CALL NO. 200

CONTRACT ID. 255397

GRAVES - HICKMAN COUNTIES

FED/STATE PROJECT NUMBER 121GR25D097 - STP BRZ

DESCRIPTION VARIOUS PROJECTS IN DISTRICT 1

WORK TYPE BRIDGE REPLACEMENT

PRIMARY COMPLETION DATE 7/31/2027

LETTING DATE: November 20,2025

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN STANDARD TIME November 20,2025. Bids will be publicly announced at 10:00 AM EASTERN STANDARD TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

DBE CERTIFICATION REQUIRED - 0%

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

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PART I

SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 01

CONTRACT ID - 255397

121GR25D097 - STP BRZ

COUNTY - GRAVES

PCN - BR04200452500
STP BRZ 9030 (455)

US 45 (MP 1.76) ADDRESS DEFICIENCIES OF US 45 OVER JACKSON CREEK (042B00090N) (MP 1.84), A DISTANCE OF 0.08 MILES.BRIDGE REPLACEMENT SYP NO. 01-10128.00.

GEOGRAPHIC COORDINATES LATITUDE 36:34:53.00 LONGITUDE 88:48:05.00

ADT 1,211

COUNTY - HICKMAN

PCN - BR05300512500
STP BRZ 9030 (515)

US 51 (MP 9.813) ADDRESS DEFICIENCIES OF US 51 OVER CANE CREEK (053B00029N) (MP 9.940), A DISTANCE OF 0.12 MILES.BRIDGE REPLACEMENT SYP NO. 01-10146.00.

GEOGRAPHIC COORDINATES LATITUDE 38:36:13.00 LONGITUDE 88:56:34.00

ADT 1,968

COMPLETION DATE(S):

COMPLETED BY 07/31/2027	APPLIES TO ENTIRE PROJECT
COMPLETED BY 12/31/2026	MILESTONE COMPLETION: 1 BRIDGE COMPLETE AND OPEN TO TRAFFIC

CONTRACT NOTES

INSURANCE

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

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 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/construction-procurement). 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 state agency certifies that it is in compliance with the provisions of KRS 45A.150, "Access to contractor's books, documents, papers, records, or other evidence directly pertinent to the contract." The Contractor, as defined in KRS 45A.030, 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 agreement for the purpose of financial audit or program review. 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. Records and other prequalification information confidentially disclosed as part of the bid process shall not be deemed as directly pertinent to the agreement and shall be exempt from disclosure as provided in KRS 61.878(1)(c).

BOYCOTT PROVISIONS

If applicable, the contractor represents that, pursuant to KRS 45A.607, they are not currently engaged in, and will not for the duration of the contract engage in, the boycott of a person or an entity based in or doing business with a jurisdiction with which Kentucky can enjoy open trade. **Note:** The term Boycott does not include actions taken for bona fide business or economic reasons, or actions specifically required by federal or state law.

If applicable, the contractor verifies that, pursuant to KRS 41.480, they do not engage in, and will not for the duration of the contract engage in, in energy company boycotts as defined by KRS 41.472.

LOBBYING PROHIBITIONS

The contractor represents that they, and any subcontractor performing work under the contract, have not violated the agency restrictions contained in KRS 11A.236 during the previous ten (10) years, and pledges to abide by the restrictions set forth in such statute for the duration of the contract awarded.

The contractor further represents that, pursuant to KRS 45A.328, they have not procured an original, subsequent, or similar contract while employing an executive agency lobbyist who was convicted of a crime related to the original, subsequent, or similar contract within five (5) years of the conviction of the lobbyist.

SPECIAL NOTE – BUY AMERICA REQUIREMENTS AND BUILD AMERICA, BUY AMERICA (BABA) ACT 05/05/2025

1.0 BUY AMERICA REQUIREMENT.

Follow the "Buy America" provisions as required by 23 U.S.C. § 313 and 23 C.F.R. § 635.410. Except as expressly provided herein all manufacturing processes of steel or iron materials including but not limited to structural steel, guardrail materials, corrugated steel, culvert pipe, structural plate, prestressing strands, and steel reinforcing bars shall occur in the United States of America, including the application of:

- Coating,
- Galvanizing,
- Painting, and
- Other coating that protects or enhances the value of steel or iron products.

The following are exempt, unless processed or refined to include substantial amounts of steel or iron material, and may be used regardless of source in the domestic manufacturing process for steel or iron material:

- Pig iron,
- Processed, pelletized, and reduced iron ore material, or
- Processed alloys.

The Contractor shall submit a certification stating that all manufacturing processes involved with the production of steel or iron materials occurred in the United States.

Produce, mill, fabricate, and manufacture in the United States of America all aluminum components of bridges, tunnels, and large sign support systems, for which either shop fabrication, shop inspection, or certified mill test reports are required as the basis of acceptance by the Department.

Use foreign materials only under the following conditions:

1) When the materials are not permanently incorporated into the project; or
2) When the delivered cost of such materials used does not exceed 0.1 percent of the total Contract amount or $2,500.00, whichever is greater.

The Contractor shall submit to the Engineer the origin and value of any foreign material used.

2.0 – BUILD AMERICA, BUY AMERICA (BABA)

Contractor shall comply with the Federal Highway Administration (FHWA) Buy America Requirement in 23 C.F.R. § 635.410 and all relevant provisions of the Build America, Buy America Act (BABA), contained within the Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, §§ 70901-52 enacted November 15, 2021. The BABA requires iron, steel, manufactured products, and construction materials used in infrastructure projects funded by federal financial assistance to be produced in the United States. Comply with 2 C.F.R § 184.

BABA permits FHWA participation in the Contract only if domestic steel and iron will be used on the Project. To be considered domestic, all steel and iron used, and all products manufactured from steel and iron must be produced in the United States and all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied. This requirement does not preclude a minimal use of foreign steel and iron materials, provided the cost of such materials does not exceed 0.1% of the total contract amount under the Contract or $2,500.00 whichever is greater.

BABA permits FHWA participation in the Contract only if all "construction materials" as defined in the Act are made in the United States. The Buy America preference applies to the following construction materials incorporated into infrastructure projects: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); Fiber optic cable; optical fiber; lumber; engineered wood; and drywall. Contractor will be

required to use construction materials produced in the United States on this Project. The Contractor shall submit a certification stating that all construction materials are certified to be BABA compliant.

3.0 FINAL RULE – FHWA'S BUY AMERICA REGULATION TO TERMINATE GENERAL APPLICABILITY WAIVER FOR MANUFACTURED PRODUCTS

- **March 17, 2025** (effective date): For all Federal-aid projects obligated on or after March 15, 2025, all iron or steel products, as defined in § 635.410(c)(1)(iii), must comply with FHWA's Buy America requirements for steel and iron in § 635.410(b). In addition, for all Federal-aid projects obligated on or after March 15, 2025, per § 635.410(c)(2), articles, materials, and supplies should be classified as an iron or steel product, a manufactured product, or another product as specified by law or in 2 CFR part 184 (such other products specified by law or in 2 CFR part 184 include "excluded materials" and "construction materials"); an article, material, or supply must not be considered to fall into multiple categories.
- **October 1, 2025:** The final assembly requirement will become effective for Federal-aid projects obligated on or after October 1, 2025. This means that, for manufactured product to be Buy America compliant, for Federal-aid projects obligated on or after October 1, 2025, final assembly of the manufactured product must occur in the United States.
- **October 1, 2026:** The 55 percent requirement will become effective for Federal-aid projects obligated on or after October 1, 2026. This means that, for manufactured product to be Buy America-compliant, for Federal-aid projects obligated on or after October 1, 2026, all manufactured products permanently incorporated into the project must both be manufactured in the United States (satisfy the final assembly requirement) and have the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States be greater than 55 percent of the total cost of all components of the manufactured product (satisfy the 55 percent requirement).

4.0 – ADDITIONAL REQUIREMENTS

The Contractor has completed and submitted, or shall complete and submit, to the Cabinet a Buy America/ Build America, Buy America Certificate prior to the Cabinet issuing the notice to proceed, in the format below. After submittal, the Contractor is bound by its original certification.

A false certification is a criminal act in violation of 18 U.S.C. § 1001. The Contractor has the burden of proof to establish that it's in compliance.

At the Contractor's request, the Cabinet may, but is not obligated to, seek a waiver of Buy America requirements if grounds for the waiver exist under 23 C.F.R. § 635.410(c) or will comply with the applicable Buy America requirements if a waiver of those requirements is not available or not pursued by the Cabinet.

Please refer to the Federal Highway Administration's Buy America webpage for more information.

Buy America - Construction Program Guide - Contract Administration - Construction - Federal Highway Administration (dot.gov)

SPECIAL NOTE – BUY AMERICA REQUIREMENTS AND BUILD AMERICA, BUY AMERICA (BABA) ACT 05/05/2025

BUY AMERICA / BUILD AMERICA, BUY AMERICA (ACT) MATERIALS CERTIFICATE OF COMPLIANCE

The Contractor hereby certifies that it will comply with all relevant provisions of the Build America, Buy America Act, contained within the Infrastructure Investment and Jobs Act, Pub. L. NO. 117-58, §§ 70901-52, the requirements of 23 U.S.C. § 313, 23 C.F.R. § 635.410 and 2 C.F.R § 184.

Date Submitted:_____

Contractor:_____

Signature:_____

Printed Name:_____

Title:_____

NOTE: THIS CERTIFICATION IS IN ADDITION TO ANY AND ALL REQUIREMENTS OUTLINED IN THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND/OR SPECIAL NOTES CONTAINED IN THE PROJECT PROPOSAL.

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. S u b - 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.

AFTER PROJECT AWARD AND BEFORE NOTICE TO PROCEED/WORK ORDER IS ISSUED (SEE SECTION 103.06, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

Prime Contractors awarded a federally funded project with a DBE Goal greater than zero will be required to submit a fully executed DBE Subcontract, along with the attached FHWA 1273 and Certificate of Liability Insurance for each DBE Firm submitted as part of the previously approved DBE Utilization Plan (TC 14-35). A signed quote or purchase order shall be attached when the DBE subcontractor is a material supplier or broker.

The Certificate of Liability Insurance submitted must meet the requirements outlined in Section 107.18 of the Standard Specifications for Road and Bridge Construction.

Changes to ***APPROVED*** DBE Participation Plans must be approved by the Office for Civil Rights & Small Business Development. 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. Tony Youssefi. Mr. Youssefi's current contact information is email address – tyousseffi@ky.gov and the telephone number is (502) 564-3601.

DEFAULT OR DECERTIFICATION OF THE DBE

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

PROHIBITION ON TELECOMMUNICATIONS EQUIPMENT OR SERVICES

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

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

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

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

SECTION 7 is expanded by the following new Article:

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

Pursuant to Title 46CFR Part 381, the Contractor agrees

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

ASPHALT MIXTURE

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

DGA BASE

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

DGA BASE FOR SHOULDERS

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

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

INCIDENTAL SURFACING

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

OPTION B

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

SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS

1-10128 Graves 042B00090N 1-10146 Hickman 053B00029N

I. TRAFFIC CONTROL GENERAL

Except as provided herein, traffic shall be maintained in accordance with the current standard specifications, section 112. The contractor will be responsible for developing and implementing the maintenance of traffic details with guidance through standard drawings and the MUTCD current editions. The developed traffic control plan must be approved by the Engineer prior to implementation. The contractor is expected to provide at a minimum the items listed in this note, however this note does not relieve the contractor of other items that may be necessary to comply with current standards.

Contrary to section 106.01, traffic control devices used on this project may be new or used in new condition, at the beginning of the work and maintained in like new condition until completion of the work.

The contractor must notify the engineer and public information officer at least 14 calendar days prior to the beginning work. Please see the Special Note for Liquidated Damages for additional information.

For projects where full closure of the roadway has been specified in the contract closure signs, detour signs, and bi-directional lane closure signs should be placed no sooner than two weeks prior to the closing of the bridge (when applicable) or placing lane closures.

Wayfinding detour signs should be placed a maximum of 2 miles apart unless specified by the engineer. Signs shall be covered or removed within 24 hours of opening the bridge to traffic.

II. PROJECT PHASING & CONSTRUCTION PROCEDURES

Project phasing shall be as directed by the plans, special notes, and the approved Traffic Control Plan prepared by the contractor. Maintain traffic over the bridge as long as possible. Once work on the structure begins that impacts traffic, ensure work progresses to minimize the effected time to the public. All materials that must be made specific for the project should be ordered and made prior to closure of the bridge or implementation of bi-directional lane closures so that delivery does not delay progress of the work, unless approved by the Engineer.

For projects which require an on-site diversion to be constructed to maintain traffic, the traffic control plan and project schedule prepared by the contractor shall include provisions such that traffic is not switched to the diversion until all materials that must be made specific for the project are ordered and made so that use of the diversion is minimized, unless approved by the Engineer.

III. PAVEMENT DROP-OFF

Less than two inches - no protection required. Warning signs should be placed in advance and throughout the drop-off area.
Two to four inches - plastic drums, vertical panels or barricades every 100 feet on tangent sections for speeds of 50 mph or greater. Cones may be used in place of plastic drums, panels, and barricades during daylight hours. For tangent sections with speeds less than 50 mph and curves devices should be placed every 50 feet. Spacing of devices on tapered sections should be in accordance with the manual on uniform traffic control devices, current edition.

Greater than four inches - positive separation or wedge with 3:1 or flatter slope needed. If there is five feet or more distance between the edge of the pavement and the drop-off, then drums, panel, or barricades may be used. If the drop-off is greater than 12 inches, positive separation is strongly encouraged. If concrete barriers are used, special reflective devices or steady burn lights should be used for overnight installations.

For temporary conditions, drop-offs greater than four inches may be protected with plastic drums, vertical panels or barricades for short distances during daylight hours while work is being done in the drop-off area.

IV. DETOUR AND ON-SITE DIVERSIONS

For projects which allow a full closure of the bridge, or if necessary to detour trucks, the traffic control plan proposed by the contractor shall include a signed detour route for the road closure. The traffic control plan along with the proposed detour plan will be delivered to the engineer 7 days prior to the pre-construction meeting. The proposed detour route shall meet the following requirements:

1) Detour routes must remain at minimum on the same classification of roadway (i.e. AA, AAA, state, county, etc.) Unless written approval is obtained through the owner of the facility.
2) The contractor must coordinate with other projects along the detour route to avoid ongoing construction projects along those routes.
3) It may be determined that two detour routes would be needed if the first selected route cannot accommodate truck traffic. If this occurs, the contractor is expected to sign both detours per the standard drawings and MUTCD. Additional clarification signage between the detours may be needed at points where they diverge.
4) For projects that involve the use of bi-directional lane closures and the temporary lane width per the plans or as proposed by the contractor is less than 10 feet, the contractor shall be required to provide a signed detour for oversized vehicles.

The traffic control plan must be submitted and approved to allow for coordination of the KYTC District public information officer with the closure notification. The public must be notified of the proposed detour route when they are notified of the closure, 2 weeks before closure. All

time and expenses necessary for the development of the detour plan(s) will be incidental to the lump sum bid item “Maintain and Control Traffic”.

For projects with an on-site diversion included in the construction, the preparation of traffic control plans for a detour and implementation of a detour will not be required, unless specified in the plans.

IV. PAYMENT

Unless otherwise noted in this Special Note and contract documents, payment for Maintenance and Control of Traffic during construction shall be in accordance with Section 112 of the Kentucky Transportation Cabinet, Department of Highways Standard Specifications for Road and Bridge Construction, (latest edition).

SPECIAL NOTE FOR CONCRETE SEALING

1-10128 Graves 042B00090N 1-10146 Hickman 053B00029N

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

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

This work consists of:

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

II. MATERIALS.

A. Sealer. Use a sealer from the KYTC list of approved materials.

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

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

III. CONSTRUCTION.

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

B. **Curing Compound.** Contrary to Section 609.03.12 of the specifications, curing compound is not to be used on the deck due to potentially causing issues with the concrete sealer. During the deck pour, finishing, and tining operations the Class AA concrete shall be kept continuously moist with the use of a mister until burlap or curing blankets are applied to the surface. At no point should water be pooling or running off the surface or the surface of the concrete be allowed to become dry. After the burlap or curing blankets are installed, cure in accordance with the specifications. Include all costs in the unit price bid for Class AA concrete. Failure to properly cure the concrete in accordance with this note and the specifications may result in weakened or cracked concrete. If the concrete is weakened or cracked due to improper curing, the contractor will be responsible for providing alternates to fix the issues to the Engineer for review and the contractor will be solely responsible for all costs to do so, up to complete replacement. Do not begin any construction on fixing any issues without approval of the Engineer.

C. **Apply Ordinary Surface Finish.** In addition to new concrete, areas receiving epoxy injection, concrete patching, and other surface imperfections, including areas of minor cracking, should receive Ordinary Surface Finish in accordance with Section 601.03.18 of the Standard Specifications. Existing structural items not newly placed, patched, or repaired may be exempt from Ordinary Surface Finish. Use mortar of the same cement and fine aggregate as the concrete patching, or as directed by the Engineer. Payment will be incidental to Concrete Sealing. Finish surface of bridge decks in accordance with Section 609 of the Standard Specifications.

D. **Areas to Receive Concrete Sealing:**

1. Every exposed surface above a point 6” below ground or fill line of abutments, wing walls, end bent and pier caps, pedestals, back walls, columns, and exposed footings.
2. All exposed surfaces of concrete deck, barrier walls, parapets, curbs, and plinths.
3. Prestressed Concrete I-Girders, Concrete Beams, and Spread Prestressed Concrete Box Beams: The underneath surfaces of slab overhangs outside of exterior concrete girders and to the exterior side and bottom of exterior concrete girders and beams.
4. Adjacent Prestressed Concrete Composite Box Beams: Full length of the exterior face of all exterior beams from the top of the box beam to 1’-0” underneath the beams.
5. Prestressed Non-Composite Box Beams: All faces of all beams, excluding surfaces to be covered with a waterproofing membrane. Take care to ensure that the grout pockets are not sealed.
6. If the contract documents include the Special Note for Concrete Coating, do not apply concrete sealer to the areas where Concrete Coating is specified.

E. **Contract Time.** Concrete Sealing may need to be installed after contract time has elapsed in a separate mobilization and after the Engineer has declared the project otherwise complete. Liquidated damages shall not be charged provided Concrete Sealing is complete within 60 days after the last concrete pour on the structure. When the Contractor has not completed Concrete Sealing within the time frame allotted, Liquidated Damages shall be charged at 25 percent of the original contract daily charge from the expiration of the time allowed until the Contractor completes the work except the Department will not deduct liquated damages when weather limitations prohibit the Contractor from performing the work.

F. **Cleaning the Concrete Surfaces to be sealed.** Dry clean the concrete to remove all loose debris. Remove all visible hydrocarbons from the surface with detergent approved by the manufacturer of the deck sealant. Pressure wash all surfaces to be sealed at 2000 to 3000 psi. Install pressure gauges at each wand to verify pressure. Use 30° fan tip or as recommended by the manufacturer of the sealant. Hold pressure washing wand a minimum of 45° from the surfaces with a maximum stand-off distance of 12 inches.

G. **Sealing the Concrete.** Allow new concrete to cure a minimum 28 days prior to application of sealer. Monitor weather conditions prior to sealer application. Refer to manufacturer's recommendations for proper ambient conditions. Do not apply sealer if precipitation is anticipated within the time stated by the manufacturer. Allow the concrete to dry 24 hours (after washing or rain event) before sealer application. The bridge deck can be reopened to traffic while drying. Sealer must be applied within 48 hours of washing or the concrete must be rewashed. Divide the concrete into predefined areas of specific square footage to aid in determining usage. Comply with manufacturer's usage recommendation. Using a low-pressure pump, apply sealer and spread evenly with broom or squeegee; do not allow pooling to remain. When each predefined area is complete, measure the amount of sealer used to verify proper usage. After sealing, follow manufacturer's recommended cure time before opening to traffic. On vertical surfaces, apply the sealer in a flooding application from the bottom up, so the material runs down 6 to 8 inches below the spray pattern.

H. **Inspection:** Monitor all aspects of the project to assure compliance to this specification. Observe and document general conditions during the entirety of the project. Verify that each phase of work has been satisfactorily completed prior to beginning the next phase. Phases are described as follows:

1. Dry cleaning to remove loose debris, verify and document:
   a. All debris has been removed and disposed of properly.
2. Removal of hydrocarbons, verify and document:
   a. The manufacturer's recommended detergent is used for removal.
   b. Hydrocarbons have been satisfactorily removed.

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

IV. MEASUREMENT

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

B. Mobilization For Concrete Surf Treatment. The Department will pay the lump sum bid for an additional mobilization when Concrete Sealing must be performed after the Engineer has deemed the project complete except for Concrete Sealing and the structure is opened to traffic.

V. PAYMENT

A. 23378EC - Concrete Sealing – Sq. Ft. Payment at the contract unit price per square feet is full compensation for the following: (1) Furnish all labor, materials, tools, and equipment; (2) Clean the bridge deck; (3) Seal the bridge deck; (4) Maintain & control traffic; and, (5) Any other work specified as part of this contract.

B. 26233EC - Mobilization – For Concrete Surface Treatment – L.S. Payment at the contract lump sum price bid shall be full compensation for the Contractor to remobilize on the project to perform Concrete Sealing as detailed herein this special note.

SPECIAL NOTE

ADDITIONAL ENVIRONMENTAL COMMITMENTS

1-10128 Graves 042B00090N 1-10146 Hickman 053B00029N

In addition to the other environmental commitments listed in this contract, the following commitments also apply as this is a federally funded undertaking as defined in Section 106 of the National Historic Preservation Act.

1. KYTC has completed a Phase 1 archaeological survey for a site-specific area surrounding the bridge. The cleared area is illustrated on the construction plans and referred to herein and elsewhere in the bid documents as the "Environmentally Cleared Area (ECA)." Likewise, any areas that must be avoided have been labeled "Do Not Disturb."

   If the Contractor deems it necessary to use additional areas outside the ECA for any purpose, *e.g.,* laydown yards, vehicle parking, parking cranes, delivering beams, borrow areas, waste areas, *etc*., the Contractor must first get a written agreement with the landowner (assuming the additional area is outside the right-of- way). Then the Contractor shall seek approval of the use of the site, whether within or outside the right-of-way, by both KYTC Division of Environmental Analysis (DEA) and the GEC Environmental Lead Tom Springer at tspringer@qk4.com.

   The Contractor shall provide a map of the area(s) to be used, including access points, and property-owner agreements. The Environmental Team will complete initial field investigations for archaeological, historical, ecological, and other environmental clearances. If any potentially significant site or resources are found, KYTC has the right to deny the use of the proposed site. The maps and property owner agreements are to be submitted at least ten (10) business days prior to the Preconstruction Conference, or sixty (60) days prior to the Contractors access to the site, for coordination and review by KYTC DEA and the Project Team.

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

2. If human remains are encountered during project activities, all work should be immediately stopped in the area. The area should be cordoned off, and, in accordance with KRS 72.020, the county coroner and local law enforcement must be contacted immediately. Upon confirmation that the human remains are not of forensic interest, the unanticipated discovery must be reported to the Kentucky Heritage Council at (502) 892-3614, the Office of State Archaeology at (859) 257-1944, and KYTC DEA (502) 564-7250.

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

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

Questions regarding this note should be directed to Danny Peake, Director, KYTC Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250.

SPECIAL NOTE

AVOID IMPACTS TO STATE DESIGNATED OUTSTANDING STATE RESOURCE WATER

1-10128 Graves 042B00090N

Jackson Creek has been designated as an Outstanding State Resource Water pursuant to 401 KAR 10:026 because it supports the federally threatened relict darter (*Etheostoma chienense*). As such, it is afforded special protections under 401 KAR 10:031 to maintain existing water quality and habitat as follows:

Do not work in, disturb, or discharge stormwater to Jackson Creek.

Implement best management practices (BMPs) that eliminate sedimentation for all construction activities through completion of construction (*see* Enhanced Sediment Prevention and Erosion Control Special Note) and adhere to Kentucky's *Standard Specifications for Roads and Bridges, Section 213 - Water Pollution Control* and *BMPs for Controlling Erosion, Sediment, and Pollutant Runoff from Construction Sites.* However, contrary to Section 213, Contractor shall:

- Stabilize and protect disturbed areas within seven (7) days of cessation of land disturbing activities and prior to a forecasted rain event.
- Initiate corrective action to address deficiencies within 24 hours of receipt of the Engineer's documentation of deficiency. Failure to correct deficiencies to the satisfaction of the Engineer within 24 hours will result in Liquidated Damages equal to $3,500 per calendar day. These Liquidated Damages are assessed separately from any other liquidated damages associated with this project.

Questions regarding this note should be directed to Danny Peake, Director, KYTC Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250.

SPECIAL NOTE

COMPLIANCE WITH SECTION 7 OF THE ENDANGERED SPECIES ACT REGARDING THREATENED AQUATIC SPECIES

1-10128 Graves 042B00090N

Effective October 27, 2023, the US Fish and Wildlife Service reclassified the federally listed relict darter (*Etheostoma chienense*) from endangered to threatened and finalized a rule under section 4(d) of the Act that provides and exception for take incidental to an otherwise lawful activity caused by transportation projects provided the following conditions are met by the Contractor:

- ***Do not work in Jackson Creek during the species reproductive period between March 1 and June 30.***
- Do not block stream flow and provide for fish passage under a wide range of hydrologic conditions at stream crossing(s).
- Implement best management practices (BMPs) that eliminate sedimentation (*see* Sediment Prevention and Erosion Control Special Note) and adhere to Kentucky's *Standard Specifications for Roads and Bridges, Section 213 - Water Pollution Control* and *BMPs for Controlling Erosion, Sediment, and Pollutant Runoff from Construction Sites* for all construction activities through completion of construction except as follows:

    - Stabilize and protect disturbed areas within seven (7) days of cessation of land disturbing activities and prior to a forecasted rain event.
    - Perform verification inspections twice a week and per the standard post-rain event inspections.
    - Initiate corrective action to address deficiencies identified during the twice weekly and post-rain event inspections with 24 hours of receipt of the Engineer's documentation of deficiency and complete the corrective action within three (3) days.
    - Use spill containment areas where appropriate.

Questions regarding this note should be directed to Danny Peake, Director, KYTC Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250.

SPECIAL NOTE FOR TRUSS SCREEDS ON CONCRETE OVERLAYS

1-10146 Hickman 053B00029N

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

1.0 DESCRIPTION. This specification covers the use of vibratory truss screed use on side-by-side composite box beams with designed slab thickness equal to a nominal five inches. Contrary to Kentucky Transportation Cabinet Department of Highways Standard Specifications for Road and Bridge Construction, latest edition, the use of a Vibratory Truss Screed in lieu of a self-propelled finishing machine equipped as detailed in Section 609.02.09 of the Specifications will be considered for use provided the following requirements of this Special Note are met:

2.0 EQUIPMENT AND QUALIFYING PROJECTS.

2.1 Vibratory Truss Screed. The contractor shall submit for approval, prior to use, the manufacturer's literature confirming that the vibratory truss screed proposed shall be able to meet the required cross slope of bridge and provide a minimum of 8,000 vibration cycle modes per minute (VPM). The Central Office Division of Construction will make the determination of use for each project.

2.2 Qualifying Structures. The vibratory truss screed can only be considered on structures meeting the following criteria:

- **A.** Bridge design consists of side-by-side composite box beams with concrete overlay.
- **B.** The design for the thickness of concrete for the bridge deck shall be 5-inch depth as detailed on the typical section of the bridge plans.
- **C.** The actual maximum nominal depth thickness must be less than 8" at any point on the deck.
- **D.** The side-by-side box beam bridge deck shall have only a single mat of reinforcement steel.

3.0 CONSTRUCTION.

3.1 Submittal. Submit, to the Central Office, Division of Construction, manufacturer's specifications of equipment proposed for use.

3.2 Sampling and Testing. If approved, the bridge deck may be cored to verify density and voids, at the discretion of the Director of the Division of Construction. Failure to meet proper density and consolidation will incur a penalty up to removal and replacement.

4.0 MEASUREMENT. The Department will not measure for the use of vibratory truss screeds and are incidental to the work being performed.

5.0 PAYMENT. The Department will not make payment for the use of the vibratory truss screed and shall be incidental to the following:

Code	Pay Item	Pay Unit
08104	CONCRETE-CLASS AA	Cubic Yard

SPECIAL NOTE

BRIDGE DEMOLITION OR RENOVATION AND LEAD-BASED PAINT

1-10146 Hickman 053B00029N

KYTC has completed a pre-demolition survey of the bridge that revealed the presence of lead-based paint (LBP) as defined by the Occupational Safety and Health Administration (OSHA). The results are attached to this note.

If the project includes bridge demolition or renovation, Contractor is required to implement the following measures during construction:

1. Provide protection for workers exposed “lead or materials containing lead are present” as required by OSHA 29 CFR 1926.62(a).
2. Place tarping / netting under the bridge to minimize debris deposition in the stream.
3. Collect, store, and arrange for transportation of all hazardous waste material to an approved recycling facility in accordance with applicable local, State and Federal Regulations.
4. Containerize paint waste generated in drums stored in a designated chain link fence containment that is inspected weekly by a representative of the generator.
5. KYTC will be the Generator of Record for the recycling of the materials.

Questions regarding this note should be directed to Danny Peake, Director, KYTC Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250.

SPECIAL NOTE

ENHANCED SEDIMENT PREVENTION AND EROSION CONTROL

1-10128 Graves 042B00090N

For all Impacts Regardless of Size of Disturbed Area

As required under Section 213 of KYTC Standard Specifications, prior to onsite activities the Contractor shall develop a site-specific **Erosion Control Plan** including **Best Management Practices (BMPs)** to ensure continuous erosion control throughout the construction and post-construction period. The plan will identify individual Disturbed Drainage Areas (DDA) where stormwater from the construction area will be discharged off site or into waters of the Commonwealth. **A Draft BMP Plan is attached to this Special Note.**

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

Enhanced erosion prevention and sediment control BMPs proposed for this project are as follows:

Sediment and Erosion Control Measures.

Plans for the proposed project will include erosion control sheets that depict the DDAs and related information. These plan sheets will show the existing project conditions with areas delineated by DDAs within the right-of-way limits, discharge points, and areas that drain to each discharge point. Project managers and designers will analyze the DDAs and identify site-specific BMPs. 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. Erosion control sheets that do not have DDAs annotated will employ the same concepts for development and managing BMP plans.

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 proposed 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 DDAs as the work progresses. All DDAs will have adequate BMPs in place before being disturbed.

Non-Structural BMPs

The following non-structural BMPs will be implemented throughout the project duration:

- Sediment control BMPs will be maintained when the sediment reaches 1/3 the depth of the BMP. Appropriate stock of straw erosion control blanket (ECB) and straw bales shall be available onsite at all times.

- Straw ECB or seeding mulched with blown straw followed by crimping shall be applied within seven days of the cessation of the land disturbing activity. If blown straw is used, the blower and crimping equipment shall be kept on-site during land disturbing activities.
- Disturbed areas shall be stabilized prior to a forecasted rain event.
- Erosion Prevention and Sediment Control/Stormwater Pollution Prevention Plan inspections shall be performed at least twice a week.

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:

- Construction Access. This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with straw ECB or straw followed by crimping, and designated construction entrances will be installed.
- 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.
- Clearing and Grubbing. The following BMPs will be considered and used where appropriate:

  - ✓ Leaving areas undisturbed when possible.
  - ✓ Silt basins to provide silt volume for large areas.
  - ✓ Silt Traps Type A for small areas.
  - ✓ Silt Traps Type C in front of existing and drop inlets that are to be saved.
  - ✓ Diversion ditches to catch sheet runoff and carry it to basins or traps, or to divert it around areas to be disturbed.
  - ✓ Brush and/or other barriers to slow and/or divert runoff.
  - ✓ Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
  - ✓ Temporary mulch for areas which are not feasible for the afore-mentioned types of protections.
  - ✓ Non-standard or innovative methods.
  - ✓ Spill Containment Areas to protect sinkholes and outfalls.

- Cut and FM and Placement of Drainage Structures. The BMP Plan will be modified to show additional BMPs, such as:

  - ✓ Silt Traps Type B in ditches and/or drainways as they are completed.
  - ✓ Silt Traps Type C in front of pipes after they are placed.
  - ✓ Channel lining.
  - ✓ ECB.
  - ✓ ECB and/or straw, seeding, and crimping for areas where construction activities will be ceased for seven days or more.
  - ✓ Non-standard or innovative methods.

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

  - ✓ Silt Trap Type A, brush and/or other barriers, temporary mulch, and any other BMP that had to be removed for final grading to take place.
  - ✓ Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
  - ✓ Additional Channel Lining and/or ECB and/or Turf Reinforcement Mats.
  - ✓ Temporary mulch and/or seeding for areas where construction activities will be ceased for seven days or more.

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

  - ✓ 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. ECB, Turf Reinforcement Mats, or Permanent Seeding and Protection on moderate grades.
  - ✓ Permanent Seeding and Protection.
  - ✓ Placing Sod.

- Post Construction. BMPs, including Karst policy BMPs, to be installed during construction to control the pollutants in stormwater discharges that will occur after construction has been completed are:

  - ✓ Filter ditches: Filter ditches are grass swales placed at the outlets of some of the spill containment areas to promote infiltration and vegetative filtering.
  - ✓ Spill containment areas: Detention/containment basins for capturing accidental spills on the newly constructed roadway will be provided in accordance with KYTC's Design Policy.

Other Control Measures

- Solid Materials. No solid materials, including building materials, shall be discharged to waters of the Commonwealth, except as authorized by a Section 404 permit.
- 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.
- 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 KYTC will file for generator registration, when appropriate, with the Division of Waste Management and advise the contractor regarding waste management requirements.

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

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

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

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

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

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

  - ✓ Petroleum Products. Vehicles and equipment that are fueled and maintained on site will be monitored for leaks and receive regular preventative maintenance to reduce the chance of 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 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.
  - ✓ Fertilizers. Fertilizers will be applied at rates prescribed by the contract, standard specifications, or as directed by the resident engineer. Once applied, fertilizer will be covered with mulch or blankets or worked into the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.
  - ✓ Paints. All containers will be tightly sealed and stored indoors or under roof when not being used. Excess paint or paint wash water will not be discharged to the drainage or storm sewer system but will be properly disposed of according to manufacturers' instructions or state and local regulations.
  - ✓ Concrete Truck Washout. Concrete truck mixers and chutes will not be washed on pavement, near storm drain inlets, or within 75 feet of any ditch, stream, wetland, lake,

or sinkhole. Where possible, excess concrete and wash water will be discharged to areas prepared for pouring new concrete, flat areas to be paved that are away from ditches or drainage system features, or other locations that will not drain off site. Where this approach is not possible, a shallow earthen wash basin will be excavated away from ditches to receive the wash water.

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

  - ✓ Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.
  - ✓ Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include, as appropriate, brooms, dust pans, mops, rags, gloves, oil absorbents, sand, sawdust, and plastic and metal trash containers.
  - ✓ All spills will be cleaned up immediately after discovery.
  - ✓ The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
  - ✓ Spills of toxic or hazardous material will be reported to the appropriate state/local agency, as required by KRS 224 and applicable federal law.
  - ✓ The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
  - ✓ Spills of products will be cleaned up promptly. Wastes from spill clean-up will be disposed in accordance with appropriate regulations. Spills will be addressed in the "dry" and will not be "washed away" to clean.

Other State and Local Plans

The 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 Notice of Intent, 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.

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 twice a week and post-rain event inspections, with action being taken by the contractor to correct deficiencies within three working days. Post construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the KYTC, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. Post-construction BMP maintenance will be covered in the KYTC’s MS4 permit under MCM 5 activities.

Inspections

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

- All erosion prevention and sediment control measures will be inspected by the Contractor at least twice each week and after an atypical rain event.
- Inspections will be conducted by individuals that have received Kentucky Erosion Prevention and Sediment Control – Roadway Inspector (KEPSC-RI) training or other qualification as prescribed by the KYTC that includes instruction concerning erosion prevention and sediment control.
- Inspection reports will be written, signed, dated, and kept on file.
- Stabilization of disturbed areas shall be performed within seven days of the cessation of the land disturbing activity.
- Disturbed areas shall be stabilized prior to a forecasted rain event.
- Sediment control will be maintained when the sediment reaches $^1/_3$ the depth of the BMP.
- 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 three working days.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded/mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

Non-Storm Water Discharges

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

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

For Impacts Greater than 1.0 Acre

When the total disturbed area for a project, including laydown and waste/borrow areas, is greater than 1.0 acre, the Contractor shall be responsible for obtaining coverage under Kentucky's General KDPES Permit for Stormwater Associated with Construction Activities (KYR10). Prior to initiating construction activity, the Contractor shall file **Notice of Intent (NOI)** with the

Kentucky Division of Water naming the Contractor as the Facility Operator and including the KYTC Contract ID number (CID) for reference.

For grouped contracts with more than one structure, each structure will be treated independently in regard to disturbed area unless another structure is within 0.25 mile of the structure. For structures within 0.25 mile of each other, the total disturbed area will be the sum of the combined disturbed areas.

The Contractor will be responsible for following the KPDES requirements of local Municipal Separate Storm Sewer System (MS4) programs with jurisdiction. Required NOI shall name the Contractor as the Facility Operator and include the KYTC Contract ID Number (CID) for reference.

The Contractor shall be responsible for filing the KPDES permit **Notice of Termination (NOT)** with the Kentucky DOW and any local MS4 Program that has jurisdiction. The NOT shall be filed after the Engineer agrees the project is stabilized or the project has been formally accepted.

The Contractor shall implement all temporary erosion/sediment control measures, conducting required inspections, modifying the BMP Plan as construction progresses, and documenting the installation and maintenance of BMPs in conformance with the KPDES KYR10 permit effective on August 1, 2009, or a permit re-issued to replace that KYR10 permit.

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

A copy of the KYR10 General Permit and eNOI application are available here:
https://eec.ky.gov/Environmental-Protection-/Water/PermitCert/KPDES/Documents/KYR10PermitPage.pdf

Questions regarding this note should be directed to Danny Peake, Director, KYTC Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250

TEAM KENTUCKY®
TRANSPORTATION CABINET

Highway District 1
and
_____Construction

Kentucky Pollutant Discharge Elimination System (KPDES) Permit KYR10

Best Management Practices (BMP) Plan and Groundwater Protection Plan for Highway Construction Activities

for

Project: CID ## - #####
US-45 Bridge Replacement
Bridge ID 042B00090N, Item 1-10128
Graves County, Kentucky

September 2023

Note: ① Design ② Construction ③ Contractor

PROJECT INFORMATION

1. Owner: Kentucky Transportation Cabinet, District 1 ①
2. Resident Engineer: ②
3. Contractor Name: ②

   Address: ②

   Phone No.: ②

   Point of Contact: ②

   Agent Responsible for KPDES Requirements: ③
4. Project Control Number: ②
5. Route (Address): US-45 at MP 1.8 ①
6. Latitude / Longitude (Project Mid-Point): 36.581573, -88.801427 ①
7. County: Graves County ①
8. Project Start Date: ②
9. Projected Completion Date: ②

A. SITE DESCRIPTION

1. **Nature of Construction Activity:** Address deficiencies of Bridge on US-45 over Jackson Creek (042B00090N) at MP 1.8. Bridge (Replacement) SYP No. 1-10128. (1)

2. **Order of Major Soil Disturbing Activities:** (2) and (3)

3. **Projected Volume of Material to be Moved:** (3)

4. **Estimate of Total Project Area (acres):** (3)

5. **Estimate of Area to be Disturbed (acres):** (3)

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.

7. **Soil Condition:** Soils are comprised of Collins silt loam, 0 to 2 percent slopes, occasionally flooded for brief durations and Falaya silt loam, 0 to 2 percent slopes, occasionally flooded for brief durations. Collins silt loams are moderately well drained and Falaya silt loams are somewhat poorly drained.

8. **Discharge Water Quality Data (if any):** (2)

9. **Receiving Water:** Jackson Creek, an Outstanding State Resource Water (OSRW).

10. **TMDLs and Pollutants of Concern:** N/A (1)

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 stormwater 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)

B. SEDIMENT AND EROSION CONTROL MEASURES

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

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

2. Following award of the contract, the contractor and resident engineer will annotate the erosion control sheets showing location and type of BMPs for each of the DDAs that will be disturbed at the outset of the project. This annotation will be accompanied by an order of work that reflects the order or sequence of major soil moving activities. The remaining DDAs are to be designated as "Do Not Disturb" until the contractor and resident engineer prepare the plan for BMPs to be employed. The initial BMP's shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA's as the work progresses. All DDA's will have adequate BMP's in place before being disturbed.

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

   - **Construction Access.** This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with gravel and temporary mulch and/or vegetation.

   - **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.

   - **Clearing and Grubbing.** The following BMP's will be considered and used where appropriate.

     - Leaving areas undisturbed when possible.
     - Silt basins to provide silt volume for large areas.
     - Silt Traps Type A for small areas.
     - Silt Traps Type C in front of existing and drop inlets which are to be saved.
     - Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
     - Brush and/or other barriers to slow and/or divert runoff.
     - Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.

- Temporary mulch for areas which are not feasible for the fore mentioned types of protections.
- Non-standard or innovative methods.

➢ **Cut and Fill and Placement of Drainage Structures.** The BMP Plan will be modified to show additional BMP's such as:

- Silt Traps Type B in ditches and/or drainways as they are completed.
- Silt Traps Type C in front of pipes after they are placed.
- Channel Lining.
- Erosion Control Blanket.
- Non-standard or innovative methods.

➢ **Profile and X-Section in Place.** The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probable changes include:

- Silt Trap Type A, Brush and/or other barriers, Temporary mulch, and any other BMP which had to be removed for final grading to take place.
- Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
- Additional Channel Lining and/or Erosion Control Blanket.
- Temporary mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
- Special BMP's such as Karst Policy.

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

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

➢ BMP's, including Stormwater Management Devices such as velocity dissipation devices and Karst policy BMP's, to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are**:** ③

C. 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 Section Engineer if there any hazardous wastes being generated at the project site and how these wastes are being managed. Site personnel will be instructed with regard to proper storage and handling of hazardous wastes when required. The Transportation Cabinet will file for generator, registration when appropriate, with the Division of Waste Management and advise the contractor regarding waste management requirements.

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

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

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

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

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

➢ **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.

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

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

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

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

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

- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- Spills of products will be cleaned up promptly. Wastes from spill clean-up will be disposed in accordance with appropriate regulations.

D. OTHER STATE AND LOCAL PLANS

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

E. MAINTENANCE

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

2. 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.

3. 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 stormwater management with specific guidance for any non-routine maintenance.

F. INSPECTIONS

All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.

- Inspections will be conducted by individuals that have successfully completed KEPSC-RI course as required by Section 213.02.02 of the Standard Specifications for Road and Bridge Construction, current edition.

- Inspection reports will be written, signed, dated, and kept on file.

- Areas at final grade will be seeded and mulched within 14 days.

- Areas that are not at final grade where construction has ceased for a period of 21 days or longer and soil stock piles shall receive temporary mulch no later than 14 days from the last construction activity in that area.

- All measures will be maintained in good working order. If a repair is necessary, it will be initiated within 24 hours of being reported.

- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.

- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.

- Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 50 percent of the design capacity and at the end of the job.

- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.

- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.

- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

G. NON–STORM WATER DISCHARGES

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

- Water from water line flushings.

- Water form cleaning concrete trucks and equipment.

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

- Uncontaminated groundwater and rainwater (from dewatering during excavation).

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

H. GROUNDWATER PROTECTION ③

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, require the preparation and implementation of a groundwater protection plan, and will or may be conducted as part of this construction project:

_____ 2(e) Land treatment or land disposal of a pollutant

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

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

_____ 2(j) Storing or related handling of road oils, dust suppressants at a central location Application or related handling of road oils, dust suppressants or deicing materials (*does not include use of chloride-based deicing materials applied to roads or parking lots*)

_____ 2(k) Installation, construction, operation, or abandonment of wells, bore holes, or core holes (*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 provided 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*).

CONTRACTOR AND RESIDENT ENGINEER 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.

② **Resident Engineer**:

Typed or printed name[1]	Title	Signature

③ **Contractor**:

Typed or printed name[2]	Title	Signature

[1] 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 Project Control Number (PCN) and KPDES number when one has been issued.

[2] 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 Project Control Number (PCN) and KPDES number when one has been issued.

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 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.

Subcontractor:

_____	_____	_____
Typed or printed name[1]	Title	Signature

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

SPECIAL NOTE

SEDIMENT PREVENTION AND EROSION CONTROL

1-10146 Hickman 053B00029N

For all impacts regardless of size of the disturbed area:

Potential impacts to gray bat foraging habitat and habitat for federally listed fish and mussel species will be minimized by implementing erosion prevention and sediment control measures. As required under Section 213 of KYTC Standard Specifications, prior to onsite activities the Contractor shall develop a site-specific **Erosion Control Plan** including **Best Management Practices (BMPs)** to ensure continuous erosion control throughout the construction and post-construction period. The plan will identify individual Disturbed Drainage Areas (DDA) where stormwater from the construction area will be discharged off site or into waters of the Commonwealth. A Draft BMP Plan is attached to this note.

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

Proposed erosion prevention and sediment control measures are as follows:

- The location of the individual erosion prevention/sediment control measures will be identified by the Resident Engineer and Contractor. The Contractor will place erosion control devices as identified in the site-specific BMP Plan prior to beginning work.
- Mulch will be placed, during grade and drain activities, across all areas where no work will be conducted for a period of 14 consecutive days.
- Tree clearing within the riparian zone will be minimized. Trees to be removed will be determined by the Resident Engineer and the Contractor prior to disturbance. (*Note: Any "Special Note for Tree Clearing Restrictions" must be adhered to.*)
- Silt fence, or other approved method as appropriate, will be installed at the edge of waters within the project corridors to eliminate the deposition of rock and debris in the streams during construction activities. In the unforeseen event that unintended debris does enter the streams, the resident engineer will halt the contributing activity until appropriate remedial actions have been implemented.
- To the maximum extent plausible, construction activities will take place during low-flow periods.
- Equipment staging and cleaning areas will be located to eliminate direct inputs to waters of the Commonwealth. These areas will be located such that effluent will be filtered through vegetated areas and appropriate sediment controls prior to discharge offsite.
- Concrete will be poured in a manner to avoid spills into the streams. In the unforeseen event that a spill does occur, the USFWS will be notified, and the resident engineer will immediately halt the activity until remedial measures have been implemented.
- KYTC proposes to stabilize areas disturbed during construction activities through vegetation establishment and placement of riprap and geotextile fabric. Re-vegetation of the disturbed areas will allow thermoregulation of water within the streams, establish long-term, regenerative stabilization of the stream banks, and provide nutrients to the aquatic macroinvertebrate community through inputs of organic material.

- Areas disturbed during construction and not stabilized with rip rap and erosion blanket will be seeded using a standard seed mix. Depending on project slope and project location, application rates and seed mix types will vary. The Contractor shall perform all final seeding and protection, in accordance with the plans and Section 212 of KYTC Standard Specifications.
- Contrary to Section 213.03.03, paragraph 2, the Engineer shall conduct inspections as needed to verify compliance with Section 221 of KYTC Standard Specifications. The Engineer's inspections shall be performed a minimum of once per month and within seven (7) days after a storm of ½ inch or greater. Copies of the Engineer's inspections shall not be provided to the Contractor unless improvements to the BMPs are required.
- The Contractor shall initiate corrective action within 24 hours of any reported deficiency and complete the work within five (5) days. The Engineer shall use Form TC 63-61 A for this report. Inspections performed by the Engineer do not relieve the Contractor of any responsibility for compliance. If corrections are not made within the five (5) days specified, the liquidated damages will apply at the rate specified in the Liquidated Damages note in the contract.
- Contrary to Sections 212.05 and 213.05, unless listed in the proposal, bid items for temporary BMPs and items for permanent erosion control will not be measured for payment and will be replaced with one lump sum item for the services. Payment will be pro-rated based on the Project Schedule as submitted by the Contractor and as agreed to by the Engineer.
- The Contractor shall be responsible for applying "good engineering practices." The Contractor may use any temporary BMPs and permanent BMPs that fall within the guidance of the current Standard Specifications, KYTC's Best Management Practices manual, and with the approval of the KYTC Engineer.

For impacts greater than 1.0 acre:

When the total disturbed area for a project, including laydown and waste/borrow areas, is greater than 1.0 acre, Contractor shall be responsible for obtaining coverage under Kentucky's General KDPES Permit for Stormwater Associated with Construction Activities (KYR10). Prior to initiating construction activity, the Contractor shall file **Notice of Intent (NOI)** with the Kentucky Division of Water naming the Contractor as the Facility Operator and including the KYTC Contract ID number (CID) for reference.

For grouped contracts with more than one structure, each structure will be treated independently in regard to disturbed area unless another structure is within 0.25 mile of the structure. For structures within 0.25 mile of each other, the total disturbed area will be the sum of the combined disturbed areas.

The Contractor will be responsible for following the KPDES requirements of local Municipal Separate Storm Sewer System (MS4) programs with jurisdiction. Required NOI shall name the Contractor as the Facility Operator and include the KYTC Contract ID Number (CID) for reference.

The Contractor shall be responsible for filing the KPDES permit **Notice of Termination (NOT)** with the Kentucky DOW and any local MS4 Program that has jurisdiction. The NOT shall be filed after the Engineer agrees the project is stabilized or the project has been formally accepted.

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

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

A copy of the KYR10 General Permit and eNOI application are available here:
https://eec.ky.gov/Environmental-Protection-/Water/PermitCert/KPDES/Documents/KYR10PermitPage.pdf

Questions regarding this note should be directed to Danny Peake, Director, KYTC Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250

TEAM KENTUCKY®
TRANSPORTATION CABINET

Highway District 1
and
_____Construction

Kentucky Pollutant Discharge Elimination System (KPDES) Permit KYR10

Best Management Practices (BMP) Plan and Groundwater Protection Plan for Highway Construction Activities

for

Project: CID ## - #####
US-51 Bridge Replacement
Bridge ID 053B00029N, Item 1-10146
Hickman County, Kentucky

September 2023

Note: ① Design ② Construction ③ Contractor

PROJECT INFORMATION

1. Owner: Kentucky Transportation Cabinet, District 1 ①
2. Resident Engineer: ②
3. Contractor Name: ②

   Address: ②

   Phone No.: ②

   Point of Contact: ②

   Agent Responsible for KPDES Requirements: ③
4. Project Control Number: ②
5. Route (Address): US-51 at MP 2.399 ①
6. Latitude / Longitude (Project Mid-Point): 36.603594, -88.942888 ①
7. County: Hickman County ①
8. Project Start Date: ②
9. Projected Completion Date: ②

A. SITE DESCRIPTION

1. **Nature of Construction Activity:** Address deficiencies of Bridge on US-51 over Cane Creek (053B00029N) at MP 2.399. Bridge (Replacement) SYP No. 1-10146. (1)

2. **Order of Major Soil Disturbing Activities:** (2) and (3)

3. **Projected Volume of Material to be Moved:** (3)

4. **Estimate of Total Project Area (acres):** (3)

5. **Estimate of Area to be Disturbed (acres):** (3)

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.

7. **Soil Condition:** Soil is comprised of Convent-Adler silt loams, 0 to 2 percent slopes, frequently flooded. Convent-Adler silt loams are somewhat poorly drained.

8. **Discharge Water Quality Data (if any):** (2)

9. **Receiving Water:** Cane Creek, an Outstanding State Resource Water (OSRW).

10. **TMDLs and Pollutants of Concern:** N/A (1)

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 stormwater 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)

B. SEDIMENT AND EROSION CONTROL MEASURES

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

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

2. Following award of the contract, the contractor and resident engineer will annotate the erosion control sheets showing location and type of BMPs for each of the DDAs that will be disturbed at the outset of the project. This annotation will be accompanied by an order of work that reflects the order or sequence of major soil moving activities. The remaining DDAs are to be designated as "Do Not Disturb" until the contractor and resident engineer prepare the plan for BMPs to be employed. The initial BMP's shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA's as the work progresses. All DDA's will have adequate BMP's in place before being disturbed.

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

   - **Construction Access.** This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with gravel and temporary mulch and/or vegetation.

   - **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.

   - **Clearing and Grubbing.** The following BMP's will be considered and used where appropriate.

     - Leaving areas undisturbed when possible.
     - Silt basins to provide silt volume for large areas.
     - Silt Traps Type A for small areas.
     - Silt Traps Type C in front of existing and drop inlets which are to be saved.
     - Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
     - Brush and/or other barriers to slow and/or divert runoff.
     - Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.

- Temporary mulch for areas which are not feasible for the fore mentioned types of protections.
- Non-standard or innovative methods.

➢ **Cut and Fill and Placement of Drainage Structures.** The BMP Plan will be modified to show additional BMP's such as:

- Silt Traps Type B in ditches and/or drainways as they are completed.
- Silt Traps Type C in front of pipes after they are placed.
- Channel Lining.
- Erosion Control Blanket.
- Non-standard or innovative methods.

➢ **Profile and X-Section in Place.** The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probable changes include:

- Silt Trap Type A, Brush and/or other barriers, Temporary mulch, and any other BMP which had to be removed for final grading to take place.
- Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
- Additional Channel Lining and/or Erosion Control Blanket.
- Temporary mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
- Special BMP's such as Karst Policy.

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

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

➢ BMP's, including Stormwater Management Devices such as velocity dissipation devices and Karst policy BMP's, to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are**:** ③

C. 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 Section Engineer if there any hazardous wastes being generated at the project site and how these wastes are being managed. Site personnel will be instructed with regard to proper storage and handling of hazardous wastes when required. The Transportation Cabinet will file for generator, registration when appropriate, with the Division of Waste Management and advise the contractor regarding waste management requirements.

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

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

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

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

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

➢ **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.

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

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

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

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

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

- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- Spills of products will be cleaned up promptly. Wastes from spill clean-up will be disposed in accordance with appropriate regulations.

D. OTHER STATE AND LOCAL PLANS

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

E. MAINTENANCE

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

2. 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.

3. 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 stormwater management with specific guidance for any non-routine maintenance.

F. INSPECTIONS

All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.

- Inspections will be conducted by individuals that have successfully completed KEPSC-RI course as required by Section 213.02.02 of the Standard Specifications for Road and Bridge Construction, current edition.

- Inspection reports will be written, signed, dated, and kept on file.

- Areas at final grade will be seeded and mulched within 14 days.

- Areas that are not at final grade where construction has ceased for a period of 21 days or longer and soil stock piles shall receive temporary mulch no later than 14 days from the last construction activity in that area.

- All measures will be maintained in good working order. If a repair is necessary, it will be initiated within 24 hours of being reported.

- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.

- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.

- Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 50 percent of the design capacity and at the end of the job.

- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.

- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.

- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

G. NON–STORM WATER DISCHARGES

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

- Water from water line flushings.

- Water form cleaning concrete trucks and equipment.

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

- Uncontaminated groundwater and rainwater (from dewatering during excavation).

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

H. GROUNDWATER PROTECTION ③

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, require the preparation and implementation of a groundwater protection plan, and will or may be conducted as part of this construction project:

_____ 2(e) Land treatment or land disposal of a pollutant

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

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

_____ 2(j) Storing or related handling of road oils, dust suppressants at a central location Application or related handling of road oils, dust suppressants or deicing materials (*does not include use of chloride-based deicing materials applied to roads or parking lots*)

_____ 2(k) Installation, construction, operation, or abandonment of wells, bore holes, or core holes (*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 provided 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*).

CONTRACTOR AND RESIDENT ENGINEER 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.

② **Resident Engineer**:

Typed or printed name[1]	Title	Signature

③ **Contractor**:

Typed or printed name[2]	Title	Signature

[1] 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 Project Control Number (PCN) and KPDES number when one has been issued.

[2] 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 Project Control Number (PCN) and KPDES number when one has been issued.

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 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.

Subcontractor:

_____	_____	_____
Typed or printed name[1]	Title	Signature

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

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

1-10128 Graves 042B00090N

I. COMPLETION DATE.

Upon Notice to Proceed, the Contractor has the option of selecting the Begin Work date. Once selected, notify the Department in writing of the date selected at least two weeks prior to beginning work and provide a proposed project schedule. All work is to be completed by the specified contract completion date. The Contractor is allotted 120 calendar days once the bridge is closed to complete all work to safely reopen the structure with no lane closures. At a minimum, prior to reopening the bridge to traffic, all strength requirements and curing for materials used shall be completed per Division 600 of the Standard Specifications. Guardrail shall be installed to the satisfaction of the Engineer prior to reopening the bridge to traffic unless prior approval is obtained from the engineer for use of temporary railing.

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

II. LIQUIDATED DAMAGES.

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

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

Any approval of cold weather plans or allowance of construction operations to occur outside Section 606 and/or Section 601 does not alleviate the 120 day maximum bridge closure. In the event the closure lasts longer than 120 calendar days as specified, liquidated damages will apply to all excess days regardless of weather limitations.

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

1-10146 Hickman 053B00029N

I. COMPLETION DATE.

Upon Notice to Proceed, the Contractor has the option of selecting the Begin Work date. Once selected, notify the Department in writing of the date selected at least two weeks prior to beginning work and provide a proposed project schedule. All work is to be completed by the specified contract completion date. The Contractor is allotted 90 calendar days once the bridge is closed to complete all work to safely reopen the structure with no lane closures. At a minimum, prior to reopening the bridge to traffic, all strength requirements and curing for materials used shall be completed per Division 600 of the Standard Specifications. Guardrail shall be installed to the satisfaction of the Engineer prior to reopening the bridge to traffic unless prior approval is obtained from the engineer for use of temporary railing.

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

II. LIQUIDATED DAMAGES.

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

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

Any approval of cold weather plans or allowance of construction operations to occur outside Section 606 and/or Section 601 does not alleviate the 90 day maximum bridge closure. In the event the closure lasts longer than 90 calendar days as specified, liquidated damages will apply to all excess days regardless of weather limitations.

SPECIAL NOTE

SEASONAL TREE CLEARING RESTRICTION

1-10128 Graves 042B00090N 1-10146 Hickman 053B00029N

No clearing of trees five (5) inches or greater dbh (diameter breast height) between May 15 and July 31.

Questions regarding this note should be directed to Danny Peake, Director, KYTC Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250.

SPECIAL NOTE FOR NON-TRACKING TACK COAT

1. DESCRIPTION AND USEAGE. This specification covers the requirements and practices for applying a non-tracking tack asphalt coating. Place this material on the existing pavement course, prior to placement of a new asphalt pavement layer. Use when expedited paving is necessary or when asphalt tracking would negatively impact the surrounding area. This material is not suitable for other uses. Ensure material can "break" within 15 minutes under conditions listed in 3.2.

2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Non-Tracking Tack. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide a tack conforming to the following material requirements:

Property	Specification	Test Procedure
Viscosity, SFS, 77 ˚ F	20 – 100	AASHTO T 72
Sieve, %	0.3 max.	AASHTO T 59
Asphalt Residue[1], %	50 min.	AASHTO T 59
Oil Distillate, %	1.0 max.	AASHTO T 59
Residue Penetration, 77 ˚ F	0 - 30	AASHTO T 49
Original Dynamic Shear (G*/sin δ), 82 ˚ C	1.0 min.	AASHTO T 315
Softening Point, ˚ F	149 min.	AASHTO T 53
Solubility, %	97.5 min.	AASHTO T 44

[1] Bring sample to 212 ˚F over a 10-15 minute period. Maintain 212 ˚F for 15-20 minutes or until 30-40 mL of water has distilled. Continue distillation as specified in T59.

2.2. Equipment. Provide a distributor truck capable of heating, circulating, and spraying the tack between 170 ˚F and 180 ˚F. Do not exceed 180 ˚F. Circulate the material while heating. Provide the correct nozzles that is recommend by the producer to ensure proper coverage of tack is obtained. Ensure the bar can be raised to between 14" and 18" from the roadway.

2.3. Personnel. Ensure the tack supplier has provided training to the contractor on the installation procedures for this product. Make a technical representative from the supplier available at the request of the Engineer.

3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the non-tracking tack, ensure the pavement surface is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the surface by scraping, sweeping, and the use of compressed air. Ensure this preparation process occurs shortly before application to prevent the return of debris on to the pavement. If rain is expected within one hour after application, do not apply material. Apply material only when the surface is dry, and no precipitation is expected.

3.2 Non-tracking Tack Application. Placement of non-tracking tack is not permitted from October 1st to May 15th. When applying material, ensure the roadway temperature is a minimum of 40˚F and rising. Prior to application, demonstrate competence in applying the tack according to this note to the satisfaction of the Engineer. Heat the tack in the distributor to between 170 – 180 ˚F. After the initial heating, between 170 – 180 ˚F, the material may be sprayed between 165 ˚F and 180 ˚F. Do not apply outside this temperature range. Apply material at a minimum rate of 0.70 pounds (0.08 gallons) per square yard. Ensure full coverage of the material on the pavement surface. Full coverage of this material is critical. Increase material application rate if needed to achieve full coverage. Schedule the work so that, at the end of the day's production, all non-tracking tack is covered with the asphalt mixture. If for some reason the non-tracking tack cannot be covered by an asphalt mixture, ensure the non-tracking tack material is clean and reapply the non-tracking tack prior to placing the asphalt mixture. Do not heat material more than twice in one day.

3.3 Non-tracking Tack Certification. Furnish the tack 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 sample of non-tracking tack be taken from the distributor at a rate of one sample per 15,000 tons of mix. Take two 1 gallon samples of the heated material and forward the sample to the Division of Materials for testing within 7 days. Ensure the product temperature is between 170 and 180 °F at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of non-tracking tack in tons. 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 non-tracking tack, the cleaning of the pavement surface, or furnishing and placing the non-tracking tack. The Department will consider all such items incidental to the non-tracking tack.

5. PAYMENT. The Department will pay for the non-tracking tack 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. Non-tracking tack will not be permitted for use from October 1st to May 15th. During this timeframe, the department will allow the use of an approved asphalt emulsion in lieu of a non-tracking tack product but will not adjust the unit bid price of the material. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

Non-Tracking Tack Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
Viscosity, SFS, 77 ˚ F	20 – 100	19 - 102	17 - 18 103 - 105	15 - 16 106 - 107	14 108 - 109	≤13 ≥ 110
Sieve, %	0.30 max.	≤ 0.40	0.41 - 0.50	0.51 - 0.60	0.61 - 0.70	≥ 0.71
Asphalt Residue, %	50 min.	≥49.0	48.5 – 48.9	48.0 – 48.4	47.5-47.9	≤ 47.4
Oil Distillate, %	1.0 max.	≤1.0	1.1-1.5	1.6 - 1.7	1.8-1.9	>2.0
Residue Penetration, 77 ° F.	30 max.	≤ 31	32 - 33	34 - 35	36 - 37	≥ 38
Original Dynamic Shear (G*/sin δ), 82 ˚ C	1.0 min.	≥0.95	0.92 – 0.94	0.90 – 0.91	0.85 - 0.89	≤ 0.84
Softening Point, º F	149 min.	≥145	142 - 144	140 - 141	138 - 139	≤ 137
Solubility, %	97.5 min.	≥ 97.0	96.8 – 96.9	96.6 – 96.7	96.4 – 96.5	≤ 96.3

Code	Pay Item	Pay Unit
24970EC	Asphalt Material for Tack Non-Tracking	Ton

Revised: May 23, 2022

SPECIAL NOTE FOR ELECTRONIC DELIVERY MANAGEMENT SYSTEM (e-Ticketing) ASPHALT

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. Incorporate an e-Ticketing Delivery Software for weighed asphalt material delivered to the project to report loads and provide daily running totals of weighed asphalt material for pay items and incidental work during the construction processes from the point of measurement and loading to the point of incorporation to the project.

2.0 MATERIALS AND EQUIPMENT. Contractor shall supply material data in JavaScript Object Notation (JSON) documents to the KYTC e-Ticketing Delivery Software (KYTC e-Ticketing Portal) via Application Programming Interface (API) or direct connection. Test and verify that ticket data can be shared from the original source no fewer than 30 days prior to material placement activities. An e-Ticketing Delivery Software supplier can provide a qualified representative for on-site technical assistance during the initial setup, pre-construction verifications, and data management and processing as needed during the Project to maintain material data delivery capabilities. Virtual meetings may be hosted in lieu of on-site meetings when deemed appropriate by the Engineer.

Provide e-Ticketing Delivery Software that will meet the following:

1. The e-Ticketing Delivery Software shall be fully integrated with the Contractor's Load Read-Out scale system at the material source location.

2. The e-Ticketing Delivery Software shall provide real-time delivery to KYTC e-Ticketing Portal.

3. Transmit any updates to the ticket data within 5 minutes of a change.

3.0 CONSTRUCTION. Provide the Engineer with the manufacturer's specifications and all required documentation for data access at the pre-construction conference.

A. Construction Requirements

1. Install and operate software in accordance with the manufacturer's specifications.

2. Verify that all pertinent information is provided by the software within the requirements of this Special Note.

B. Data Deliverables

Provide to the Engineer a means in which to gather report summaries by way of iOS apps, web pages, or any other method at the disposal of the Engineer. The Engineer may request data at any time during the project.

1. Asphalt Material

a. **Real-time Continuous Data Items**

Provide the Engineer access to JSON documents capable of being transmitted through the KYTC's e-Ticketing Portal that displays the following information in real-time with a web-based system compatible with iOS and Windows environments.

- Each Truck
  - Supplier Name
  - Supplier Address
  - Supplier Phone
  - Plant location
  - Date
  - Time at source
  - Project Location

- Contract ID#
- Carrier Name
- Unique Truck ID
- Description of Material
- Mix Design Number
- Gross, Tare and Net Weight
- Weighmaster

4.0 MEASUREMENT. The Department will not measure the electronic delivery management system.

5.0 PAYMENT. The Department will not measure this work for payment and will consider all items contained in this note to be incidental to the asphalt mixtures on the project, as applicable.

May 5, 2025

SPECIAL NOTE FOR ELECTRONIC DELIVERY MANAGEMENT SYSTEM (e-Ticketing) AGGREGATE

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. Incorporate an e-Ticketing Delivery Software for weighed aggregate material delivered to the project to report loads and provide daily running totals of weighed aggregate material for pay items and incidental work during the construction processes from the point of measurement and loading to the point of incorporation to the project.

2.0 MATERIALS AND EQUIPMENT. Contractor shall supply material data in JavaScript Object Notation (JSON) documents to the KYTC e-Ticketing Delivery Software (KYTC e-Ticketing Portal) via Application Programming Interface (API) or direct connection. Test and verify that ticket data can be shared from the original source no fewer than 30 days prior to material placement activities. An e-Ticketing Delivery Software supplier can provide a qualified representative for on-site technical assistance during the initial setup, pre-construction verifications, and data management and processing as needed during the Project to maintain material data delivery capabilities. Virtual meetings may be hosted in lieu of on-site meetings when deemed appropriate by the Engineer.

Provide e-Ticketing Delivery Software that will meet the following:

1. The e-Ticketing Delivery Software shall be fully integrated with the Contractor's Load Read-Out scale system at the material source location.

2. The e-Ticketing Delivery Software shall provide real-time delivery to KYTC e-Ticketing Portal.

3. Transmit any updates to the ticket data within 5 minutes of a change.

3.0 CONSTRUCTION. Provide the Engineer with the manufacturer's specifications and all required documentation for data access at the pre-construction conference.

A. Construction Requirements

1. Install and operate software in accordance with the manufacturer's specifications.

2. Verify that all pertinent information is provided by the software within the requirements of this Special Note.

B. Data Deliverables

Provide to the Engineer a means in which to gather report summaries by way of iOS apps, web pages, or any other method at the disposal of the Engineer. The Engineer may request data at any time during the project.

1. Aggregate Material

a. **Real-time Continuous Data Items**

Provide the Engineer access to JSON documents capable of being transmitted through the KYTC's e-Ticketing Portal that displays the following information in real-time with a web-based system compatible with iOS and Windows environments.

- Each Truck
  - Supplier Name
  - Supplier Address
  - Supplier Phone
  - Plant location
  - Date
  - Time at source
  - Project Location

- Contract ID#
- Carrier Name
- Unique Truck ID
- Description of Material
- Load Number
- Gross, Tare and Net Weight
- Weighmaster

4.0 MEASUREMENT. The Department will measure the electronic delivery management system as a lump sum item.

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. Payment will be full compensation for costs related to providing the e-Ticketing Delivery Software, including integration with plant load-out systems, and report viewing/exporting process. All quality control procedures including the software representative's technical support and on-site training shall be included in the Contract lump sum price.

Code	Pay Item	Pay Unit
26248EC	ELECTRONIC DELIVERY MGMT SYSTEM-AGG	LS

May 5, 2025

SPECIAL NOTE FOR RECYCLED ASPHALT PAVEMENT (RAP) STOCKPILE MANAGEMENT

I. GENERAL

The use of reclaimed asphalt pavement (RAP) from Department projects or other approved sources in hot mix asphalt (HMA) or warm mix asphalt (WMA) shall be subject to stockpile management and handling of material as described in this section.

The Department approves RAP on a stockpile basis, following the process set forth in this method. The contractor's responsibilities in the process are as follows:

- To obtain the Department's approval of all RAP prior to its use on a Department project and to deliver test data and samples as required
- To monitor and preserve the quality and uniformity of the approved material during storage and handling, adding no unapproved material to the existing stockpile
- To comply with the Department's requirements regarding replenishment of approved stockpiles

The Department will approve RAP based on its composition and variability in gradation and asphalt content, and on visual inspections of the stockpile, which the Department may conduct at its discretion. The Department may withdraw approval of a stockpile if the requirements of this specification are not followed in good faith.

The Maximum Percentage Allowed in a mix design will be based on these criteria and on the category of RAP source, as defined in this document.

II. APPROVAL PROCESS

Qualified asphalt producers (listed in List of Approved Materials-Asphalt Mixing Plants) may submit requests for RAP stockpile approval to the Asphalt Branch, Division of Materials, in the Annual Certification for Previously Approved Asphalt Mixing Plants and Related Equipment. The requester shall provide test results as prescribed in Part IID. The Division of Materials may, at their discretion, collect samples or inspect a RAP stockpile consistent with Section IIE.

Upon completion of the review of testing results and, if applicable, visual inspection, the Division of Materials, Asphalt Branch will approve or disapprove the material by letter and will assign a Stockpile Identification Number for each approved RAP stockpile. Note: The contractor's average gradation and asphalt content, as listed in the approval letter, shall be the gradation used in subsequent mix designs. The approval letter will state the applicable limits on the use of the material in mix designs and will summarize the Department's findings, listing the average gradation and asphalt content from the contractor's tests and the corresponding values found by the Department. Where the Maximum Percentage Allowed is low due to variability, the contractor may elect to improve the uniformity of the material by further processing and may again sample, test, and request approval for the material.

No material shall be added to a stockpile after it has been approved, except as provided in Parts V, VI, and VII below.

IIA. RAP Quality Management Plan

For a contractor to receive approval to use RAP on any department project, a RAP Quality Management Plan must first be approved by the department. The RAP Quality Management Plan shall be submitted to the

Division of Materials annually for approval as part of the Contractor's Quality Control Plan/Checklist. The Quality Management Plan is required to demonstrate how the Contractor will provide consistency and quality of material utilized in all asphalt mixes produced for use on Department projects. The Quality Management Plan shall include:

- Unprocessed RAP Stockpiles
  - Designation of stockpile(s) as single or multiple source
  - Designation of stockpile(s) as classified or unclassified
  - Designation of stockpile(s) as captive or continuously replenishing
  - Plan for how stockpile(s) is built (layers, slope, etc.)
  - Plan to minimize stockpile(s) contamination
- Processing and Crushing
  - Equipment used to feed screener or crusher
  - Excavation process based on equipment type
- Processing Millings
  - Single Project or Source
    - Screening, Fractionation, or Crushing plan
  - Multiple Source
    - Process to achieve uniform material from stockpile
    - Screening, Fractionation, or Crushing plan
- Processed RAP Stockpiles
  - Minimization of segregation
  - Minimization of moisture

IIB. RAP Stockpile Placement

All processed RAP stockpiles shall be placed on a sloped, paved surface. The requirement for a paved surface may be waived by the Cabinet if the Contractor's RAP Quality Management Plan demonstrates effective material handling that will minimize deleterious material from beneath the processed stockpile entering the plant. *No processed stockpile will be placed directly on grass or dirt.*

IIC. Stockpile Identification Signs

RAP stockpiles shall be identified with posted signs displaying the gradation of material in the stockpile (course, intermediate, or fine). These signs shall be made of weatherproof material and shall be highly visible. Numerals shall be easily readable from outside the stockpile area. If a stockpile exists in two or more parts, each part must have its own sign.

IID. Standard Approval Procedure

The Contractor shall obtain random samples representative of the entire stockpile and shall have each sample tested for gradation and asphalt content according to KM 64-426, KM 64-427, and AASHTO T308. The material samples must be in its final condition after all crushing and screening. At least one sample shall be obtained for each 1,000 tons of processed RAP, with a minimum of five samples per stockpile. Sampling shall be performed according to the method prescribed for asphalt mix aggregates in the Department's Materials Field Testing and Sampling Manual and KM 64-601. The minimum sampling size (after quartering) for tests of RAP samples is 1,500 g. except for samples containing particles more than one inch in diameter, for which the minimum is 2,000 g.

To request approval of a RAP stockpile, submit the following documents to the Division of Materials. It is the requester's responsibility to correctly address, label, and deliver these submittals:

• Submit request for approval at beginning of the paving season as part of the Annual Certification for Previously Approved Asphalt Mixing Plants and Related Equipment.

• If requesting approval after paving season begins, submit memo, including stockpile portion of the inspection list for Annual Certification for Previously Approved Asphalt Mixing Plants and Related Equipment, to Division of Materials.

• Reports of the tests prescribed above using the Stockpile <INSERT NAME> document.

• A drawing of the plant site showing the location of the stockpile to be approved *and all other stockpiles on the premises*

Mail, deliver or email the request form, with test reports and site drawing, to:

Kentucky Transportation Cabinet
Division of Materials
ATTN: Asphalt Branch Manager
1227 Wilkinson Boulevard
Frankfort, Kentucky 40601

Robert.Semones@ky.gov

IIE. Tests and inspections by the Department

The Department shall have the right to observe the collection of samples, or to perform the sampling and testing as a verification of contractor submittal. As a condition of approval, the Department may at any time inspect and sample RAP stockpiles for which approval has been requested and may perform additional quality control tests to determine the consistency and quality of the material.

The approval letter issued by the Department will include any results of verification testing performed by the Cabinet. The approved contractor results should be used by mix design technicians in the design calculations.

III. RAP STOCKPILE TIERED MANAGEMENT AND EFFECTIVE BINDER CONTENT

The stockpile management and approval requirements will be tiered based on the maximum cold feed percentages as defined in this section and Table 1. below.

Table 1. Tiered Testing Requirements

Mix Type	0-≤12%	12-≤20%	20-≤35%
Surface	Tier 1	Tier 2	Tier 3
Base	Tier 1	Tier 2	Tier 3

NOTE: All asphalt mixes and binder selection will be subject to Section 409 of the current Standard Specifications.

The following requirements will apply based on the percentage of RAP in the mix.

Tier 1

Tier 1 mixes (less than or equal to 12% RAP) will be subject to the requirements of sections IIA, IIB, and IIC.

Tier 2

Tier 2 mixes (12% to less than 20% RAP) will be subject to the requirements of Section II in its entirety and Table 2 requirements.

Tier 3

Tier 3 Asphalt Base mixes with 20% to less than 35% RAP, Tier 3 Asphalt Surface mixes with 20% to less than 30% RAP will be subject to Section II in its entirety and Table 2 requirements.

IV. MAXIMUM PERCENTAGE OF RAP ALLOWED

The Maximum Percent of RAP allowed in mix designs shall be the lowest percentage determined by the gradation and asphalt content of the RAP, as established under the criteria below, and requirements listed in Section III.

Limits according to range in gradation and bitumen content

The Maximum Percent of RAP Allowed, based on gradation and asphalt content, shall be determined by the Department using the standard deviation of these values. This standard deviation will be calculated using data provided by the contractor from at least five samples. While the contractor is required to provide the data from these tested samples, the Department retains the discretion to perform its own sampling and testing to support or verify its findings. An apparent outlier shall not be considered in determining these ranges. Where one result appears to be unrepresentative of the whole, two or more additional samples shall be tested. The outlying value of all tests shall then be excluded from the range. The maximum percentage of RAP allowable shall be the lowest percentage determined according to Table 2 below.

Table 2. Maximum Percent RAP According to Variability in Test Results

	Standard Deviation as calculated above:		
Surface			
% asphalt content	< 0.4	< 0.5	
% passing No. 200 sieve	< 1.25	< 1.5	
% passing Median Sieve	< 4.0	< 5.0	
	Allowable RAP Cold Feed %		
	Tier 3 - 20%-30%	Tier 2 - 12%-20%	Tier 1 - 0%-12%
Base			
% asphalt content	< 0.5	< 0.75	
% passing No. 200 sieve	< 1.5	< 2.25	
% passing Median sieve	< 5.0	< 7.0	
	Allowable RAP Cold Feed %		
	Tier 3 - 20%-35%	Tier 2 - 12%-20%	Tier 1 - 0%-12%

NOTE: These allowances notwithstanding, the Contractor is required to maintain the mixture within the Mixture Control Tolerances of Kentucky Method 443.
The percentage allowable in mix designs shall be limited to meet the design criteria for viscosity established in the Standard Specifications.

V. GENERAL STOCKPILE REQUIREMENTS AND REPLENISHMENT

V.A. Single Pavement Source

Early approval of material from a single pavement source. When a new stockpile is to consist entirely of millings removed from a single existing pavement, the stockpile may be approved based on samples taken during the milling and processing operations, prior to completion of milling. The initial stockpile may be approved as either a new stockpile or a new stockpile in continual replenishment status.

For continual replenishment status, samples shall be taken from the processed stockpile after it reaches 1,000 tons. A total of five initial samples, plus one additional sample for every 1,000 tons, is required. As prescribed in Part II above, the contractor shall test all samples and deliver the test results, together with a letter request for approval in Continual Replenishment status, to the address indicated. The stockpile shall be subject to initial approval as prescribed above in Part II. Once approved, it may be replenished without further approvals as provided in Part VII below.

V.B. Heterogeneous or contaminated material

Asphalt pavement millings containing traffic detection loops, raised pavement markers, or other debris must be separated and excluded before stockpiling RAP for approval for use in KYTC asphaltic concrete mixtures.

No material other than RAP from an approved stockpile shall be included in mixtures for State projects. The following materials are specifically excluded:

• Material contaminated with foreign matter such as liquids, soil, concrete, or debris

• Plant waste, especially waste containing abnormal concentrations of bitumen, drum build-up, or material from spills or plant clean-up operations

The following materials shall not be added to or placed in proximity to an approved stockpile but may be accumulated in a separate stockpile and submitted for approval according to Part III:

- Production mixtures returned to the plant for any reason.
- Mis-proportioned mixtures, especially those generated at start-up.

VI. REPLENISHMENT OF STOCKPILES

An approved RAP stockpile may be replenished with Department approval, provided the replenishment material meets all necessary requirements for approval and maintains uniformity in gradation and asphalt content as outlined in this document.

VI.A. Procedure and approval criteria

The procedure for requesting approval of a stockpile replenishment, that is not in continual replenishment status, shall be the same as for approval of an original stockpile, and the material for the replenishment shall meet all criteria for approval as a new stockpile. RAP proposed for replenishment shall be sampled and tested by the Contractor for gradation and asphalt cement as prescribed in Section II above. The Laboratory shall

review these results and provide approval for use in Department asphalt mix designs, according to Table 2 above.

VI.B. Effect of replenishment on existing approved mix designs

Replenishment of a stockpile may render certain mix designs invalid, depending on the percent RAP allowed in the design and on the difference in average properties between the old and new stockpiles. A replenished stockpile may be used as the RAP ingredient in an existing approved design provided that:

1. The Maximum Percent Allowed for the replenishment stockpile equals or exceeds the percent RAP called for in the mix design. In no case may the Maximum Percent Allowed be exceeded.

However, if a mix design calls for up to 5.0 percent more than the Maximum Percent Allowed for the replenishment, the *design* may be adjusted, with approval, to use the lower percent allowed, provided that the production mixture continues to meet all acceptance criteria. For example, a design which calls for 20 percent RAP may be adjusted and produced with 15 percent if it continues to meet for acceptance.

VII. CONTINUAL REPLENISHMENT WITHOUT RE-APPROVAL

At the request of the contractor, a previously approved stockpile may be placed in Continual Replenishment Status and may be replenished any number of times without re-approval provided that:

1. Replenishment is within six months of the last stockpile addition.
2. The contractor shall continue to monitor and test the materials added to the stockpile and shall forward these results to the Division of Materials for every 1,000 tons of RAP added to the stockpile.
3. The contractor must certify that replenishment materials are free of contaminants.
4. The Department shall be notified by letter to the Director of the Division of Materials that the stockpile is being replenished on a continual basis.
5. The RAP Maximum Percent Allowed for continual replenishment shall be limited by Sections III and IV.

Note: Upon request, one 20-pound sample bag of RAP for each Continual Replenishment Stockpile shall be submitted to the Division of Materials for petrographic analysis every 12 months.

The Department may inspect, sample, and test such stockpiles at its discretion and may, upon determining that the stockpile is unsuitable, withdraw approval of the material and all mix designs which include it. Approval of the stockpile may be withdrawn at any time based upon extreme or erratic ingredient proportions, unsuitable ingredients, or poor performance, as determined by the Division of Materials, Asphalt Branch. The Department will conduct periodic comparison testing on the opposite quarters of samples submitted by the Contractor for special replenishment approval category. The approval of the stockpile may be withdrawn if

erroneous information was found on the contractor's testing and/or improper sampling procedures were involved after a thorough investigation.

VIII. DEPLETION OF STOCKPILE AND EXPIRATION OF APPROVAL

When a stockpile has been fully depleted, the Contractor may replenish it within 24 months after the date of depletion; a depleted stockpile not replenished after 24 months will be removed from the approved list and may not be replenished.

Approval of a stockpile may be withdrawn if, in the finding of the Division of Materials, Asphalt Branch, the total amount of material used in new mixtures equals the total tonnage of the original stockpile plus all approved replenishments. Six years from the original approval of a stockpile or from its most recent replenishment, a stockpile shall be presumed to be depleted, and its approval shall expire. This shall apply to all stockpiles, regardless of status or history of use.

IX. RECORDS

The Contractor shall maintain records at the plant site on all RAP stockpiles. These records shall be available for inspection by representatives of the Department and shall include the following:

- All test results.
- The Department's approval letter for each stockpile and replenishment, together with the Contractor's requests for approval and all data submitted therewith.
- A current drawing of all stockpile locations at the plant site, including unapproved stockpiles, showing stockpile numbers of all stockpiles approved for State work.

X. RELOCATION OF STOCKPILE

If material from an approved RAP stockpile is to be moved to another location, the contractor shall seek approval from the Department prior to its further use on State projects. A letter request shall be submitted to the Division of Materials indicating the current stockpile location, the total quantity of material to be moved, and the amount, if any, to remain in the current location. The Division of Materials will issue an approval letter applicable to the new location.

June 18, 2025

Special Note for Bridge Demolition, Renovation and Asbestos Abatement

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

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

SPECIAL NOTE

BRIDGE DEMOLITION OR RENOVATION AND ASBESTOS

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

KYTC has completed a pre-demolition asbestos survey of the bridge, the results of which are attached to this note and should be included with the Contractor's notification filed with the KDAQ.

Survey results revealed no regulated asbestos containing material (RACM) present, therefore no asbestos-specific work practices are required.

Questions regarding this note should be directed to Danny Peake, Director, KYTC Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250.

GRAVES - HICKMAN COUNTIES
1216R25D097 - STP BRZ

PAGE 1 OF
INITIAL SUBMITTAL DATE
REVISION DATE
NOTIFICATION # -

NOTIFICATION OF ASBESTOS ABATEMENT/DEMOLITION/RENOVATION

(Instructions for completing form on back)

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

Kentucky Division for Air Quality
300 Sower Boulevard, 2nd Floor
Frankfort, KY 40601

OFFICE USE ONLY
ID #
LOG #

Contractor _____
Address _____
City _____ State _____ Zip _____
Phone _____ Contact Person _____
Owner _____
Address _____
City _____ State _____ Zip _____
Phone _____ Contact Person _____
Project Location _____
Address _____
City _____ State _____ Zip _____
Facility Age (yrs.) _____ Size of Facility or Affected Part (sq.ft.) _____
#Floors Affected _____ Present and Prior Use of Facility _____

TYPE OF PROJECT (CHECK ONLY ONE):

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

PROJECT DATES:

Start Removal _____ End Removal _____
Start Renovation/Demolition _____ End Renovation/Demolition _____

Amount of ACM to be Removed:

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

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

Description of affected facility components _____

Asbestos detection technique _____

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

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

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

Transporter _____
Address _____
City _____ State _____ Zip _____
Phone _____
Disposal Site _____
Address _____
City _____ State _____ Zip _____

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

Submitted by: _____
Company Name: _____

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

Filing Deadline: This form must be completed and filed with the Kentucky Division for Air Quality at least ten (10) working days before starting any asbestos removal, demolition, or other work which will disturb asbestos-containing material (ACM) in Kentucky facilities outside Jefferson County and in schools statewide, including Jefferson County. File with appropriate Regional Office.
Renotification: If developments occur that invalidate information on a notification (e.g., changes in dates, amounts, locations), file a revised form within the time frames specified in 401 KAR 58:025. Notifications may be numbered in the top-left corner (optional). First two digits are project year; remaining digits are project number (e.g., the first project in 1999 is 99-1).
Attachments: Attachments may be included to provide additional information, propose alternative procedures, declare nonfriable removal, identify secondary transporters, etc.

Line-by-Line Instructions:
Contractor/Owner: the contractor is the asbestos remover (or, for zero-asbestos demolitions, the demolition contractor). The owner is the entity having the work done.
Project Location: The location at the address given where the work is taking place (e.g., which building/floor/room?).
Present/Prior Use: Enter the present and prior use(s) of the facility.
Type of Project: Each choice shown in this category has a specific description under 401 KAR 58:025:

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

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

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

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

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

Project Dates: Schedules must be precise and accurate. The "start removal" date is the date the removers arrive on-site and begin physically preparing the work area for removal. "End removal" is the date the removers dismantle the work area after cleaning and clearing it. If circumstances arise that invalidate previously submitted start dates, a revised notification must be submitted showing the updated, correct start date. If the start date has been moved up, submit written renotification at least ten working days before the new start date. If the start date has been moved back, telephone the Division as soon as possible before the original date and submit written renotification no later than the original start date.
Schedules for renovation and demolition (next line after removal schedule) are handled similarly, except that renotification is required only for schedule changes involving demolitions, not renovations.
Amount of ACM: In this table, enter the amount and type (RACM , Category I, and/or Category II) of asbestos that will be removed. Although the regulation does not require you to identify the amount of nonfriable ACM that will be removed, the table provides space for nonfriable ACM to accommodate those notifiers who choose to document these removals.
Description of project: Describe the demolition or renovation work to be performed and method(s) to be used , including work practices and engineering controls to be used.
Asbestos Detection Technique: Give a general description of the asbestos survey, for example, "AHERA-style survey by accredited inspector; samples analyzed by PLM."
Amount of nonfriable ...: If all nonfriable ACM will be properly removed, enter "NA."
Contingency Plans: If Category II nonfriable ACM becomes crumbled, pulverized, or reduced to powder, or if additional RACM is discovered, describe procedures to be followed. For example, "Move demolition activity away from ACM immediately; remove the ACM using regulation-required procedures." Even "Stop work, call Division for Air Quality" is OK.

TEAM KENTUCKY®
TRANSPORTATION CABINET

ASBESTOS INSPECTION REPORT

Prepared for: Aaron Detjen, PE, RSPI
WSP USA, Inc.

Prepared by: Jared Looney, EIT
AI Number 175162
License Number 74088

Structure ID: 042B00090N, Item 1-10128
US-45 over Jackson Creek
Graves County, Kentucky

Prepared: January 5, 2023

PROJECT DESCRIPTION

Third Rock Consultants, LLC (Third Rock) was retained to conduct a pre-demolition asbestos survey for the above-referenced project. Based on the Bridge Inspection Report from Kentucky Transportation Cabinet, the bridge appears to have been constructed in 1927.

INSPECTION METHODOLOGY

An inspection was conducted on December 19, 2022 in accordance with applicable National Emission Standards for Hazardous Air Pollutants (NESHAP) standards to determine if asbestos-suspect materials are present, including Category I non-friable, Category II non-friable, and friable materials. Upon inspection, the following asbestos-suspect material was observed and sampled:

- Black expansion joint material in horizontal abutment joints, approximately 75 square feet of material
- Black expansion joint material in vertical abutment joints, approximately 25 square feet of material

One (1) sample was taken at a representative location from each of the two (2) asbestos-suspect materials that were observed and delivered under chain-of-custody (COC) as Samples 1-10128-1 and 1-10128-2, respectively. The COC and photo documentation of each sampling location are attached.

FINDINGS

Laboratory analysis revealed all samples contained less than 1% asbestos. Results are attached.

Note that the Kentucky Division for Air Quality (KDAQ) must be notified at least 10 working days prior to any demolition activities, even though no asbestos-containing material was identified. To notify KDAQ, Form ID 70 must be completed through the Kentucky Energy and Environment Cabinet's eForms website.

LIMITATIONS

The findings and conclusions of this report are based solely on the conditions present at the structure during the inspection date. Although great care has been taken by Third Rock to conduct a thorough, accurate inspection and report, Third Rock disclaims any and all liability for any errors, omissions, or inaccuracies in the information provided, whether due to inadvertence or otherwise, and for any consequence arising therefrom. The information provided hereunder neither claims to be nor constitutes legal or medical advice. Third Rock shall not be liable for any special, consequential, or exemplary damages resulting, in whole or in part, from the customer's use of the information. Liability on the part of Third Rock is limited to the monetary value paid for this report.

REFERENCES

Google Earth. [Accessed December 27, 2022]. https://www.google.com/earth.

Asbestos Inspection Photo Log
Bridge ID 042B00090N, Item No. 1-10128
US-45, Graves County, Kentucky

1 - IMG_2774 Bridge Surface - Facing NE.JPG

2 - IMG_2775 Bridge Below Deck - Facing N.JPG

Asbestos Inspection Photo Log
Bridge ID 042B00090N, Item No. 1-10128
US-45, Graves County, Kentucky

3 - IMG_2776 Horizontal Abutment Joint - Facing NE - Sample 1-10128-1.JPG

4 - IMG_2777 Vertical Abutment Joint - Facing NE - Sample 1-10128-2.JPG

MICROBAC 3323 Gilmore Industrial Blvd., Louisville, KY 40213 | 502.962.6400 p | 502.962.6411 f

CHAIN OF CUSTODY RECORD

Number

Instructions on back

TO BE COMPLETED BY MICROBAC

Temperature Upon Receipt (°C) 18.3

Therm ID L11

Holding Time

Samples Received on Ice? ☐ Yes ☐ No ☐ N/A

Custody Seals Intact? ☐ Yes ☐ No ☐ N/A

Lab Report Address

Client Name: Third Rock Consultants, LLC

Address: 2526 Regency Road, STE 180

City, State, Zip: Lexington, KY 40503

Contact: Jared Looney

Telephone No.: (859) 977-2000

Invoice Address

Client Name: Third Rock Consultants, LLC

Address: 2526 Regency Road, STE 180

City, State, Zip: Lexington, KY 40503

Contact: Becky Weatherford

Telephone No.: (859) 977-2000

Turnaround Time

☒ Routine (5 to 7 business days)

☐ RUSH* (notify lab)

(needed by)

Report Type

☒ Results Only ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD

Send Report via: ☐ Mail ☐ Fax ☒ e-mail (address) jlooney@thirdrockconsultants.com

Send Invoice via: ☐ Mail ☐ Fax ☒ e-mail (address) bweatherford@thirdrockconsultants.com

Project: KY22-034 Location: Various PO No.:

Compliance Monitoring? ☐ Yes ☐ No ☐ Agency/Program

Sampled by (PRINT): Jared Looney Sampler Signature: Jared Looney Sampler Phone No.: (859) 977-2000

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	Asbestos PLM	Lead Paint	Additional Notes
	1-10128-1	12/19/22	3:00p	1	S	G	—	X		
	1-10128-2	12/19/22	3:00p	1	S	G	—	X		
	2-10061-1	12/19/22	4:00p	1	S	G	—	X		
	2-10061-2	12/19/22	4:00p	1	S	G	—	X		
	2-10061-3	12/19/22	4:00p	1	S	G	—	X		
	2-10061-4	12/19/22	4:00p	1	S	G	—	X		
	2-10061-5	12/19/22	4:00p	1	S	G	—		X	

Possible Hazard Identification ☒ Hazardous ☐ Non-Hazardous ☐ Radioactive

Sample Disposition ☒ Dispose as appropriate ☐ Return ☐ Archive

Comments

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
[signature]	12/21/22 818	Crystal Williams	12/21/22 818
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time

rev. 7/18/18

Page of

Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

L2L1039

Project Description

SOIL ANALYSIS

For:

Gerry Fister

Third Rock Consultants

2526 Regency Road, Suite 180; SUITE 104

Lexington, KY 40503

Customer Relationship Manager
David Lester

Thursday, January 5, 2023

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Louisville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

MICROBAC®

Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

L2L1039

Client Sample ID: 1-10146-1
Sample Matrix: Solid
Lab Sample ID: L2L1039-09
Collected By: CUSTOMER
Collection Date: 12/19/2022 14:30

Analyses Performed by: MCCALL AND SPERO ENVIRONMENTAL

General Parameters	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA/600/M4-82-020									
Asbestos, Chrysotile	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Asbestos, Amosite	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Asbestos, Crocidolite	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Asbestos, Other	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Cellulose	10		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Fibrous Glass	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Mineral Wool	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Other Non-Asbestos Fibers	90		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Other Matrix Materials	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS

Client Sample ID: 1-10128-1
Sample Matrix: Solid
Lab Sample ID: L2L1039-10
Collected By: CUSTOMER
Collection Date: 12/19/2022 15:00

Analyses Performed by: MCCALL AND SPERO ENVIRONMENTAL

General Parameters	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA/600/M4-82-020									
Asbestos, Chrysotile	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Asbestos, Amosite	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Asbestos, Crocidolite	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Asbestos, Other	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Cellulose	5		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Fibrous Glass	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Mineral Wool	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Other Non-Asbestos Fibers	85		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Other Matrix Materials	10		1	1	%		12/19/22 1500	01/03/23 0000	MCS

MICROBAC®

Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

L2L1039

Client Sample ID: 1-10128-2
Sample Matrix: Solid
Lab Sample ID: L2L1039-11
Collected By: CUSTOMER
Collection Date: 12/19/2022 15:00

Analyses Performed by: MCCALL AND SPERO ENVIRONMENTAL

General Parameters	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA/600/M4-82-020									
Asbestos, Chrysotile	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Asbestos, Amosite	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Asbestos, Crocidolite	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Asbestos, Other	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Cellulose	5		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Fibrous Glass	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Mineral Wool	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Other Non-Asbestos Fibers	95		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Other Matrix Materials	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS

Client Sample ID: 2-10061-1
Sample Matrix: Solid
Lab Sample ID: L2L1039-12
Collected By: CUSTOMER
Collection Date: 12/19/2022 16:00

Analyses Performed by: MCCALL AND SPERO ENVIRONMENTAL

General Parameters	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA/600/M4-82-020									
Asbestos, Chrysotile	<1		1	1	%		12/19/22 1600	01/03/23 0000	MCS
Asbestos, Amosite	<1		1	1	%		12/19/22 1600	01/03/23 0000	MCS
Asbestos, Crocidolite	<1		1	1	%		12/19/22 1600	01/03/23 0000	MCS
Asbestos, Other	<1		1	1	%		12/19/22 1600	01/03/23 0000	MCS
Cellulose	10		1	1	%		12/19/22 1600	01/03/23 0000	MCS
Fibrous Glass	<1		1	1	%		12/19/22 1600	01/03/23 0000	MCS
Mineral Wool	<1		1	1	%		12/19/22 1600	01/03/23 0000	MCS
Other Non-Asbestos Fibers	90		1	1	%		12/19/22 1600	01/03/23 0000	MCS
Other Matrix Materials	<1		1	1	%		12/19/22 1600	01/03/23 0000	MCS

SPECIAL NOTE

BRIDGE DEMOLITION OR RENOVATION AND ASBESTOS

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

KYTC has completed a pre-demolition asbestos survey of the bridge, the results of which are attached to this note and should be included with the Contractor's notification filed with the KDAQ.

Survey results revealed no regulated asbestos containing material (RACM) present, therefore no asbestos-specific work practices are required.

Questions regarding this note should be directed to Danny Peake, Director, KYTC Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250.

GRAVES - HICKMAN COUNTIES
1216R25D097 - STP BRZ

PAGE 1 OF
INITIAL SUBMITTAL DATE
REVISION DATE
NOTIFICATION # -

NOTIFICATION OF ASBESTOS ABATEMENT/DEMOLITION/RENOVATION

(Instructions for completing form on back)

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Kentucky Division for Air Quality
300 Sower Boulevard, 2nd Floor
Frankfort, KY 40601

OFFICE USE ONLY
ID #
LOG #

Contractor _____
Address _____
City _____ State _____ Zip _____
Phone _____ Contact Person _____
Owner _____
Address _____
City _____ State _____ Zip _____
Phone _____ Contact Person _____
Project Location _____
Address _____
City _____ State _____ Zip _____
Facility Age (yrs.) _____ Size of Facility or Affected Part (sq.ft.) _____
#Floors Affected _____ Present and Prior Use of Facility _____

TYPE OF PROJECT (CHECK ONLY ONE):

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

PROJECT DATES:

Start Removal _____ End Removal _____
Start Renovation/Demolition _____ End Renovation/Demolition _____

Amount of ACM to be Removed:

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

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

Description of affected facility components _____

Asbestos detection technique _____

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

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

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

Transporter _____
Address _____
City _____ State _____ Zip _____
Phone _____
Disposal Site _____
Address _____
City _____ State _____ Zip _____

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

Submitted by: _____
Company Name: _____

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

TEAM KENTUCKY®
TRANSPORTATION CABINET

ASBESTOS INSPECTION REPORT

Prepared for: Mike McGregor, PE
Bacon Farmer Workman Engineering & Testing, Inc.

Prepared by: Jared Looney, EIT
AI Number 175162
License Number 74088

Structure ID: 053B00029N, Item 1-10146
US-51 over Cane Creek
Hickman County, Kentucky

Prepared: January 5, 2023

PROJECT DESCRIPTION

Third Rock Consultants, LLC (Third Rock) was retained to conduct a pre-demolition asbestos survey for the above-referenced project. Based on the Bridge Inspection Report from Kentucky Transportation Cabinet, the bridge appears to have been constructed in 1926.

INSPECTION METHODOLOGY

An inspection was conducted on December 19, 2022 in accordance with applicable National Emission Standards for Hazardous Air Pollutants (NESHAP) standards to determine if asbestos-suspect materials are present, including Category I non-friable, Category II non-friable, and friable materials. Upon inspection, asbestos-suspect material was observed in the joints of the bridge abutments. The expansion joint material was black and brittle with approximately 60 square feet of material present.

One (1) sample was taken at a representative location from the asbestos-suspect material and delivered under chain-of-custody (COC) as Sample 1-10146-1. The COC and photo documentation of each sampling location are attached.

FINDINGS

Laboratory analysis revealed that Sample 1-10146-1 contained less than 1% asbestos. Results are attached.

Note that the Kentucky Division for Air Quality (KDAQ) must be notified at least 10 working days prior to any demolition activities, even though no asbestos-containing material was identified. To notify KDAQ, Form ID 70 must be completed through the Kentucky Energy and Environment Cabinet's eForms website.

LIMITATIONS

The findings and conclusions of this report are based solely on the conditions present at the structure during the inspection date. Although great care has been taken by Third Rock to conduct a thorough, accurate inspection and report, Third Rock disclaims any and all liability for any errors, omissions, or inaccuracies in the information provided, whether due to inadvertence or otherwise, and for any consequence arising therefrom. The information provided hereunder neither claims to be nor constitutes legal or medical advice. Third Rock shall not be liable for any special, consequential, or exemplary damages resulting, in whole or in part, from the customer's use of the information. Liability on the part of Third Rock is limited to the monetary value paid for this report.

REFERENCES

Google Earth. [Accessed December 27, 2022]. https://www.google.com/earth.

Asbestos Inspection Photo Log
Bridge ID 053B00029N, Item No. 1-10146
US-51, Hickman County, Kentucky

1 - IMG_2769 Bridge Surface - Facing S.JPG

2 - IMG_2770 Bridge Below Deck - Facing N.JPG

Asbestos Inspection Photo Log
Bridge ID 053B00029N, Item No. 1-10146
US-51, Hickman County, Kentucky

3 - IMG_2771 Abutment - Facing N.JPG

4 - IMG_2772 Abutment Joint - Facing N - Sample 1-10146-1.JPG

MICROBAC 3323 Gilmore Industrial Blvd., Louisville, KY 40213 | 502.962.6400 p | 502.962.6411 f

CHAIN OF CUSTODY RECORD

Number

Instructions on back

L2L1039 David Lester

Lab Report Address
Client Name: Third Rock Consultants, LLC
Address: 2526 Regency Road, STE 180
City, State, Zip: Lexington, KY 40503
Contact: Jared Looney
Telephone No.: (859) 977-2000

Invoice Address
Client Name: Third Rock Consultants, LLC
Address: 2526 Regency Road, STE 180
City, State, Zip: Lexington, KY 40503
Contact: Becky Weatherford
Telephone No.: (859) 977-2000

Turnaround Time
☒ Routine (5 to 7 business days)
☐ RUSH* (notify lab)
(needed by)

Report Type
☒ Results Only ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD

TO BE COMPLETED BY MICROBAC
Temperature Upon Receipt (°C) 18.3
Therm ID
Holding Time L11
Samples Received on Ice? ☐ Yes ☐ No ☐ N/A
Custody Seals Intact? ☐ Yes ☐ No ☐ N/A

Send Report via: ☐ Mail ☐ Fax ☒ e-mail (address) jlooney@thirdrockconsultants.com
Send Invoice via: ☐ Mail ☐ Fax ☒ e-mail (address) bweatherford@thirdrockconsultants.com

Project: KY22-034 Location: Various PO No.:
Compliance Monitoring? ☐ Yes ☐ No ☐ Agency/Program

Sampled by (PRINT): Jared Looney Sampler Signature: Jared Looney Sampler Phone No.: (859) 977-2000

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)
** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	Asbestos PLM	Lead Paint	Additional Notes
	1-10105-1	12/19/22	11:00	1	S	G	—	X		
	1-10104-1	12/19/22	11:30	1	S	G	—	X		
	1-10144-1	12/19/22	12:00	1	S	G	—	X		
	1-10116-1	12/19/22	1:00p	1	S	G	—	X		
	1-10116-2	12/19/22	1:00p	1	S	G	—	X		
	1-10116-3	12/19/22	1:00p	1	S	G	—	X		
	1-10115-1	12/19/22	2:00p	1	S	G	—	X		
	1-10115-2	12/19/22	2:00p	1	S	G	—	X		
	1-10146-1	12/19/22	2:30p	1	S	G	—	X		

Possible Hazard Identification ☒ Hazardous ☐ Non-Hazardous ☐ Radioactive
Sample Disposition ☒ Dispose as appropriate ☐ Return ☐ Archive

Comments

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Jared Looney	12/21/22 818	Crystal Williams	12/21/22 818
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time

rev. 7/18/18

Page of

Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

L2L1039

Project Description

SOIL ANALYSIS

For:

Gerry Fister

Third Rock Consultants

2526 Regency Road, Suite 180; SUITE 104

Lexington, KY 40503

Customer Relationship Manager
David Lester

Thursday, January 5, 2023

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Louisville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

MICROBAC®

Microbac Laboratories, Inc., Louisville

CERTIFICATE OF ANALYSIS

L2L1039

Client Sample ID: 1-10146-1
Sample Matrix: Solid
Lab Sample ID: L2L1039-09
Collected By: CUSTOMER
Collection Date: 12/19/2022 14:30

Analyses Performed by: MCCALL AND SPERO ENVIRONMENTAL

General Parameters	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA/600/M4-82-020									
Asbestos, Chrysotile	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Asbestos, Amosite	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Asbestos, Crocidolite	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Asbestos, Other	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Cellulose	10		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Fibrous Glass	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Mineral Wool	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Other Non-Asbestos Fibers	90		1	1	%		12/19/22 1430	01/03/23 0000	MCS
Other Matrix Materials	<1		1	1	%		12/19/22 1430	01/03/23 0000	MCS

Client Sample ID: 1-10128-1
Sample Matrix: Solid
Lab Sample ID: L2L1039-10
Collected By: CUSTOMER
Collection Date: 12/19/2022 15:00

Analyses Performed by: MCCALL AND SPERO ENVIRONMENTAL

General Parameters	Result	Limit(s)	MDL	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA/600/M4-82-020									
Asbestos, Chrysotile	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Asbestos, Amosite	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Asbestos, Crocidolite	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Asbestos, Other	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Cellulose	5		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Fibrous Glass	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Mineral Wool	<1		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Other Non-Asbestos Fibers	85		1	1	%		12/19/22 1500	01/03/23 0000	MCS
Other Matrix Materials	10		1	1	%		12/19/22 1500	01/03/23 0000	MCS

TEAM KENTUCKY TRANSPORTATION CABINET

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)
01-10128.00	Graves	1100 FD55 121 9414002R	
PROJECT DESCRIPTION			

Kentucky Bridge Program - 042B00090N - US 45 at Jackson Creek Bridge Replacement

☐ 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	2	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed	2		
Condemnation	0		
Signed ROE	0		

Notes/ Comments (Text is limited. Use additional sheet if necessary.)
Right of Entry on Parcel 13 was granted with the executed construction agreement.

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Mark C. Askin, P.E.
Signature		Signature	
Date		Date	01/30/24
Right of Way Director		**FHWA**	
Printed Name	Dean M. Loy	Printed Name	
Signature		Signature	
Date		Date	

TEAM KENTUCKY TRANSPORTATION CABINET

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)
01-10146.00	Hickman	1100 FD55 121 9414002R	

PROJECT DESCRIPTION

Kentucky Bridge Program - 053B00029N - US 51 at Cane Creek Bridge Replacement

☐ **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	2	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed	2		
Condemnation	0		
Signed ROE	0		

Notes/ Comments (Text is limited. Use additional sheet if necessary.)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Mark C. Askin, P.E.
Signature		Signature	Mark Askin, P.E. Digitally signed by Mark Askin, P.E. DN: cn=Mark Askin, P.E., c=US, email=mark.askin@strand.com Date: 2024.02.22 14:27:11 -05'00'
Date		Date	02/22/24

Right of Way Director		FHWA	
Printed Name	Dean M. Loy	Printed Name	
Signature	DM Loy Digitally signed by DM Loy Date: 2024.02.22 14:35:39 -05'00'	Signature	
Date		Date	

UTILITIES AND RAIL CERTIFICATION NOTE

Graves County
No federal number available
FD55 121 9414002U
Mile point: 1.796 TO 1.804
BRIDGE PROJECT IN GRAVES COUNTY ON (042B00090N) US-45 AT JACKSON CREEK
ITEM NUMBER: 01-10128.00

PROJECT NOTES ON UTILITIES

The contractor should be aware that there is UTILITY WORK INCLUDED IN THIS ROAD CONSTRUCTION CONTRACT. The Contractor shall review the GENERAL UTILITY NOTES AND INSTRUCTIONS which may include KYTC Utility Bid Item Descriptions, utility owner supplied specifications, plans, list of utility owner preapproved subcontractors, and other instructions. Utility contractors may be added via addendum if KYTC is instructed to do so by the utility owner. Potential contractors must seek prequalification from the utility owner. Any revisions must be sent from the utility owner to KYTC a minimum of one week prior to bid opening.

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

UTILITIES AND RAIL CERTIFICATION NOTE

Graves County
No federal number available
FD55 121 9414002U
Mile point: 1.796 TO 1.804
BRIDGE PROJECT IN GRAVES COUNTY ON (042B00090N) US-45 AT JACKSON CREEK
ITEM NUMBER: 01-10128.00

facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

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

AT&T KY - Communication

Mayfield Electric and Water System - Water

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

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

Not Applicable

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

UTILITIES AND RAIL CERTIFICATION NOTE

Graves County
No federal number available
FD55 121 9414002U
Mile point: 1.796 TO 1.804
BRIDGE PROJECT IN GRAVES COUNTY ON (042B00090N) US-45 AT JACKSON CREEK
ITEM NUMBER: 01-10128.00

Not Applicable

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

West Kentucky & Tennessee Telecommunications Coop – Telephone

- The proposed relocation will require the following:
  - 440 LNFT of directional drilling
  - Installation/pulling of 540 LNFT of fiber optic cable in the proposed innerduct placed via directional drilling.
  - Drilling through pockets of heavy rock or gravel in bottom of creek
  - Installation of two (2) each flush mount hand holes
  - Splicing of proposed fiber optic line to existing fiber optic line

- WK&T has two (2) buried fiber optic lines running parallel to the existing roadway and bridge structure. The existing fiber optic line the furthest northeast of the proposed bridge and roadway shall not be disturbed under any circumstance.
- Roadway Contractor shall schedule and participate in an onsite pre-construction meeting with WK&T prior to the commencement of construction.
- Roadway Contractor shall locate and pothole the existing WK&T fiber optic lines prior to beginning of any excavation.
- WK&T will provide an onsite representative to be present during the excavation around their fiber lines upon request at least 2 days in advance from the Roadway Contractor.
- WK&T shall provide all materials for relocation to the selected subcontractor prior to the commencement of the relocation work. This material includes but is not limited to: Corning 96 Strand Fiber, Hubble 24x36x24 Vaults, PLP Coyote One Splice Closures, Duraline 1.25” Innerduct, and all other miscellaneous and necessary appurtenances.
- Roadway Contractor shall subcontract relocation work to one of the WK&T prequalified preferred contractors as shown below for the fiber optic relocation.

UTILITIES AND RAIL CERTIFICATION NOTE

Graves County
No federal number available
FD55 121 9414002U
Mile point: 1.796 TO 1.804
BRIDGE PROJECT IN GRAVES COUNTY ON (042B00090N) US-45 AT JACKSON CREEK
ITEM NUMBER: 01-10128.00

1. Fiberworks Installation and Repair
   Contact Name: Adam Elliot
   Email: Adam.fiberworks@gmail.com
   Phone: (270) 970-0670
   2424 County Road 1024
   Cunningham, KY 42035-9300

2. OBT Construction
   Contact Name: David Bell
   Email: david.bell@frontiernet.net
   Phone: (731) 431-9428
   P.O. Box 908
   Martin, TN 38237

3. Star Construction
   Contact Name: Gerald Hedden
   Email: Gerald.hedden@star-llc.net
   Phone: (828) 557-6285
   6621 Asheville Hwy
   Knoxville, TN 37924

RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

☒ **No Rail Involvement** ☐ **Rail Involved** ☐ **Rail Adjacent**

UTILITIES AND RAIL CERTIFICATION NOTE

Graves County
No federal number available
FD55 121 9414002U
Mile point: 1.796 TO 1.804
BRIDGE PROJECT IN GRAVES COUNTY ON (042B00090N) US-45 AT JACKSON CREEK
ITEM NUMBER: 01-10128.00

AREA FACILITY OWNER CONTACT LIST

Facility Owner	Address	Contact Name	Phone	Email
AT&T KY - Communication	810 Kentucky Avenue Paducah, KY 42003	Alan Shelby	270-444-5048	as7168@att.com
Mayfield Electric and Water System - Water	301 East Broadway Mayfield, KY 42066	Brent Shultz	270-705-8661	kleonard@mewsbb.com
West Kentucky & Tennessee Telecommunications Coop - Telephone	100 WK&T Technology Drive Mayfield, KY 42066	Darren Duke	270-970-2307	dduke@mywkt.coop

Form Revised 6/24/16

UTILITIES AND RAIL CERTIFICATION NOTE

Hickman County
FD55 121 94140 02U
Mile point: 2.394 TO 2.404
BRIDGE PROJECT IN HICKMAN COUNTY ON (053B00029N) US-51 AT CANE CREEK
ITEM NUMBER: 01-10146.00

PROJECT NOTES ON UTILITIES

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

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

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

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

Hickman County
FD55 121 94140 02U
Mile point: 2.394 TO 2.404
BRIDGE PROJECT IN HICKMAN COUNTY ON (053B00029N) US-51 AT CANE CREEK
ITEM NUMBER: 01-10146.00

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 FACILITIES LOCATED WITHIN THE PROJECT DISTURB LIMITS

AT&T KY - Communication

Gibson Electric Membership Corporation - Electric

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

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

Not Applicable

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

Not Applicable

UTILITIES AND RAIL CERTIFICATION NOTE

Hickman County
FD55 121 94140 02U
Mile point: 2.394 TO 2.404
BRIDGE PROJECT IN HICKMAN COUNTY ON (053B00029N) US-51 AT CANE CREEK
ITEM NUMBER: 01-10146.00

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

Not Applicable

RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

☒ **No Rail Involvement** ☐ **Rail Involved** ☐ **Rail Adjacent**

AREA FACILITY OWNER CONTACT LIST

Facility Owner	Address	Contact Name	Phone	Email
AT&T KY - Communication	810 Kentucky Avenue Paducah, KY 42003	Alan Shelby	270-444-5048	as7168@att.com
Gibson Electric Membership Corporation - Electric	1207 South College Street Trenton, TN 38382	Justin Weaver	731-562-1360	jweaver@gibsonemc.com

Form Revised 6/24/16

GENERAL UTILITY NOTES AND INSTRUCTIONS APPLICABLE TO ALL UTILITY WORK MADE A PART OF THE ROAD CONSTRUCTION CONTRACT

The contractor should be aware the following utility notes and KYTC Utility Bid Item Descriptions shall supersede, replace and take precedence over any and all conflicting information that may be contained in utility owner supplied specifications contained in the contract, on plans supplied by the utility owner, or any utility owner specifications or information externally referenced in this contract.

Where information may have been omitted from these notes, bid item descriptions, utility owner supplied specifications or plans; the KYTC Standard Specifications for Road and Bridge Construction shall be referenced.

PROTECTION OF EXISTING UTILITIES

The existing utilities shown on the plans are shown as best known at the time the plans were developed and are to be used as a guide only by the Contractor. The Contractor shall use all means at his disposal to accurately locate all existing utilities, whether shown on the plans or not, prior to excavation. The contractor shall protect these utilities during construction. Any damage to existing utilities during construction that are shown or not shown on the plans shall be repaired at the Contractor's expense.

PREQUALIFIED UTILITY CONTRACTORS

Some utility owners may require contractors that perform relocation work on their respective facilities as a part of the road contract be prequalified or preapproved by the utility owner**. Utility contractors may be added via addendum if KYTC is instructed to do so by the utility owner. Potential contractors must seek prequalification from the utility owner. Any revisions must be sent from the utility owner to KYTC a minimum of one week prior to bid opening.** Those utility owners with a prequalification or preapproval requirement are as follows:

> *West Kentucky and Tennessee Telecommunications Cooperative – fiber optic line relocation*

The bidding contractor needs to review the above list and choose from the list of approved subcontractors at the end of these general notes as identified above before bidding. When the list of approved subcontractors is provided, only subcontractors shown on the following list(s) will be allowed to work on that utility as a part of this contract. In such instances, the utility subcontractor is not required to be prequalified with the KYTC Division of Construction Procurement.

IF A UTILITY SUPPLIED CONTRACTOR LIST IS NOT PROVIDED

When the above list of approved subcontractors for the utility work is not provided, the utility work can be completed by the prime contractor, or a prime contractor-chosen subcontractor. In such instances, the subcontractor shall be prequalified with the KYTC Division of Construction Procurement in the work type of "Utilities" (I33). Those who would like to become prequalified may contact the Division of Construction Procurement at (502) 564-3500. Please note: it could take up to 30 calendar days for prequalification to be approved. The prequalification does not have to be approved prior to the bid, but must be approved before the subcontract will be approved by KYTC and the work can be performed.

CONTRACT ADMINISTRATION RELATIVE TO UTILITY WORK

All utility work is being performed as a part of a contract administered by KYTC; there is not a direct contract between the utility contractor and utility owner. The KYTC Section Engineer is ultimately responsible for the administration of the road contract and any utility work included in the contract.

SUBMITTALS AND CORRESPONDENCE

All submittals and correspondence of any kind relative to utility work included in the road contract shall be directed to the KYTC Section Engineer, a copy of which may also be supplied to the utility owner by the contractor to expedite handling of items like material approvals and shop drawings. All approvals and correspondence generated by the utility owner shall be directed to the KYTC Section Engineer. The KYTC Section Engineer will relay any approvals or correspondence to the utility contractor as appropriate. At no time shall any direct communication between the utility owner and utility contractor without the communication flowing through the KYTC Section Engineer be considered official and binding under the contract.

ENGINEER

Where the word "Engineer" appears in any utility owner specifications included in this proposal, utility owner specifications included as a part of this contract by reference or on the utility relocation plans, it shall be understood the "Engineer" is the Kentucky Transportation Cabinet (KYTC) Section Engineer or designated representative and the utility owner engineer or designated representative jointly. Both engineers must mutually agree upon all decisions made with regard to the utility construction. The Transportation Cabinet, Section Engineer shall make all final decisions in all disputes.

INSPECTOR OR RESIDENT PROJECT REPRESENTATIVE

Where the word "Inspector" or "Resident Project Representative" appears in the utility specifications included in this proposal, utility owner specifications included as a part of this contract by reference or on the utility relocation plans, it shall be understood the "Inspector" or "Resident Project Representative" is the utility owner inspector and KYTC inspector jointly. The Transportation Cabinet, Section Engineer shall make all final decisions in all disputes.

NOTICE TO UTILITY OWNERS OF THE START OF WORK

One month before construction is to start on a utility, the utility contractor shall make notice to the KYTC Section Engineer and the utility owner of when work on a utility is anticipated to start. The utility contractor shall again make confirmation notice to the KYTC Section Engineer and the utility owner one week before utility work is to actually start.

UTILITY SHUTDOWNS

The Contractor shall not shut down any active and in-service mains, utility lines or services for any reason unless specifically given permission to do so by the utility owner. The opening and closing of valves and operating of other active utility facilities for main, utility line or utility service shut downs are to be performed by the utility owner unless specific permission is given to the contractor by the owner to make shutdowns . If and when the utility owner gives the contractor permission to shutdown mains, utility lines or utility services, the contractor shall do so following the rules, procedures and regulations of the utility owner. Any permission given by the utility owner to the contractor to shutdown active and in-service mains, utility lines or services shall be communicated to the KYTC Section Engineer by the utility owner that such permission has been given.

Notice to customers of utility shut downs is sometimes required to be performed by the utility contractor. The contractor may be required; but, is not limited to, making notice to utility customers in a certain minimum amount of time in advance of the shut down and by whatever means of communication specified by the utility owner. The means of communication to the customer may be; but is not limited to, a door hanger, notice by newspaper ad, telephone contact, or any combination of communication methods deemed necessary, customary and appropriate by the utility owner. The contractor should refer to the utility owner specifications for requirements on customer notice.

Any procedure the utility owner may require the contractor to perform by specification or plan note and any expense the contractor may incur to comply with the utility owner’s shut down procedure and notice to customers shall be considered an incidental expense to the utility construction.

CUSTOMER SERVICE AND LATERAL ABANDONMENTS

When temporary or permanent abandonment of customer water, gas, or sewer services or laterals are necessary during relocation of utilities included in the contract, the utility contractor shall perform these abandonments as part of the contract as incidental work. No separate payment will be made for service line and lateral abandonments. The contractor shall provide all labor, equipment and materials to accomplish the temporary or permanent abandonment in accordance with the plans, specifications and/or as directed by the engineer. Abandonment may include, but is not limited to, digging down on a water or gas main at the tap to turn off the tap valve or corporation stop and/or capping or plugging the tap, digging down on a sewer tap at the main and plugging or capping the tap, digging down on a service line or lateral at a location shown on the plans or agreeable to the engineer and capping or plugging, or performing any other work necessary to abandon the service or lateral to satisfactorily accomplish the final utility relocation.

STATIONS AND DISTANCES

All stations and distances, when indicated for utility placement in utility relocation plans or specifications, are approximate; therefore, some minor adjustment may have to be made during construction to fit actual field conditions. Any changes in excess of 6 inches of plan location shall be reviewed and approved jointly by the KYTC Section Engineer or designated representative and utility owner engineer or designated representative. Changes in location without prior approval shall be remedied by the contractor at his own expense if the unauthorized change creates an unacceptable conflict or condition.

RESTORATION

Temporary and permanent restoration of paved or stone areas due to utility construction shall be considered incidental to the utility work. No separate payment will be made for this work. Temporary restoration shall be as directed by the KYTC Section Engineer. Permanent restoration shall be "in-kind" as existing.

Restoration of seed and sod areas will be measured and paid under the appropriate seeding and sodding bid items established in the contract for roadway work.

BELOW ARE NOTES FOR WHEN "INST" ITEMS ARE IN THE CONTRACT MEANING THE UTILITY COMPANY IS PROVIDING CERTAIN MATERIALS FOR UTILITY RELOCATION

MATERIAL

Contrary to Utility Bid Item Descriptions, those bid items that have the text **"Inst"** at the end of the bid item will have the major components of the bid item provided by the utility owner. No direct payment will be made for the major material component(s) supplied by the utility company. All remaining materials required to construct the bid item as detailed in utility bid item descriptions, in utility specifications and utility plans that are made a part of this contract will be supplied by the contractor. The contractor's bid price should reflect the difference in cost due to the provided materials.

The following utility owners have elected to provide the following materials for work under this contract:

West Kentucky and Tennessee Telecommunications Cooperative:
Corning 96 Ribbon Fiber (96EC5 FIBER)
Hubble 24x36x24 vault (PG2436Z525792)
PLP Coyote One Splice Closure (800015585)
Blue Diamond 1.25" InnerDuct SDR 13.5, HDPE Orange T12.5 Smooth (10013723)

SECURITY OF SUPPLIED MATERIALS

If any utility materials are to be supplied by the utility owner, it will be the responsibility of the utility contractor to secure all utility owner supplied materials after delivery to the project site. The utility contractor shall coordinate directly with the utility owner and their suppliers for delivery and security of the supplied materials. Any materials supplied by the utility owner and delivered to the construction site that are subsequently stolen, damaged or vandalized and deemed unusable shall be replaced with like materials at the contractor's expense.

LIST OF PREQUALIFIED OR PREAPPROVED CONTRACTORS

West Kentucky and Tennessee Telecommunications Cooperative – fiber optic line relocation

1. *Fiberworks Installation and Repair*
   2424 County Road 1024
   Cunninham, KY
   Adam Elliott
   (270) 970-0670

2. *OBT Construction, Inc.*
   PO Box 908
   Martin, TN
   David Bell
   (731) 431-9428

3. *Star Construction, LLC*
   6621 Asheville Highway
   Knoxville TN 37924
   Gerald Hedden
   (828) 557-6285

Standard Electric and Communications Bid Item Descriptions

THESE BID ITEM DESCRIPTIONS SHALL SUPERCEDE ANY BID ITEM DESCRIPTIONS CONTAINED WITHIN UTILITY OWNER SUPPLIED SPECIFICATIONS ELSEWHERE IN THIS PROPOSAL.

EC ADJUST CONDUIT This item shall include all labor, equipment, and material to excavate, adjust, lower, and backfill the specified conduit at locations shown in the plans, in accordance with the specifications and standard drawings, complete and operational. These bid items shall include all necessary labor, equipment, and appurtenances, granular or concrete encasement, compacted earth or flowable fill backfill, etc. If a communication line is present within the conduit, the contractor shall use care in handling of the infrastructure, line and conduit. The line shall be lowered with the conduit. Any damage to the line shall be repaired at the contractor's expense. Flowable fill, if specified on the plans and specifications, shall be considered incidental to the items. No separate payment will be made for flowable fill, unless directed to be used contrary to plans and specifications. All excavation shall be unclassified. No additional payment will be made for rock excavation. Conduit shall be measured as the horizontal distance from outside face of structure to outside face of structure; or, to the point of conduit adjustment termination. No separate bid items will be provided due to varying conduit sizes. Any and all conduit sizes and configurations shall be paid under these items. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.
This item shall be paid LINEAR FEET (LF).

BOLLARDS This item is for payment for furnishing and installing protective guard posts at above- ground utility installations. A bollard may consist of, but is not limited to, a steel post set in concrete, or any other substantial post material. This item shall include all labor, equipment, and materials needed for complete installation of the bollard, as specified by the utility owner specifications and plans. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item paid EACH (EA) when complete.

NOTE: A bid code for this item has been established in standard roadway bid items and shall be used for payment of this item. The bid code is 21341ND.

EC CONCRETE PAD This item is for payment for the installation of a concrete pad for the mounting of electrical or communications equipment. The pad may be prefabricated or cast-in-place as the specifications, standard drawings, or plans allow. This item shall include all labor, equipment, excavation, materials, and backfill to install the specified concrete pad at the locations shown on the plans, in accordance with the specifications, standard drawings, and plans, complete and ready-for-use. If specifications, standard drawings, or plans require a granular base or reinforcement steel, such base or steel and their placement shall be considered incidental to this bid item. Any duct that is to be placed to the pad shall be installed prior to pad construction. Duct will be paid under separate bid items. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be measured and paid SQUARE YARD (SY) when complete.

EC DIRECTIONAL BORE Payment under this item is made whenever the plans or specifications specifically show directional boring is to be utilized to minimize the impact of open-cut for the installation of conduit under streets, creeks, etc. Payment under this item shall include the specified encasement pipe, conduit(s), void filler material (including grout, aggregate, bentonite, or other material as specified), casing spacers (as specified), labor, and equipment. No separate payment will be made for

encasement pipe and/or conduits used within the limits of the directional bore. Payment under this item shall not be size specific and no separate bid items will be established for size or number of conduit variations to be installed. The encasement pipe, conduit sizes, and conduit numbers to be included under this item shall be as shown on the plans and/or in the specifications. Any and all directional bores in each contract shall be paid under one directional bore bid item included in the contract, regardless of bore size, encasement size, conduit size, or number of conduits. Some bores may not require the use of an encasement, but may only require pulling the conduit directly into the bore. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

EC DUCT These items shall include all labor, equipment, and material to excavate, install, and backfill the specified bank of duct at locations shown in the plans, in accordance with the specifications and standard drawings, complete and ready-for-use. These bid items shall include all necessary appurtenances, connections, fittings, plugs, tees, bends, collars, racks or spacers, pull string, granular or concrete encasement, compacted earth or flowable fill backfill, etc. Flowable fill, where specified on the plans and specifications, shall be considered incidental to the duct items. No separate payment will be made for flowable fill, unless directed to be used contrary to plans and specifications. All excavation shall be unclassified. No additional payment will be made for rock excavation.
Duct shall be measured as the horizontal distance from outside face of structure to outside face of structure; or, to the point of duct termination at dead ends or poles. No additional payment will be made for vertical conduit. No separate bid items will be provided due to varying duct sizes. Any and all duct sizes and configurations shall be paid under these items. The only variations in bid items shall be in the number of ducts in a bank and if the duct is or is not to be concrete encased.
Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

EC ELECTRIC MANHOLE, ELECTRIC PIT, ELECTRIC PULL BOX, ELECTRIC VAULT, COMMUNICATIONS MANHOLE, COMMUNICATIONS PULL BOX These items shall include all labor, equipment, excavation, materials, and backfill to install the specified manhole, pit, vault or pull box at the locations as shown on the plans, in accordance with the specifications and standard drawings, complete and ready-for-use. No separate bid items will be provided for varying sizes of these structures. All structures shall be paid under the appropriate bid items regardless of size. Where the specifications, plans, or standard drawings specify a granular base be placed under these structures, these bid items shall include the materials and construction of the granular base. Where structures are specified to be backfilled with flowable fill, the cost of the flowable fill shall be considered incidental to the bid item. Payment under these items shall be made regardless of whether the structure is precast or cast-in- place as the plans, specifications, or standard drawings may require. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. These items shall be paid EACH (EA) when complete.

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

EC POLE REMOVE This item shall include all labor and equipment required for the removal of a wood, steel, or other type utility pole, regardless of material or size. No separate pole removal bid items will be provided for variations of pole material, type, or size. This item also includes removal of any associated attachments to the pole including, but not limited to, cross-arms, hangers, brackets, insulators, downguys,

in-ground anchors, etc. All removed materials shall be disposed of by the contractor. This item shall be paid EACH (EA) when complete.

EC POLE REMOVE AND STOCKPILE This item shall include all labor and equipment required for the removal of a wood, steel, or other type utility pole, regardless of material or size. No separate pole removal bid items will be provided for variations of pole material, type, or size. This item also includes removal of any associated attachments to the pole including, but not limited to, cross-arms, hangers, brackets, insulators, downguys, etc. All removed materials shall be stockpiled on-site at a location or locations previously agreed to between the utility owner and contractor, for pickup and disposal by the utility owner. Stockpile locations shall be accessible to the utility owner's road vehicles. Any pole removed that still has cross-arms, protruding insulators, and/or protruding brackets attached shall have such items removed by the contractor so poles can be stacked neatly for pickup. Removed cross-arms, insulators, and brackets shall be stacked separately for pickup. This item shall be paid EACH (EA) when the poles and attachments are stockpiled and ready for pickup.

EC STRUCTURE ABANDON/REMOVE This item is to be used to pay for abandonment, removal, or partial removal and disposal of larger concrete or steel above or below ground electrical or communications structures, such as, but not limited to, manholes, vaults, pits, concrete pull boxes, huts, sheds, small buildings, etc. Payment under this item shall not be limited by size or scope. Payment under this item shall include all labor, equipment, and compacted backfill or flowable fill for abandonment or removal of the underground or above-ground structure and complete restoration. Underground structures to be abandoned or partially removed shall be safeloaded with flowable fill. An underground structure may be abandoned and/or partially removed if the structure is removed to at least 12 inches below final grade or 12 inches below subgrade if under pavement, and the remainder of the structure is not in conflict with other road construction or utility installations. The engineer shall determine if an underground structure requires partial or total removal, or if it can remain partial or whole and safeloaded. Above ground structures shall be removed in total, including any associated base. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

Removal of small underground composite or plastic structures, such as pull boxes, shall not be paid under this item. Due to the ease of removal and disposal of small composite or plastic structures, their removal and disposal shall be considered incidental to road construction.

Fiber Optic Installation and Testing Specifications

1. Material
   a. Existing fiber, conduit, and poles will be used to the maximum extent possible, as is/where is, and may not comply with portions of these cable installation specifications.
   b. Steel or PVC conduit shall be minimum schedule 40.
   c. Any exposed steel conduit, brackets, or hardware shall be hot-dipped galvanized after fabrication.
   d. All new split steel shall be flanged.
   e. Handholes shall have a minimum H-15 load rating.
   f. Vaults shall have a minimum H-20 load rating.
   g. Warning signs shall display universal do not dig symbol, “Warning-Buried Fiber-Optic Cable,” company name and logo, local and emergency One Call toll-free numbers.

2. Minimum Depths
   a. Minimum cover required in the placement of the conduit/cable shall be 3’-4” except in the following instances:
      i. Existing construction will be used as is/where is and may not comply with portions of these cable installation specifications as existing fiber is typically buried at a depth of 30 to 36 inches.
      ii. The minimum cover across streams, rivers, and other waterways shall be 10’.
      iii. In rock, the cable/conduit shall be installed to provide a minimum of 18” below the surface of the solid rock or provide a minimum of 42” of total cover, whichever requires the least rock excavation.

3. Buried Cable Warning Tape
   a. All cable/conduit shall be installed with buried detectable warning tape. The warning tape shall be:
      i. Warning tape shall be polyethylene, suitable for direct burial with face resistant colors, and magnetically detectable.
      ii. Installed a minimum 12” above the cable/conduit.
      iii. Installed at a depth 24” below grade and directly above the cable/conduit.
      iv. A minimum of 3” wide and display “Warning-Buried Fiber-Optic Cable,” a company name, logo and emergency one-call toll-free number repeated every 24”.
   b. Bored conduit shall be installed with tracer wire.

4. Conduit Construction
   a. Install conduits by trenching, plowing, or HDD drilling.
   b. Install conduits on a level grade parallel to the surface with only gradual change in grade.
   c. Steel conduits shall be joined with threaded collars, Zap-Lok, or welding per WK&T requirements.
   d. All directional bores shall use HDPE or steel conduit.
   e. Maintain 3’-0” separation from all existing utilities and existing/proposed structures.

5. Innerduct Installation
    a. No cable shall be placed directly in any split/solid steel conduit without innerduct.
    b. Innerduct shall extend beyond the end of all conduits a minimum of 18”. No cable shall be placed directly in any split/solid steel conduit without innerduct.

6. Cable installation in conduit
    a. Do not pull wire into any conduit until conduits have been thoroughly cleaned and swabbed to remove water and debris.
    b. The cable shall be installed using either a sealed pneumatic cable blowing system or a powered pulling winch and hydraulic assist pulling wheels.
    c. The maximum pulling force to be applied to the cable shall not exceed 600 pounds.
    d. Sufficient pulling assists shall be available used to ensure the maximum pulling force is not exceeded at any point along the pull.
    e. The cable shall be lubricated at the reel and all pulling assist locations.
    f. A pulling swivel breakaway rated at 600 pounds shall be used at all times.
    g. Splices shall be allowed only at planned junctions and reel ends.
    h. All splices shall be contained in a handhole or vault.
    i. A minimum of 50’ of slack cable, or as directed by WK&T, shall be left in all intermediate handholes and manholes.
    j. A minimum of 100’ of slack cable, or as directed by WK&T, shall be left in all splice locations.
    k. PVC Conduit/innerduct may be split, with the cable installed inside the split duct and plowed in.

7. Vaults and Handholes
    a. The cable shall be installed using either a sealed pneumatic cable blowing system or a powered pulling winch and hydraulic assist pulling wheels.
    b. The maximum pulling force to be applied to the cable shall not exceed 600 pounds.
    c. All vaults shall be supplied with waterproof lids.
    d. Vaults shall be supplied with coyote enclosures for splicing existing and proposed fiber optic cable.

8. EMS Markers
    a. EMS Markers shall be placed directly above the lid of all buried handholes shall be fabricated into the lids of the handholes.

9. Cable Markers (Warning Signs)
    a. Cable markers shall be installed at all changed in buried cable running line direction, splices, pull boxes, assist-pulling locations, and at both side of road and railroad crossings.
    b. Markers shall be spaced at intervals of no more than 500’ apart in metropolitan areas and within line of light (not to exceed 1000’) in non-metropolitan areas.
    c. Markers shall be positioned so that they can be seen from the location of the cable and set facing perpendicular to the cable running line.
    d. Splices and pull boxes shall be marked on the cable marker post.

10. Delivery, Storage, and Handling
    a. Packing, Shipping, Handling and Unloading
        i. Inspect products for damage prior to delivery onto the job site.
        ii. Deliver materials in the manufacturer's original unopened protective packages.
        iii. Protect equipment and exposed finishes during transportation.
        iv. Unload and handle in a manner to prevent misalignment of parts.
        v. Do not use wire and cable manufactured more than 12 months before delivery to the Worksite.
        vi. Deliver to the site in unbroken standard coils or reels with a tag bearing the manufacturer's name, trade name of the wire, and UL label.
    b. Storage and Protection
        i. Protect equipment from humidity, corrosion, and dirt by storing in a safe, dry, clean area, well-ventilated and heated environment to prevent condensation.
        ii. Store materials in their original protective packaging and protect them against physical damage.
        iii. Protect conduit from the entrance of debris by storing above ground and providing a flat surface and an appropriate covering.
        iv. Protect steel conduit from corrosion and PVC conduit from sunlight.

11. Testing
    a. Test the grounds to determine their resistance in accordance with NEC.
    b. During fiber optic cable installation, use an OTDR to test splices unless otherwise directed by WK&T. Perform installation tests at 1550 nm.
        i. If the loss value for a splice, when measured in one direction with an OTDR, exceeds 0.3 dB, break the splice and re-splice until the splice is 0.3 dB or less.
        ii. If unable to achieve a loss value of 0.3 dB of less after three total splicing attempts, the splice shall be marked as Out-of-Spec. The 0.3 dB spec does not apply to fibers that are being spliced that have different mode-fields. The splice loss may be higher due to the mode-field mismatch.
    c. Test Deliverables: Record test values and results on forms acceptable to Owner/Owner’s Representative.
    d. Correct defective equipment, components, accessories disclosed as the result of field tests at no cost to Owner.

12. Project Records
    a. Document installed work on Project Record Documents. Show horizontal and vertical locations (distance from baselines) and accurate routing into construction including vaults and pull boxes; show sizes and number of conduits, etc.
    b. Test deliverables as indicated in Section 11.
    c. Cable manufacturers, cable type (buffer/ribbon), fiber type, number of fibers, number of fibers per tube, and distance of each section of cable between splice points.

13. Grounding
    a. Size Conductors per NEC or as directed by WK&T.
    b. Connectors
        i. Grounding Connectors Above Grade: Bolted, solderless type made of high strength electrical bronze with silicon bronze clamping bolts and hardware; designed such that bolts, nuts, lock washers and similar hardware which might nick or otherwise damage the ground wire shall not directly contact the ground wire.
        ii. Grounding Connectors below grade: Made using the exothermic weld process.
    c. Ground Rods
        i. Cone-pointed copper-clad steel.
        ii. Length in feet and the manufacturer's trademark die stamped near the top.
        iii. Clean, smooth, continuous copper surfaces, and the proportion of copper shall be uniform throughout the length of the rod.
        iv. Size: 3/4 inch in diameter, eight feet long minimum. Multiple ground rods of shorter lengths may be used at locations where sufficient depth is not available for the eight-foot rods.

NOTICE

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NATIONWIDE SECTION 404 PERMIT AUTHORIZATION

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
KENTUCKY DIVISION OF WATER
SECTION 401 INDIVIDUAL WATER QUALITY CERTIFICATION

The replacement of US 45 over Jackson Creek (Bridge 042B00090N) will entail complete removal of the existing bridge and construction of a new bridge without load restrictions. The project will replace the bridge in the same location with generally the same current geometrics (bridge width, length, hydraulic opening, etc.) to avoid environmental impacts, utility impacts, and minimize the need for new right of way. Approach roadway pavement will be replaced in the direct vicinity of the bridge. The bridge will be completely closed to through traffic during construction and existing traffic will be detoured on nearby roads. There will not be an on-site diversion. Right of way will be required.

Location	Description of Project Impacts
US-45 over Jackson Creek at MP 1.8	The proposed project will permanently impact approximately 0.05 ac of Jackson Creek, a perennial stream approximately 30 ft wide at the US-45 intersect. Jackson Creek has been designated by the Kentucky Division of Water as an Outstanding State Resource Water.

Impacts to jurisdictional Waters of the United States as defined by the US Army Corps of Engineers and surface waters of the Commonwealth defined pursuant to 401 KAR Chapter 10 are authorized under Section 404 Nationwide Permit (NWP) #14 for linear transportation projects provided the special conditions attached hereto are met. One such condition limits work in the stream to outside the Relict Darter breeding season (March 1 – June 30).

The Kentucky Division of Water has conditionally certified the use of NWP #14 provided the conditions of the attached Individual Water Quality Certification WQC2025-101-1 are met. One such condition limits the use or operation of heavy equipment within the stream channel. In those instances in which such in-stream work is unavoidable, a work platform or temporary crossing constructed with clean rock and sufficient pipe to allow stream flow to continue, unimpeded, shall be used.

To 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 Kentucky Transportation Cabinet, Division of Environmental Analysis (DEA). If such changes result in additional impacts to jurisdictional Waters of the United States, the Contractor will be responsible for coordinating directly with the US Army Corps of Engineers and Kentucky Division of Water to secure the requisite authorization Copies of all correspondence to or from either agency shall be forwarded to DEA Director Danny Peake at 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250.

The Contractor shall post a copy of this Notice in a conspicuous location at the project site, with unencumbered public access for the duration of the construction.

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, MEMPHIS DISTRICT
167 NORTH MAIN STREET B-202
MEMPHIS, TENNESSEE 38103-1894

September 22, 2025

Andrew Logsdan
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, KY 40622

Dear Mr. Logsdan:

This is in response to your permit request regarding the replacement of a bridge located over Jackson Creek in that will result in impacts to .005 acres of temporary stream impacts and .005 acres of permanent stream impacts in Graves County, Kentucky, as shown on the attached map. Based on the information submitted to this office, Section 404 of the Clean Water Act (CWA) permit would be required; the proposed project meets the criteria of Nationwide Permit (NWP) No. 14 (Linear Transportation Projects), pursuant to the Federal Register, Volume 86, Number 245, dated December 27, 2021.

The attached general, regional, state, and special conditions must also be met. Note specifically General Conditions 18 and 20 concerning endangered species and historic properties. If all conditions cannot be met, an individual permit may be required.

Special Conditions:

a. The felling of trees with a Diameter Breast Height of 5” or greater must occur during the Non-volant Season (June 1st – July 31st). If it is determined that tree felling cannot occur during this timeframe, further consultation with U.S. Fish and Wildlife Services (USFWS) may be necessary. Please contact the Memphis District, Regulatory Division for further assistance with any additional USFWS endangered species coordination.

b. The applicant shall participate in the Imperiled Bat Conservation Fund in accordance with the 2020 KTC-FHWA Programmatic Bat Program for foraging Habitat, and Summer/Temporary Roosting agreement with a payment of $8,480 to offset incidental take of the Indiana Bat associated with the project. If there are changes to the project, further consultation with USFWS may be necessary. Please contact the Memphis District, Regulatory Division for further assistance with any additional USFWS endangered species coordination.

c. Bridge and culvert replacement/removal projects will not occur during the Relict Darter breeding season (March 1 – June 30). If it is determined that work cannot occur during this timeframe, further consultation with U.S. Fish and Wildlife Services (USFWS) may be necessary. Please contact the Memphis District, Regulatory Division for further assistance with any additional USFWS endangered species coordination.

Regulations require that the Memphis District be informed of the completion date so that a compliance inspection can be scheduled. Please complete and return the enclosed "Certificate of Compliance" within 30 days of the completion of this project.

This verification is valid until the NWP is modified, reissued or revoked. All of the existing NWP's are scheduled to be modified, reissued or revoked prior to March 14, 2026. It is incumbent upon you to remain informed of changes to the Nationwide Permit. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant NWP is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

This permit conveys no property rights, either in real estate, material or any exclusive privileges. Furthermore, no injury to property, invasion of rights, any infringement of federal, state or local laws or regulations is authorized. The decision regarding this action is based on information found in the administrative record, which documents the district's decision-making process, the basis for the decision and the final decision.

The Memphis District, Regulatory Division is committed to providing quality and timely service to our customers. In an effort to improve customer service, we invite you to complete a Customer Service Survey. Your comments, positive or negative, will not affect any current or future dealing with the Corps of Engineers. Survey location: https://regulatory.ops.usace.army.mil/customer-service-survey/

Your cooperation in the regulatory program is appreciated. If you have any questions please contact Joanna Neu at (901) 544-0731. Please refer to File No. MVM-2024-202.

Sincerely,

James M. Elcan

Digitally signed by James M. Elcan
Date: 2025.09.22 10:47:36 -05'00'

Mitch Elcan
Supervisor
Regulatory Division

Enclosures

Contract ID: 255397
Page 133 of 234

COMMONWEALTH OF KENTUCKY

DEPARTMENT OF HIGHWAYS

PLANS OF PROPOSED PROJECT

Graves County

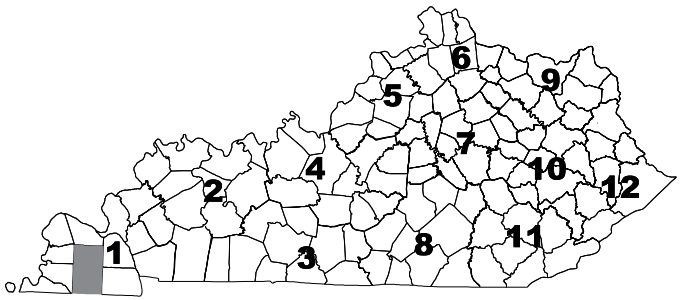
US 45 Over Jackson Creek

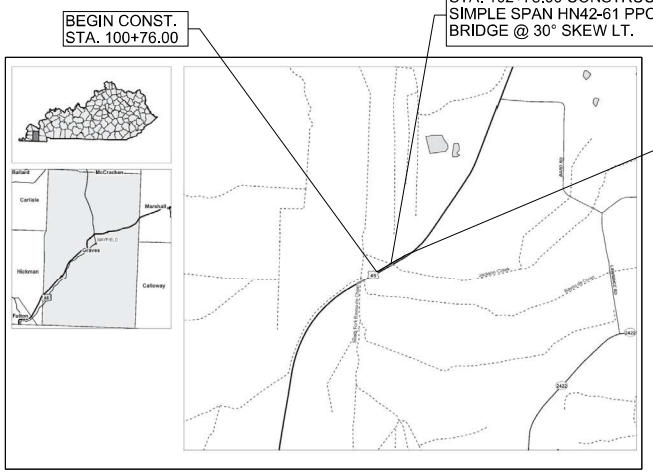
STA. 102+78.00

TEAM KENTUCKY®

TRANSPORTATION CABINET

THE CONTROL OF ACCESS ON THIS PROJECT SHALL BE BY PERMIT





LAYOUT MAP

BEFORE YOU DIG

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that owners of underground facilities are not required to be members of the KY 811 one-call Before-U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.

REV. NO.	SHEETS REVISED	DATE

TABLE OF REVISIONS

DESIGN CRITERIA

CLASS OF HIGHWAY	RURAL MAJOR COLLECTOR
TYPE OF TERRAIN	ROLLING
DESIGN SPEED	55 MPH
REQUIRED NPSD	
REQUIRED PSD	
LEVEL OF SERVICE	
ADT PRESENT ( )	1,211
ADT FUTURE ( )	
DHV	
D %	
T %	

GEOGRAPHIC COORDINATES

LATITUDE 36 DEGREES 34 MINUTES 53 SECONDS NORTH
LONGITUDE 88 DEGREES 48 MINUTES 05 SECONDS WEST

DESIGNED

% RESTRICTED SD	
LEVEL OF SERVICE	
MAX. DISTANCE W/O PASSING	

INDEX OF SHEETS

STANDARD DRAWINGS					
BGX-006-10	STENCILS FOR STRUCTURE	RBI-004-006	INSTALLATION OF GR. END TREATMENT TYPE 1	RPM-110-07	APPROACHES, ENTRANCES AND MAIL BOX TURNOUT
BGX-012-02	GEOTECHNICAL LEGEND				
BGX-026	AIR VENT DETAIL	RBR-001-013	STEEL BEAM GUARDRAIL ("W" BEAM)		
BHS-010	RAILING SYSTEM 40 INCH SINGLE SLOPE	RBR-005-011	GUARDRAIL COMPONENTS		
		RBR-010-006	GUARDRAIL TERMINAL SECTIONS		
BHS-014	THRIE-BEAM GUARDRAIL TRANSITION (TL-3)	RBR-015-006	GUARDRAIL POSTS		
		RBR-016-005	GUARDRAIL POSTS		
BJE-001-14	ARMORED EDGES	RBR-018	GUARDRAIL SYSTEM TRANSITION		
BPS-011-04	HP 14x89 STEEL PILE	RBR-020-007	GUARDRAIL END TREATMENT TYPE 1		
BSD-008	PPC I-BEAM HN42 DIAPHRAGM DETAILS	RGX-001-006	MISCELLANEOUS STANDARDS PART 1		
RDD-040-005	AGGREGATE CHANNEL LINING CLASS I, II, III	RGX-005-06	RIGHT-OF-WAY MONUMENTS		
		RGX-100-07	TREATMENT OF EMBANKMENTS AT END-BENTS	ACTIVE SEPIAS	SPECIAL PROVISIONS
RDX-210-003	TEMPORARY SILT FENCE				69 EMBANKMENT FOR BRIDGE END BENT STRUCTURES
RBI-001-12	TYPICAL GUARDRAIL INSTALLATIONS	RGX-105-09	TREATMENT OF EMBANKMENTS AT END-BENTS - DETAILS		
RBI-002-007	TYPICAL GUARDRAIL INSTALLATIONS				

SPECIAL NOTES
CONCRETE SEALING
CONTRACT COMPLETION DATE & LIQUIDATED DAMAGES FOR BRIDGE REPAIR CONTRACTS
FOUNDATION PREPARATION
SEDIMENT PREVENTION AND EROSION CONTROL
TRAFFIC CONTROL FOR BRIDGE REPAIR CONTRACTS

SPECIFICATIONS
KENTUCKY DEPARTMENT OF HIGHWAY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION
2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH CURRENT ITEMS

PROJECT NUMBER:

EXISTING BRIDGE ID #: 042B00090N

DRAWING NO: 28825

RECOMMENDED BY: _____ PROJECT MANAGER DATE:

PLAN APPROVED BY: _____ STATE HIGHWAY ENGINEER DATE:

WSP USA Inc.
1792 ALYSHEBA WAY
SUITE 230
LEXINGTON, KY 40509
+1 859.272.5400

SHEETS R1-R6

STATE OF KENTUCKY
AARON J. DETJEN
25097
LICENSED PROFESSIONAL ENGINEER

WSP USA Inc.
1792 ALYSHEBA WAY
SUITE 230
LEXINGTON, KY 40509
+1 859.272.5400

SHEETS S1-S11

STATE OF KENTUCKY
KARL R. KRUKENBERG
39243
LICENSED PROFESSIONAL ENGINEER

LETTING DATE: 03-21-24

ITEM NO. 01-10128.00

COUNTY OF GRAVES

SHEET NO. R1

GRAVES - HICKMAN COUNTIES
121GR25D097: STP BRZ

2021 Nationwide Permits

14. Linear Transportation Projects. Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, driveways, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

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

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge of dredged or fill material in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges of dredged or fill material for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b)(4) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, “District Engineer’s Decision.” The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an

existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her 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.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition,

capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Structures and Fills. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly 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 (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity

on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of “effects of the action” for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding “activities that are reasonably certain to occur” and “consequences caused by the proposed action.”

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a

separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to

cause effects to historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____
(Transferee)

_____
(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) *Timing*. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not

commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) *Contents of Pre-Construction Notification*: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification*: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) *Agency Coordination*: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity’s compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity’s adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend

into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g.,

partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

Further Information

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

Nationwide Permit Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term “discharge” means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are

related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application,

letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must

have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a "water of the United States." If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).

CERTIFICATE OF COMPLIANCE

Permit/File No.: MVM-2024-202

Name of Permittee: Andrew Logsdan, Kentucky Transportation Cabinet

Date of Issuance: September 22, 2025

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

Regulatory Division
Corps of Engineers Memphis District
167 N Main Street Room B202
Memphis, TN 38103-1894

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

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

_____
Signature of Permittee

Andy Beshear
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
300 Sower Boulevard
Frankfort, Kentucky 40601
Phone: (502) 564-2150
Fax: 502-564-4245

Rebecca W. Goodman
SECRETARY

Anthony R. Hatton
COMMISSIONER

September 18, 2025

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

Re: §401 Water Quality Certification
US 45 Bridge - Graves Co
WQC No: WQC2025-101-1
AI No.: 183697; Activity ID: APE20250001
KYTC Item No.: 1-10128.00
USACE ID No.: MVM-2024-202
Jackson Creek
Graves County, Kentucky

Dear Mr. Peake:

Pursuant to Section 401 of the Clean Water Act (CWA) and 40 CFR 121.7(c), 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 a federal license or permit, and the attached conditions are met.

Other permits from the Division of Water may be required for this activity. Projects that 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 require a Kentucky Pollution Discharge Elimination System (KPDES) Stormwater Permit; contact the Surface Water Permits Branch (502-564-3410 or SWPBSupport@ky.gov). A Groundwater Protection Plan is required if activities listed in Section 2(2) of 401 KAR 5:037 are conducted. A Water Withdrawal Application is required for activities proposing raw water withdrawals of 10,000 gallons per day or more; contact the Watershed Management Branch (502-564-3410).

All future correspondence on this project must reference AI No. **183697**. **The attached document is your official Water Quality Certification; please read it carefully**. Please contact Bryan Killian by phone at 502-782-4695 or email at bryan.killian@ky.gov if you have any questions.

Sincerely,

Samantha Vogeler

Samantha Vogeler, Supervisor
Water Quality Certification Section
Kentucky Division of Water

SV:BK
Attachment

cc: Emma Priger, KYTC: Frankfort (via email: emma.priger@ky.gov)
Andrew Logsdon, KYTC: Frankfort (via email: Andrew.Logsdon@ky.gov)
Dave Harmon, KYTC: Frankfort (via email: Dave.Harmon@ky.gov)
Joanna Neu, USACE: Memphis District (via email: joanna.k.neu@usace.army.mil)
Rain Storm, Third Rock: (via email: rstorm@thirdrockconsultants.com)
Josh Lillpop, USFWS: Frankfort (via email: kentuckyes@fws.gov)
Madeline Traylor, Paducah Regional Office (via email: madeline.traylor@ky.gov)
Michelle Weaver, Four Rivers Basin (via email: michelle.weaver@cumberlandrivercompact.org)

KTC Water Quality Certification

US 45 Bridge - Graves Co

Facility Requirements

Permit Number: WQC2025-101-1

Activity ID No.:APE20250001

ACTV0000000001 (AI 183697 - US 45 Bridge - Graves Co) KYTC Item # 1-10128:

Submittal/Action Requirements:

Condition No.	Condition
S-1	The Kentucky Transportation Cabinet (KYTC) shall notify the Water Quality Certification Project Manager or Supervisor of the scheduled start of construction activities at least two weeks before the start of construction. This condition is necessary for the Division of Water to be informed of the ongoing activity for the purposes of site visits to ensure implementation of Kentucky Regulatory Statutes and Administrative Regulations; the Division will monitor the environment, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
S-2	KYTC shall notify the Water Quality Certification Project Manager or Supervisor of substantial completion of construction no later than two weeks post-construction. This condition is necessary for the Division of Water to be informed of the ongoing activity for the purposes of site visits to ensure implementation of Kentucky Regulatory Statutes and Administrative Regulations; the Division will monitor the environment, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
S-3	KYTC shall submit as-built drawings within 90 days after substantial completion of construction to the Water Quality Certification Section Project Manager or Supervisor. This condition is necessary to monitor the aquatic resources, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]

KTC Water Quality Certification

US 45 Bridge - Graves Co
Facility Requirements
Permit Number: WQC2025-101-1
Activity ID No.:APE20250001

ACTV0000000001 (AI 183697 - US 45 Bridge - Graves Co) KYTC Item # 1-10128:

Narrative Requirements:

Condition No.	Condition
T-1	The work approved by this certification shall be limited to 36.581573, -88.801427: - Complete removal and replacement of a bridge along US 45 over Jackson Creek in Graves County. - The new bridge will be constructed in the same location with generally the same geometrics. - The bridge will be closed during construction, and existing traffic will be detoured on nearby roads. - 66 linear feet of permanent impacts to perennial streams for removal and replacement of existing abutments and bank stabilization - 100 linear feet of temporary impacts to perennial streams for construction access This condition is necessary to confirm activities approved by this certification. [401 KAR 10:030 Section 1, 401 KAR 9:010 Section 1(a)(2), KRS 224.10-100, KRS 224.70-110]
T-2	All work performed under this certification shall adhere to the design and specifications set forth in the following document(s): - Application for Permit to Construct Across or Along a Stream and/or Water Quality Certification received on 7/21/2025 - Pre-file Meeting Request received on 7/21/2025 - Certification Request received on 8/11/2025 - 042B00090N_PRIME_401WQCApplication_w_Attachments_7_21_2025.pdf This condition is necessary to confirm activities approved by this certification. [401 KAR 10:030 Section 1, 401 KAR 9:010 Section 1(a)(2), KRS 224.10-100, KRS 224.70-110]
T-3	KYTC is responsible for preventing degradation of waters of the Commonwealth from soil erosion. An erosion and sediment control plan must be designed, implemented, and maintained in effective operating condition at all times during construction. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-4	No in-stream operations or activities shall be conducted during fish spawning season (April 1 through June 30), due to the potential impacts of increased sediment load and associated water quality and designated aquatic habitat impacts. This condition is necessary to monitor the aquatic resources, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 4(1)(c,h), KRS 224.10-100, KRS 224.70-110]

KTC Water Quality Certification

US 45 Bridge - Graves Co

Facility Requirements

Permit Number: WQC2025-101-1

Activity ID No.:APE20250001

ACTV0000000001 (AI 183697 - US 45 Bridge - Graves Co) KYTC Item # 1-10128:

Narrative Requirements:

Condition No.	Condition
T-5	No in-stream operations or activities shall be conducted during the Relic Darter (Etheostoma chienense) breeding season (March 1 – June 30), due to the potential impacts of increased sediment load and associated water quality and designated aquatic habitat impacts on threatened species. This condition is necessary to monitor the aquatic resources, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 4(4)(c)h, KRS 224.10-100, KRS 224.70-110]
T-6	Heavy equipment (e.g. bulldozers, backhoes, draglines, etc.), if required for this project, should not be used or operated within the stream channel. In those instances where such instream work is unavoidable, then it shall be performed in such a manner and duration as to minimize re-suspension of sediments and disturbance to the channel, banks, or riparian vegetation. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-7	Erosion and sediment pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that violations of state water quality standards do not occur. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-8	Remove all sediment and erosion control measures after re-vegetation has become well-established. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-9	Any fill or riprap shall be of a composition that shall not cause violations of water quality standards by adversely affecting the biological, chemical, or physical properties of waters of the Commonwealth. If riprap is used, it shall be of a weight and size that bank stress or slump conditions shall not occur. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-10	Sediment and erosion control measures (e.g., check-dams, silt fencing, or hay bales) shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without prior approval by the Kentucky Division of Water's Water Quality Certification Section. If placement of sediment and erosion control measures in surface waters is unavoidable, placement shall not be conducted in such a manner that may cause instability of streams that are adjacent to, upstream, or downstream of the structures. All sediment and erosion control measures shall be removed and the natural grade restored prior to withdrawal from the site. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]

KTC Water Quality Certification

US 45 Bridge - Graves Co

Facility Requirements

Permit Number: WQC2025-101-1

Activity ID No.:APE20250001

ACTV0000000001 (AI 183697 - US 45 Bridge - Graves Co) KYTC Item # 1-10128:

Narrative Requirements:

Condition No.	Condition
T-11	Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse. This condition is necessary to prevent water pollution as prohibited by statute. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-12	To the maximum extent practicable, all in-stream work under this certification shall be performed during low flow. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-13	Removal of existing riparian vegetation shall be restricted to the minimum necessary for project construction. This condition is necessary to minimize negative effects to the environment, protect the use of the stream, and protect aquatic resources. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-14	Should stream pollution, wetland impairment, and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling 800/564-2380. This condition is necessary to monitor the aquatic resources, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-15	This Water Quality Certification expires on September 18, 2030. This condition is necessary for the issuance of the certification. [KRS 224.10-100, KRS 224.16-050(2), KRS 224.70-110]
T-16	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 Management Section Supervisor (502-564-3410) for more information prior to construction. 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. Please contact the Surface Water Permits Branch (502-564-3410 or SWPBSupport@ky.gov) for more information. A Groundwater Protection Plan is required if any of the activities listed in Section 2(2) of 401 KAR 5:037 are conducted. A Water Withdrawal Application is required for any activities proposing raw water withdrawals of 10,000 gallons per day or more. For technical assistance contact the Watershed Management Branch at 502-564-3410 or visit eec.ky.gov. This condition is necessary for confirm authorized impacts, the appropriate responsible party, monitor the aquatic resources, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [KRS 224.10-100, KRS 224.16-050(2), KRS 224.70-110]

KTC Water Quality Certification
US 45 Bridge - Graves Co
Facility Requirements
Permit Number: WQC2025-101-1
Activity ID No.:APE20250001

ACTV0000000001 (AI 183697 - US 45 Bridge - Graves Co) KYTC Item # 1-10128:

Narrative Requirements:

Condition No.	Condition
T-17	If there is a transfer or conveyance of the project site during the issued WQC term for the approved activity, KYTC shall submit written notice to the Water Quality Certification Section Project Manager or Supervisor of the transfer or conveyance of the project site or any part of the project site at least 60 days prior to the transfer or conveyance of the project site. The notification shall include the WQC number; the Agency Interest (AI) No.; the name, mailing address, email address, and telephone number of the current owner; the name, mailing address, email address, and telephone number of the prospective transferee; the proposed effective date of transfer/conveyance; and a copy of the documentation evidencing the transfer/conveyance. Failure to comply with this condition does not negate the validity or enforceability of this certification. This condition is necessary for confirm authorized impacts, the appropriate responsible party, monitor the aquatic resources, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 9:010 Section 1(a)(2), KRS 224.10-100, KRS 224.70-110]

NOTICE

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NATIONWIDE SECTION 404 PERMIT AUTHORIZATION

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
KENTUCKY DIVISION OF WATER
SECTION 401 INDIVIDUAL WATER QUALITY CERTIFICATION

The replacement of US 51 over Cane Creek (Bridge 053B00029N) will entail complete removal of the existing bridge and construction of a new bridge without load restrictions. The project will replace the bridge in the same location with generally the same current geometrics (bridge width, length, hydraulic opening, etc.) to avoid environmental impacts, utility impacts, and minimize the need for new right of way. Approach roadway pavement will be replaced in the direct vicinity of the bridge. The bridge will be closed during construction. Traffic will be maintained by constructing a temporary on-site diversion upstream and stream crossing immediately adjacent. Right-of-way and temporary construction easements will be required.

Location	Description of Project Impacts
US 51 over Cane Creek at MP 3.86	The project will impact approximately 126 ft (0.09 ac) of Cane Creek, a perennial stream approximately 39 ft wide at the US 51 intersect.

Impacts to jurisdictional Waters of the United States defined by the US Army Corps of Engineers pursuant to 33 CFR 330 are authorized under Section 404 Nationwide Permit (NWP) No. 14 for Linear Transportation Projects (LRL-2023-XXXXX-ncc) provided the Terms and General Conditions for NWP No. 14 and the attached Special Conditions are met.

The Kentucky Division of Water has conditionally certified the use of NWP No. 14 for impacts to surface waters of the Commonwealth defined by 401 KAR Chapter 10 under Individual Water Quality Certification WQC2023-XXX provided the attached conditions are met. One such condition limits the use or operation of heavy equipment within the stream channel. In those instances in which such in-stream work is unavoidable, a work platform or temporary crossing constructed with clean rock and sufficient pipe to allow stream flow to continue, unimpeded, shall be used.

To 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 Kentucky Transportation Cabinet, Division of Environmental Analysis (DEA). If such changes result in additional impacts to jurisdictional Waters of the United States, the Contractor will be responsible for coordinating directly with the US Army Corps of Engineers and Kentucky Division of Water to secure the requisite authorization Copies of all correspondence to or from either agency shall be forwarded to DEA Director Danny Peake at 200 Mero Street, Frankfort, KY 40601, Phone (502) 564-7250.

The Contractor shall post a copy of this Notice in a conspicuous location at the project site, with unencumbered public access for the duration of the construction.

PERMITS PENDING

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.
500 SOUTH 17TH STREET | PADUCAH, KY 42003

MEMORANDUM

TO: Michael Carpenter, P.E.
Director
Division of Structural Design / Geotechnical Branch
Kentucky Transportation Cabinet
1236 Wilkinson Boulevard
Frankfort, Kentucky 40601

FROM: Christopher N. Farmer, P.E. (Consultant)
Principal Geotechnical Engineer
Bacon Farmer Workman Engineering & Testing, Inc. (BFW)
500 South 17th Street
Paducah, Kentucky 42001

DATE: September 28, 2023

SUBJECT: **Graves County**
D1 042B00090N
Item No. 1-10128
US 45
Bridge Over Jackson Creek
Geotechnical Engineering Structure Foundation Report

1.0 Location and Description

The project is located on US 45 over Jackson Creek, approximately 5.6 miles southwest of Wingo, Graves County, Kentucky. The bridge is being replaced as part of the KYTC SW Bridge Delivery Program. The proposed bridge is a single span structure constructed using PPC I-Beams with a length of 99'-5½" (out to out), a bridge width of 24'- 6½" on a 30˚ left skew. The bridge will be supported by two pile supported integral end bents.

2.0 Site Geologic Conditions

The bridge is located within the Water Valley, KY Geologic and Topographic Quadrangles (GQ #269). Geologic mapping of the bridge location shows the geologic strata composed of water deposited alluvium which consists of silts, sands, gravels, and silty clays which is underlain by Continental deposits. Continental deposits are comprised of sandstones, siltstones, shales, coal, and limestone. The McNairy and Clayton Formations are comprised of sandy clay, silts, clays, sands, and gravel. The Natural Resources Conservation Service (NRCS) Soil map classifies the surface soils at the bridge location as Collins and Falaya silt loams.

3.0 Field Investigation

Subsurface drilling was conducted by Bacon Farmer Workman Engineering & Testing, Inc. (BFW) on August 23rd – 24th, 2023. Two borings, B-1001 (Station 102+40.04, 6.83' LT) and B-1002 (Station 103+17.91, 5.62' RT) were advanced near the western and eastern End Bents, respectively.

Boring B-1001 located near the proposed End Bent 1 and boring B-1002 located near the proposed End Bent 2 were both advanced to a depth of 101.5 feet below ground surface (bgs).

Soil samples were collected during the drilling activities and were delivered to and analyzed by BFW's in-house soil laboratory. No rock outcroppings were observed within the creek bed or near the existing bridge location.

4.0 Laboratory Testing

Alluvial soils were encountered during drilling activities and consisted of intermixed inorganic silty clays, silty clays with sand, silts, sandy silts, silty sands, silty sands with gravel, well to poorly graded sands and sands with silt. Soil samples were collected during drilling activities and were taken to BFW's in-house laboratory for classification.

Based on laboratory results, soils were classified as CL-ML, ML, SM, SP, SW, SP-SM, SW-SM and GM using the Unified Soil Classification System and A-1-a, A-1-b, A-2-4, A-3, and A-4 using the AASHTO Classification Method.

5.0 Subsurface Conditions

Soil samples collected at each location were roughly similar between the two borings. Below the surface stratum, silty clays and silty clays with sand were encountered to depths of approximately 7.5 to 15 feet bgs. The soil initially transitioned to silt, silty sands with gravel, poorly graded sands and sands with silt. With depth the silts were interbedded with layers of well-graded to poorly graded sands that continued to boring termination depths of 101.5 feet bgs in both borings.

Soil consistencies in the upper 20 to 25 feet of both borings ranged from very soft to firm in the silty clays and upper silty clays with sands. Soils consistencies generally increased below 25 feet and ranged from firm to dense until boring termination depth of 101.5 in boring, B-1001. In boring, B-1002, the soils continued with firm to dense consistencies until a depth of approximately 60 feet bgs where they increase to dense to very dense.

Groundwater levels were observed at approximately 20 feet bgs Elevation 355 at 1 day after drilling.

6.0 ENGINEERING ANALYSIS AND RECOMMENDATIONS

6.1 Embankments and Settlement – Since little to no fill will be placed for the bridge replacement, slope stability and settlement are not of geotechnical concern. Embankment slopes are to be constructed at slopes the same as currently in existence or 2H:1V, whichever is flatter. If a slope steeper than 2H:1V is required, please contact BFW for further assistance and recommendations.

6.2 **Integral End Bents 1 and 2,** – The use of either HP 12x53 or HP14x89 are recommended as friction piles at both end bents and all pile supported pier footing locations. According to the **KYTC Bridge Program Project Delivery Manual** the use of H-piles is preferred over pipe piles. LRFD Factored Pile Capacities are shown on the pile capacity tables included in the attachments to this report. Capacities may be linearly interpolated between the five-foot intervals presented in the tables. If the base of pile cap varies from the elevation used for the capacity tables base of pile cap by more than 5 feet, contact BFW Engineering for re-evaluation of the capacities. **H-piles used as friction piles should not include pile points as this will result in loss of side friction as the piles are being driven**.

Piles should be installed with a center-to-center spacing of three (3) times the pile diameter or greater in order to optimize group resistance and minimize installation problems. If spacing less than three diameters is needed, please contact BFW Engineering for capacity reduction factors.

Please note that the Total Factored Geotechnical Axial Resistance from the charts may not exceed the Maximum Nominal Geotechnical Axial Capacity of the pile. We recommend using a resistance factor (Φ_c) of 0.6 to determine the Maximum Nominal Geotechnical Axial Capacity of the pile, which results in a maximum of 465 kips and 783 kips for HP 12x53 and HP14x89 piles, respectively.

6.3 **Scour** – BFW conducted grain size analysis on samples collected during drilling activities. Grain size information was provided to WSP so that scour depths could be evaluated. The results of the scour analysis is presented in Table 1 below.

Local abutment scour is to be resisted by appropriate slope protection. According to KYTC Drainage Manual (DR 804-11), abutment scour can be mitigated by the use of countermeasures (Cyclopean Stone Rip Rap) for slope protection. According to the KYTC Geotechnical Manual (Section GT-606-1), deep foundation designs should be checked with no lateral support in the worst-case contraction scour condition.

To check for potential exposed lengths the following method should be used for end bents. 1) Construct a vertical line from the toe of the spill-through slope where the stone slope protection terminates, down to the contraction scour depth for the respective end bent. 2) Construct a 1H:1V (45˚) line (from the above point) back toward the end bent until it intercepts the foundation element line.

The foundations can either be designed to withstand the potential unsupported length, the cap can be set down to that depth to avoid any unsupported length, or a combination of these measures can be employed.

Table 1

Scour Analysis Summary			
Substructure	**Local (ft)**	**Contraction (ft)**	**Total (ft)**
End Bent 1	2.76	5.42	8.18
End Bent 2	2.76	5.42	8.18

6.4 **Slope Protection** – Slope protection will be required at the bridge end bents meeting the requirements of Sections 703 & 805 of the Standard Specifications for Road and Bridge Construction, current edition. Place a Class 1, Geotextile Fabric, in accordance with Sections 214 & 843 of the Standard Specification for Road and Bridge Construction, current edition, between the embankment and the slope protections.

6.5 **Wave Equation Analysis –** Drivability analyses were performed for the piles at this location assuming HP12 x 53 and HP14 x 89, 50-ksi steel H-piles. These analyses indicated that a sufficient range of single acting diesel hammers are available to install the piles to the required end bearing depths without excessive blow counts or overstressing the piles. Drivability studies were performed assuming continuous driving. If interruptions in driving individual piles should occur, difficulties in continuing the installation process will likely occur due to pile "set-up" characteristics.

6.6 **Verification of Piles Capacities** – Based on the **KYTC Bridge Program Project Delivery Manual** the construction control of friction piles will use the FHWA Modified Gates Formula. Therefore, it is recommended that field verification of pile capacity should be performed using the FHWA Modified Gates Formula instead of the formulas provided in the Standard Specifications. The field verification values for End of Driving (EOD) using the Modified Gates Formula are provided under the Static Analysis Method columns of the LRFD Pile Capacity Tables for friction piles located in the attachments to this report.

6.7 **Minimum Pile Lengths** – It is recommended that the structural designer include minimum required pile lengths or tip elevations required to satisfy pile lateral stability on the project plans. It is also recommended that factored uplift design loads, if applicable, be included in the pile record table. Since final pile lengths or tip elevations will be adjusted in the field based on field verification of axial capacity, this information will be used during construction to help ensure that adequate pile embedment and capacities are obtained, and pile lengths are not based on compressive axial capacity alone.

6.9 **Plan Notes**

The following notes should be included at the appropriate locations in the plans.

7.1 HAMMER CRITERIA: Single acting diesel hammers with rated energy of 33 kip-ft to 48 kip-ft is recommended for HP 12 x 53 and a rated energy between 66 kip-ft and 83 kip-ft is recommended for HP 14 x 89 piles to adequately drive the piles at the end bents without encountering excessive blow counts or overstressing the piles. The use of hammers other than single acting diesel may require different rated energies. The Contractor shall submit the proposed pile driving system to the Department for approval prior to the installation of the first pile. Approval of the pile driving system by the Engineer will be subject to satisfactory field performance of the pile driving procedures.

7.2 Embankments at the bridge end bent locations shall be constructed in accordance with Special Provision 69 Embankment at Bridge End Bent Structures.

7.3 Slope protection will be required at the bridge meeting the requirements of Sections 703 & 805 of the Standard Specifications for Road and Bridges Construction, current edition. Place Geotextile Fabric, in accordance with Section 843 of the Standard Specifications for

Road and Bridge Construction, current edition, between the embankment and the slope protection.

7.4 Cofferdams and/or dewatering methods may be required to facilitate foundation construction.

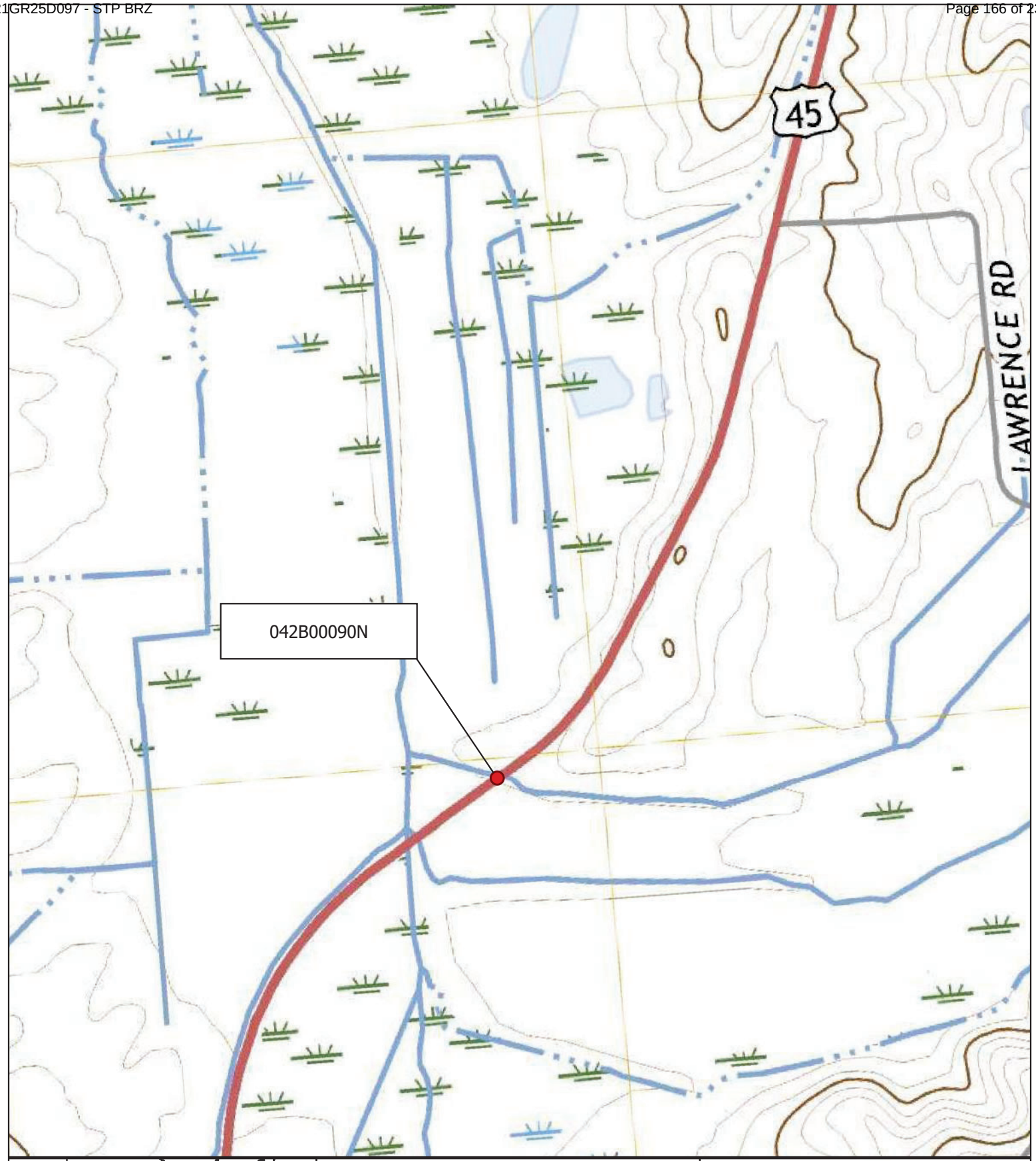
7.5 Temporary shoring or sheeting may be required to facilitate construction.

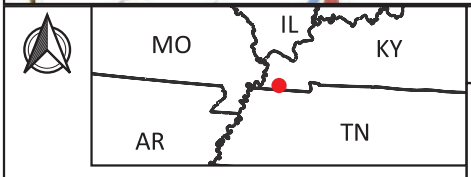
7.6 Field verification of pile capacity shall be performed using the FHWA Modified Gates Formula instead of the formulas provided in the Standard Specifications for Road and Bridge Construction.

Should there be any questions, please contact BFW at (270) 443-1995 for further recommendations.

Attachments:

- **Project Location Map**
- **Subsurface Data Sheet with Boring Locations**
- **Pile Capacity Tables**
- **Coordinate Data Sheet**





0 600 1,200 ft

1 inch : 667 feet

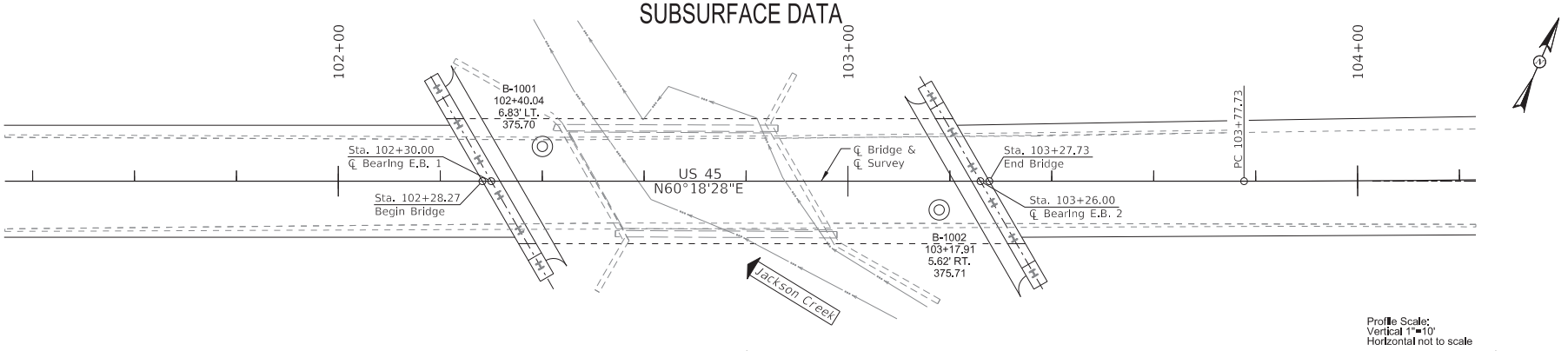
US-45 Over Jackson Creek

36.5815730, -88.8014274
Graves County, KY

Project Number:	Drafted/Checked:	Date:
22349 - 10128	HK/CF	2023-07-11

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.
500 SOUTH 17TH STREET
PADUCAH, KY 42003

SUBSURFACE DATA



(Sea level datum)

APPROXIMATE ROADWAY GRADE ELEV. = 375.89

APPROXIMATE ROADWAY GRADE ELEV. = 375.78

Hole No.
Station
Offset
Elev.

B-1001
102+40.04
6.83' LT.
375.70

D_{50} (mm)	w%	LI		
0.018	22.19	0.037	N=5	A-4, ML, S+C=81(78+3)
0.012	25.72	0.944	N=4 N=3	A-4, CL-ML, S+C=97(93+4)
0.037	26.12	1.374	N=3	A-4, ML, S+C=61(56+5)
0.018	25.54	0.942	N=3	A-4, CL-ML, S+C=77(71+6)
0.198	22.54	NP	N=3	A-4, SM, S+C=38(37+1)
0.481	20.36	NP	N=6	A-1-b, SP, S+C=3(1+2)
0.253	22.45	NP	N=13	A-3, SP, S+C=3(1+2)
0.335	16.90	NP	N=21	A-2-4, SM, S+C=14(13+1)
2.054	11.74	NP	N=17	A-1-a, SW-SM, S+C=6(5+1)
0.175	25.95	NP	N=12	A-3, SP, S+C=3(1+2)
0.165	26.53	NP	N=27	A-3, SP-SM, S+C=9(7+2)
0.146	26.32	NP	N=33	A-2-4, SM, S+C=23(21+2)
0.435	23.17	NP	N=24 N=8 N=11	A-1-b, SP-SM, S+C=7(5+2)
0.177	21.75	NP	N=28	A-3, SP, S+C=3(1+2)
0.170	21.87	NP	N=37	A-3, SP-SM, S+C=7(5+2)
0.221	25.36	NP	N=31	A-3, SP, S+C=5(3+2)
0.192	25.82	NP	N=25 N=16 N=48	A-3, SP-SM, S+C=6(4+2)

N.R.
(274.20)

B-1002
103+17.91
5.62' RT.
375.71

D_{50} (mm)	w%	LI		
0.016	31.46	1.909	N=7	A-4, CL-ML, S+C=85(83+2)
0.012	28.27	1.854	N=2 N=0	A-4, CL-ML, S+C=97(91+6)
0.013	10.34	-2.886	N=0 N=20	A-4, ML, S+C=91(87+4)
0.140	22.77	2.255	N=9	A-4, SM, S+C=36(34+2)
0.804	22.67	NP	N=2	A-1-b, SP, S+C=4(2+2)
0.612	22.83	NP	N=11	A-1-b, SW-SM, S+C=6(4+2)
0.604	18.85	NP	N=9	A-1-b, SP=SM, S+C=8(7+1)
2.213	18.57	NP	N=14	A-4, GM, S+C=45(44+1)
0.336	24.15	NP	N=17 N=35 N=27	A-3, SP-SM, S+C=6(4+2)
0.368	17.59	NP	N=50/0.3	A-3, SP, S+C=4(2+2)
0.355	19.71	NP	N=82	A-2-4, SP-SM, S+C=12(10+2)
0.769	19.72	NP	N=72	A-1-b, SP, S+C=3(1+2)
0.711	22.70	NP	N=53 N=44	A-1-b, SW, S+C=5(3+2)
0.443	22.02	NP	N=80	A-1-b, SP, S+C=2(0+2)
0.191	22.10	NP	N=78	A-3, SP, S+C=2(0+2)
0.206	23.94	NP	N=84/0.4 N=49	A-3, SP-SM, S+C=6(6+0)

N.R.
(274.21)

380 370 360 350 340 330 320 310 300 290 280 270

Datum

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

DRAWING TITLE: SUBSURFACE DATA FOR US 45 OVER JACKSON CREEK

HORIZONTAL SCALE
SCALE: N.T.S.

ITEM NO. 1-10128
COUNTY OF GRAVES
SHEET NO.

OpenRoads Designer v10.16.2.267 USER: bvellmer FILE NAME: C:\BMS\WSP-US-PW-02\D0561980\042B00090N_SUBSURFACE _DATA.DGN

LRFD Pile Capacities (For Friction Piles)

End Bent 1

County: Graves
Location: US-45 Over Jackson Creek
Item #: 1-10128

Date: 9/28/2023
Pile Size: HP 12X 53 Steel Piles (Friction)

Base of Pile Cap Assumed to be at approximate elevation*: **368.2** ft
Finished Grade Elevation: **375.9** ft
Original Groundline Elevation: **375.7** ft

								Static Analysis Method				Dynamic Testing Method						Uplift	
			Nominal Side Resistance		Nominal End Bearing		R_n Total Nominal Geotechnical Axial Resistance **		ϕR_n for design: Total Factored Geotechnical Axial Resistance (Static Analysis Method)		Field Verification Values: FHWA Modified Gates Formula Calculated Resistance		ϕR_n for design: Total Factored Geotechnical Axial Resistance Dynamic Testing Method		Field Verification Values (EOD) End of Driving Nominal Resistance		(BOR) Beginning of Restrike Nominal Resistance		ϕR_n for design: Total Factored Geotechnical Uplift Resistance (Static Analysis Method)	
Depth Below Pile Cap (ft)	Approximate Elevation (ft)	Soil Type	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons
0	368	cohesive	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	0.6	0	0	0
25	343	cohesionless	27	13	1	0	29	14	13	7	32	16	19	9	31.2	15	52.2	26	10	5
30	338	cohesionless	38	19	2	1	40	20	18	9	45	22	26	13	41.7	20	63.7	32	13	7
35	333	cohesionless	53	26	4	2	57	28	26	13	64	32	37	18	57.4	28	80.4	40	19	10
40	328	cohesionless	71	35	4	2	75	37	34	17	84	42	49	24	72.4	36	98.4	49	25	13
45	323	cohesionless	89	44	2	0	91	45	41	21	102	51	59	29	86.4	43	114.3	57	31	16
50	318	cohesionless	110	54	5	2	115	57	52	26	129	64	75	37	108.8	54	138.3	69	38	19
55	238	cohesionless	135	67	5	2	140	70	63	32	158	78	91	45	129.9	64	163.7	82	47	24
60	308	cohesionless	162	81	5	2	168	83	75	38	189	94	109	54	152.8	76	191.1	96	57	29
65	303	cohesionless	189	94	1	0	190	95	86	43	214	106	124	61	170.7	85	213.4	107	66	33
70	298	cohesionless	212	105	1	0	213	106	96	48	240	119	138	69	189.8	94	236.4	118	74	37
75	293	cohesionless	241	120	8	3	249	124	112	56	280	140	162	80	223.3	111	272.3	136	84	42
80	288	cohesionless	280	140	8	3	288	143	130	65	324	161	187	93	262.4	131	311.3	156	98	49
85	283	cohesionless	321	160	8	3	329	164	148	74	370	185	214	107	303.7	151	352.7	176	112	56
90	278	cohesionless	365	182	8	3	373	186	168	84	420	209	242	121	347.5	173	396.4	198	128	64
95	273	cohesionless	408	204	4	1	412	205	185	93	463	231	268	133	383.7	191	435.3	218	143	72
100	268	cohesionless	457	228	16	8	473	236	213	107	532	265	307	153	436.6	218	496.2	248	160	80

Factors:

All Capacities are for a Single Pile

Axial Capacity	Static Analysis Method	Gates Analysis Method	Dynamic Analysis Method
Skin Friction and End Bearing in Clays, a-Method (Tomlinson/Skempton)	0.35	0.40	0.65
Skin Friction and End Bearing in Sands, Nordlund/Thurman Method	0.45	0.40	0.65

Uplift Resistance

Clays, a-Method (Tomlinson/Skempton)	0.25
Sands, Nordlund Method	0.35

Driving Resistance Reductions

Cohesive Soils	0.5
Cohesionless Soils	0.25

How to use this table:

Choose the total factored geotechnical axial resistance that equals or exceeds the total factored loads at the strength limit state ($\phi Rn \Rightarrow \Sigma \eta_i \gamma_i Q_i$) and use the corresponding depth below pile cap plus the required pile embedment into pile cap to estimate pile tip elevations and the lengths of pile required. The geotechnical report may recommend highest allowable pile tip elevations. Deeper pile tip elevations may be needed to address scour, lateral loads, seismic, and other loading conditions, If the total factored geotechnical axial resistance is chosen from the Static Analysis Method column, then field verification shall be conducted using the FHWA Modified Gates Formula. If the total factored geotecnical axial resistance is chosen from the Dynamic Testing Method column, then field verification by dynamic testing methods is required.

Side Friction Through Embankment Layers (kips): 0

Note: Reported nominal capacities have been adjusted. They are reducted to account or the effects of scour and side friction accumulated through embankment layers has been neglected

*If base of pile cap varies from plan elevation by more than five feet contact the geotechnical engineer for re-evaluation of capacities

** Value calculated using static method

LRFD Pile Capacities (For Friction Piles)

End Bent 2

County: Graves
Location: US-45 Over Jackson Creek
Item #: 1-10128

Date: 9/28/2023
Pile Size: HP 12X 53 Steel Piles (Friction)

Base of Pile Cap Assumed to be at approximate elevation*: **368.2** ft
Finished Grade Elevation: **375.8** ft
Original Groundline Elevation: **375.7** ft

									Static Analysis Method				Dynamic Testing Method						Uplift	
			Nominal Side Resistance		Nominal End Bearing		R_n Total Nominal Geotechnical Axial Resistance **		ϕR_n for design: Total Factored Geotechnical Axial Resistance (Static Analysis Method)		Field Verification Values: FHWA Modified Gates Formula Calculated Resistance		ϕR_n for design: Total Factored Geotechnical Axial Resistance Dynamic Testing Method		Field Verification Values (EOD) End of Driving Nominal Resistance		Field Verification Values (BOR) Beginning of Restrike Nominal Resistance		ϕR_n for design: Total Factored Geotechnical Uplift Resistance (Static Analysis Method)	
Depth Below Pile Cap (ft)	Approximate Elevation (ft)	Soil Type	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons
0	368	cohesive	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	0.6	0	0	0
25	343	cohesionless	28	13	1	0	29	14	13	7	33	16	19	9	33.1	16	50.0	25	10	5
30	338	cohesionless	38	19	2	0	40	20	18	9	45	22	26	13	43.5	21	61.1	31	13	7
35	333	cohesionless	51	25	1	0	53	26	24	12	59	29	34	17	54.0	27	73.9	37	18	9
40	328	cohesionless	67	33	4	1	71	35	32	16	79	39	46	22	70.4	35	91.7	46	23	12
45	323	cohesionless	86	43	4	1	90	44	40	20	101	50	58	29	89.7	44	111.0	55	30	15
50	318	cohesionless	109	54	8	3	117	58	53	27	132	65	76	38	115.2	57	138.2	69	38	19
55	238	cohesionless	137	68	8	3	144	72	65	33	163	81	94	46	137.9	68	165.5	83	48	24
60	308	cohesionless	168	83	14	6	182	90	82	41	205	102	118	59	172.4	86	202.9	101	59	30
65	303	cohesionless	204	102	14	6	218	109	98	49	246	122	142	70	208.9	104	239.4	120	72	36
70	298	cohesionless	244	121	14	6	257	128	116	58	290	144	167	83	248.0	124	278.5	139	85	43
75	293	cohesionless	284	142	12	5	296	147	133	67	333	166	192	96	286.5	143	317.0	159	100	50
80	288	cohesionless	326	163	12	5	338	168	152	76	380	190	220	109	328.5	164	359.0	180	114	57
85	283	cohesionless	373	186	16	8	389	194	175	88	438	219	253	126	379.9	189	410.4	205	131	66
90	278	cohesionless	426	212	16	8	442	220	199	100	497	248	287	143	432.5	216	463.0	231	149	75
95	273	cohesionless	481	240	16	8	497	248	224	112	559	279	323	161	487.9	243	518.4	259	168	84
100	268	cohesionless	539	269	16	8	556	277	250	125	625	312	361	180	546.1	273	576.6	288	189	95

Factors:

All Capacities are for a Single Pile

Axial Capacity	Static Analysis Method	Gates Analysis Method	Dynamic Analysis Method
Skin Friction and End Bearing in Clays, a-Method (Tomlinson/Skempton)	0.35	0.40	0.65
Skin Friction and End Bearing in Sands, Nordlund/Thurman Method	0.45	0.40	0.65

Uplift Resistance

Clays, a-Method (Tomlinson/Skempton)	0.25
Sands, Nordlund Method	0.35

Driving Resistance Reductions

Cohesive Soils	0.5
Cohesionless Soils	0.25

How to use this table:

Choose the total factored geotechnical axial resistance that equals or exceeds the total factored loads at the strength limit state ($\phi Rn \Rightarrow \Sigma \eta_i \gamma_i Q_i$) and use the corresponding depth below pile cap plus the required pile embedment into pile cap to estimate pile tip elevations and the lengths of pile required. The geotechnical report may recommend highest allowable pile tip elevations. Deeper pile tip elevations may be needed to address scour, lateral loads, seismic, and other loading conditions, If the total factored geotechnical axial resistance is chosen from the Static Analysis Method column, then field verification shall be conducted using the FHWA Modified Gates Formula. If the total factored geotecnical axial resistance is chosen from the Dynamic Testing Method column, then field verification by dynamic testing methods is required.

Side Friction Through Embankment Layers (kips): 0

Note: Reported nominal capacities have been adjusted. They are reducted to account or the effects of scour and side friction accumulated through embankment layers has been neglected

*If base of pile cap varies from plan elevation by more than five feet contact the geotechnical engineer for re-evaluation of capacities

** Value calculated using static method

LRFD Pile Capacities (For Friction Piles)

End Bent 1

County: Graves
Location: US-45 Over Jackson Creek
Item #: 1-10128

Date: 9/28/2023
Pile Size: HP 14 X 89 Steel Piles (Friction)

Base of Pile Cap Assumed to be at approximate elevation*: **368.2** ft
Finished Grade Elevation: **375.9** ft
Original Groundline Elevation: **375.7** ft

								Static Analysis Method				Dynamic Testing Method						Uplift	
							R_n Total Nominal Geotechnical Axial Resistance **		ϕR_n for design: Total Factored Geotechnical Axial Resistance (Static Analysis Method)		Field Verification Values: FHWA Modified Gates Formula Calculated Resistance		ϕR_n for design: Total Factored Geotechnical Axial Resistance Dynamic Testing Method		Field Verification Values (EOD) End of Driving Nominal Resistance		(BOR) Beginning of Restrike Nominal Resistance		ϕR_n for design: Total Factored Geotechnical Uplift Resistance (Static Analysis Method)	
Depth Below Pile Cap (ft)	Approximate Elevation (ft)	Soil Type	Nominal Side Resistance		Nominal End Bearing															
			Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons
0	368	cohesive	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	0.6	0	0	0
25	343	cohesionless	36	17	2	1	38	19	17	9	43	21	25	12	66.1	33	40.5	20	12	6
30	338	cohesionless	51	25	4	1	55	27	25	13	62	30	36	17	82.8	41	55.8	28	18	9
35	333	cohesionless	73	36	7	3	80	39	36	18	90	44	52	25	107.7	53	79.1	40	25	13
40	328	cohesionless	99	49	7	3	106	53	48	24	119	59	69	34	134.1	67	101.1	51	35	18
45	323	cohesionless	126	63	3	1	129	64	58	29	145	72	84	41	156.8	78	121.0	60	44	22
50	318	cohesionless	156	77	9	4	165	82	74	37	185	92	107	53	192.7	96	154.4	77	54	27
55	238	cohesionless	193	96	9	4	202	101	91	46	227	113	131	65	230.1	115	185.6	93	68	34
60	308	cohesionless	234	116	9	4	243	121	109	55	273	136	158	78	270.7	135	219.5	110	82	41
65	303	cohesionless	272	135	2	1	274	137	123	62	309	154	178	89	302.4	151	244.8	122	95	48
70	298	cohesionless	305	152	2	1	307	153	138	69	345	172	200	99	335.1	167	272.0	136	107	54
75	293	cohesionless	348	173	13	6	361	180	162	81	406	203	235	117	389.0	194	322.5	161	122	61
80	288	cohesionless	406	202	13	6	419	209	189	95	472	235	272	136	447.2	223	380.7	190	142	71
85	283	cohesionless	467	233	13	6	481	240	216	108	541	270	313	156	508.8	254	442.3	221	164	82
90	278	cohesionless	533	266	13	6	546	272	246	123	614	307	355	177	574.0	286	507.4	254	186	93
95	273	cohesionless	597	298	6	2	603	301	271	136	678	339	392	195	630.7	315	560.3	280	209	105
100	268	cohesionless	669	334	27	13	696	348	313	157	783	391	452	226	724.1	362	641.7	321	234	117

Factors:

All Capacities are for a Single Pile

Axial Capacity	Static Analysis Method	Gates Analysis Method	Dynamic Analysis Method
Skin Friction and End Bearing in Clays, a-Method (Tomlinson/Skempton)	0.35	0.40	0.65
Skin Friction and End Bearing in Sands, Nordlund/Thurman Method	0.45	0.40	0.65

Uplift Resistance

Clays, a-Method (Tomlinson/Skempton)	0.25
Sands, Nordlund Method	0.35

Driving Resistance Reductions

Cohesive Soils	0.5
Cohesionless Soils	0.25

How to use this table:

Choose the total factored geotechnical axial resistance that equals or exceeds the total factored loads at the strength limit state ($\phi Rn \Rightarrow \Sigma \eta_i \gamma_i Q_i$) and use the corresponding depth below pile cap plus the required pile embedment into pile cap to estimate pile tip elevations and the lengths of pile required. The geotechnical report may recommend highest allowable pile tip elevations. Deeper pile tip elevations may be needed to address scour, lateral loads, seismic, and other loading conditions, If the total factored geotechnical axial resistance is chosen from the Static Analysis Method column, then field verification shall be conducted using the FHWA Modified Gates Formula. If the total factored geotecnical axial resistance is chosen from the Dynamic Testing Method column, then field verification by dynamic testing methods is required.

Side Friction Through Embankment Layers (kips): 0

Note: Reported nominal capacities have been adjusted. They are reducted to account or the effects of scour and side friction accumulated through embankment layers has been neglected

*If base of pile cap varies from plan elevation by more than five feet contact the geotechnical engineer for re-evaluation of capacities

** Value calculated using static method

LRFD Pile Capacities (For Friction Piles)

End Bent 2

County: Graves
Location: US-45 Over Jackson Creek
Item #: 1-10128

Date: 9/28/2023
Pile Size: HP 14 X 89 Steel Piles (Friction)

Base of Pile Cap Assumed to be at approximate elevation*: **368.2** ft
Finished Grade Elevation: **375.8** ft
Original Groundline Elevation: **375.7** ft

										Static Analysis Method			Dynamic Testing Method						Uplift
							R_n		ϕR_n for design:		Field Verification Values:		ϕR_n for design:		Field Verification Values				ϕR_n for design:
Depth Below Pile Cap (ft)	Approximate Elevation (ft)	Soil Type	Nominal Side Resistance		Nominal End Bearing		Total Nominal Geotechnical Axial Resistance **		Total Factored Geotechnical Axial Resistance (Static Analysis Method)		FHWA Modified Gates Formula Calculated Resistance		Total Factored Geotechnical Axial Resistance Dynamic Testing Method		(EOD) End of Driving Nominal Resistance		(BOR) Beginning of Restrike Nominal Resistance		Total Factored Geotechnical Uplift Resistance (Static Analysis Method)	
			Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons
0	368	cohesive	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	0.6	0	0	0
25	343	cohesionless	38	18	2	1	40	20	18	9	45	22	26	13	44.6	22	65.5	33	13	7
30	338	cohesionless	53	26	3	1	56	28	25	13	64	31	37	18	59.4	29	81.6	41	19	10
35	333	cohesionless	72	36	2	1	75	37	34	17	84	42	49	24	74.6	37	99.9	50	25	13
40	328	cohesionless	95	47	6	2	101	50	45	23	114	56	66	32	98.8	49	126.1	63	33	17
45	323	cohesionless	123	61	6	2	129	64	58	29	145	72	84	42	127.1	63	154.4	77	43	22
50	318	cohesionless	157	78	13	6	170	85	77	39	192	95	111	55	165.6	82	195.4	98	55	28
55	238	cohesionless	198	98	13	6	211	105	95	48	237	118	137	68	199.5	99	236.2	118	69	35
60	308	cohesionless	245	122	23	11	268	134	121	61	302	150	174	87	252.4	126	293.4	147	86	43
65	303	cohesionless	300	149	23	11	323	161	146	73	364	181	210	105	307.6	153	348.6	174	105	53
70	298	cohesionless	359	179	23	11	383	191	172	86	431	215	249	124	366.8	183	407.8	204	126	63
75	293	cohesionless	421	210	20	9	440	220	198	99	495	247	286	143	424.4	212	465.4	233	147	74
80	288	cohesionless	484	241	20	9	503	251	227	114	566	283	327	163	487.5	243	528.5	264	169	85
85	283	cohesionless	554	277	27	13	582	290	262	131	655	327	378	189	565.9	282	607.0	303	194	97
90	278	cohesionless	634	317	27	13	662	330	298	149	745	372	430	215	646.1	323	687.1	344	222	111
95	273	cohesionless	719	359	27	13	746	373	336	168	840	419	485	242	730.5	365	771.5	386	252	126
100	268	cohesionless	808	403	27	13	835	417	376	188	939	469	543	271	819.2	409	860.2	430	283	142

Factors:

All Capacities are for a Single Pile

Axial Capacity	Static Analysis Method	Gates Analysis Method	Dynamic Analysis Method
Skin Friction and End Bearing in Clays, a-Method (Tomlinson/Skempton)	0.35	0.40	0.65
Skin Friction and End Bearing in Sands, Nordlund/Thurman Method	0.45	0.40	0.65

Uplift Resistance

Clays, a-Method (Tomlinson/Skempton)	0.25
Sands, Nordlund Method	0.35

Driving Resistance Reductions

Cohesive Soils	0.5
Cohesionless Soils	0.25

How to use this table:

Choose the total factored geotechnical axial resistance that equals or exceeds the total factored loads at the strength limit state ($\phi Rn \Rightarrow \Sigma \eta_i \gamma_i Q_i$) and use the corresponding depth below pile cap plus the required pile embedment into pile cap to estimate pile tip elevations and the lengths of pile required. The geotechnical report may recommend highest allowable pile tip elevations. Deeper pile tip elevations may be needed to address scour, lateral loads, seismic, and other loading conditions, If the total factored geotechnical axial resistance is chosen from the Static Analysis Method column, then field verification shall be conducted using the FHWA Modified Gates Formula. If the total factored geotecnical axial resistance is chosen from the Dynamic Testing Method column, then field verification by dynamic testing methods is required.

Side Friction Through Embankment Layers (kips): 0

Note: Reported nominal capacities have been adjusted. They are reducted to account or the effects of scour and side friction accumulated through embankment layers has been neglected

*If base of pile cap varies from plan elevation by more than five feet contact the geotechnical engineer for re-evaluation of capacities

** Value calculated using static method

COORDINATE DATA SUBMISSION FORM
KYTC DIVISION OF STRUCTURAL DESIGN - GEOTECHNICAL BRANCH

County Graves Date 9/26/2023

Road Number US- 45

Survey Crew / Consultant BFW

Contact Person Chris Farmer

Item # 01-10128

Mars#

Project #

Notes:

(circle one)
Elevation Datum **NAVD88** **Assumed**

HOLE NUMBER	LATITUDE (Decimal Degrees)	LONGITUDE (Decimal Degrees)	HOLE NUMBER	STATION	OFFSET	ELEVATION (FT)
Single Span - US 45 OVER JACKSON CREEK						
1001	36.5815470°N	88.8015224°W	1001	102+40.04	6.83' LT	375.70
1002	36.5816299°N	88.8012742°W	1002	103+17.91	5.62' RT	375.71

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.
500 SOUTH 17TH STREET | PADUCAH, KY 42003

MEMORANDUM

TO: Michael Carpenter, P.E.
Director
Division of Structural Design / Geotechnical Branch
Kentucky Transportation Cabinet
1236 Wilkinson Boulevard
Frankfort, Kentucky 40601

FROM: Christopher N. Farmer, P.E. (Consultant)
Principal Geotechnical Engineer
Bacon Farmer Workman Engineering & Testing, Inc. (BFW)
500 South 17th Street
Paducah, Kentucky 42001

DATE: October 4, 2023

SUBJECT: **Hickman County**
D1 053B00029N
Item No. 1-10146
US 51
Bridge Over Cane Creek
Geotechnical Engineering Structure Foundation Report

1.0 Location and Description

The project is located on US 51 over Cane Creek, approximately 4.9 miles southeast of Clinton, Hickman County, Kentucky. The bridge is being replaced as part of the KYTC SW Bridge Delivery Program. The proposed bridge is a single span structure constructed using PPC Box Beams with a length of 87'-0" (out to out), a bridge width of 40'- 0" on a 0˚ skew. The bridge will be supported by two pile supported end bents.

2.0 Site Geologic Conditions

The bridge is located within the Crutchfield, KY Geologic and Topographic Quadrangles (GQ #270). Geologic mapping of the bridge location shows the geologic strata composed of water deposited alluvium which consists of silts, sands, and silty clays and are underlain by Continental deposits. Continental deposits are comprised of silt, sand, and gravel. The Natural Resources Conservation Service (NRCS) Soil map classifies the surface soils at the bridge location as Convent-Adler silt loams.

3.0 Field Investigation

Subsurface drilling was conducted by Bacon Farmer Workman Engineering & Testing, Inc. (BFW) on August 28th - 29th, 2023. Two borings, B-1001 (Station 40+82.65, 8.47' RT) and B-1002 (Station 40+16.06, 8.36' RT) were advanced near the northern and southern end bents, respectively.

Boring B-1001 located near the proposed End Bent 2 and boring B-1002 located near the proposed End Bent 1 were both advanced to a depth of 86.5 feet below ground surface (bgs).

Soil samples were collected during the drilling activities and were delivered to and analyzed by BFW's in-house soil laboratory. No rock outcroppings were observed within the creek bed or near the existing bridge location.

4.0 Laboratory Testing

Alluvial soils were encountered during drilling activities and consisted of intermixed inorganic silty clays, silty clays with sand, silts, silty sands, silt with gravel, well to poorly graded sands and sands with silt. Soil samples were collected during drilling activities and were taken to BFW's in-house laboratory for classification.

Based on laboratory results, soils were classified as CL, CL-ML, ML, SM, SP, SW, and SP-SM using the Unified Soil Classification System and A-1-b, A-2-4, A-3, A-4 and A-6 using the AASHTO Classification Method.

5.0 Subsurface Conditions

Soil samples collected at each location were similar between the two borings. Below the surface stratum, silty clays and silts were encountered to depths of approximately 30 to 35 feet bgs. The soils transitioned to well to poorly graded sands, with intermittent lenses of sands with silt. The sands extended to boring termination depths of 86.5 feet except for a layer of silty clay from 75 to 80 feet in boring, B-1002.

Soil consistencies in the upper 30 to 35 feet of both borings ranged from very soft to firm in the silty clays and silts. Soils consistencies generally increased below 30 feet and ranged from firm to very dense in the sands and firm in the layer of silty clay.

Groundwater levels were observed at approximately 18 feet bgs (Elevation 318) at 1 day after drilling.

6.0 ENGINEERING ANALYSIS AND RECOMMENDATIONS

6.1 Embankments and Settlement – Since little to no fill will be placed for the bridge replacement, slope stability and settlement are not of geotechnical concern. Embankment slopes are to be constructed at slopes the same as currently in existence or 2H:1V, whichever is flatter. If a slope steeper than 2H:1V is required, please contact BFW for further assistance and recommendations.

6.2 End Bents 1 and 2, – The use of either HP 12x53 or HP 14x89 are recommended as friction piles at both end bents locations. According to the **KYTC Bridge Program Project Delivery Manual** the use of H-piles is preferred over pipe piles. LRFD Factored Pile Capacities are shown on the pile capacity tables included in the attachments to this report. Capacities may be linearly interpolated between the five-foot intervals presented in the tables. If the base of pile cap varies from the elevation used for the capacity tables base of pile cap by more than 5 feet, contact BFW

Engineering for re-evaluation of the capacities. **H-piles used as friction piles should not include pile points as this will result in loss of side friction as the piles are being driven**.

Piles should be installed with a center-to-center spacing of three (3) times the pile diameter or greater in order to optimize group resistance and minimize installation problems. If spacing less than three diameters is needed, please contact BFW Engineering for capacity reduction factors.

Please note that the Total Factored Geotechnical Axial Resistance from the charts may not exceed the Maximum Nominal Geotechnical Axial Capacity of the pile. We recommend using a resistance factor (Φ_c) of 0.6 to determine the Maximum Nominal Geotechnical Axial Capacity of the pile, which results in a maximum of 465 kips and 783 kips for HP 12x53 and HP14x89 piles, respectively.

6.3 **Scour** – BFW conducted grain size analysis on samples collected during drilling activities. Grain size information was provided to WSP so that scour depths could be evaluated. The results of the scour analysis is presented in Table 1 below.

Local abutment scour is to be resisted by appropriate slope protection. According to KYTC Drainage Manual (DR 804-11), abutment scour can be mitigated by the use of countermeasures (Cyclopean Stone Rip Rap) for slope protection. According to the KYTC Geotechnical Manual (Section GT-606-1), deep foundation designs should be checked with no lateral support in the worst-case contraction scour condition.

To check for potential exposed lengths the following method should be used for end bents. 1) Construct a vertical line from the toe of the spill-through slope where the stone slope protection terminates, down to the contraction scour depth for the respective end bent. 2) Construct a 1H:1V (45˚) line (from the above point) back toward the end bent until it intercepts the foundation element line.

The foundations can either be designed to withstand the potential unsupported length, the cap can be set down to that depth to avoid any unsupported length, or a combination of these measures can be employed.

Table 1

Scour Analysis Summary			
Substructure	**Local (ft)**	**Contraction (ft)**	**Total (ft)**
End Bent 1	12.37	23.64	36.01
End Bent 2	12.37	23.64	36.01

6.4 **Slope Protection** – Slope protection will be required at the bridge end bents meeting the requirements of Sections 703 & 805 of the Standard Specifications for Road and Bridge Construction, current edition. Place Class 1, Geotextile Fabric, in accordance with Sections 214 & 843 of the Standard Specification for Road and Bridge Construction, current edition, between the embankment and the slope protections. Additionally, due to significant predicted scour depths, the channel between Toe of Slopes should also be lined with Cyclopean Stone Rip Rap over Geotextile Fabric Class 1

6.5 **Wave Equation Analysis –** Drivability analyses were performed for the piles at this location assuming HP12 x 53 and HP14 x 89, 50-ksi steel H-piles. These analyses indicated that a sufficient range of single acting diesel hammers are available to install the piles to the required end bearing depths without excessive blow counts or overstressing the piles. Drivability studies were performed assuming continuous driving. If interruptions in driving individual piles should occur, difficulties in continuing the installation process will likely occur due to pile "set-up" characteristics.

6.6 **Verification of Piles Capacities** – Based on the **KYTC Bridge Program Project Delivery Manual** the construction control of friction piles will use the FHWA Modified Gates Formula. Therefore, it is recommended that field verification of pile capacity should be performed using the FHWA Modified Gates Formula instead of the formulas provided in the Standard Specifications. The field verification values for End of Driving (EOD) using the Modified Gates Formula are provided under the Static Analysis Method columns of the LRFD Pile Capacity Tables for friction piles located in the attachments to this report.

6.7 **Minimum Pile Lengths** – It is recommended that the structural designer include minimum required pile lengths or tip elevations required to satisfy pile lateral stability on the project plans. It is also recommended that factored uplift design loads, if applicable, be included in the pile record table. Since final pile lengths or tip elevations will be adjusted in the field based on field verification of axial capacity, this information will be used during construction to help ensure that adequate pile embedment and capacities are obtained, and pile lengths are not based on compressive axial capacity alone.

6.9 **Plan Notes**

The following notes should be included at the appropriate locations in the plans.

7.1 HAMMER CRITERIA: Single acting diesel hammers with rated energy of 33 kip-ft to 48 kip-ft is recommended for HP 12 x 53 and a rated energy between 56 kip-ft and 73 kip-ft is recommended for HP 14 x 89 piles to adequately drive the piles at the end bents without encountering excessive blow counts or overstressing the piles. The use of hammers other than single acting diesel may require different rated energies. The Contractor shall submit the proposed pile driving system to the Department for approval prior to the installation of the first pile. Approval of the pile driving system by the Engineer will be subject to satisfactory field performance of the pile driving procedures.

7.2 Embankments at the bridge end bent locations shall be constructed in accordance with Special Provision 69 Embankment at Bridge End Bent Structures.

7.3 Slope protection will be required at the bridge meeting the requirements of Sections 703 & 805 of the Standard Specifications for Road and Bridges Construction, current edition. Place Geotextile Fabric, in accordance with Section 843 of the Standard Specifications for Road and Bridge Construction, current edition, between the embankment and the slope protection.

7.4 Cofferdams and/or dewatering methods may be required to facilitate foundation construction.

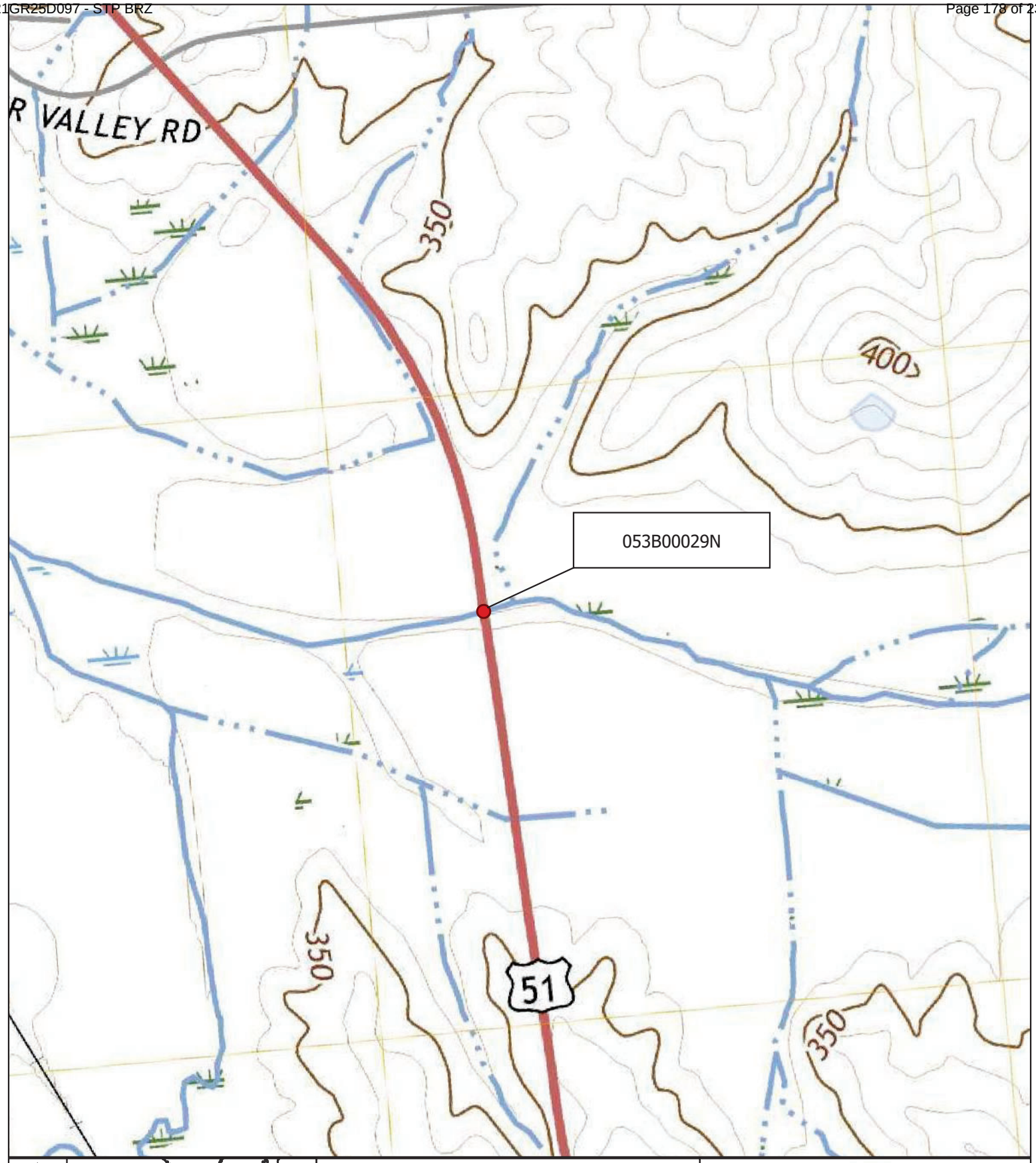
7.5 Temporary shoring or sheeting may be required to facilitate construction.

7.6 Field verification of pile capacity shall be performed using the FHWA Modified Gates Formula instead of the formulas provided in the Standard Specifications for Road and Bridge Construction.

Should there be any questions, please contact BFW at (270) 443-1995 for further recommendations.

Attachments:

- **Project Location Map**
- **Subsurface Data Sheet with Boring Locations**
- **Pile Capacity Tables**
- **Coordinate Data Sheet**



0 600 1,200 ft

1 inch : 667 feet

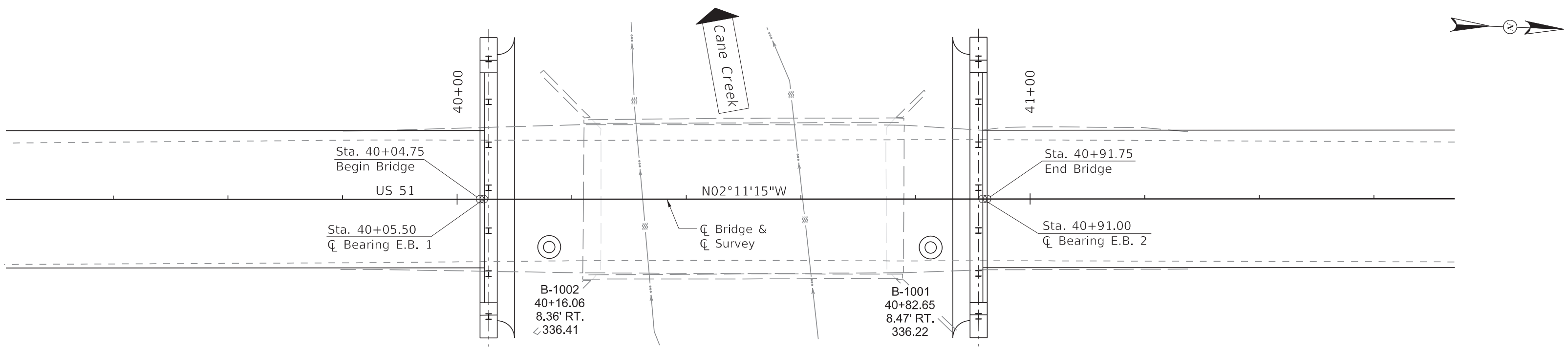
US-51 Over Cane Creek

36.6035943, -88.9428882
Hickman County, KY

Project Number:	Drafted/Checked:	Date:
22349 - 10146	HK/CF	2023-07-11

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.
500 SOUTH 17TH STREET
PADUCAH, KY 42003

SUBSURFACE DATA



(Sea level datum)

END BENT ONE — APPROXIMATE ROADWAY GRADE ELEV. = 336.94

END BENT TWO — APPROXIMATE ROADWAY GRADE ELEV. = 336.96

Profile Scale:
Vertical 1"=10'
Horizontal not to scale

Hole No.
Station
Offset
Elev.

B-1002 — 40+16.06 — 8.36' RT. — 336.41

D_{50} (mm)	w%	LI	N	Description
			N=6	
			N=4	
			N=6	
			N=5	
0.011	30.74	1.289	N=1	A-4, ML, S+C=97(89+8)
			N=3	
			N=5	
			N=5	
0.216	19.35	NP	N=28	A-2-4, SM, S+C=12(10+2)
0.558	17.73	NP	N=36	A-1-b, SP, S+C=4(3+1)
0.326	24.33	NP	N=14	A-2-4, SP-SM, S+C=11(10+1)
0.734	17.53	NP	N=32	A-1-b, SW, S+C=3(1+2)
0.321	23.12	NP	N=44	A-3, SP, S+C=4(2+2)
			N=24	
0.602	18.31	NP	N=18	A-1-b, SW, S+C=2(0+2)
			N=23	
			N=3	
0.009	24.52	0.655		A-6, CL, S+C=88(67+21)
			N=4	
0.830	20.80	-0.300	N=50/0.4	A-1-b, SP, S+C=4(2+2)

N.R. (249.91)

B-1001 — 40+82.65 — 8.47' RT. — 336.22

D_{50} (mm)	w%	LI	N	Description
0.015	23.18	0.294	N=5	A-4, ML, S+C=84(78+6)
			N=4	
0.011	24.10	0.517	N=4	A-4, CL-ML, S+C=96(88+8)
			N=2	
			N=0	
			N=4	
0.012	33.85	1.641		A-4, ML, S+C=95(86+9)
			N=2	
			N=4	
0.014	25.81	1.135	N=5	A-4, CL-ML, S+C=84(76+8)
1.251	15.06	NP	N=46	A-1-b, SP, S+C=2(1+1)
0.718	16.03	NP	N=47	A-1-b, SW, S+C=4(2+2)
			N=63	
0.272	19.66	NP		A-3, SP, S+C=3(1+2)
			N=21	
0.473	19.63	NP	N=50/0.5	A-1-b, SP, S+C=2(0+2)
0.334	20.46	NP	N=88/0.83	A-3, SP-SM, S+C=9(7+2)
			N=85/0.83	
0.783	17.81	NP		A-1-b, SW, S+C=4(2+2)
			N=36	
			N=85/0.83	
0.850	20.10	NP		A-1-b, SP, S+C=3(1+2)
			N=50/0.4	

N.R. (249.72)

Elevation scale: 340, 330, 320, 310, 300, 290, 280, 270, 260, 250, 240

Datum

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

DRAWING TITLE: SUBSURFACE DATA FOR US 51 OVER CANE CREEK

HORIZONTAL SCALE
SCALE: N.T.S.

ITEM NO. 1-10146 | COUNTY OF HICKMAN | SHEET NO.

OpenRoads Designer v10.16.2.267 USER: bvollmer FILE NAME: C:\BMS\WSP-US-PW-02\D0561474\053B00029N_SUBSURFACE_DATA.DGN

LRFD Pile Capacities (For Friction Piles)

End Bent 1

County: Hickman
Location: US-51 Over Cane Creek
Item #: 1-10146

Date: 9/30/2023
Pile Size: HP 12X 53 Steel Piles (Friction)

Base of Pile Cap Assumed to be at approximate elevation*: **329.4** ft
Finished Grade Elevation: **336.9** ft
Original Groundline Elevation: **336.4** ft

								Static Analysis Method				Dynamic Testing Method						Uplift
							R_n Total Nominal Geotechnical Axial Resistance **		ϕR_n for design: Total Factored Geotechnical Axial Resistance (Static Analysis Method)		Field Verification Values: FHWA Modified Gates Formula Calculated Resistance		ϕR_n for design: Total Factored Geotechnical Axial Resistance Dynamic Testing Method		Field Verification Values (EOD) End of Driving Nominal Resistance		Field Verification Values (BOR) Beginning of Restrike Nominal Resistance		ϕR_n for design: Total Factored Geotechnical Uplift Resistance (Static Analysis Method)	
Depth Below Pile Cap (ft)	Approximate Elevation (ft)	Soil Type	Nominal Side Resistance		Nominal End Bearing															
			Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons
0	329	cohesive	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	0.6	0	0	0
25	304	cohesionless	19	9	1	0	20	9	9	5	22	11	13	6	18.9	9	27.6	14	6	3
30	299	cohesionless	28	14	1	0	30	14	13	7	33	16	19	9	25.4	12	37.4	19	10	5
35	294	cohesionless	45	22	10	4	54	27	24	12	61	30	35	17	49.3	24	61.7	31	16	8
40	289	cohesionless	65	32	10	4	75	37	34	17	85	42	49	24	70.5	35	82.9	41	23	12
45	284	cohesionless	85	42	2	0	87	43	39	20	98	48	56	28	82.2	41	94.6	47	30	15
50	279	cohesionless	107	53	12	5	118	59	53	27	133	66	77	38	113.7	56	126.1	63	37	19
55	238	cohesionless	136	67	12	5	148	73	66	33	166	82	96	47	142.8	71	155.2	78	48	24
60	269	cohesionless	165	82	4	2	170	84	76	38	191	95	110	55	164.8	82	177.2	89	58	29
65	264	cohesionless	193	96	4	2	198	98	89	45	222	111	128	64	192.9	96	205.3	103	68	34
70	259	cohesionless	224	111	4	2	228	113	103	52	256	128	148	74	223.1	111	235.5	118	78	39
75	254	cohesionless	258	129	1	0	260	129	117	59	292	146	169	84	254.1	127	267.6	134	90	45
80	249	cohesionless	288	144	1	0	290	144	130	65	326	162	188	94	278.9	139	297.2	149	101	51
85	244	cohesionless	343	171	22	11	365	182	164	82	411	205	238	118	354.8	177	373.2	187	120	60

Factors:

All Capacities are for a Single Pile

Axial Capacity	Static Analysis Method	Gates Analysis Method	Dynamic Analysis Method
Skin Friction and End Bearing in Clays, a-Method (Tomlinson/Skempton)	0.35	0.40	0.65
Skin Friction and End Bearing in Sands, Nordlund/Thurman Method	0.45	0.40	0.65

Uplift Resistance

Clays, a-Method (Tomlinson/Skempton)	0.25
Sands, Nordlund Method	0.35

Driving Resistance Reductions

Cohesive Soils	0.5
Cohesionless Soils	0.25

How to use this table:

Choose the total factored geotechnical axial resistance that equals or exceeds the total factored loads at the strength limit state ($\phi Rn \Rightarrow \Sigma \eta_i \gamma_i Q_i$) and use the corresponding depth below pile cap plus the required pile embedment into pile cap to estimate pile tip elevations and the lengths of pile required. The geotechnical report may recommend highest allowable pile tip elevations. Deeper pile tip elevations may be needed to address scour, lateral loads, seismic, and other loading conditions, If the total factored geotechnical axial resistance is chosen from the Static Analysis Method column, then field verification shall be conducted using the FHWA Modified Gates Formula. If the total factored geotecnical axial resistance is chosen from the Dynamic Testing Method column, then field verification by dynamic testing methods is required.

Side Friction Through Embankment Layers (kips): 0

Note: Reported nominal capacities have been adjusted. They are reducted to account or the effects of scour and side friction accumulated through embankment layers has been neglected

*If base of pile cap varies from plan elevation by more than five feet contact the geotechnical engineer for re-evaluation of capacities

** Value calculated using static method

LRFD Pile Capacities (For Friction Piles)

End Bent 2

County: Hickman
Location: US-51 Over Cane Creek
Item #: 1-10146

Date: 9/30/2023
Pile Size: HP 12 X 53 Steel Piles (Friction)

Base of Pile Cap Assumed to be at approximate elevation*: **329.4** ft
Finished Grade Elevation: **336.9** ft
Original Groundline Elevation: **336.2** ft

								Static Analysis Method				Dynamic Testing Method						Uplift
							R_n Total Nominal Geotechnical Axial Resistance **		ϕR_n for design: Total Factored Geotechnical Axial Resistance (Static Analysis Method)		Field Verification Values: FHWA Modified Gates Formula Calculated Resistance		ϕR_n for design: Total Factored Geotechnical Axial Resistance Dynamic Testing Method		Field Verification Values (EOD) End of Driving Nominal Resistance		Field Verification Values (BOR) Beginning of Restrike Nominal Resistance		ϕR_n for design: Total Factored Geotechnical Uplift Resistance (Static Analysis Method)	
Depth Below Pile Cap (ft)	Approximate Elevation (ft)	Soil Type	Nominal Side Resistance		Nominal End Bearing															
			Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons
0	329	cohesive	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	0.6	0	0	0
25	304	cohesionless	18	9	1	0	20	9	9	5	22	11	13	6	27.5	13	47.0	23	6	3
30	299	cohesionless	28	14	1	0	29	14	13	7	33	16	19	9	33.9	16	56.5	28	10	5
35	294	cohesionless	44	22	1	0	45	22	20	10	51	25	29	14	42.2	21	72.3	36	15	8
40	289	cohesionless	66	32	12	5	77	38	35	18	87	43	50	25	71.9	35	104.1	52	23	12
45	284	cohesionless	89	44	12	5	101	50	45	23	114	56	66	32	95.9	47	128.1	64	31	16
50	279	cohesionless	116	57	12	5	127	63	57	29	143	71	83	41	122.3	61	154.5	77	41	21
55	238	cohesionless	143	71	4	2	147	73	66	33	165	82	96	47	141.8	70	174.0	87	50	25
60	269	cohesionless	174	86	22	11	196	98	88	44	221	110	127	63	190.9	95	223.1	112	61	31
65	264	cohesionless	216	107	22	11	238	119	107	54	268	133	155	77	232.9	116	265.2	133	76	38
70	259	cohesionless	261	130	22	11	283	141	127	64	319	159	184	92	278.1	139	310.3	155	91	46
75	254	cohesionless	306	152	12	5	317	158	143	72	357	178	206	103	311.9	155	344.2	172	107	54
80	249	cohesionless	349	174	16	8	365	182	164	82	411	205	237	118	360.1	180	392.4	196	122	61
85	244	cohesionless	398	199	16	8	414	207	186	93	466	233	269	134	409.3	204	441.5	221	139	70

Factors:

All Capacities are for a Single Pile

Axial Capacity	Static Analysis Method	Gates Analysis Method	Dynamic Analysis Method
Skin Friction and End Bearing in Clays, a-Method (Tomlinson/Skempton)	0.35	0.40	0.65
Skin Friction and End Bearing in Sands, Nordlund/Thurman Method	0.45	0.40	0.65

Uplift Resistance

Clays, a-Method (Tomlinson/Skempton)	0.25
Sands, Nordlund Method	0.35

Driving Resistance Reductions

Cohesive Soils	0.5
Cohesionless Soils	0.25

How to use this table:

Choose the total factored geotechnical axial resistance that equals or exceeds the total factored loads at the strength limit state ($\phi Rn \Rightarrow \Sigma \eta_i \gamma_i Q_i$) and use the corresponding depth below pile cap plus the required pile embedment into pile cap to estimate pile tip elevations and the lengths of pile required. The geotechnical report may recommend highest allowable pile tip elevations. Deeper pile tip elevations may be needed to address scour, lateral loads, seismic, and other loading conditions, If the total factored geotechnical axial resistance is chosen from the Static Analysis Method column, then field verification shall be conducted using the FHWA Modified Gates Formula. If the total factored geotecnical axial resistance is chosen from the Dynamic Testing Method column, then field verification by dynamic testing methods is required.

Side Friction Through Embankment Layers (kips): 0

Note: Reported nominal capacities have been adjusted. They are reducted to account or the effects of scour and side friction accumulated through embankment layers has been neglected

*If base of pile cap varies from plan elevation by more than five feet contact the geotechnical engineer for re-evaluation of capacities

** Value calculated using static method

LRFD Pile Capacities (For Friction Piles)

End Bent 1

County: Hickman
Location: US-51 Over Cane Creek
Item #: 1-10146

Date: 9/30/2023
Pile Size: HP 14 X 89 Steel Piles (Friction)

Base of Pile Cap Assumed to be at approximate elevation*: **329.4** ft
Finished Grade Elevation: **336.9** ft
Original Groundline Elevation: **336.4** ft

								Static Analysis Method				Dynamic Testing Method						Uplift
							R_n Total Nominal Geotechnical Axial Resistance **		ϕR_n for design: Total Factored Geotechnical Axial Resistance (Static Analysis Method)		Field Verification Values: FHWA Modified Gates Formula Calculated Resistance		ϕR_n for design: Total Factored Geotechnical Axial Resistance Dynamic Testing Method		Field Verification Values (EOD) End of Driving Nominal Resistance		(BOR) Beginning of Restrike Nominal Resistance		ϕR_n for design: Total Factored Geotechnical Uplift Resistance (Static Analysis Method)	
Depth Below Pile Cap (ft)	Approximate Elevation (ft)	Soil Type	Nominal Side Resistance		Nominal End Bearing															
			Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons
0	329	cohesive	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	0.6	0	0	0
25	304	cohesionless	26	13	2	1	29	14	13	7	32	16	19	9	27.2	13	39.5	20	9	5
30	299	cohesionless	40	20	2	1	42	21	19	10	48	23	28	13	36.4	18	53.3	27	14	7
35	294	cohesionless	64	32	16	8	81	40	36	18	91	45	52	26	73.7	36	91.3	46	23	12
40	289	cohesionless	96	47	16	8	112	56	50	25	126	63	73	36	105.3	52	122.9	61	33	17
45	284	cohesionless	124	62	3	1	128	63	57	29	143	71	83	41	120.8	60	138.4	69	43	22
50	279	cohesionless	157	78	20	9	176	88	79	40	198	99	114	57	169.3	84	186.9	93	55	28
55	238	cohesionless	200	100	20	9	220	109	99	50	247	123	143	71	212.9	106	230.5	115	70	35
60	269	cohesionless	244	121	7	3	251	125	113	57	282	141	163	81	244.4	122	262.0	131	85	43
65	264	cohesionless	285	142	7	3	292	146	132	66	329	164	190	95	285.7	142	303.3	152	100	50
70	259	cohesionless	330	164	7	3	337	168	152	76	379	189	219	109	330.2	165	347.8	174	115	58
75	254	cohesionless	379	189	2	1	382	190	172	86	430	214	248	124	371.5	185	392.7	196	133	67
80	249	cohesionless	415	207	2	1	417	208	188	94	470	234	271	135	389.3	194	428.3	214	145	73
85	244	cohesionless	500	250	37	18	537	268	242	121	605	302	349	174	509.4	254	548.3	274	175	88

Factors:

All Capacities are for a Single Pile

Axial Capacity	Static Analysis Method	Gates Analysis Method	Dynamic Analysis Method
Skin Friction and End Bearing in Clays, a-Method (Tomlinson/Skempton)	0.35	0.40	0.65
Skin Friction and End Bearing in Sands, Nordlund/Thurman Method	0.45	0.40	0.65

Uplift Resistance

Clays, a-Method (Tomlinson/Skempton)	0.25
Sands, Nordlund Method	0.35

Driving Resistance Reductions

Cohesive Soils	0.5
Cohesionless Soils	0.25

How to use this table:

Choose the total factored geotechnical axial resistance that equals or exceeds the total factored loads at the strength limit state ($\phi Rn \Rightarrow \Sigma\eta_i\gamma_i Q_i$) and use the corresponding depth below pile cap plus the required pile embedment into pile cap to estimate pile tip elevations and the lengths of pile required. The geotechnical report may recommend highest allowable pile tip elevations. Deeper pile tip elevations may be needed to address scour, lateral loads, seismic, and other loading conditions, If the total factored geotechnical axial resistance is chosen from the Static Analysis Method column, then field verification shall be conducted using the FHWA Modified Gates Formula. If the total factored geotecnical axial resistance is chosen from the Dynamic Testing Method column, then field verification by dynamic testing methods is required.

Side Friction Through Embankment Layers (kips): 0

Note: Reported nominal capacities have been adjusted. They are reducted to account or the effects of scour and side friction accumulated through embankment layers has been neglected

*If base of pile cap varies from plan elevation by more than five feet contact the geotechnical engineer for re-evaluation of capacities

** Value calculated using static method

LRFD Pile Capacities (For Friction Piles)

End Bent 2

County: Hickman
Location: US-51 Over Cane Creek
Item #: 1-10146

Date: 9/30/2023
Pile Size: HP 14 X 89 Steel Piles (Friction)

Base of Pile Cap Assumed to be at approximate elevation*: **329.4** ft
Finished Grade Elevation: **336.9** ft
Original Groundline Elevation: **336.4** ft

Depth Below Pile Cap (ft)	Approximate Elevation (ft)	Soil Type	Nominal Side Resistance		Nominal End Bearing		R_n Total Nominal Geotechnical Axial Resistance **		Static Analysis Method: ϕR_n for design: Total Factored Geotechnical Axial Resistance (Static Analysis Method)		Static Analysis Method: Field Verification Values: FHWA Modified Gates Formula Calculated Resistance		Dynamic Testing Method: ϕR_n for design: Total Factored Geotechnical Axial Resistance Dynamic Testing Method		Dynamic Testing Method: Field Verification Values (EOD) End of Driving Nominal Resistance		Dynamic Testing Method: Field Verification Values (BOR) Beginning of Restrike Nominal Resistance		Uplift: ϕR_n for design: Total Factored Geotechnical Uplift Resistance (Static Analysis Method)	
			Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons	Kips	Tons
0	329	cohesive	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	0.6	0	0	0
25	304	cohesionless	26	13	2	1	29	14	13	7	32	16	19	9	36.4	18	60.9	30	9	5
30	299	cohesionless	40	19	2	1	42	21	19	10	47	23	27	13	45.4	22	74.5	37	14	7
35	294	cohesionless	59	29	2	0	61	30	27	14	69	34	40	19	55.4	27	93.4	47	21	11
40	289	cohesionless	90	44	20	9	109	54	49	25	123	61	71	35	101.3	50	141.7	71	31	16
45	284	cohesionless	126	62	20	9	145	72	65	33	163	81	94	47	137.2	68	177.6	89	44	22
50	279	cohesionless	165	82	20	9	185	92	83	42	208	103	120	60	176.8	88	217.2	109	58	29
55	238	cohesionless	205	102	7	3	213	106	96	48	239	119	138	69	204.5	102	244.9	122	72	36
60	269	cohesionless	252	126	37	18	290	144	130	65	326	163	188	94	281.7	140	322.1	161	88	44
65	264	cohesionless	317	158	37	18	355	177	160	80	399	199	231	115	346.6	173	387.0	194	111	56
70	259	cohesionless	387	193	37	18	424	212	191	96	477	238	276	137	416.3	208	456.7	228	135	68
75	254	cohesionless	455	227	20	9	474	237	214	107	534	266	308	154	466.4	233	506.8	253	159	80
80	249	cohesionless	521	260	27	13	548	274	247	124	617	308	356	178	540.0	270	580.4	290	182	91
85	244	cohesionless	596	297	27	13	623	311	280	140	701	350	405	202	614.9	307	655.4	328	208	104

Factors:

All Capacities are for a Single Pile

Axial Capacity	Static Analysis Method	Gates Analysis Method	Dynamic Analysis Method
Skin Friction and End Bearing in Clays, a-Method (Tomlinson/Skempton)	0.35	0.40	0.65
Skin Friction and End Bearing in Sands, Nordlund/Thurman Method	0.45	0.40	0.65

Uplift Resistance

Clays, a-Method (Tomlinson/Skempton)	0.25
Sands, Nordlund Method	0.35

Driving Resistance Reductions

Cohesive Soils	0.5
Cohesionless Soils	0.25

How to use this table:

Choose the total factored geotechnical axial resistance that equals or exceeds the total factored loads at the strength limit state ($\phi Rn \Rightarrow \Sigma \eta_i \gamma_i Q_i$) and use the corresponding depth below pile cap plus the required pile embedment into pile cap to estimate pile tip elevations and the lengths of pile required. The geotechnical report may recommend highest allowable pile tip elevations. Deeper pile tip elevations may be needed to address scour, lateral loads, seismic, and other loading conditions, If the total factored geotechnical axial resistance is chosen from the Static Analysis Method column, then field verification shall be conducted using the FHWA Modified Gates Formula. If the total factored geotecnical axial resistance is chosen from the Dynamic Testing Method column, then field verification by dynamic testing methods is required.

Side Friction Through Embankment Layers (kips): 0

Note: Reported nominal capacities have been adjusted. They are reducted to account or the effects of scour and side friction accumulated through embankment layers has been neglected

*If base of pile cap varies from plan elevation by more than five feet contact the geotechnical engineer for re-evaluation of capacities

** Value calculated using static method

COORDINATE DATA SUBMISSION FORM
KYTC DIVISION OF STRUCTURAL DESIGN - GEOTECHNICAL BRANCH

County Hickman Date 10/1/2023

Road Number US- 51

Survey Crew / Consultant BFW

Contact Person Chris Farmer

Item # 01-10146

Mars#

Project #

Notes:

(circle one)
Elevation Datum **NAVD88** **Assumed**

HOLE NUMBER	LATITUDE (Decimal Degrees)	LONGITUDE (Decimal Degrees)	HOLE NUMBER	STATION	OFFSET	ELEVATION (FT)
Single Span - US 51 OVER CANE CREEK						
1001	36.6034878°N	88.9428959°W	1001	40+82.65	8.47' RT	336.22
1002	36.6036702°N	88.9428755°W	1002	40+16.06	8.36' RT	336.41

MATERIAL SUMMARY

CONTRACT ID: 255397 **121GR25D097 - STP BRZ** **BR04200452500**

US 45 ADDRESS DEFICIENCIES OF US 45 OVER JACKSON CREEK (042B00090N) BRIDGE REPLACEMENT, A DISTANCE OF .08 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0225	00003	CRUSHED STONE BASE	246.95	TON
0230	00020	TRAFFIC BOUND BASE	60.00	TON
0235	00100	ASPHALT SEAL AGGREGATE	4.00	TON
0240	00103	ASPHALT SEAL COAT	1.00	TON
0245	00212	CL2 ASPH BASE 1.00D PG64-22	252.00	TON
0250	00301	CL2 ASPH SURF 0.38D PG64-22	46.00	TON
0255	00356	ASPHALT MATERIAL FOR TACK	1.00	TON
0260	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	5.00	EACH
0265	02014	BARRICADE-TYPE III	6.00	EACH
0270	02200	ROADWAY EXCAVATION	200.00	CUYD
0275	02351	GUARDRAIL-STEEL W BEAM-S FACE	37.50	LF
0280	02360	GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH
0285	02367	GUARDRAIL END TREATMENT TYPE 1	3.00	EACH
0290	02381	REMOVE GUARDRAIL	241.50	LF
0295	02429	RIGHT-OF-WAY MONUMENT TYPE 1	10.00	EACH
0300	02432	WITNESS POST	10.00	EACH
0305	02545	CLEARING AND GRUBBING - APPROX LESS THAN 1 ACRE	1.00	LS
0310	02562	TEMPORARY SIGNS	1,500.00	SQFT
0315	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
0320	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0325	02676	MOBILIZATION FOR MILL & TEXT	1.00	LS
0330	02677	ASPHALT PAVE MILLING & TEXTURING	18.00	TON
0335	02726	STAKING	1.00	LS
0340	02731	REMOVE STRUCTURE	1.00	LS
0345	03299	ARMORED EDGE FOR CONCRETE	51.00	LF
0350	04820	TRENCHING AND BACKFILLING	205.00	LF
0355	06542	PAVE STRIPING-THERMO-6 IN W	623.00	LF
0360	06543	PAVE STRIPING-THERMO-6 IN Y	632.00	LF
0365	06556	PAVE STRIPING-DUR TY 1-6 IN W	199.00	LF
0370	06557	PAVE STRIPING-DUR TY 1-6 IN Y	199.00	LF
0375	08003	FOUNDATION PREPARATION	1.00	LS
0380	08019	CYCLOPEAN STONE RIP RAP	454.00	TON
0385	08033	TEST PILES	175.00	LF
0390	08051	PILES-STEEL HP14X89	855.00	LF
0395	08100	CONCRETE-CLASS A	50.00	CUYD
0400	08104	CONCRETE-CLASS AA	66.00	CUYD
0405	08151	STEEL REINFORCEMENT-EPOXY COATED	28,297.00	LB
0410	20191ED	OBJECT MARKER TY 3	3.00	EACH
0415	20550ND	SAWCUT PAVEMENT	47.00	LF
0420	21077ED	FIBER OPTIC CABLE	550.00	LF
0425	21415ND	EROSION CONTROL	1.00	LS
0430	22668EN	DIRECTIONAL BORE	245.00	LF

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0435	23378EC	CONCRETE SEALING	6,209.00	SQFT
0440	24601EC	INSTALL - INSTALL FIBER OPTIC MARKERS	4.00	EACH
0445	24601EC	INSTALL - INSTALL FIBER OPTIC SPLICE	2.00	EACH
0450	24601EC	INSTALL - INSTALL FIBER OPTIC VAULT	2.00	EACH
0455	24617EC	INSTALL - INSTALL DETECTABLE WARNING TAPE	205.00	LF
0460	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	202.00	LF
0465	26188ED	PPC I-BEAM HN 42-61	293.00	LF
0470	02568	MOBILIZATION	1.00	LS
0475	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 255397 **121GR25D097 - STP BRZ** **BR05300512500**

US 51 ADDRESS DEFICIENCIES OF US 51 OVER CANE CREEK (053B00029N) BRIDGE REPLACEMENT, A DISTANCE OF .12 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	00001	DGA BASE	762.00	TON
0010	00100	ASPHALT SEAL AGGREGATE	7.00	TON
0015	00103	ASPHALT SEAL COAT	1.00	TON
0020	00212	CL2 ASPH BASE 1.00D PG64-22	1,118.00	TON
0025	00301	CL2 ASPH SURF 0.38D PG64-22	190.00	TON
0030	00356	ASPHALT MATERIAL FOR TACK	4.00	TON
0035	00464	CULVERT PIPE-24 IN	103.00	LF
0040	01310	REMOVE PIPE	104.00	LF
0045	02200	ROADWAY EXCAVATION	1,997.00	CUYD
0050	02351	GUARDRAIL-STEEL W BEAM-S FACE	62.50	LF
0055	02360	GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH
0060	02367	GUARDRAIL END TREATMENT TYPE 1	3.00	EACH
0065	02381	REMOVE GUARDRAIL	284.00	LF
0070	02429	RIGHT-OF-WAY MONUMENT TYPE 1	13.00	EACH
0075	02545	CLEARING AND GRUBBING - APPROX LESS THAN 1 ACRE	1.00	LS
0080	02585	EDGE KEY	53.00	LF
0085	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
0090	02671	PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH
0095	02697	EDGELINE RUMBLE STRIPS	1,178.00	LF
0100	02726	STAKING	1.00	LS
0105	02731	REMOVE STRUCTURE	1.00	LS
0110	03171	CONC BARRIER WALL TYPE 9T	800.00	LF
0115	03299	ARMORED EDGE FOR CONCRETE	75.00	LF
0120	06514	PAVE STRIPING-PERM PAINT-4 IN	2,197.00	LF
0125	08003	FOUNDATION PREPARATION	1.00	LS
0130	08019	CYCLOPEAN STONE RIP RAP	1,046.00	TON
0135	08033	TEST PILES	175.00	LF
0140	08051	PILES-STEEL HP14X89	1,352.00	LF
0145	08100	CONCRETE-CLASS A	48.00	CUYD
0150	08104	CONCRETE-CLASS AA	60.90	CUYD

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0155	08140	MECHANICAL REINF COUPLER #5 EPOXY COATED	16.00	EACH
0160	08151	STEEL REINFORCEMENT-EPOXY COATED	12,378.00	LB
0165	08666	PRECAST PC BOX BEAM CB42-48	870.00	LF
0170	20191ED	OBJECT MARKER TY 3	3.00	EACH
0175	20550ND	SAWCUT PAVEMENT	53.00	LF
0180	20738NS112	TEMP CRASH CUSHION	2.00	EACH
0185	21415ND	EROSION CONTROL	1.00	LS
0190	23378EC	CONCRETE SEALING	6,054.00	SQFT
0195	24405EC	MECHANICAL REINF COUPLER #8-EPOXY COATED	18.00	EACH
0200	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	174.00	LF
0205	25078ED	THRIE BEAM GUARDRAIL TRANSITION TL-3	4.00	EACH
0210	26233EC	MOBILIZATION FOR CONCRETE SURF TREATMENT	1.00	LS
0215	02568	MOBILIZATION	1.00	LS
0220	02569	DEMOBILIZATION	1.00	LS

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

STANDARD SPECIFICATIONS

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

1I

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

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 Class 1 or Class 2 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, 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 a 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, 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 a 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.

August 5, 2019

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 – Revised October 23, 2023

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, United States Code, as required in 23 CFR 633.102(b) (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). 23 CFR 633.102(e).

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. 23 CFR 633.102(e).

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) in accordance with 23 CFR 633.102. 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 solicitation-for-bids or request-for-proposals 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). 23 CFR 633.102(b).

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. 23 CFR 633.102(d).

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. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A 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 Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 230, Subpart A, 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 (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 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 Part 35 and 29 CFR Part 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. 23 CFR 230.409 (g)(4) & (5).

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, sexual orientation, gender identity, 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 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 or other knowledgeable company official.

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, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure 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. 23 CFR 230.409. 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, sexual orientation, gender identity, 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, sexual orientation, gender identity, 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 thereunder. 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, sexual orientation, gender identity, 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, 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. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient 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 recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

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 more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, 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, sexual orientation, gender identity, 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), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

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 (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), 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 basic hourly 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. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. 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 must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. 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 classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must 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. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

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

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must 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 be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate 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 used 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) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) 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 will be sent by the contracting officer by email to *DBAconformance@dol.gov*. 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.

(4) 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 will, by email to *DBAconformance@dol.gov*, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The 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.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must 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.

d. *Fringe benefits not expressed as an hourly rate.* 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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* 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, in accordance with the criteria set forth in § 5.28, 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.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and 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.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; 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 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section 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 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must 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.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a “Statement of Compliance,” signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working 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 29 CFR part 3; and

(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(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the “Statement of Compliance” required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, 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, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform 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 (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must 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, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must 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 this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

c. 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. 23 CFR 230.111(e)(2). 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 journeyworkers 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 as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 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 as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, 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 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 40 U.S.C. 3144(b) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), 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 watchpersons 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. 29 CFR 5.5.

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 and interest from the date of the underpayment. 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 watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* 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.

* $31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

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” in paragraph 1 of Section VI 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: (based on longstanding interpretation)

(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. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), 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. Pursuant to 23 CFR 635.116(c), 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. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

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 Part 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. 23 CFR 635.108.

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 Part 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). 29 CFR 1926.10.

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 Part 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 11, 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 (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

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. 2 CFR 180.220 and 1200.220.

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. 2 CFR 180.320.

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. 2 CFR 180.325.

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. 2 CFR 180.345 and 180.350.

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, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient 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 recipient or subrecipient 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. 2 CFR 180.330.

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. 2 CFR 180.220 and 180.300.

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. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. 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 System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

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 CFR 180.325.

* * * * *

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 CFR 180.335;.

(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, 2 CFR 180.800;

(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, 2 CFR 180.700 and 180.800; 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. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **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). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant 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. 2 CFR 180.365.

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, Subpart I, 180.900 – 180.1020, 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 recipient or subrecipient 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 recipient or subrecipient 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. 2 CFR 1200.220 and 1200.332.

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. 2 CFR 180.220 and 1200.220.

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 System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

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. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should 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 Part 20, App. A.

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.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. 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. 46 CFR 381.7.

2. 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 (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B) 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

The Executive Branch Code of Ethics created by Kentucky Revised Statutes (KRS) Chapter 11A, effective July 14, 1992, establishes the ethical standards that govern the conduct of all executive branch employees. The Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

A present or former public servant listed in KRS 11A.010(9)(a) to (g) shall not, within one (1) year following termination of his or her 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 one (1) year, he or she personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his or her 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 to obtain private benefits.

If you have worked for the executive branch of state government within the past year, 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, 1025 Capital Center Drive, Suite 105, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: March 11, 2025

"General Decision Number: KY20250040 09/26/2025

Superseded General Decision Number: KY20240040

State: Kentucky

Construction Type: Highway

Counties: Allen, Ballard, Butler, Caldwell, Calloway, Carlisle, Christian, Crittenden, Daviess, Edmonson, Fulton, Graves, Hancock, Henderson, Hickman, Hopkins, Livingston, Logan, Lyon, Marshall, McCracken, McLean, Muhlenberg, Ohio, Simpson, Todd, Trigg, Union, Warren and Webster Counties in Kentucky.

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

Note: 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)(1).

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 $17.75 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 2025.
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 $13.30 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 2025.

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 http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2025
1	02/28/2025
2	04/04/2025
3	05/16/2025
4	07/11/2025
5	07/18/2025
6	08/01/2025
7	08/08/2025
8	08/22/2025
9	09/26/2025

BRIN0004-002 06/01/2024

BALLARD, BUTLER, CALDWELL, CARLISLE, CRITTENDEN, DAVIESS, EDMONSON, FULTON, GRAVES, HANCOCK, HENDERSON, HICKMAN, HOPKINS, LIVINGSTON, LYON, MARSHALL, MCCRACKEN, MCLEAN, MUHLENBERG, OHIO, UNION, and WEBSTER COUNTIES

	Rates	Fringes
BRICKLAYER		
Ballard, Caldwell, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, Marshall, and McCracken Counties	$ 33.70	16.57
Butler, Edmonson, Hopkins, Muhlenberg, and Ohio Counties	$ 33.70	16.57
Daviess, Hancock, Henderson, McLean, Union, and Webster Counties	$ 33.70	16.57

BRTN0004-005 06/01/2024

ALLEN, CALLOWAY, CHRISTIAN, LOGAN, SIMPSON, TODD, TRIGG, and WARREN COUNTIES

	Rates	Fringes
BRICKLAYER	$ 33.70	16.57

CARP0357-002 04/01/2025

	Rates	Fringes
CARPENTER	$ 33.89	24.02
DIVER	$ 51.21	24.02
PILEDRIVERMAN	$ 34.39	24.02

ELEC0369-006 05/27/2025

BUTLER, EDMONSON, LOGAN, TODD & WARREN COUNTIES:

	Rates	Fringes

ELECTRICIAN.....$ 40.96 22.44

ELEC0429-001 06/01/2024

ALLEN & SIMPSON COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 34.92	14.75

ELEC0816-002 06/01/2025

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON (Except a 5 mile radius of City Hall in Fulton), GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN & TRIGG COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 36.75	28%+$8.85

Cable spicers receive $.25 per hour additional.

ELEC1701-003 07/01/2024

DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, MUHLENBERG, OHIO, UNION & WEBSTER COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 37.10	8.60+30.8%

Cable spicers receive $.25 per hour additional.

ELEC1925-002 01/01/2025

FULTON COUNTY (Up to a 5 mile radius of City Hall in Fulton):

	Rates	Fringes
CABLE SPLICER	$ 28.85	15.50
ELECTRICIAN	$ 28.60	15.49

ENGI0181-017 07/01/2025

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1	$ 41.55	19.60
GROUP 2	$ 38.69	19.60
GROUP 3	$ 39.14	19.60
GROUP 4	$ 38.37	19.60

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller; Batcher Plant; Bituminous Paver; Bituminous Transfer Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All Scoop; Carry Deck Crane; Central Compressor Plant; Cherry Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over); Concrete Paver; Truck-Mounted Concrete Pump; Core Drill; Crane; Crusher Plant; Derrick; Derrick Boat; Ditching & Trenching Machine; Dragline; Dredge Operator; Dredge

Engineer; Elevating Grader & Loaders; Grade-All; Gurries; Heavy Equipment Robotics Operator/Mechanic; High Lift; Hoe-Type Machine; Hoist (Two or More Drums); Hoisting Engine (Two or More Drums); Horizontal Directional Drill Operator; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

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

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

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

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

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

IRON0070-005 06/01/2025

BUTLER COUNTY (Eastern eighth, including the Townships of Decker, Lee & Tilford);
EDMONSON COUNTY (Northern three-fourths, including the Townships of Asphalt, Bee Spring, Brownsville, Grassland, Huff, Kyrock, Lindseyville, Mammoth Cave, Ollie, Prosperity, Rhoda, Sunfish & Sweden)

	Rates	Fringes
IRONWORKER		

Structural; Ornamental;
Reinforcing; Precast
Concrete Erectors.....$ 36.17 25.80

IRON0103-004 08/01/2024

DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, OHIO, UNION & WEBSTER COUNTIES
BUTLER COUNTY (Townships of Aberdeen, Bancock, Casey, Dexterville, Dunbar, Elfie, Gilstrap, Huntsville, Logansport, Monford, Morgantown, Provo, Rochester, South Hill & Welchs Creek);
CALDWELL COUNTY (Northeastern third, including the Township of Creswell);
CHRISTIAN COUNTY (Northern third, including the Townships of Apex, Crofton, Kelly, Mannington & Wynns);
CRITTENDEN COUNTY (Northeastern half, including the Townships of Grove, Mattoon, Repton, Shady Grove & Tribune);
MUHLENBERG COUNTY (Townships of Bavier, Beech Creek Junction, Benton, Brennen, Browder, Central City, Cleaton, Depoy, Drakesboro, Eunis, Graham, Hillside, Luzerne, Lynn City, Martwick, McNary, Millport, Moorman, Nelson, Paradise, Powderly, South Carrollton, Tarina & Weir)

	Rates	Fringes
Ironworkers:.....	$ 35.34	26.4

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* IRON0492-003 05/01/2025

ALLEN, LOGAN, SIMPSON, TODD & WARREN COUNTIES
BUTLER COUNTY (Southern third, including the Townships of Boston, Berrys Lick, Dimple, Jetson, Quality, Sharer, Sugar Grove & Woodbury);
CHRISTIAN COUNTY (Eastern two-thirds, including the Townships of Bennettstown, Casky, Herndon, Hopkinsville, Howell, Masonville, Pembroke & Thompsonville);
EDMONSON COUNTY (Southern fourth, including the Townships of Chalybeate & Rocky Hill);
MUHLENBERG COUNTY (Southern eighth, including the Townships of Dunnior, Penrod & Rosewood)

	Rates	Fringes
Ironworkers:.....	$ 35.32	16.44

IRON0782-006 08/01/2025

BALLARD, CALLOWAY, CARLISLE, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN & TRIGG COUNTIES
CALDWELL COUNTY (Southwestern two-thirds, including the Townships of Cedar Bluff, Cider, Claxton, Cobb, Crowtown, Dulaney, Farmersville, Fredonia, McGowan, Otter Pond & Princeton);
CHRISTIAN COUNTY (Western third, Excluding the Townships of Apex, Crofton, Kelly, Mannington, Wynns, Bennettstown, Casky, Herndon, Hopkinsville, Howell, Masonville, Pembroke & Thompsonville);
CRITTENDEN COUNTY (Southwestern half, including the Townships of Crayne, Dycusburg, Frances, Marion, Mexico, Midway, Sheridan & Told)

	Rates	Fringes
Ironworkers:		
Projects with a total contract cost of $20,000,000.00 or above	$ 37.47	26.49
All Other Work	$ 35.63	26.49

LABO0189-005 07/01/2025

BALLARD, CALLOWAY, CARLISLE, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL & MCCRACKEN COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 26.87	19.66
GROUP 2	$ 27.12	19.66
GROUP 3	$ 27.17	19.66
GROUP 4	$ 27.77	19.66

LABORER CLASSIFICATIONS

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

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

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

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

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LABO0189-006 07/01/2025

ALLEN, BUTLER, CALDWELL, CHRISTIAN, DAVIESS, EDMONSON, HANCOCK, HOPKINS, LOGAN, MCLEAN, MUHLENBERG, OHIO, SIMPSON, TODD, TRIGG & WARREN COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 26.87	19.66
GROUP 2	$ 27.12	19.66
GROUP 3	$ 27.17	19.66
GROUP 4	$ 27.77	19.66

LABORER CLASSIFICATIONS

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

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

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

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

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LABO0561-001 07/01/2025

CRITTENDEN, HENDERSON, UNION & WEBSTER COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 28.55	18.77
GROUP 2	$ 28.80	18.77
GROUP 3	$ 28.85	18.77
GROUP 4	$ 29.45	18.77

LABORER CLASSIFICATIONS

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

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

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

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

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PAIN0032-002 09/01/2024

BALLARD COUNTY

	Rates	Fringes
Painters:		
Bridges	$ 36.77	21.77
All Other Work	$ 34.47	21.77

Spray, Blast, Steam, High & Hazardous (Including Lead Abatement) and All Epoxy - $1.00 Premium

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PAIN0118-003 06/01/2014

EDMONSON COUNTY:

	Rates	Fringes
Painters:		
Brush & Roller	$ 18.50	11.97
Spray, Sandblast, Power		

Tools, Waterblast & Steam
Cleaning.....$ 19.50 11.97

PAIN0156-006 04/01/2024

DAVIESS, HANCOCK, HENDERSON, MCLEAN, OHIO, UNION & WEBSTER COUNTIES

	Rates	Fringes
Painters:		
BRIDGES		
GROUP 1	$ 30.77	20.30
GROUP 3	$ 31.77	20.30
GROUP 4	$ 35.00	20.30
ALL OTHER WORK:		
GROUP 1	$ 29.62	20.30
GROUP 2	$ 30.37	20.30
GROUP 3	$ 30.62	20.30
GROUP 4	$ 31.77	20.30

PAINTER CLASSIFICATIONS

GROUP 1 - Brush & Roller

GROUP 2 - Plasterers

GROUP 3 - Spray; Sandblast; Power Tools; Waterblast; Steamcleaning; Brush & Roller of Mastics, Creosotes, Kwinch Koate & Coal Tar Epoxy

GROUP 4 - Spray of Mastics, Creosotes, Kwinch Koate & Coal Tar Epoxy

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PAIN0500-002 06/01/2025

CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON, GRAVES, HICKMAN, HOPKINS, LIVINGSTON, LYON, MARSHALL, MCCRACKEN & TRIGG COUNTIES:

	Rates	Fringes
Painters:		
Bridges	$ 31.50	15.60
All Other Work	$ 25.25	15.60

Waterblasting units with 3500 PSI and above - $.50 premium
Spraypainting and all abrasive blasting - $1.00 premium
Work 40 ft. and above ground level - $1.00 premium

PLUM0184-002 07/01/2025

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN and TRIGG COUNTIES

	Rates	Fringes
Plumber; Steamfitter	$ 44.26	20.28

PLUM0502-004 08/01/2024

ALLEN, BUTLER, EDMONSON, SIMPSON & WARREN

	Rates	Fringes
Plumber; Steamfitter	$ 41.90	24.89

PLUM0633-002 08/01/2024

DAVIESS, HANCOCK, HENDERSON, HOPKINS, LOGAN, MCLEAN, MUHLENBERG, OHIO, TODD, UNION & WEBSTER COUNTIES:

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 38.41	22.26

TEAM0089-003 04/01/2025

ALLEN, BUTLER, EDMONSON, LOGAN, SIMPSON & WARREN COUNTIES

	Rates	Fringes
Truck drivers:		
Zone 1:		
Group 1	$ 25.72	27.81
Group 2	$ 25.90	27.81
Group 3	$ 26.98	27.81
Group 4	$ 26.00	27.81

GROUP 1 - Greaser; Tire Changer

GROUP 2 - Truck Mechanic; Single Axle Dump; Flat Bed; All Terrain Vehicles when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Driver of Distributors

GROUP 3 - Mixer All Types

GROUP 4 - Winch and A-Frame when used in transporting materials; Ross Carrier; Fork Lift when used to transport building materials; Driver on Pavement Breaker; Euclid and Other Heavy Earth Moving Equipment; Low Boy; Articulator Cat; Five Axle Vehicle

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TEAM0215-003 04/01/2025

DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, MUHLENBERG, OHIO & WEBSTER COUNTIES

	Rates	Fringes
TRUCK DRIVER		
Group 1	$ 27.35	27.81
Group 2	$ 27.58	27.81
Group 3	$ 27.65	27.81
Group 4	$ 27.66	27.81

GROUP 1: Greaser, Tire Changer

GROUP 2: Truck Mechanic

GROUP 3: Single Axle Dump; Flat Bed; All Terrain Vehicle when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Driver of Distributors; Mixer All Types

GROUP 4: Euclid and other heavy earth moving equipment; Low Boy; Articulator Cat; 5 Axle Vehicle; Winch and A- Frame when used in transporting materials; Ross Carrier; Fork Lift when used to transport building materials; Driver on Pavement Breaker

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TEAM0236-001 04/01/2025

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN,TODD & TRIGG COUNTIES

	Rates	Fringes
TRUCK DRIVER		
Group 1	$ 25.72	27.81
Group 2	$ 25.90	27.81
Group 3	$ 25.90	27.81
Group 4	$ 25.98	27.81
Group 5	$ 26.00	27.81

GROUP 1: Greaser, Tire Changer

GROUP 2: Truck Mechanic

GROUP 3: Single Axle Dump; Flat Bed; All Terrain Vehicle when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Drivers of Distributors

GROUP 4: Euclid and other heavy earth moving equipment; Low Boy; Articulator Cat; Five Axle Vehicle; Winch and A-Frame when used in transporting materials; Ross Carrier

GROUP 5: Mixer All Types

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) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate 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. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may

include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the 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. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail 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 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.

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END OF GENERAL DECISION"

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid to an employee at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty (40) hours in such workweek. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Director
Division of Construction Procurement
Frankfort, Kentucky 40622
502-564-3500

PART IV

BID ITEMS

255397

PROPOSAL BID ITEMS

Report Date 10/23/25

255397

Section: 0001 - BRIDGE - 042B00090N

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	246.95	TON		$	
0020	00020		TRAFFIC BOUND BASE	60.00	TON		$	
0030	00100		ASPHALT SEAL AGGREGATE	4.00	TON		$	
0040	00103		ASPHALT SEAL COAT	1.00	TON		$	
0050	00212		CL2 ASPH BASE 1.00D PG64-22	252.00	TON		$	
0060	00301		CL2 ASPH SURF 0.38D PG64-22	46.00	TON		$	
0070	00356		ASPHALT MATERIAL FOR TACK	1.00	TON		$	
0080	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	5.00	EACH		$	
0090	02014		BARRICADE-TYPE III	6.00	EACH		$	
0100	02200		ROADWAY EXCAVATION	200.00	CUYD		$	
0110	02351		GUARDRAIL-STEEL W BEAM-S FACE	37.50	LF		$	
0120	02360		GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH		$	
0130	02367		GUARDRAIL END TREATMENT TYPE 1	3.00	EACH		$	
0140	02381		REMOVE GUARDRAIL	241.50	LF		$	
0150	02429		RIGHT-OF-WAY MONUMENT TYPE 1	10.00	EACH		$	
0160	02432		WITNESS POST	10.00	EACH		$	
0170	02545		CLEARING AND GRUBBING APPROX LESS THAN 1 ACRE	1.00	LS		$	
0180	02562		TEMPORARY SIGNS	1,500.00	SQFT		$	
0190	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0200	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		$	
0210	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		$	
0220	02677		ASPHALT PAVE MILLING & TEXTURING	18.00	TON		$	
0230	02726		STAKING	1.00	LS		$	
0240	02731		REMOVE STRUCTURE	1.00	LS		$	
0250	03299		ARMORED EDGE FOR CONCRETE	51.00	LF		$	
0260	04820		TRENCHING AND BACKFILLING	205.00	LF		$	
0270	06542		PAVE STRIPING-THERMO-6 IN W	623.00	LF		$	
0280	06543		PAVE STRIPING-THERMO-6 IN Y	632.00	LF		$	
0290	06556		PAVE STRIPING-DUR TY 1-6 IN W	199.00	LF		$	
0300	06557		PAVE STRIPING-DUR TY 1-6 IN Y	199.00	LF		$	
0310	08003		FOUNDATION PREPARATION	1.00	LS		$	
0320	08019		CYCLOPEAN STONE RIP RAP	454.00	TON		$	
0330	08033		TEST PILES	175.00	LF		$	
0340	08051		PILES-STEEL HP14X89	855.00	LF		$	
0350	08100		CONCRETE-CLASS A	50.00	CUYD		$	
0360	08104		CONCRETE-CLASS AA	66.00	CUYD		$	
0370	08151		STEEL REINFORCEMENT-EPOXY COATED	28,297.00	LB		$	
0380	20191ED		OBJECT MARKER TY 3	3.00	EACH		$	
0390	20550ND		SAWCUT PAVEMENT	47.00	LF		$	
0400	21077ED		FIBER OPTIC CABLE	550.00	LF		$	
0410	21415ND		EROSION CONTROL	1.00	LS		$	
0420	22668EN		DIRECTIONAL BORE	245.00	LF		$	
0430	23378EC		CONCRETE SEALING	6,209.00	SQFT		$	

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PROPOSAL BID ITEMS

Report Date 10/23/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0440	24601EC		INSTALL INSTALL FIBER OPTIC MARKERS	4.00	EACH		$	
0450	24601EC		INSTALL INSTALL FIBER OPTIC SPLICE	2.00	EACH		$	
0460	24601EC		INSTALL INSTALL FIBER OPTIC VAULT	2.00	EACH		$	
0470	24617EC		INSTALL INSTALL DETECTABLE WARNING TAPE	205.00	LF		$	
0480	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	202.00	LF		$	
0490	26188ED		PPC I-BEAM HN 42-61	293.00	LF		$	

Section: 0002 - BRIDGE - 053B00029N

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0500	00001		DGA BASE	762.00	TON		$	
0510	00100		ASPHALT SEAL AGGREGATE	7.00	TON		$	
0520	00103		ASPHALT SEAL COAT	1.00	TON		$	
0530	00212		CL2 ASPH BASE 1.00D PG64-22	1,118.00	TON		$	
0540	00301		CL2 ASPH SURF 0.38D PG64-22	190.00	TON		$	
0550	00356		ASPHALT MATERIAL FOR TACK	4.00	TON		$	
0560	00464		CULVERT PIPE-24 IN	103.00	LF		$	
0570	01310		REMOVE PIPE	104.00	LF		$	
0580	02200		ROADWAY EXCAVATION	1,997.00	CUYD		$	
0590	02351		GUARDRAIL-STEEL W BEAM-S FACE	62.50	LF		$	
0600	02360		GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH		$	
0610	02367		GUARDRAIL END TREATMENT TYPE 1	3.00	EACH		$	
0620	02381		REMOVE GUARDRAIL	284.00	LF		$	
0630	02429		RIGHT-OF-WAY MONUMENT TYPE 1	13.00	EACH		$	
0640	02545		CLEARING AND GRUBBING APPROX LESS THAN 1 ACRE	1.00	LS		$	
0650	02585		EDGE KEY	53.00	LF		$	
0660	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0670	02671		PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH		$	
0680	02697		EDGELINE RUMBLE STRIPS	1,178.00	LF		$	
0690	02726		STAKING	1.00	LS		$	
0700	02731		REMOVE STRUCTURE	1.00	LS		$	
0710	03171		CONC BARRIER WALL TYPE 9T	800.00	LF		$	
0720	03299		ARMORED EDGE FOR CONCRETE	75.00	LF		$	
0730	06514		PAVE STRIPING-PERM PAINT-4 IN	2,197.00	LF		$	
0740	08003		FOUNDATION PREPARATION	1.00	LS		$	
0750	08019		CYCLOPEAN STONE RIP RAP	1,046.00	TON		$	
0760	08033		TEST PILES	175.00	LF		$	
0770	08051		PILES-STEEL HP14X89	1,352.00	LF		$	
0780	08100		CONCRETE-CLASS A	48.00	CUYD		$	
0790	08104		CONCRETE-CLASS AA	60.90	CUYD		$	
0800	08140		MECHANICAL REINF COUPLER #5 EPOXY COATED	16.00	EACH		$	
0810	08151		STEEL REINFORCEMENT-EPOXY COATED	12,378.00	LB		$	
0820	08666		PRECAST PC BOX BEAM CB42-48	870.00	LF		$	
0830	20191ED		OBJECT MARKER TY 3	3.00	EACH		$	

PROPOSAL BID ITEMS

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Report Date 10/23/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0840	20550ND		SAWCUT PAVEMENT	53.00	LF		$	
0850	20738NS112		TEMP CRASH CUSHION	2.00	EACH		$	
0860	21415ND		EROSION CONTROL	1.00	LS		$	
0870	23378EC		CONCRETE SEALING	6,054.00	SQFT		$	
0880	24405EC		MECHANICAL REINF COUPLER #8-EPOXY COATED	18.00	EACH		$	
0890	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	174.00	LF		$	
0900	25078ED		THRIE BEAM GUARDRAIL TRANSITION TL-3	4.00	EACH		$	
0910	26233EC		MOBILIZATION FOR CONCRETE SURF TREATMENT	1.00	LS		$	

Section: 0003 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0920	02568		MOBILIZATION	1.00	LS		$	
0930	02569		DEMOBILIZATION	1.00	LS		$	