compressor (under 200 cu ft per minute), Concrete Saw, Burlap and Curing Machine, Hydro Seeder, Power Form Handling Equipment, Deckhand Oiler, Hydraulic Post Driver

SHEET METAL WORKER	$ 20.40	7.80

TRUCK DRIVER
Driver (3 Tons and Over), Driver (Truck Mounted Rotary Drill).....$ 23.74 14.50
Driver (3 Tons and Under), Tire Changer and Truck Mechanic Tender.....$ 23.53 14.50
Driver (Semi-Trailer or Pole Trailer), Driver (Dump Truck, Tandem Axle), Driver of Distributor.....$ 23.40 14.50
Driver on Mixer Trucks (All Types).....$ 23.45 14.50
Driver on Pavement Breakers.$ 23.55 14.50
Driver, Euclid and Other Heavy Earth Moving Equipment and Low Boy.....$ 24.31 14.50
Driver, Winch Truck and A-Frame when used in Transporting Materials.....$ 23.30 14.50
Greaser on Greasing Facilities.....$ 24.40 14.50
Truck Mechanic.....$ 23.50 14.50
Truck Tender and Warehouseman.....$ 23.20 14.50

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 https://www.dol.gov/agencies/whd/government-contracts.

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)).

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.

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 National Office because National Office has 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 DECISIO"

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:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
12.0%	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 Clinton 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:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
7.0%	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 Russell County.

PART IV

INSURANCE

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

PART V

BID ITEMS

221321

PROPOSAL BID ITEMS

Report Date 4/27/22

Section: 0001 - PAVING - ASPHALT

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	104,757.00	TON		$	
0020	00100		ASPHALT SEAL AGGREGATE	768.00	TON		$	
0030	00103		ASPHALT SEAL COAT	92.00	TON		$	
0040	00190		LEVELING & WEDGING PG64-22	154.00	TON		$	
0050	00212		CL2 ASPH BASE 1.00D PG64-22	50,400.00	TON		$	
0060	00214		CL3 ASPH BASE 1.00D PG64-22	15,740.00	TON		$	
0070	00301		CL2 ASPH SURF 0.38D PG64-22	14,365.00	TON		$	
0080	00339		CL3 ASPH SURF 0.38D PG64-22	4,051.00	TON		$	
0090	00356		ASPHALT MATERIAL FOR TACK	158.00	TON		$	
0100	10203ND		PAVEMENT ADJUSTMENT	1.00	LS	$980,202.0	$	$980,202.00
0110	20071EC		JOINT ADHESIVE	65,878.00	LF		$	
0120	24781EC		INTELLIGENT COMPACTION FOR ASPHALT	72,334.00	TON		$	
0130	24891EC		PAVE MOUNT INFRARED TEMP EQUIPMENT	4,592,772.00	SF		$	

Section: 0002 - PAVING - CONC CONC

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0140	00003		CRUSHED STONE BASE	100,284.00	TON		$	
0150	00100		ASPHALT SEAL AGGREGATE	768.00	TON		$	
0160	00103		ASPHALT SEAL COAT	92.00	TON		$	
0170	00190		LEVELING & WEDGING PG64-22	154.00	TON		$	
0180	00212		CL2 ASPH BASE 1.00D PG64-22	9,493.00	TON		$	
0190	00301		CL2 ASPH SURF 0.38D PG64-22	2,728.00	TON		$	
0200	00339		CL3 ASPH SURF 0.38D PG64-22	472.00	TON		$	
0210	00356		ASPHALT MATERIAL FOR TACK	24.00	TON		$	
0220	02078		JPC PAVEMENT-6 IN SHLD	52,668.00	SQYD		$	
0230	02084		JPC PAVEMENT-8 IN	132,490.00	SQYD		$	
0240	10203ND		PAVEMENT ADJUSTMENT	1.00	LS	$727,923.0	$	$727,923.00
0250	20071EC		JOINT ADHESIVE	9,156.00	LF		$	

Section: 0003 - PAVING - CONC ASPHALT

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0260	00003		CRUSHED STONE BASE	103,294.00	TON		$	
0270	00100		ASPHALT SEAL AGGREGATE	768.00	TON		$	
0280	00103		ASPHALT SEAL COAT	92.00	TON		$	
0290	00190		LEVELING & WEDGING PG64-22	154.00	TON		$	
0300	00212		CL2 ASPH BASE 1.00D PG64-22	18,526.00	TON		$	
0310	00301		CL2 ASPH SURF 0.38D PG64-22	7,063.00	TON		$	
0320	00339		CL3 ASPH SURF 0.38D PG64-22	472.00	TON		$	
0330	00356		ASPHALT MATERIAL FOR TACK	47.00	TON		$	
0340	02084		JPC PAVEMENT-8 IN	131,888.00	SQYD		$	
0350	10203ND		PAVEMENT ADJUSTMENT	1.00	LS	$727,923.0	$	$727,923.00
0360	20071EC		JOINT ADHESIVE	9,156.00	LF		$	
0370	24781EC		INTELLIGENT COMPACTION FOR ASPHALT	13,840.00	TON		$	

221321

PROPOSAL BID ITEMS

Report Date 4/27/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0380	24891EC		PAVE MOUNT INFRARED TEMP EQUIPMENT	1,010,862.00	SF		$	

Section: 0004 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0390	00078		CRUSHED AGGREGATE SIZE NO 2	52.00	TON		$	
0400	01000		PERFORATED PIPE-4 IN	2,376.00	LF		$	
0410	01010		NON-PERFORATED PIPE-4 IN	1,187.00	LF		$	
0420	01020		PERF PIPE HEADWALL TY 1-4 IN	25.00	EACH		$	
0430	01024		PERF PIPE HEADWALL TY 2-4 IN	2.00	EACH		$	
0440	01028		PERF PIPE HEADWALL TY 3-4 IN	21.00	EACH		$	
0450	01032		PERF PIPE HEADWALL TY 4-4 IN	4.00	EACH		$	
0460	01310		REMOVE PIPE	24.00	LF		$	
0470	01691		FLUME INLET TYPE 2	9.00	EACH		$	
0480	01984		DELINEATOR FOR BARRIER - WHITE	21.00	EACH		$	
0490	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	426.00	EACH		$	
0500	02014		BARRICADE-TYPE III	36.00	EACH		$	
0510	02091		REMOVE PAVEMENT	1,517.00	SQYD		$	
0520	02159		TEMP DITCH	18,501.00	LF		$	
0530	02160		CLEAN TEMP DITCH	9,251.00	LF		$	
0540	02200		ROADWAY EXCAVATION	5,033,506.00	CUYD		$	
0550	02230		EMBANKMENT IN PLACE	7,981.00	CUYD		$	
0560	02242		WATER	474.00	MGAL		$	
0570	02262		FENCE-WOVEN WIRE TYPE 1	57,625.00	LF		$	
0580	02360		GUARDRAIL TERMINAL SECTION NO 1	36.00	EACH		$	
0590	02367		GUARDRAIL END TREATMENT TYPE 1	31.00	EACH		$	
0600	02369		GUARDRAIL END TREATMENT TYPE 2A	9.00	EACH		$	
0610	02371		GUARDRAIL END TREATMENT TYPE 7	1.00	EACH		$	
0620	02381		REMOVE GUARDRAIL	3,775.00	LF		$	
0630	02391		GUARDRAIL END TREATMENT TYPE 4A	17.00	EACH		$	
0640	02397		TEMP GUARDRAIL	4,237.50	LF		$	
0650	02429		RIGHT-OF-WAY MONUMENT TYPE 1	199.00	EACH		$	
0660	02432		WITNESS POST	24.00	EACH		$	
0670	02475		PLUG WATER WELL	1.00	EACH		$	
0680	02483		CHANNEL LINING CLASS II	4,779.00	TON		$	
0690	02488		CHANNEL LINING CLASS IV	32,796.00	CUYD		$	
0700	02545		CLEARING AND GRUBBING (CLINTON-89 ACRES)	1.00	LS		$	
0710	02545		CLEARING AND GRUBBING (RUSSELL 8-108.00)	1.00	LS		$	
0720	02545		CLEARING AND GRUBBING (RUSSELL 8-8601.21)	1.00	LS		$	
0730	02555		CONCRETE-CLASS B	1,150.40	CUYD		$	
0740	02562		TEMPORARY SIGNS	1,125.00	SQFT		$	
0750	02585		EDGE KEY	637.70	LF		$	
0760	02601		FINAL DRESSING CLASS B	10,533.00	LF		$	
0770	02602		FABRIC-GEOTEXTILE CLASS 1	532.00	SQYD		$	
0780	02603		FABRIC-GEOTEXTILE CLASS 2	12,450.00	SQYD		$	

PROPOSAL BID ITEMS

221321

Report Date 4/27/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0790	02604		FABRIC-GEOTEXTILE CLASS 1A	107,400.00	SQYD		$	
0800	02607		FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	18,563.00	SQYD	$2.00	$	$37,126.00
0810	02610		RETAINING WALL-GABION	1,006.00	CUYD		$	
0820	02650		MAINTAIN & CONTROL TRAFFIC (CLINTON)	1.00	LS		$	
0830	02650		MAINTAIN & CONTROL TRAFFIC (RUSSELL 8-108.00)	1.00	LS		$	
0840	02650		MAINTAIN & CONTROL TRAFFIC (RUSSELL 8-8601.21)	1.00	LS		$	
0850	02651		DIVERSIONS (BY-PASS DETOURS) (STA 34+50 - STA 39+50 OLD US 127)	1.00	LS		$	
0860	02651		DIVERSIONS (BY-PASS DETOURS) (STA 58+60 - STA 60+60 OLD US 127)	1.00	LS		$	
0870	02671		PORTABLE CHANGEABLE MESSAGE SIGN	5.00	EACH		$	
0880	02692		SETTLEMENT PLATFORM	2.00	EACH		$	
0890	02696		SHOULDER RUMBLE STRIPS	64,603.00	LF		$	
0900	02697		EDGELINE RUMBLE STRIPS	4,854.00	LF		$	
0910	02701		TEMP SILT FENCE	18,501.00	LF		$	
0920	02703		SILT TRAP TYPE A	306.00	EACH		$	
0930	02704		SILT TRAP TYPE B	306.00	EACH		$	
0940	02705		SILT TRAP TYPE C	306.00	EACH		$	
0950	02706		CLEAN SILT TRAP TYPE A	306.00	EACH		$	
0960	02707		CLEAN SILT TRAP TYPE B	306.00	EACH		$	
0970	02708		CLEAN SILT TRAP TYPE C	306.00	EACH		$	
0980	02711		SEDIMENTATION BASIN	12,335.00	CUYD		$	
0990	02712		CLEAN SEDIMENTATION BASIN	12,335.00	CUYD		$	
1000	02726		STAKING (CLINTON)	1.00	LS		$	
1010	02726		STAKING (RUSSELL - 8-8601.21)	1.00	LS		$	
1020	02726		STAKING (RUSSELL 8-108.00)	1.00	LS		$	
1030	03171		CONCRETE BARRIER WALL TYPE 9T	240.00	LF		$	
1040	03340		STEEL PIPE-2 1/2 IN	63.00	LF		$	
1050	03343		STEEL PIPE-4 IN	63.00	LF		$	
1060	05950		EROSION CONTROL BLANKET	82,400.00	SQYD		$	
1070	05952		TEMP MULCH	988,692.00	SQYD		$	
1080	05953		TEMP SEEDING AND PROTECTION	754,000.00	SQYD		$	
1090	05963		INITIAL FERTILIZER	30.18	TON		$	
1100	05964		MAINTENANCE FERTILIZER	50.46	TON		$	
1110	05985		SEEDING AND PROTECTION	900,231.00	SQYD		$	
1120	05990		SODDING	1,000.00	SQYD		$	
1130	05992		AGRICULTURAL LIMESTONE	688.50	TON		$	
1140	06514		PAVE STRIPING-PERM PAINT-4 IN	19,890.00	LF		$	
1150	06542		PAVE STRIPING-THERMO-6 IN W	83,924.00	LF		$	
1160	06543		PAVE STRIPING-THERMO-6 IN Y	57,257.00	LF		$	
1170	06547		PAVE STRIPING-THERMO-12 IN Y	22.00	LF		$	
1180	06556		PAVE STRIPING-DUR TY 1-6 IN W	9,498.00	LF		$	
1190	06557		PAVE STRIPING-DUR TY 1-6 IN Y	6,804.00	LF		$	
1200	06568		PAVE MARKING-THERMO STOP BAR-24IN	295.00	LF		$	
1210	06569		PAVE MARKING-THERMO CROSS-HATCH	1,998.00	SQFT		$	
1220	06574		PAVE MARKING-THERMO CURV ARROW	15.00	EACH		$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1230	06575		PAVE MARKING-THERMO COMB ARROW	2.00	EACH		$	
1240	20191ED		OBJECT MARKER TY 3	48.00	EACH		$	
1250	20430ED		SAW CUT	168.00	LF		$	
1260	20458ES403		CENTERLINE RUMBLE STRIPS	34,298.00	LF		$	
1270	21289ED		LONGITUDINAL EDGE KEY	579.00	LF		$	
1280	21802EN		G/R STEEL W BEAM-S FACE (7 FT POST)	31,075.00	LF		$	
1290	22664EN		WATER BLASTING EXISTING STRIPE	1,000.00	LF		$	
1300	23274EN11F		TURF REINFORCEMENT MAT 1	213.90	SQYD		$	
1310	23607EC		PAVE MARK THERMO-LANE REDUCTION ARROW	9.00	EACH		$	
1320	23649EC		DRAIN POND	1.00	LS		$	
1330	24540		R/W MONUMENT TYPE 3	46.00	EACH		$	
1340	24814EC		PIPELINE INSPECTION	6,944.00	LF		$	
1350	24843EC		VIBRATING WIRE PIEZOMETER	3.00	EACH		$	
1360	25078ED		THRIE BEAM GUARDRAIL TRANSITION TL-3	20.00	EACH		$	

Section: 0005 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1370	00440		ENTRANCE PIPE-15 IN	258.00	LF		$	
1380	00441		ENTRANCE PIPE-18 IN	131.00	LF		$	
1390	00443		ENTRANCE PIPE-24 IN	82.00	LF		$	
1400	00462		CULVERT PIPE-18 IN	115.00	LF		$	
1410	00464		CULVERT PIPE-24 IN	147.00	LF		$	
1420	00466		CULVERT PIPE-30 IN	839.00	LF		$	
1430	00468		CULVERT PIPE-36 IN	569.00	LF		$	
1440	00469		CULVERT PIPE-42 IN	288.00	LF		$	
1450	00470		CULVERT PIPE-48 IN	2,408.00	LF		$	
1460	00471		CULVERT PIPE-54 IN	330.00	LF		$	
1470	00472		CULVERT PIPE-60 IN	1,362.00	LF		$	
1480	00473		CULVERT PIPE-66 IN	108.00	LF		$	
1490	00501		CULVERT PIPE-60 IN EQUIV	298.00	LF		$	
1500	00528		STORM SEWER PIPE-36 IN	244.00	LF		$	
1510	01204		PIPE CULVERT HEADWALL-18 IN	1.00	EACH		$	
1520	01208		PIPE CULVERT HEADWALL-24 IN	2.00	EACH		$	
1530	01210		PIPE CULVERT HEADWALL-30 IN	9.00	EACH		$	
1540	01212		PIPE CULVERT HEADWALL-36 IN	6.00	EACH		$	
1550	01214		PIPE CULVERT HEADWALL-42 IN	4.00	EACH		$	
1560	01216		PIPE CULVERT HEADWALL-48 IN	20.00	EACH		$	
1570	01220		PIPE CULVERT HEADWALL-60 IN	6.00	EACH		$	
1580	01221		PIPE CULVERT HEADWALL-60 IN EQUIV	4.00	EACH		$	
1590	01222		PIPE CULVERT HEADWALL-66 IN	2.00	EACH		$	
1600	01434		SLOPED BOX OUTLET TYPE 1-24 IN	2.00	EACH		$	
1610	01452		S & F BOX INLET-OUTLET-30 IN	2.00	EACH		$	
1620	01453		S & F BOX INLET-OUTLET-36 IN	6.00	EACH		$	
1630	01490		DROP BOX INLET TYPE 1	3.00	EACH		$	
1640	01493		DROP BOX INLET TYPE 2	9.00	EACH		$	
1650	01580		DROP BOX INLET TYPE 15	1.00	EACH		$	
1660	01644		JUNCTION BOX-30 IN	1.00	EACH		$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1670	20597EC		DITCH EXCAVATION	3,695.00	CUYD		$	
1680	24026EC		PIPE CULVERT HEADWALL-54 IN	4.00	EACH		$	
1690	24575ES610		HEADWALL CONC S&P - 15 IN	8.00	EACH		$	
1700	24575ES610		HEADWALL CONC S&P - 18 IN	1.00	EACH		$	
1710	24575ES610		HEADWALL CONC S&P - 24 IN	2.00	EACH		$	
1720	24583EC		HDPE PIPE LINER -	269.00	LF		$	

Section: 0006 - BRIDGE - 27543

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1730	02603		FABRIC-GEOTEXTILE CLASS 2	1,415.00	SQYD		$	
1740	02604		FABRIC-GEOTEXTILE CLASS 1A	1,503.00	SQYD		$	
1750	02998		MASONRY COATING	5,099.00	SQYD		$	
1760	03299		ARMORED EDGE FOR CONCRETE	84.00	LF		$	
1770	08001		STRUCTURE EXCAVATION-COMMON	854.00	CUYD		$	
1780	08002		STRUCTURE EXCAV-SOLID ROCK	495.00	CUYD		$	
1790	08019		CYCLOPEAN STONE RIP RAP	857.00	TON		$	
1800	08020		CRUSHED AGGREGATE SLOPE PROT	459.00	TON		$	
1810	08033		TEST PILES	86.00	LF		$	
1820	08046		PILES-STEEL HP12X53	1,270.00	LF		$	
1830	08094		PILE POINTS-12 IN	32.00	EACH		$	
1840	08100		CONCRETE-CLASS A	2,040.00	CUYD		$	
1850	08104		CONCRETE-CLASS AA	965.00	CUYD		$	
1860	08150		STEEL REINFORCEMENT	337,219.00	LB		$	
1870	08151		STEEL REINFORCEMENT-EPOXY COATED	318,595.00	LB		$	
1880	08472		EXPANSION DAM-4 IN NEOPRENE	90.00	LF		$	
1890	08637		PRECAST PC I BEAM TYPE 7	3,218.00	LF		$	
1900	24596EN		GRANULAR BACKFILL	583.00	CUYD		$	
1910	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	1,683.00	LF		$	

Section: 0007 - BRIDGE - 27544

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1920	02231		STRUCTURE GRANULAR BACKFILL	322.20	CUYD		$	
1930	02603		FABRIC-GEOTEXTILE CLASS 2	307.00	SQYD		$	
1940	02998		MASONRY COATING	2,940.00	SQYD		$	
1950	08001		STRUCTURE EXCAVATION-COMMON	963.00	CUYD		$	
1960	08002		STRUCTURE EXCAV-SOLID ROCK	949.00	CUYD		$	
1970	08100		CONCRETE-CLASS A	1,341.30	CUYD		$	
1980	08104		CONCRETE-CLASS AA	938.40	CUYD		$	
1990	08150		STEEL REINFORCEMENT	325,299.00	LB		$	
2000	08151		STEEL REINFORCEMENT-EPOXY COATED	269,541.00	LB		$	
2010	08500		APPROACH SLAB	217.00	SQYD		$	
2020	08635		PRECAST PC I BEAM TYPE 6	2,629.30	LF		$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2030	20637ED		DRILLED SHAFT-ROCK 48 IN	24.00	LF		$	
2040	20745ED		ROCK SOUNDINGS	81.20	LF		$	
2050	20746ED		ROCK CORINGS	96.00	LF		$	
2060	21321NC		CSL TESTING (4 TUBES)	7.00	EACH		$	
2070	21420ED		DRILLED SHAFT-66 IN (COMMON)	49.80	LF		$	
2080	21421ED		DRILLED SHAFT-60 IN (SOLID ROCK)	40.00	LF		$	
2090	21777EN		DRILLED SHAFT COMMON-54 IN	31.40	LF		$	
2100	23813EC		DECK DRAIN	5.00	EACH		$	
2110	24737EC		CAVITY STABILIZATION	41.00	CUYD		$	
2120	24738EC		REDRILLING CAVITY STABILIZATION	64.00	LF		$	
2130	24743EC		TIP TESTING (4 TUBES)	7.00	EACH		$	
2140	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	1,427.60	LF		$	

Section: 0008 - BRIDGE - 27545

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2150	02231		STRUCTURE GRANULAR BACKFILL	251.00	CUYD		$	
2160	02603		FABRIC-GEOTEXTILE CLASS 2	334.00	SQYD		$	
2170	02998		MASONRY COATING	2,943.00	SQYD		$	
2180	08001		STRUCTURE EXCAVATION-COMMON	1,138.00	CUYD		$	
2190	08002		STRUCTURE EXCAV-SOLID ROCK	717.00	CUYD		$	
2200	08020		CRUSHED AGGREGATE SLOPE PROT	287.00	TON		$	
2210	08033		TEST PILES	66.00	LF		$	
2220	08039		PRE-DRILLING FOR PILES	84.00	LF		$	
2230	08050		PILES-STEEL HP14X73	425.00	LF		$	
2240	08095		PILE POINTS-14 IN	16.00	EACH		$	
2250	08100		CONCRETE-CLASS A	1,639.19	CUYD		$	
2260	08104		CONCRETE-CLASS AA	901.30	CUYD		$	
2270	08150		STEEL REINFORCEMENT	401,623.00	LB		$	
2280	08151		STEEL REINFORCEMENT-EPOXY COATED	265,404.00	LB		$	
2290	08500		APPROACH SLAB	203.00	SQYD		$	
2300	08635		PRECAST PC I BEAM TYPE 6	2,669.30	LF		$	
2310	23813EC		DECK DRAIN	12.00	EACH		$	
2320	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	1,346.00	LF		$	

Section: 0009 - BRIDGE - 27541

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2330	02603		FABRIC-GEOTEXTILE CLASS 2	540.00	SQYD		$	
2340	02604		FABRIC-GEOTEXTILE CLASS 1A	2,426.00	SQYD		$	
2350	02998		MASONRY COATING	1,674.00	SQYD		$	
2360	03299		ARMORED EDGE FOR CONCRETE	72.00	LF		$	
2370	08001		STRUCTURE EXCAVATION-COMMON	487.00	CUYD		$	
2380	08002		STRUCTURE EXCAV-SOLID ROCK	19.00	CUYD		$	
2390	08019		CYCLOPEAN STONE RIP RAP	559.00	TON		$	
2400	08020		CRUSHED AGGREGATE SLOPE PROT	445.00	TON		$	
2410	08033		TEST PILES	76.00	LF		$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2420	08046		PILES-STEEL HP12X53	1,005.00	LF		$	
2430	08094		PILE POINTS-12 IN	14.00	EACH		$	
2440	08100		CONCRETE-CLASS A	1,301.00	CUYD		$	
2450	08104		CONCRETE-CLASS AA	847.00	CUYD		$	
2460	08150		STEEL REINFORCEMENT	188,256.00	LB		$	
2470	08151		STEEL REINFORCEMENT-EPOXY COATED	269,805.00	LB		$	
2480	08472		EXPANSION DAM-4 IN NEOPRENE	72.00	LF		$	
2490	08639		PRECAST PC I BEAM TYPE 9	2,760.00	LF		$	
2500	20745ED		ROCK SOUNDINGS	166.00	LF		$	
2510	20746ED		ROCK CORINGS	407.00	LF		$	
2520	21322NC		CSL TESTING (6 TUBES)	4.00	EACH		$	
2530	23583EC		DRILLED SHAFT-48 IN-COMMON	27.00	LF		$	
2540	23584EC		DRILLED SHAFT-42 IN-ROCK	28.00	LF		$	
2550	24596EN		GRANULAR BACKFILL	521.00	CUYD		$	
2560	24874EC		TIP TESTING	12.00	EACH		$	
2570	24875EC		CSL TESTING (8 TUBES)	8.00	EACH		$	
2580	25003EC		DRILLED SHAFT - 96 IN (COMMON)	139.00	LF		$	
2590	25004EC		DRILLED SHAFT - 90 IN (SOLID ROCK)	151.00	LF		$	
2600	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	1,468.00	LF		$	

Section: 0010 - BRIDGE - 27542 HOLLOW COLUMN

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2610	02603		FABRIC-GEOTEXTILE CLASS 2	909.00	SQYD		$	
2620	02604		FABRIC-GEOTEXTILE CLASS 1A	4,465.00	SQYD		$	
2630	02998		MASONRY COATING	3,140.00	SQYD		$	
2640	03299		ARMORED EDGE FOR CONCRETE	96.00	LF		$	
2650	08001		STRUCTURE EXCAVATION-COMMON	1,982.00	CUYD		$	
2660	08002		STRUCTURE EXCAV-SOLID ROCK	9,513.00	CUYD		$	
2670	08020		CRUSHED AGGREGATE SLOPE PROT	1,292.00	TON		$	
2680	08033		TEST PILES	138.00	LF		$	
2690	08051		PILES-STEEL HP14X89	3,093.00	LF		$	
2700	08095		PILE POINTS-14 IN	69.00	EACH		$	
2710	08100		CONCRETE-CLASS A	4,160.00	CUYD		$	
2720	08104		CONCRETE-CLASS AA	1,992.00	CUYD		$	
2730	08150		STEEL REINFORCEMENT	740,246.00	LB		$	
2740	08151		STEEL REINFORCEMENT-EPOXY COATED	722,594.00	LB		$	
2750	08160		STRUCTURAL STEEL (27542)	1.00	LS		$	
2760	08170		SHEAR CONNECTORS (27542-15,375)	1.00	LS		$	
2770	23859EC		FINGER EXPANSION JOINT	96.00	LF		$	
2780	24596EN		GRANULAR BACKFILL	1,142.00	CUYD		$	
2790	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	2,643.00	LF		$	

Section: 0011 - BRIDGE - 27542 H COLUMN

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2800	02603		FABRIC-GEOTEXTILE CLASS 2	909.00	SQYD		$	
2810	02604		FABRIC-GEOTEXTILE CLASS 1A	4,465.00	SQYD		$	
2820	02998		MASONRY COATING	3,140.00	SQYD		$	
2830	03299		ARMORED EDGE FOR CONCRETE	96.00	LF		$	
2840	08001		STRUCTURE EXCAVATION-COMMON	1,982.00	CUYD		$	
2850	08002		STRUCTURE EXCAV-SOLID ROCK	9,513.00	CUYD		$	
2860	08020		CRUSHED AGGREGATE SLOPE PROT	1,292.00	TON		$	
2870	08033		TEST PILES	138.00	LF		$	
2880	08051		PILES-STEEL HP14X89	3,093.00	LF		$	
2890	08095		PILE POINTS-14 IN	69.00	EACH		$	
2900	08100		CONCRETE-CLASS A	3,188.00	CUYD		$	
2910	08104		CONCRETE-CLASS AA	2,780.00	CUYD		$	
2920	08150		STEEL REINFORCEMENT	937,144.00	LB		$	
2930	08151		STEEL REINFORCEMENT-EPOXY COATED	722,594.00	LB		$	
2940	08160		STRUCTURAL STEEL (27542)	1.00	LS		$	
2950	08170		SHEAR CONNECTORS (27542-15,375)	1.00	LS		$	
2960	23859EC		FINGER EXPANSION JOINT	96.00	LF		$	
2970	24596EN		GRANULAR BACKFILL	1,142.00	CUYD		$	
2980	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	2,643.00	LF		$	

Section: 0012 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2990	06401		FLEXIBLE DELINEATOR POST-M/W	6.00	EACH		$	
3000	06406		SBM ALUM SHEET SIGNS .080 IN	1,319.00	SQFT		$	
3010	06407		SBM ALUM SHEET SIGNS .125 IN	423.00	SQFT		$	
3020	06410		STEEL POST TYPE 1	3,590.00	LF		$	
3030	06490		CLASS A CONCRETE FOR SIGNS	.50	CUYD		$	
3040	21373ND		REMOVE SIGN	2.00	EACH		$	
3050	21596ND		GMSS TYPE D	2.00	EACH		$	
3060	24631EC		BARCODE SIGN INVENTORY	299.00	EACH		$	
3070	24751ED		REMOVE STORE & REINSTALL -	1.00	EACH		$	

Section: 0013 - TRAINEES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3080	02742		TRAINEE PAYMENT REIMBURSEMENT GROUP 2, 3, 4 OPERATOR	1,400.00	HOUR		$	
3090	02742		TRAINEE PAYMENT REIMBURSEMENT GROUP 2, 3, 4, OPERATOR	1,400.00	HOUR		$	
3100	02742		TRAINEE PAYMENT REIMBURSEMENT IRONWORKER	1,400.00	HOUR		$	

Section: 0014 - DEMOBILIZATION & MOBILIZATION

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3110	**02568**		**MOBILIZATION**	**1.00**	**LS**		**$**	
3120	**02569**		**DEMOBILIZATION**	**1.00**	**LS**		**$**	