



**CALL NO. 104**

**CONTRACT ID. 251035**

**DAVIESS COUNTY**

**FED/STATE PROJECT NUMBER STP 5075 (060)**

**DESCRIPTION FAIRVIEW DRIVE (KY298) / FOORS LANE (KY3143)**

**WORK TYPE GRADE & DRAIN WITH ASPHALT SURFACE**

**PRIMARY COMPLETION DATE 11/15/2026**

**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.

**PLANS AVAILABLE FOR 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 - 02

CONTRACT ID - 251035  
STP 5075 (060)  
COUNTY - DAVIESS  
PCN - DE03002982508  
STP 5075 (060)

FAIRVIEW DRIVE (KY298) / FOORS LANE (KY3143) RECONSTRUCTION INTERSECTION, A DISTANCE OF 0.39  
MILES.GRADE & DRAIN WITH ASPHALT SURFACE SYP NO. 02-00229.00.  
GEOGRAPHIC COORDINATES LATITUDE 37:43:47.00 LONGITUDE 87:04:24.00  
ADT 10,000

COMPLETION DATE(S):  
COMPLETED BY 11/15/2026      APPLIES TO CONTRACT



## **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](http://www.bidx.com)) to prepare a bid packet for submission to the Department. The bidder must submit electronically using Bid Express.

### **JOINT VENTURE BIDDING**

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

### **UNDERGROUND FACILITY DAMAGE PROTECTION**

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

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

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

foreign entity is not required to obtain a certificate as provided in [KRS 14A.9-010](#), the foreign entity should identify the applicable exception. Foreign entity is defined within [KRS 14A.1-070](#).

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

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

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

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

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

The questions and answers will be posted for each Letting under the heading "Questions & Answers" on the Construction Procurement website ([www.transportation.ky.gov/construction-procurement](http://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.

Revised: 1/1/2025

## 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 \(dot.gov\)](#)

Effective - June 26, 2025, Letting

**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          | 102.08 Preparation and Delivery of Proposals |
| 102.13 Irregular Bid Proposals | 102.14 Disqualification of Bidders           |
| 102.09 Proposal Guaranty       |  |

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

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

### **NOTICE TO ALL BIDDERS**

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

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

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

### **SECOND TIER SUBCONTRACTS**

Second tier subcontracts are acceptable per Section 108.01 of the Standard Specifications for Road and Bridge Construction. Sub-Contractors fulfilling a disadvantaged business enterprise goal on a project may enter into a 2<sup>nd</sup> 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 certainty whether they were interested. If a reasonable amount of DBEs within the targeted districts do not provide an intent to quote or no DBEs are prequalified in the subcontracted areas, the bidder must notify the Disadvantaged Enterprise Business Liaison Officer (DEBLO) in the Office 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  
6<sup>th</sup> 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](mailto: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 PAVEMENT RIDE QUALITY CATEGORY B**

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

**FUEL AND ASPHALT PAY ADJUSTMENT**

The Department has included the Contract items Asphalt Adjustment and Fuel Adjustment for possible future payments at an established Contract unit price of \$1.00. The Department will calculate actual adjustment quantities after work is completed. If existing Contract amount is insufficient to pay all items on the contract with the adjustments, the Department will establish additional monies with a change order.

**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 Tree Removal**

**Daviess County  
RECONSTRUCT INTERSECTION AT FAIRVIEW DRIVE  
(KY 3143) AND KY 298  
Item No. 2-229**

NO CLEARING OF TREES 5 INCHES OR GREATER (DIAMETER BREAST  
HEIGHT) FROM MAY 15 - JULY 31

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



## **SPECIAL NOTE FOR PIPELINE INSPECTION**

**1.0 DESCRIPTION.** The Department will perform visual inspections on all pipe on the project. A video inspection will be required on projects having more than 250 linear feet of storm sewer and/or culvert pipe and on routes with an ADT of greater than 1,000 vehicles. Conduct video inspections on all pipe located under the roadway and 50 percent of the remaining pipe not under the roadway. Storm sewer runs and outfall pipes not under the roadway take precedence over rural entrance pipes. Contractors performing this item of work must be prequalified with the Department in the work type J51 (Video Pipe Inspection and Cleaning). Deflection testing shall be completed using a mandrel in accordance with the procedure outlined below or by physical measurement for pipes greater than 36 inches in diameter. Mandrel testing for deflection must be completed prior to the video inspection testing. Unless otherwise noted, Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition.

**2.0 VIDEO INSPECTION.** Ensure pipe is clear of water, debris or obstructions. Complete the video inspection and any necessary measurement prior to placing the final surface over any pipe. When paving will not be delayed, take measurements 30 days or more after the completion of earthwork to within 1 foot of the finished subgrade. Notify the Engineer a minimum of 24 hours in advance of inspection and notify the Engineer immediately if distresses or locations of improper installation are logged.

### **2.1 INSPECTION FOR DEFECTS AND DISTRESSES**

**A)** Begin at the outlet end and proceed through to the inlet at a speed less than or equal to 30 ft/minute. Remove blockages that will prohibit a continuous operation.

**B)** Document locations of all observed defects and distresses including but not limited to: cracking, spalling, slabbing, exposed reinforcing steel, sags, joint offsets, joint separations, deflections, improper joints/connections, blockages, leaks, rips, tears, buckling, deviation from line and grade, damaged coatings/paved inverts, and other anomalies not consistent with a properly installed pipe.

**C)** During the video inspection provide a continuous 360 degree pan of every pipe joint.

**D)** Identify and measure all cracks greater than 0.1" and joint separations greater than 0.5".

**E)** Video Inspections are conducted from junction to junction which defines a pipe run. A junction is defined as a headwall, drop box inlet, curb box inlet, manhole, buried junction, or other structure that disturbs the continuity of the pipe. Multiple pipe inspections may be conducted from a single set up location, but each pipe run must be on a separate video file and all locations are to be referenced from nearest junction relative to that pipe run.

**F)** Record and submit all data on the TC 64-765 and TC 64-766 forms.

**3.0 MANDREL TESTING.** Mandrel testing will be used for deflection testing. For use on Corrugated Metal Pipe, High Density Polyethylene Pipe, and Polyvinyl Chloride Pipe, use a mandrel device with an odd number of legs (9 minimum) having a length not less than the outside diameter of the mandrel. The diameter of the mandrel at any point shall not be less than the diameter specified in Section 3.6. Mandrels can be a fixed size or a variable size.

**3.1** Use a proving ring or other method recommended by the mandrel manufacturer to verify mandrel diameter prior to inspection. Provide verification documentation for each size mandrel to the Engineer.

**3.2** All deflection measurements are to be based off of the AASHTO Nominal Diameters. Refer to the chart in section 3.6.

**3.3** Begin by using a mandrel set to the 5.0% deflection limit. Place the mandrel in the inlet end of the pipe and pull through to the outlet end. If resistance is met prior to completing the entire run, record the maximum distance achieved from the inlet side, then remove the mandrel and continue the inspection from the outlet end of the pipe toward the inlet end. Record the maximum distance achieved from the outlet side.

**3.4** If no resistance is met at 5.0% then the inspection is complete. If resistance occurred at 5.0% then repeat 3.1 and 3.2 with the mandrel set to the 10.0% deflection limit. If the deflection of entire pipe run cannot be verified with the mandrel then immediately notify the Engineer.

**3.5** Care must be taken when using a mandrel in all pipe material types and lining/coating scenarios. Pipe damaged during the mandrel inspection will be video inspected to determine the extent of the damage. If the damaged pipe was video inspected prior to mandrel inspection then a new video inspection is warranted and supersedes the first video inspection. Immediately notify the Engineer of any damages incurred during the mandrel inspection and submit a revised video inspection report.

**3.6 AASHTO Nominal Diameters and Maximum Deflection Limits.**

Base Pipe Diameter	AASHTO Nominal Diameter	Max. Deflection Limit	
		5.0%	10.0%
(inches)	(inches)	(inches)	
15	14.76	14.02	13.28
18	17.72	16.83	15.95
24	23.62	22.44	21.26
30	29.53	28.05	26.58
36	35.43	33.66	31.89
42	41.34	39.27	37.21
48	47.24	44.88	42.52
54	53.15	50.49	47.84
60	59.06	56.11	53.15

**4.0 PHYSICAL MEASUREMENT OF PIPE DEFLECTION.** Alternate method for deflection testing when there is available access or the pipe is greater than 36 inches in diameter, as per 4.1. Use a contact or non-contact distance instrument. A leveling device is recommended for establishing or verifying vertical and horizontal control.

**4.1** Physical measurements may be taken after installation and compared to the AASHTO Nominal Diameter of the pipe as per Section 3.6. When this method is used, determine the smallest interior diameter of the pipe as measured through the center point of the pipe (D2). All measurements are to be taken from the inside crest of the corrugation. Take the D2 measurements at the most deflected portion of the pipe run in question and at intervals no greater than ten (10) feet through the run. Calculate the deflection as follows:

$$\% \text{ Deflection} = [(AASHTO \text{ Nominal Diameter} - D2) / AASHTO \text{ Nominal Diameter}] \times 100\%$$

Note: The Engineer may require that preset monitoring points be established in the culvert prior to backfilling. For these points the pre-installation measured diameter (D1) is measured and recorded. Deflection may then be calculated from the following formula:

$$\% \text{ Deflection} = [(D1 - D2) / D1] (100\%)$$

**4.2** Record and submit all data.

**5.0 DEDUCTION SCHEDULE.** All pipe deductions shall be handled in accordance with the tables shown below.

FLEXIBLE PIPE DEFLECTION	
Amount of Deflection (%)	Payment
0.0 to 5.0	100% of the Unit Bid Price
5.1 to 9.9	50% of the Unit Bid Price <sup>(1)</sup>
10 or greater	Remove and Replace <sup>(2)</sup>

*<sup>(1)</sup> Provide Structural Analysis for HDPE and metal pipe. Based on the structural analysis, pipe may be allowed to remain in place at the reduced unit price. <sup>(2)</sup> The Department may allow the pipe to remain in place with no pay to the Contractor in instances where it is in the best interest to the public and where the structural analysis demonstrates that the pipe should function adequately.*

RIGID PIPE REMEDIATION TABLE PIPE	
Crack Width (inches)	Payment
≤ 0.1	100% of the Unit Bid Price
Greater than 0.1	Remediate or Replace <sup>(1)</sup>

*(1) Provide the Department in writing a method for repairing the observed cracking. Do not begin work until the method has been approved.*

**6.0 PAYMENT.** The Department will measure the quantity in linear feet of pipe to inspect. The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24814EC	Pipeline Inspection	Linear Foot
10065NS	Pipe Deflection Deduction	Dollars

## 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 <sup>1</sup> , %	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

<sup>1</sup> 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 1<sup>st</sup> to May 15<sup>th</sup>. 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 1<sup>st</sup> to May 15<sup>th</sup>. 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	15 - 16	14	≤13
			103 - 105	106 - 107	108 - 109	≥ 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, ° 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  
24970EC

Pay Item  
Asphalt Material for Tack Non-Tracking

Pay Unit  
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.

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
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

**III. 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.

<p><b>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.</b></p>
--

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



KENTUCKY TRANSPORTATION CABINET

Department of Highways

DIVISION OF RIGHT OF WAY & UTILITIES

RIGHT OF WAY CERTIFICATION

TC 62-226

Rev. 01/2016

Page 1 of 1

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION	
ITEM #		COUNTY		PROJECT # (STATE)	PROJECT # (FEDERAL)
2-229.00		Daviness		12F0 FD52 030 8733101R	STP 5075 (060)
PROJECT DESCRIPTION					
Reconstruct intersection at Fairview Drive (KY 3143) and KY 298					
<input type="checkbox"/>	No Additional Right of Way Required				
Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.					
<input checked="" type="checkbox"/>	Condition # 1 (Additional Right of Way Required and Cleared)				
All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.					
<input type="checkbox"/>	Condition # 2 (Additional Right of Way Required with Exception)				
The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract					
<input type="checkbox"/>	Condition # 3 (Additional Right of Way Required with Exception)				
The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.					
Total Number of Parcels on Project		8	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION	
Number of Parcels That Have Been Acquired					
Signed Deed		7			
Condemnation					
Signed ROE		1			
Notes/ Comments (Use Additional Sheet if necessary)					
Parcel 10: Right of entry obtained on 9/3/2024.					
LPA RW Project Manager			Right of Way Supervisor		
Printed Name			Printed Name		<div>Digitally signed by Jennifer K. Cox Date: 2025.01.31 08:40:04 -06'00'</div>
Signature			Signature		
Date			Date		
Right of Way Director			FHWA		
Printed Name			Printed Name		
Signature		<div>Digitally signed by Kelly Divine Date: 2025.01.31 09:35:54 -06'00'</div>	Signature		
Date			Date		

UTILITIES AND RAIL CERTIFICATION NOTE

2-229.00 Daviess County KY 298/3143 STP 5075 (60) FD52 030 0298 007-008
GENERAL PROJECT NOTE ON UTILITY PROTECTION

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

N/A

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

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

Kenergy  
Atmos

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

AT&T will finish their relocations within four months after Kenergy completion  
Spectrum will finish their relocations within four months after Kenergy completion

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

OMU

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

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

## UTILITIES AND RAIL CERTIFICATION NOTE

**2-229.00**  
**Daviess County**  
**KY 298/3143**  
**STP 5075 (60)**  
**FD52 030 0298 007-008**

### **UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG**

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

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

### **SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES**

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

The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

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

UTILITIES AND RAIL CERTIFICATION NOTE

2-229.00  
Daviess County  
KY 298/3143  
STP 5075 (60)  
FD52 030 0298 007-008

AREA UTILITIES CONTACT LIST

*NOTE: The Utilities Contact List is provided as informational only, and may not be a complete list of all Utility Companies with facilities in the project area.*

Kenergy	Scott Atherton	<a href="mailto:SAtherton@kenenergycorp.com">SAtherton@kenenergycorp.com</a> -270-689-6110
AT&T	Glen Shane	gs5572@att.com- 270-993-8074
OMU	Joe Janes	<a href="mailto:janest@omu.org">janest@omu.org</a>
	Austin McLimore	MCLIMORECA@omu.org
Atmos	Silas Bohlen	<a href="mailto:Silas.Bohlen@atmosenergy.com">Silas.Bohlen@atmosenergy.com</a>
		270-570-0445
Spectrum	John Wade	<a href="mailto:John.Wade@charter.com">John.Wade@charter.com</a> 812-305-8364

# **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:

### ***Owensboro Municipal Utilities:***

***No contractors are required to be prequalified or preapproved by the utility owner(s) to perform utility relocation work under this contract.***

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.

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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:

***Owensboro Municipal Utilities:***

***No materials are being supplied by the utility owner (s). All materials are to be supplied by the contractor per bid item descriptions, utility specifications, and utility plans.***

***OMU does have an agreement to perform the service cutovers to the new main and will supply material needed for this work. These materials are not listed in the quantities on the utility plans.***

### 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.

# Standard Water Bid Item Descriptions

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

**W AIR RELEASE VALVE** This bid item description shall apply to all air release valve installations of every size except those defined as “Special”. This item shall include the air release valve, main to valve connecting line or piping, manhole, vault, structure, access casting or doors, tapping the main, labor, equipment, excavation, proper backfill, and restoration required to install the air release valve at the location shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready-for-use. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**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 shall be 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.*

**W CAP EXISTING MAIN** This item shall include the specified cap, concrete blocking and/or mechanical anchoring, labor, equipment, excavation, backfill, and restoration required to install the cap on an existing main to be left in service at the location shown on the plans or as directed, in accordance with the specifications. This item is not to be paid to cap new main installations or mains that are to be abandoned. This pay item is only to be paid to cap existing mains to be left in service. Caps on new mains are to be considered incidental to the new main, as are other fittings, and are not to be paid under this item. All caps on existing mains shall be paid under this one bid item included in the contract, regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

*Plugging of existing abandoned mains shall be performed and paid in accordance with Section 708.03.05 of KYTC Standard Specifications for Road and Bridge Construction, using Bid code 01314, Plug Pipe.*

**W CATHODIC PROTECTION** This item is for providing and installing all cathodic protection materials to iron pipe and fittings, as specified in plans and specifications, complete and ready-for-use. Materials to be supplied and installed by the contractor shall include, but are not limited to, anodes, wire, fusion kits, test stations, and/or marker posts. All cathodic protection required for the entire project shall be paid under this one item. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LUMP SUM (LS) when complete.

**W 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 water main under streets, creeks, etc. Payment under this item shall include the specified bore pipe, labor, and equipment. No separate payment shall be made for bore pipe installed in the bore, whether used as a carrier pipe or an encasement of a separate carrier pipe. This item shall also include pipe anchors at

each end of the bore, when specified, to prevent the creep or contraction of the bore pipe. Carrier pipe installed within a bore pipe shall be paid separately under pipe items. Payment under this item shall not be size specific and no separate bid items will be established for size variations. The bore pipe sizes to be included under this item shall be as shown on the plans and/or in the specifications. Any and all directional bores in each contract shall be paid under one directional bore bid item included in the contract, regardless of size. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

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

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

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

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

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

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

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

**W FIRE HYDRANT ADJUST** This item includes all labor, equipment, excavation, materials, and backfill to adjust the existing fire hydrant using the fire hydrant manufacturer's extension kit for adjustments of 18" or less. Adjustments greater than 18" require anchoring couplings and vertical bends to adjust to grade. The Contractor will supply and install all anchor couplings, bends, fire hydrant extension, concrete blocking, restoration, granular drainage material, etc., needed to adjust the fire hydrant, complete and ready-for-use as shown on the plans, and in accordance with the specifications and standard drawings. This also includes allowing for the utility owner inspector to inspect the existing fire hydrant prior to adjusting, contractor returning unusable fire hydrants to the utility owner warehouse and picking up a replacement hydrant. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete and ready for use.

**W FIRE HYDRANT ASSEMBLY** This item includes all labor, equipment, new fire hydrant, isolating valve and valve box, concrete pad around valve box (when specified in specifications or plans), piping, anchoring tee, anchoring couplings, fire hydrant extension, excavation, concrete blocking, granular drainage material, backfill, and restoration, to install a new fire hydrant assembly as indicated on plans and standard drawings, complete and ready-for-use. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**W FIRE HYDRANT RELOCATE** This item includes all labor and equipment to remove the existing fire hydrant from its existing location and to reinstall at a new location. This item shall include a new isolating valve and valve box, concrete pad around valve box (when required in specifications or plans), new piping, new anchoring tee, anchoring couplings, fire hydrant extensions, concrete blocking, restoration, granular drainage material, excavation, and backfill as indicated on plans, specifications, and standard drawings, complete and ready-for-use. This item shall also include allowing for utility owner inspector to inspect the existing fire hydrant prior to reuse, contractor returning unusable fire hydrants to the utility owner warehouse and picking up a replacement hydrant for use if the existing fire hydrant is determined unfit for reuse. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**W FIRE HYDRANT REMOVE** This item includes removal of an abandoned fire hydrant, isolating valve, and valve box, to the satisfaction of the engineer. The removed fire hydrant, isolating valve, and valve box shall become the property of the contractor for his disposal as salvage or scrap. 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.

**W FLUSH HYDRANT ASSEMBLY** This item shall include the flushing hydrant assembly, service line, tapping the main, labor, equipment, excavation, backfill, and restoration required to install the flush hydrant at the location shown on the plans and in accordance with the specifications and standard drawings, complete and ready-for-use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**W FLUSHING ASSEMBLY** This item shall include the flushing device assembly, service line, meter box and lid, tapping the main, labor, equipment, excavation, backfill, and restoration required to install the flushing device at the location shown on the plans and in accordance with the specifications and standard drawings, complete and ready-for-use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**W LEAK DETECTION METER** This item is for payment for installation of a water meter at main valve locations, as shown on the plans, for detection of water main leaks. The meter shall be of the size and type specified in the plans or specifications. This item shall include all labor, equipment, meter, meter box or vault, connecting pipes between main and meter, main taps, tapping saddles, casting, yoke, and any other associated material needed for installation of a functioning water meter in accordance with the plans and specifications, complete and ready-for-use. No separate payment will be made under any other contract item for connecting pipe or main taps. All leak detection meters shall be paid under one bid item included in the contract, regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete and ready for use.

**W LINE MARKER** This item is for payment for furnishing and installing a water 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.

**W LINE STOP SIZE 1 OR 2** This item shall include the line stop saddle/sleeve, valve, completion plug and any other material, labor, and equipment necessary to complete the line stop as indicated in the plans and/or specifications. This installation shall allow the waterline system to operate as usual without any interruption of service. The size shall be the measured internal diameter of the live pipe to be tapped. The line stop size to be paid under sizes 1 or 2 shall be as follows:

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

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

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

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

**W METER** This item is for payment for installation of all standard water meters of all sizes 2 inches in diameter or less as specified on the plans. This item shall include all labor, equipment, meter, meter box, casting, yoke, and any other associated materials needed for installation of a functioning water meter, in accordance with the plans and specifications, complete and ready-for-use. This item shall include connections to the new or existing water service line. 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.

**W METER ADJUST** This item includes all labor, equipment, excavation, materials, backfill, restoration, etc., to adjust the meter casting to finished grade (whatever size exists) at the location shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready-for-use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**W METER RELOCATE** This item includes all labor, equipment, excavation, additional fittings, disinfection, testing, restoration, etc., to relocate the existing water meter (whatever size exists), meter yoke, meter box, casting, etc., from its old location to the location shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready-for-use. The new service pipe (if required) will be paid under the short side or long side service bid item. Any and all meter relocations of 2 inches or less shall be paid under one bid item included in the contract, regardless of size. Each individual relocation shall be paid individually under this item; however, no separate bid items will be established for meter size variations of 2 inches in diameter or less. 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.

**W METER VAULT SIZE RANGE 1 OR 2** This item is for payment for installation of an underground structure for housing of a large water meter, fittings, and valves as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or access doors, the specified meter(s) valve(s), all piping, and fitting materials associated with installing a functioning meter and vault in accordance with the plans, standard drawings, and specifications, complete and ready-for-use. The size shall be the measured internal diameter of the meter and piping to be installed. The size meter vault to be paid under size 1 or 2 shall be as follows:

Size Range 1 = All meter and piping sizes greater than 2 inches up to and including 6 inches  
Size Range 2 = All meter and piping sizes greater than 6 inches

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

**W METER/FIRE SERVICE COMBO VAULT** This item is for payment for installation of an underground structure for housing of a water meter and fire service piping, fittings, and valves as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or access doors, the specified meter(s), valve(s), all piping, and fitting materials associated with installing a functioning meter and fire service vault, in accordance with the plans and specifications, complete and ready-for-use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**W METER WITH PRESSURE REDUCING VALVE (PRV)** This item is for payment for installation of all standard water meters with pressure reducing valves (PRV) of all sizes 2 inches in diameter or less,



as specified on the plans. This item shall include all labor, equipment, meter, PRV, meter box, casting, yoke, and any other associated materials needed for installation of a functioning water meter with PRV, in accordance with the plans and specifications, complete and ready-for-use. This item shall include connections to the new or existing water service line. 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.

**W PIPE** This item shall apply to all pipe of every size and type material to be used as water main, except those bid items defined as "Special". This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, bends, tees, reducers, plugs, and caps), tracing wire with test boxes (if required by specifications), polyethylene wrap (when specified), labor, equipment, excavation, bedding, backfill, restoration, testing, sanitizing, etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings, complete and ready-for-use. No additional payment will be made for rock excavation. This bid item includes material and placement of flowable fill under existing and proposed pavement, and wherever else specified on the plans or in the specifications. This item shall include all temporary and permanent materials, as well as equipment required to pressure test and sanitize mains including, but not limited to, pressurization pumps, hoses, tubing, gauges, main taps, saddles, temporary main end caps or plugs and blocking, main end taps for flushing, chlorine liquids or tablets for sanitizing, water for testing/sanitizing and flushing (when not supplied by the utility), chlorine neutralization equipment and materials, and any other items needed to accomplish pressure testing and sanitizing the main installation. This item shall also include pipe anchors at each end of polyethylene pipe runs, when specified to prevent the creep or contraction of the pipe. When owner specifications require, this bid item shall include contractor preparation of as-built drawings to be provided to the engineer and/or utility owner at the end of construction. Measurement of quantities under this item shall be through fittings, encasements, and directional bores (only when a separate carrier pipe is specified within the directional bore pipe). Measurements shall be further defined to be to the center of tie-in where new pipe contacts existing pipe at the center of connecting fittings, to the outside face of vault or structure walls, or to the point of main termination at dead ends. No separate payment will be made under pipe items when the directional bore pipe is the carrier pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

**W PLUG EXISTING MAIN** This item shall include the specified plug, concrete blocking and/or mechanical anchoring, labor, equipment, excavation, backfill, and restoration required to install the plug on an existing main to be left in service at the location shown on the plans or as directed, in accordance with the specifications. This item is not to be paid to plug new main installations or mains that are to be abandoned. This pay item is only to be paid to plug existing mains that are to be left in service. Plugs on new mains are to be considered incidental to the new main, as are other fittings, and are not to be paid under this item. All plugs on existing mains left in service shall be paid under this one bid item included in the contract, regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

*Plugging of existing abandoned mains shall be performed and paid in accordance with Section 708.03.05 of KYTC Standard Specifications for Road and Bridge Construction, using Bid code 01314, Plug Pipe.*

**W PRESSURE REDUCING VALVE** This item shall apply to all pressure reducing valves (PRV) of every size required in the plans and specifications, except those bid items defined as "Special". Payment under this description is to be for PRVs being installed with new main. This item includes the PRV as specified in the plans and specifications, polyethylene wrap (if required by specification), labor, equipment, excavation, anchoring (if any), pit or vault, backfill, restoration, testing, disinfection, etc., required to install the specified PRV at the location shown on the plans, in accordance with the specifications and standard

drawings, complete and ready-for-use. If required on the plans and/or proposed adjoining DIP is restrained, PRVs shall be restrained. PRV restraint shall be considered incidental to the PRV and adjoining pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

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

**W REMOVE TRANSITE (AC) PIPE** This item shall include all labor, equipment, and materials needed for removal and disposal of the pipe as hazardous material. All work shall be performed by trained and certified personnel, in accordance with all environmental laws and regulations. Any and all transite AC pipe removed shall be paid under one bid item included in the contract, regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

**W SERVICE LONG SIDE** This item shall apply to all service line installations of every size bid up to and including 2-inch inside diameter, except those service bid items defined as "Special". This item includes the specified piping material, main tap, tapping saddle (if required), corporation stop materials, coupling for connecting the new piping to the surviving existing piping, encasement of 2 inches or less internal diameter (if required by plans or specifications), labor, equipment, excavation, backfill, testing, disinfection, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready-for-use. This bid item is to pay for service installations where the ends of the service connection are on opposite sides of the public roadway and the service line crosses the centerline of the public roadway, as shown on the plans. The length of the service line is not to be specified. Payment under this item shall not be restricted by a minimum or maximum length. The contractor shall draw his own conclusions as to the length of piping that may be needed. Payment under this item shall include boring, jacking, or excavating across the public roadway for placement. Placement of a service across a private residential or commercial entrance alone shall not be reason to make payment under this item. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. This pay item does not include installation or relocation of meters. Meters will be paid separately. No additional payment will be made for rock excavation or for special bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**W SERVICE SHORT SIDE** This item shall apply to all service line installations of every size up to and including 2-inch internal diameter, except those service bid items defined as "Special". This item includes installation of the specified piping material of the size specified on plans, encasement of 2 inches or less internal diameter (if required by plans or specifications), main tap, tapping saddle (if required), corporation stop, coupling for connecting the new piping to the surviving existing piping, labor, equipment, excavation, backfill, testing, disinfection, and restoration at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready-for-use. This bid item is to pay for service installations where both ends of the service connection are on the same side of the public roadway, or when an existing service crossing a public roadway will remain and is being extended, reconnected, or relocated, with all work on one side of the public roadway centerline as shown on the plans. The length of

the service line is not to be specified and shall not be restricted to any minimum or maximum length. Placement of a service lateral across a private residential or commercial entrance alone shall not be reason to make payment under this item. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. The contractor shall draw his own conclusions as to the length of piping that may be needed. This pay item does not include installation or relocation of meters. Meters will be paid separately. No additional payment will be made for rock excavation or for bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**W SERVICE RELOCATE** This item is for the relocation of an existing water service line where a meter is not involved, and where an existing service line can easily be adjusted by excavating alongside and moving the line horizontally and/or vertically a short distance without cutting the service line to avoid conflicts with road construction. This item shall include excavation, labor, equipment, bedding, and backfill to relocate the line, in accordance with the plans and specifications, complete and ready-for-use. Payment under this item shall be for each location requiring relocation. Payment shall be made under this item regardless of service size or relocation length. No separate pay items will be established for size or length variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

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

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

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

- Size 1 = All live tapped main sizes up to and including 8 inches
- Size 2 = All live tapped main sizes greater than 8 inches

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

**W TIE-IN** This item shall be used for all main tie-in bid items of every size, except those defined as “Special”. This item includes all labor, equipment, excavation, fittings, sleeves, reducers, couplings, blocking, anchoring, restoration, disinfection, testing, and backfill required to make the water main tie-in as shown on the plans and in accordance with the specifications, complete and ready-for-use. Pipe for tie-ins shall be paid under separate bid items. This item shall be paid EACH (EA) when complete.

*Plugging of existing abandoned mains shall be performed and paid in accordance with Section 708.03.05 of KYTC Standard Specifications for Road and Bridge Construction, using Bid code 01314, Plug Pipe.*

**W VALVE** This item shall apply to all valves of every size required in the plans and specifications, except those bid items defined as “Special”. Payment under this description is to be for gate or butterfly valves being installed with new main. This item includes the valve as specified in the plans and specifications, polyethylene wrap (if required by specifications), labor, equipment, excavation, anchoring (if any), valve box and valve stem extensions, backfill, concrete pad around valve box (if required by specifications), restoration, testing, disinfection, etc., required to install the specified valve at the location shown on the plans, in accordance with the specifications and standard drawings, complete and ready-for-use. If required on plans and/or proposed adjoining DIP is restrained, valves shall be restrained. Valve restraint shall be considered incidental to the valve and adjoining pipe. This description does not apply to cut-in valves. 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.

**W VALVE ANCHOR EXISTING** This item is intended to pay for installation of restraint hardware on an existing valve where no restraint exists, to hold the valve in place to facilitate tie-ins and other procedures where restraint is prudent. This work shall be performed in accordance with water specifications and plans. This bid item shall include all labor, equipment, excavation, materials, and backfill to complete restraint of the designated valve, regardless of size, at the location shown on the plans, complete and ready-for-use. Materials to be provided may include, but are not limited to, retainer glands, lugs, threaded rod, concrete, reinforcing steel, or any other material needed to complete the restraint. Should the associated valve box require removal to complete the restraint, the contractor shall reinstall the existing valve box, the cost of which shall be considered incidental to this bid item. No separate bid items are being provided for size variations. All sizes shall be paid under one bid item. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

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

**W VALVE BOX REMOVE** This item is in payment for all labor, equipment, restoration materials, disposal, and any other effort for removal of a valve box, leaving the valve in place. 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.

**W VALVE CUT-IN** This item is for new cut-in valve installations of all sizes, where installation is accomplished by cutting out a section of existing main. This item shall include cutting the existing pipe, supplying the specified valve, couplings or sleeves, valve box, concrete pad around valve box (when required in specifications or plans), labor, equipment, and materials to install the valve at the locations

shown on the plans, or as directed by the engineer, complete and ready-for-use. Any pipe required for installation shall be cut from that pipe removed or supplied new by the contractor. No separate payment will be made for pipe required for cut-in valve installation. 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.

**W VALVE REMOVE** This item is in payment for all labor, equipment, and restoration materials for cutting of existing pipe and any other effort necessary for total removal of an existing valve and valve box. This bid item shall include disposal of the valve and box, unless plans or specifications state the valve and box are to be salvaged and delivered to the utility owner for reuse. No separate pay items are to be established for size variations. All valve removals, regardless of size, shall be paid under this one pay item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

*If plugging of existing abandoned mains is needed after valve removal, the work shall be performed and paid in accordance with Section 708.03.05 of KYTC Standard Specifications for Road and Bridge Construction, using Bid code 01314, Plug Pipe.*

**W VALVE VAULT** This item is for payment for installation of an underground structure for housing of specific valve(s), as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or doors, the specified valve(s), all piping, and fitting materials associated with installing a functioning valve vault, in accordance with the plans, standard drawings, and specifications, complete and ready-for-use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.



**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

March 29, 2023

Joe Janes  
Owensboro Municipal Utilities  
2070 tamarack Rd  
Owensboro, KY 42302

RE: KY 298/KY 3143 Roundabout  
Water Main Relocation  
Daviess County, KY  
Owensboro Municipal Utilities  
AI #: 943, APE20230001  
PWSID #: 0300336-23-001

Dear Mr. Janes:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of approximately 959 linear feet (LF) of 8-inch PVC, 17 LF of 8-inch DI, and 79 LF of 12-inch PVC waterline. This is to advise that plans and specifications for the above referenced project are APPROVED with respect to sanitary features of design, as of this date with the requirements contained in the attached construction permit.

If you have any questions concerning this project, please contact Cassie Campbell at 502-782-6909.

Sincerely,

A handwritten signature in black ink that reads "Cassie Campbell".

Terry Humphries, P.E.  
Supervisor, Engineering Section  
Water Infrastructure Branch  
Division of Water

TH:CC  
Enclosures



Distribution-Water Line Extension  
Owensboro Municipal Utilities  
Facility Requirements

Activity ID No.:APE20230001

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PORT0000000080 (KY 298/KY 3143 Roundabout WL Relocation) 959 linear feet (LF) of 8-inch PVC, 17 LF of 8-inch DL, and 79 LF of 12-inch PVC waterline:

Narrative Requirements:

Condition No.	Condition
T-1	Construction of this project shall not result in the water system's inability to supply consistent water service in compliance with 401 KAR 8:010 through 8:600. [401 KAR 8:100 Section 5]
T-2	The public water system shall not implement a change to the approved plans without the prior written approval of the cabinet. [401 KAR 8:100 Section 4(3)]
T-3	A proposed change to the approved plans affecting sanitary features of design shall be submitted to the cabinet for approval in accordance with Section 2 of this administrative regulation. [401 KAR 8:100 Section 4(2)]
T-4	During construction, a set of approved plans and specifications shall be available at the job site. Construction shall be performed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 3(1)]
T-5	Unless construction begins within two (2) years from the date of approval of the final plans and specifications, the approval shall expire. [401 KAR 8:100 Section 3(3)]
T-6	Upon completion of construction, a professional engineer shall certify in writing that the project has been completed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 4(1)]
T-7	The system shall be designed to maintain a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow. [Recommended Standards for Water Works 8.2.1, Drinking Water General Design Criteria IV.1.a]
T-8	Water lines should be hydraulically capable of a flow velocity of 2.5 ft/s while maintaining a pressure of at least 20 psi. [Drinking Water General Design Criteria IV.1.b]
T-9	The normal working pressure in the distribution system at the service connection shall not be less than 30 psi under peak demand flow conditions. Peak demand is defined as the maximum customer water usage rate, expressed in gallons per minute (gpm), in the pressure zone of interest during a 24 hour (diurnal) time period. [Drinking Water General Design Criteria IV.1.d]
T-10	When static pressure exceeds 150 psi, pressure reducing devices shall be provided on mains or as part of the meter setting on individual service lines in the distribution system. [Drinking Water General Design Criteria IV.1.c]
T-11	The minimum size of water main in the distribution system where fire protection is not to be provided should be a minimum of three (3) inch diameter. Any departure from minimum requirements shall be justified by hydraulic analysis and future water use, and can be considered only in special circumstances. [Recommended Standards for Water Works 8.2.2, Drinking Water General Design Criteria IV.2.b]



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PORT0000000080 (KY 298/KY 3143 Roundabout WL Relocation) 959 linear feet (LF) of 8-inch PVC, 17 LF of 8-inch DL, and 79 LF of 12-inch PVC waterline:

Narrative Requirements:

Condition No.	Condition
T-12	Water mains not designed to carry fire-flows shall not have fire hydrants connected to them. [Recommended Standards for Water Works 8.4.1.b]
T-13	Flushing devices should be sized to provide flows which will give a velocity of at least 2.5 feet per second in the water main being flushed. [Recommended Standards for Water Works 8.2.4.b, Recommended Standards for Water Works 8.4.1.b]
T-14	No flushing device shall be directly connected to any sewer. [Recommended Standards for Water Works 8.2.4.b, Recommended Standards for Water Works 8.4.1.b]
T-15	Pipe shall be constructed to a depth providing a minimum cover of 30 inches to top of pipe. [Drinking Water General Design Criteria IV.3.a]
T-16	Water mains shall be covered with sufficient earth or other insulation to prevent freezing. [Recommended Standards for Water Works 8.7]
T-17	A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a depth of at least six inches below the bottom of the pipe. [Recommended Standards for Water Works 8.7]
T-18	Water line installation shall incorporate the provisions of the AWWA standards and/or manufacturer's recommended installation procedures. [Recommended Standards for Water Works 8.7]
T-19	All materials used for the rehabilitation of water mains shall meet ANSI/NSF standards. [Recommended Standards for Water Works 8.1]
T-20	Packing and jointing materials used in the joints of pipe shall meet the standards of AWWA and the reviewing authority. [Recommended Standards for Water Works 8.1]
T-21	All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement. [Recommended Standards for Water Works 8.7]
T-22	All materials including pipe, fittings, valves and fire hydrants shall conform to the latest standards issued by the ASTM, AWWA and ANSI/NSF, where such standards exist, and be acceptable to the Division of Water. [Recommended Standards for Water Works 8.1]
T-23	Water mains which have been used previously for conveying potable water may be reused provided they meet the above standards and have been restored practically to their original condition. [Recommended Standards for Water Works 8.1]



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PORT0000000080 (KY 298/KY 3143 Roundabout WL Relocation) 959 linear feet (LF) of 8-inch PVC, 17 LF of 8-inch DL, and 79 LF of 12-inch PVC waterline:

Narrative Requirements:

Condition No.	Condition
T-24	Manufacturer approved transition joints shall be used between dissimilar piping materials. [Recommended Standards for Water Works 8.1]
T-25	The minimum size of water main which provides for fire protection and serving fire hydrants shall be six?inch diameter. [Recommended Standards for Water Works 8.2, Drinking Water General Design Criteria IV.2.a]
T-26	Pipes and pipe fittings containing more than 8% lead shall not be used. All products shall comply with ANSI/NSF standards. [Recommended Standards for Water Works 8.1]
T-27	Gaskets containing lead shall not be used. Repairs to lead?joint pipe shall be made using alternative methods. [Recommended Standards for Water Works 8.1]
T-28	Pipe materials shall be selected to protect against both internal and external pipe corrosion. [Recommended Standards for Water Works 8.1]
T-29	Dead end mains shall be equipped with a means to provide adequate flushing. [Recommended Standards for Water Works 8.2]
T-30	The hydrant lead shall be a minimum of six inches in diameter. Auxiliary valves shall be installed on all hydrant leads. [Recommended Standards for Water Works 8.4.3]
T-31	A sufficient number of valves shall be provided on water mains to minimize inconvenience and sanitary hazards during repairs. [Recommended Standards for Water Works 8.3]
T-32	Wherever possible, chambers, pits or manholes containing valves, blow?offs, meters, or other such appurtenances to a distribution system, shall not be located in areas subject to flooding or in areas of high groundwater. Such chambers or pits should drain to the ground surface, or to absorption pits underground. The chambers, pits and manholes shall not connect directly to any storm drain or sanitary sewer. Blow?offs shall not connect directly to any storm drain or sanitary sewer. [Recommended Standards for Water Works 8.6]
T-33	At high points in water mains where air can accumulate provisions shall be made to remove the air by means of air relief valves. [Recommended Standards for Water Works 8.5.1]
T-34	Automatic air relief valves shall not be used in situations where flooding of the manhole or chamber may occur. [Recommended Standards for Water Works 8.5.1]

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PORT0000000080 (KY 298/KY 3143 Roundabout WL Relocation) 959 linear feet (LF) of 8-inch PVC, 17 LF of 8-inch DL, and 79 LF of 12-inch PVC waterline:

Narrative Requirements:

Condition No.	Condition
T-35	The open end of an air relief pipe from automatic valves shall be extended to at least one foot above grade and provided with a screened, downward-facing elbow. [Recommended Standards for Water Works 8.5.2.c]
T-36	Discharge piping from air relief valves shall not connect directly to any storm drain, storm sewer, or sanitary sewer. [Recommended Standards for Water Works 8.5.2.d]
T-37	Water pipe shall be constructed with a lateral separation of 10 feet or more from any gravity sanitary or combined sewer measured edge to edge where practical. If not practical a variance may be requested to allow the water pipe to be installed closer to the gravity sanitary or combined sewer provided the water pipe is laid in a separate trench or undisturbed shelf located on one side of the sewer with the bottom of the pipe at least 18 inches above the top of the gravity sanitary or combined sewer pipe. [Drinking Water General Design Criteria IV.3.b]
T-38	Water lines crossing sanitary, combined or storm sewers shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sanitary, combined or storm sewer with preference to the water main located above the sanitary, combined or storm sewer. [Drinking Water General Design Criteria IV.3.c]
T-39	At crossings, one full length of water pipe shall be located so both joints will be as far from the sewer as possible. [Recommended Standards for Water Works 8.8.3.b]
T-40	There shall be no connection between the distribution system and any pipes, pumps, hydrants, or tanks whereby unsafe water or other contaminating materials may be discharged or drawn into the system. [Recommended Standards for Water Works 8.10.1]
T-41	Water utilities shall have a cross connection program conforming to 401 KAR 8. [Recommended Standards for Water Works 8.10.1]
T-42	Installed pipe shall be pressure tested and leakage tested in accordance with the appropriate AWWA Standards. [Recommended Standards for Water Works 8.7.6]
T-43	New, cleaned and repaired water mains shall be disinfected in accordance with AWWA Standard C651. The specifications shall include detailed procedures for the adequate flushing, disinfection, and microbiological testing of all water mains. In an emergency or unusual situation, the disinfection procedure shall be discussed with the Division of Water. [Recommended Standards for Water Works 8.7.7]
T-44	A minimum cover of five feet shall be provided over pipe crossing underwater. [Recommended Standards for Water Works 8.9.2]

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**PORT0000000080 (KY 298/KY 3143 Roundabout WL Relocation) 959 linear feet (LF) of 8-inch PVC, 17 LF of 8-inch DL, and 79 LF of 12-inch PVC waterline:**

**Narrative Requirements:**

Condition No.	Condition
T-45	Valves shall be provided at both ends of water crossings so that the section can be isolated for testing or repair; the valves shall be easily accessible, and not subject to flooding for pipes crossing underwater. [Recommended Standards for Water Works 8.9.2.b]
T-46	Permanent taps or other provisions to allow insertion of a small meter to determine leakage and obtain water samples on each side of the valve closest to the supply source for pipes crossing. [Recommended Standards for Water Works 8.9.2.c]



# **Water Construction Specifications**



### **SPECIAL CONDITIONS**

- 1. Contractor Experience** - No Contractor shall be allowed to construct facilities unless they have three prior experiences in constructing similarly complex facilities. Three acceptable references must be on file with OMU to comply with this requirement
- 2. Regulation Compliance** - It is the Contractor's responsibility to comply with all local, state, and federal regulations pertaining to the installation of water facilities.
- 3. Maintaining Service** - No service to existing customers is allowed to be disconnected without express permission of OMU. If service is allowed to be disrupted all notifications and water quality testing shall be the responsibility of Contractor. Contractor is to submit shut down procedure and the notification for approval.
- 4. Operation of Existing Facilities** - No existing facilities shall be operated by Contractor. No facilities shall be tapped into without OMU's presence. Existing OMU facilities shall be operated by OMU personnel.
- 5. Construction Notification** - Contractor must notify OMU two (2) working days before construction is to begin. If start date is missed, the Contractor must reschedule with OMU. Pre-notification shall be utilized to have a pre-construction meeting.

The Contractor shall notify one of the following OMU personnel at least 48 hours prior to making any tie-ins to existing mains:

Mr. Logan Goetz, Delivery T&D Engineer 926-3200 ext 4219  
Mr. Jody Gaddis, Delivery Water Distribution Supervisor 926-3200 ext 4394  
Mr. Joe Ranburger, Engineering Technician 926-3200 ext 4182

OMU personnel shall be responsible for closing any valves that will affect service to the public.

Any customers that will be without water service due to tie-ins of new mains or changeover of meters will be notified by the Contractor in

writing, at least 48 hours in advance of the planned beginning of the shutdown. All effort should be made by the contractor to minimize shut down time. No customer will be without water for more than 8 hours. If the Contractor knows that a shutdown will last longer than 8 hours, he will be required to provide customers with temporary service in order to allow additional time for making tie-ins and reconnections. Prior to customer service being resumed, it will be the responsibility of the Contractor to notify all affected customers of the need to boil their water if such notification is required.

- 6. Inspection** - No installed facilities shall be covered up until OMU and/or their Designated Representative has inspected and approved them.
- 7. Permits** - It is the responsibility of the Contractor to obtain any permits which may be required by the City, County, State, or other for this project.
- 8. Pressure & Leakage Test** - OMU and/or their Designated Representative must be on site during the required pressure and leakage test.
- 9. Water Quality Testing** – OMU will perform all water quality testing unless Contractor is given specific approval to utilize an approved independent testing laboratory.
- 10. Damage to Utilities** – Any damage to existing utilities incurred during construction shall be the sole responsibility of the Contractor. In the event that any utility is damaged, repairs must be carried out on an around-the-clock basis until the utility is restored. All repairs shall be made at the direction of the utility company, and in accordance with the specifications.
- 11. Pipe Cover and Grades** – The Contractor shall install all pipe to the lines and grades indicated on the plans and maintain the cover shown. A cover of 30” to 48” will be maintained unless a depth is called for on the plans or is approved by OMU.

The main shall be generally installed to the grades indicated on the plans with necessary adjustments made to conform to field conditions.

The Contractor shall install piping so as to slope in the indicated direction so that high points and low points can be avoided as much as possible. The plans indicate high points and show air release valves to be installed at those locations.

12. **Water** – A reasonable amount of water for testing, sterilization, and flushing shall be furnished by OMU at no cost to the Contractor. Wasted water through use or accident will be charged to the Contractor.
13. **Field Conditions** – The Contractor should be aware that the locations of existing water mains are shown on the plans at locations determined from best available information. The actual locations may vary in the field and tie-in lengths and depths may have to change to fit the actual conditions. Before tie-ins are made, the Contractor should unearth the existing water main to determine the exact location and elevation so that necessary adjustments in line and grade can be made.
14. **Hot Taps** – The Contractor shall use a full circle stainless steel tapping sleeve (Mueller Catalogue No. H-304 or equal) on the hot tap as per detail in the plans. Tapping valve shall be supported by solid concrete blocking.
15. **Shop Drawings** – The Contractor shall furnish seven (7) copies of shop drawings to the Engineer for review prior to having materials and equipment shipped. Shop drawings for this project shall include but are not limited to the following:
  1. Ductile Iron Pipe Water Main
  2. Polyvinyl Chloride Pipe C-900 Water Main
  3. Ductile Iron Pipe Fittings (Mega Lug Restrained Joint for PVC Pipe)
  4. Steel Casing Pipe
  5. Warning Tape
  6. Pipe Spacers
  7. Gate Valves
  8. Hot Tap Equipment
  9. Valve Boxes
  10. Fire Hydrants

- 11. Water Meters
- 12. Meter Setters
- 13. Meter Boxes
- 14. Meter Frames and Covers
- 15. Corporation Stops
- 16. Tapping Saddles
- 17. Tracer Wire
- 18. Customer Service Line
- 19. Air Release Valves and Appurtenant Small Piping
- 20. Line Stops

No shop drawing required for material purchased from OMU.

- 16. **Mechanical Joint Fittings** – All mechanical joint fittings shall have mega-lug restraint joints. Thrust Blocking is an acceptable alternative.
- 17. **Thrust Blocking** – All bends and fittings in either the horizontal or vertical direction shall have concrete thrust blocking installed as per the details shown in the plans. Cost of all thrust blocking shall be merged into the Contractor's per foot price for pipe installation.
- 18. **Fire Hydrant** – The Contractor shall furnish and install Mueller Superior Centurion II Model 250 3-Way Fire Hydrants or Kennedy Guardian which are the OMU standard. An elevation for the breakaway flange of the fire hydrant shall be 0 to 4 inches above finished ground. It will be the Contractor's responsibility to set each hydrant at the indicated location and elevation by providing the necessary extensions, fittings, etc., which may be required. Fire hydrant pumper nozzle shall face toward the centerline of the road for access by emergency and utility personnel. It will be the Contractor's responsibility to adjust hydrant heights after final grading to meet the field conditions.
- 19. **Water Main Disinfection** – All main disinfection and bacteriological testing shall be performed prior to tie-in work being done. Any short sections of piping or fittings necessary for making final tie-ins will be swabbed or sprayed with high concentration (greater than 200 parts per million) chlorine solution prior to installation and the line thoroughly flushed after installation. OMU will perform all water



quality testing unless the Contractor is given specific approval to utilize an approved independent testing laboratory.

20. **Flowable Fill** – Water main trenches under all roadways shall be backfilled with sand to 6” above pipe followed by flowable fill as per OMU specifications.
21. **Tracer Wire and Warning Tape** – Tracer wire shall be stubbed up into all valve boxes, excess wire shall be rolled and placed in valve box. Tracer wire shall be properly spliced at all locations where it is joined together. The installation and splice shall be made as per the detail in the plans. If required, water line warning tape shall be installed between 12” and 24” below the finished ground elevation above the water main along the entire length of the main.
22. **Polyethylene Wrap** – Where thrust blocks are utilized, all pipe fittings and valves shall be wrapped with a polyethylene material, 8-mil, installed in accordance with AWWA C-105 and approved by inspector before thrust block is poured.
23. **Plugs and Restraints** – All plugs shall require concrete kickers and be restrained by using all thread on the active side of the cut and plug.
24. **Owensboro Municipal Utilities Standard Materials:**

Mueller Super Centurion II Model 250 3-Way Fire Hydrant or  
Kennedy Guardian

Sensus (Cubic Feet) Sealed Register, Magnetic Drive Water Mains  
Arbor C700

Ford Meter Setter Equipment – Y502 (Yoke)  
AV 91-323W (Angle Valve)  
EC-23 (Expansion Coupling)  
L91-23 (Yoke ELS)

Mueller Tapping Sleeves-Full Circle Stainless Steel Tapping Sleeve  
(Catalogue No. H-304 or Equal)

Restraint Glands – PVC  
DIP

These materials are standard and must be used.

- 25. Final Water Valve Box Adjustment** – The elevations shown on plan sheets for air release manhole castings, fire hydrants and valve boxes are only approximate. The final adjustment shall be made following the completion of the road work.

### **Section 15121**

### **POLYVINYL CHLORIDE (PVC) PIPE**

### **(CONTRACTOR furnished)**

#### **Part 1: GENERAL**

##### **1.01 Scope**

This Section covers PVC pressure pipe in diameters 4 inches through 12 inches.

##### **1.02 Coordination of Work**

Connection to existing pipelines may require shutdown of OWNER facilities. Construction work and connections shall be closely coordinated with the OWNER through the ENGINEER, in consult with the OWNER through the ENGINEER. The ENGINEER, in consult with the OWNER, may select the time, including Saturdays, Sundays, or holidays, which, in the opinion of the ENGINEER, will cause the least inconvenience to the ENGINEER and/or its customers, for connection to existing pipelines, and the CONTRACTOR will perform such connections at such times as may be directed by the OWNER at the Contract prices and no claim for premium time or additional costs will be made by the CONTRACTOR.

##### **1.03 Submittals**

Shop drawings and manufacturer's literature for all CONTRACTOR supplied materials shall be promptly submitted to the ENGINEER for approval in accordance with Section 1300.

#### 1.04 Related Work

Piping – General Provisions – Section 15000

### Part 2: PRODUCTS

Research has documented that certain pipe materials (such as polyvinyl chloride, polyethylene, and polybutylene) and certain elastomers (such as those used in gasket material) may be subject to permeation by lower-molecular weight organic solvents or petroleum products. Products supplied under this section have been selected based on the non-expectation of encountering petroleum products or organic solvents. If during the course of pipeline installation the CONTRACTOR identifies, or suspects, the presence of petroleum products or any unknown chemical substance the ENGINEER is to be notified immediately. Installation of any further piping in the area of suspected contamination shall be stopped until direction is provided by the ENGINEER.

#### 2.01 Pipe Materials

PVC pipe shall conform to the latest edition of American Water Works Association (AWWA) Standard C900 with elastomeric-gasket couplings in accordance with this Standard. The use of solvent cement connections shall not be allowed unless approved by the ENGINEER.

### Part 3: EXECUTION

#### 3.01 Installation

The general provisions provided in Specification Section 15000 shall be strictly followed in addition to the following:

##### A. Pipe Joint Assembly

The assembly of joints should be performed as recommended by the pipe manufacturer. The elastomeric gaskets may be supplied separately in cartons or positioned in the bell joint or coupling at the factory. When gaskets are color coded, be sure to consult the pipe manufacturer or his literature for the significance. In all cases, clean the gasket, the bell or coupling interior, especially the groove area (except when gasket is permanently installed) and the spigot area with a rag, brush or paper towel to remove any dirt or foreign material before the assembling. Inspect the gasket, pipe spigot bevel, gasket groove, and sealing surfaces for damage or deformation. When gaskets are separate, use only gaskets

which are designed for and supplied with the pipe. Insert them as recommended by the manufacturer.

Lubricant should be applied as specified by the pipe manufacturer. Bacterial growth, damage to the gaskets or the pipe, may be promoted by use of non-approved lubricants. Use only lubricant supplied by the pipe manufacturer.

After lubrication, the pipe is ready to be joined. Good alignment of the pipe is essential for ease of assembly. Align the spigot to the bell and insert the spigot into the bell until it contacts the gasket uniformly. Do not swing or “stab” the joint; that is, do not suspend the pipe and swing it into the bell. The spigot end of the pipe is marked by the manufacturer to indicate the proper depth of insertion.

Solvent cemented joints where approved by the ENGINEER should be made in accordance with manufacturer’s recommendations or in accordance with ASTM D2855, “Standard Recommended Practice for Making Solvent Cemented Joints with Polyvinyl Chloride PVC Pipe and Fittings”.

To join field-cut pipe, it is necessary to first prepare the pipe end. A square cut is essential for proper assembly. The pipe shall be marked around its entire circumference prior to cutting to assure a square cut. Use a factory-finished beveled end as a guide for proper bevel angle, and depth of bevel plus the distance to the insertion reference mark. The end shall be beveled using a pipe beveling tool or a wood rasp which will cut the correct taper. A portable sander or abrasive disc may also be used to bevel the pipe end. Round off any sharp edges on the leading edge of the bevel with a pocket knife or a file.

OMU Water  
May, 1998

## **Section 2210**

### **TRENCHING BACKFILLING AND COMPACTING**

#### **Part 1: GENERAL**

##### **1.01 Submittals**

All materials to be used for backfill, including common fill and bedding materials, shall be approved by ENGINEER prior to placing the materials in the pipe trench. All backfill and bedding materials whether obtained from the trench excavation or from an off-site source must be tested as directed by the engineer.

If required by engineer samples of the materials shall be tested at an approved testing agency for analysis. Test results and an report stating the materials meet the requirements

of these specifications shall be provided by approved testing lab to the ENGINEER before any material is placed in the trench.

### 1.02 Profiles and Topography

Contours, topography and profiles of the ground if provided and shown on the Drawings are believed to be reasonably correct, but are not guaranteed to be absolutely so and are presented only as an approximation.

The CONTRACTOR shall accept the construction site with conditions the same as existed at the time of bidding.

## **Part 2: PRODUCTS**

### 2.01 General

See Sketch No. 61-300-3 SK at the end of this section for the locations of trench backfill and bedding materials.

### 2.02 Fill Material

Material for backfilling shall be earth materials entirely free from vegetation, trash, lumber, frozen, soft or organic materials. No stones or rock larger than the sizes listed below will be permitted in the backfill:

Common Fill-Type A: No stones or rocks larger than 1-inch.  
Common Fill-Type B: No stones or rocks larger than 4-inches.

### 2.02 Fill Material (cont.)

Common fill material may be obtained from the trench excavation provided it has been tested in accordance with the requirements of Section 2210.1.01 above and approved by the ENGINEER. If approved material obtained from the trench excavation is insufficient to complete the backfill, the CONTRACTOR shall obtain the necessary approved common fill materials from an off-site source.

### 2.03 Bedding Material

Materials used for bedding and the haunch around the pipe shall be a course to fine sandy material with maximum stone size of 1-inch. The material shall conform to ASTM D2487 "Standard Method for Classification of Soils for Engineering Purposes" using the "Unified soil classification System," except where a higher standard is required by rules or regulations of Federal, State, or local governmental bodies having jurisdiction over the site of the Work.

The material shall meet a Class II designation. Soil types GW, GP, SW and SP, non-cohesive, well graded and containing some fines are included in this Class. Where voids, finer grained soils or movement may allow migration of this material, a filter fabric as directed by the ENGINEER will be used in the trench bottom and sides before the select fill bedding is placed.

Bedding material may be obtained from the trench excavation provided it has been tested in accordance with the requirements of Section 2210.1.01 above and approved by the ENGINEER. If the approved material obtained from the trench excavation is insufficient to complete the bedding, the CONTRACTOR shall obtain the necessary tested and approved bedding materials from an off-site source.

#### 2.04 Filter Fabric

Filter fabric shall be non-woven, synthetic fiber material with sieve design to not permit the select material in the pipe bedding and haunching to migrate into the surrounding soils. The material shall have a minimum thickness of 15 mils, tensile strength of 130 lbs., elongation at break of 62% and trapezoidal tear strength of 70 lbs.

### **Part 3: EXECUTION**

#### 3.01 Construction Equipment

Where mains are located in or adjacent to pavements, all backfilling and materials handling equipment shall have rubber tires. Crawler equipment shall be permitted when there is no danger of damaging pavement. It is the CONTRACTOR's responsibility, to repair, at his expense, any damages due to the use of any equipment to complete the work.

#### 3.02 Noise, Dust, and Odor Control

The CONTRACTOR's construction activities shall be conducted so as to eliminate all unnecessary noise, dust and odors.

#### 3.03 Protection of Trees

Special care shall be taken to avoid damage to trees and their root system. Machine excavation shall not be used when, in the opinion of the ENGINEER, it would endanger the tree. In general, where the line of trench falls within the limits of the limb spread, headers are required across the trench to protect the tree. The operation of all equipment, particularly when employing booms, the storage of materials, and the disposition of excavation shall be conducted in a manner which will not injure trees, trunks, branches or their roots unless such trees are designated for removal.

#### 3.04 Trench Support

Unsupported open cut excavation for mains will not be permitted where trenching may cause danger to life, unnecessary damage to street pavement, trees, structures, poles, utilities, or other private or public property. During the progress of the work, whenever and wherever it is necessary, the CONTRACTOR shall, at his expense, support the sides of the excavation by adequate and suitable sheeting, shoring, bracing, or other approved means. Such trench support materials and equipment shall be maintained and remain in place until backfilling operations have progressed to the point where the supports may be withdrawn without endangering property.

### 3.05 Trench Excavation and Bottom Preparation

#### A. General Excavation

General excavation shall consist of the satisfactory removal and disposal of all materials taken from within the limits of the Work contracted, meaning the material lying between the original ground line and the finished ground line as shown on the Drawings regardless of whether the original ground line is exposed to air or is covered by water. Excavation below existing ground line to enable any required construction or removals is included. It is distinctly understood that any reference to earth, rock, silt, debris or other materials on the Drawings or in the Specifications is solely for the OWNER's information and shall not be taken as an indication of classified excavation or the quantity of earth, rock, silt, debris or other material encountered.

All excavations shall be made to the lines and grades indicated on the Drawings or established in the field by the ENGINEER.

#### B. Rock Excavation

The Contract includes a unit price for rock excavation, the excavation shall include the removal, hauling, stockpiling and/or proper disposal of all material required to be excavated which requires systematic blasting, barring and wedging for removal, boulders or loose rock of one cubic yard or more in volume, and material which cannot be loosened or broken down by ripping in a single pass with a hydraulic ripper or other devices and equipment designed to remove rock. No payment will be made for rock removal unless the CONTRACTOR gives prompt notice to the ENGINEER upon encountering such material and prior to its removal. The ENGINEER's determination as to whether the material meets the definition of rock removal for which the CONTRACTOR is entitled to payment will be final and conclusive.

#### C. Blasting Rock

The CONTRACTOR must notify ENGINEER, in advance, of his intention to use blasting. The ENGINEER will require evidence that the proposed blasting will comply fully with Laws or Regulations.

No blasting of rock shall be done where limited or prohibited by any Federal, State, or local laws or regulations or in violation of any limitation or restriction contained in any right-of-way or wherever specifically prohibited in any Drawing or other Contract Document; nor will any such blasting be done within forty (40) feet of any pipe or structure without specific permission from the ENGINEER. Blasts shall be properly covered and the pipe or structure properly protected. Warning shall be given to all persons in the vicinity. Blasting shall be at the risk of the CONTRACTOR who shall be liable for all damages to persons or property. Necessary permits shall be secured and paid for by the CONTRACTOR. It is the CONTRACTOR’s responsibility to perform whatever pre-blast surveys and investigations may be required by the circumstances and/or by Federal, State, or local laws.

D. Trench Width

Widths of trenches shall be held to a minimum to accommodate the pipe and appurtenances. The trench width shall be measured at the top of the pipe barrel and shall conform to the following limits:

Earth

Minimum: Outside diameter of the pipe barrel plus 8 inches, i.e., 4 inches each side.

Maximum: Normal pipe diameter plus 24 inches.

Rock

Nominal Pipe Diameter

	<u>12 inches or less</u>	<u>16 inches or larger</u>
Minimum:	Outside diameter of the pipe barrel plus 16 inches, i.e., 8 inches each side.	Outside the diameter of the pipe barrel plus 24 inches, i.e., 12 inches each side.

Maximum: Nominal pipe diameter plus 24 inches.

E. Excessive Trench Width

If, for any reason the trench width exceeds the maximum trench width defined in Paragraph D, “Trench Width,” the CONTRACTOR shall provide additional bedding and backfill material as specified in Sections 2210.2.02 and 2210.2.03 to fill the additional width of trench, at no cost to the OWNER.

F. Trench Depth



- (1) General. All trenches shall provide for a minimum of 48 inches of cover over the top of the pipe barrel to the top of the finished grade of the roadway unless otherwise authorized by the ENGINEER.
- (2) Earth. The trench shall be excavated to the depth required, so as to provide a uniform and continuous bearing and support for the pipe barrel on solid and undisturbed ground at every point between joints, except that it will be permissible to disturb the finished trench bottom over a maximum length of 18 inches near the middle of each length of pipe by the withdrawal of pipe slings or other lifting tackle. When required, bell holes shall be provided. The finished trench bottom shall be accurately prepared by means of hand tools.
- (3) Rock. Where excavation is made on rock or boulders, the trench shall be excavated 8 inches below the pipe barrel for pipe 12 inches in diameter or less, and 12 inches below the pipe barrel for 16 inch diameter pipe and larger. All loose material shall be removed from the trench bottom. After preparation of the trench bottom, a pipe bed shall be prepared using bedding material as specified in Section 2210.1.03.
- (4) Unsuitable Bottom. When unsuitable material is found below subgrade, as determined by the ENGINEER, CONTRACTOR shall remove the material to a depth determined by the ENGINEER, and provide compacted bedding material as specified in Section 2210.2.03 to backfill the trench in the area where unsuitable material has been excavated.

### 3.06 Trench Backfilling

#### A. Backfill to Centerline of Pipe Barrel

All trench excavation shall be backfilled immediately after pipe is laid. Compacted bedding material as described in Section 2210.2.03 shall be used to backfill the trench from the bottom of the pipe barrel to the centerline of the pipe barrel. The material shall be placed in uniform 6 inch loose layers and each layer compacted so as to eliminate the possibility of settlement, pipe misalignment or damage of joints.

#### B. Backfill to 12 inches over Pipe Barrel

From the centerline of the pipe barrel to an elevation of 12 inches over the top of the pipe barrel, Common Fill-Type A, as described in Section 2210.2.02, shall be used as backfill material. Care shall be taken to avoid injuring or moving the pipe.

#### C. Remaining Trench Backfill

From 12 inches above the pipe barrel to the surface, Common Fill-Type B, as described in Section 2210.2.02, shall be used as backfill material. No material shall be used for backfilling that contains frozen earth, rock, large stones, boulders, or other unsuitable

material. The CONTRACTOR may use mechanical equipment to place the backfill. This shall be done in such a manner that the material does not free fall, but shall be placed so that it will flow onto the previously placed material. The CONTRACTOR shall consolidate the backfill in such a manner as will insure the minimum possible settlement and the least interference with traffic. No compacting of the backfill with mechanical equipment, such as wheeled vehicles, will be permitted unless sufficient cover is provided over the pipe to prevent damage to the pipe.

#### D. Surface Conditions

The trench surface shall be regularly attended to during the course of the Contract. The CONTRACTOR shall take prompt corrective measures to correct any settlement or wash-out. The trench surface shall be maintained in a safe condition and shall not interfere with natural drainage.

#### E. Deficiency of Backfill

Any material required for backfilling the trenches or for filling depressions caused by settlement or washout shall be supplied and placed by the CONTRACTOR at his expense.

### 3.07 Trench Maintenance

The CONTRACTOR shall be responsible for the condition of the trenches for a period of one (1) year from the date of the final acceptance of the CONTRACTOR's work, or as required for filling depressions caused by settlement or washout shall be supplied and placed by the CONTRACTOR at his expense.

## **Section 2220** **CASING INSTALLATION**

## **Part 1: GENERAL**

### **1.01 General Requirements**

The installation of casing pipe shall conform to these Specifications and any Federal, State, of local Highway requirements or any Railroad requirements which may be more restrictive.

### **1.02 Submittals**

Details of proposed jacking or boring pits shall be submitted to the ENGINEER showing locations and dimensions and details of sheeting and shoring required.

### **1.03 Related Work**

Excavation, backfilling, and compaction for jacking and receiving pits and for open cut installation shall conform to the requirements set forth in Section 2210.

Installation of casing in open cut excavation shall conform to the requirements of Section 15110.

## **Part 2: PRODUCTS**

### **2.01 Material**

Casing pipe shall be bare wall steel pipe with minimum yield strength of 35,000 psi with a minimum wall thickness as listed below:

Casing Outside Diameter (inches)	Highway Crossings Casing Wall Thickness (inches)	Railroad Crossings Casing Wall Thickness (inches)
8.625	0.250	0.250
10.750	0.250	0.250
12.750	0.250	0.250
14	0.250	0.281
16	0.250	0.281
18	0.250	0.312
20	0.312	0.344
24	0.312	0.406
30	0.375	0.469
36	0.500	0.532
42	0.500	0.563
48	0.625	0.625
54	0.625	0.688
60	0.625	0.750

66	0.625	0.813
72	0.750	0.875

Smooth wall steel plates with a nominal diameter of over 54 inches shall not be permitted.

The inside diameter of the casing pipe shall be at least two (2) inches greater than the outside diameter of the carrier pipe joints or couplings for carrier pipe less than six (6) inches in diameter; and at least four (4) inches greater than the outside diameter of the carrier pipe joints or couplings for carrier pipe six (6) inches and over in diameter.

### **Part 3: EXECUTION**

#### **3.01 Alignment and Grade**

Pipelines shall be located, where practicable, to cross roadways or tracks at approximately right angles thereto but preferably at not less than 45 degrees and shall not be placed within culverts nor under bridges where there is likelihood of restricting the area required for the purposes for which the bridges or culverts were built, or of endangering the foundations. The casing pipe shall be installed on an even grade for its entire length and shall slope to one end.

#### **3.02 Welding**

Steel casing sections shall be connected by welding. Welding shall conform to AWWA C206.

#### **3.03 Protection at Ends of Casing**

Casings shall have both ends blocked up in such a way as to prevent the entrance of foreign material, but allowing leakage to pass in the event of a carrier break.

#### **3.04 Depth of Installation**

Casing pipe depth shall be in accordance with highway or railroad requirements. The minimum cover shall be four (4) feet.

#### **3.05 Casing Insulators**

The carrier pipe and casing shall be separated by an insulator. The insulator shall be timber skids as shown on Sketch 61-300-4 or steel casing insulators models C18/C12

#### **3.05 Casing Insulators (cont.)**

with compatible runners (based on pipe diameter) manufactured by Pipeline Seal and

Insulator, Inc. (PSI) of Houston, Texas. The insulator spacing shall be installed to support the weight of the pipe and contents. As a minimum, an insulator shall be placed a maximum of one foot from each side of a joint.

### 3.06 Installation

Refer to Sketch No. 61-300-4 at the end of this section for a typical casing installation detail.

Casing pipes shall be installed by one of the following methods:

#### A. Jacking

This method shall be in accordance with the current American Railway Engineering Association Specifications, Chapter 1, Part 4, "Jacking Culvert Pipe Through Fills," except that steel pipe shall be used with welded joints. This operation shall be conducted without hand mining ahead of the pipe and without the use of any type of boring, auguring, or drilling equipment.

Bracing and backstops shall be so designed and jacks of sufficient rating used so that the jacking can progress without stoppage (except for adding lengths of pipe).

#### B. Drilling

This method employs the use of an oil field type rock roller bit or a plate bit made up of individual roller a cutter unit which is solidly welded to the pipe casing being installed and which is turned as it is advanced. The pipe is turned for its entire length from the drilling machine to the head to give the bit the necessary cutting action against the ground being drilled. High density slurry (oil field drilling mud) is injected through a supply line to the head which acts as a cutter lubricant. This slurry is injected at the rear of the cutter units to prevent any jetting action ahead of the pipe. The drilling machine runs on a set of steel rails and is advanced (thus advancing the pipe) by a set of hydraulic jacks. The method is the same whether earth or rock is being drilled. Methods of a similar nature shall be submitted to the ENGINEER for approval.

#### C. Boring

This method consists of pushing the pipe into the fill with a boring auger rotating within the pipe to remove the soil. When augers or similar devices are used for pipe emplacement, the front of the pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger and cutting head from leading the pipe so

#### C. Boring (cont.)

that there will be no unsupported excavation ahead of the pipe. The auger and cutting head arrangement shall be removable from within the pipe in the event an obstruction is encountered. The overcut by the cutting head shall not exceed the outside diameter of the

pipe by more than one-half inch. The face of the cutting head shall be arranged to provide reasonable obstruction to the free flow of soft or poor material.

If an obstruction is encountered during installation to stop the forward action of the pipe, and it becomes evident that it is impossible to advance the pipe, operations will cease and the pipe shall be abandoned in place and filled completely with grout.

Bored or jacked installations shall have a bore hole essentially the same as the outside diameter of the pipe. If voids should develop or if the bored hole diameter is greater than the outside diameter of the pipe by more than 1 inch, grouting shall be employed to fill such voids.

### **Section 15,000**

## **PIPING - GENERAL PROVISIONS**

### **Part 1: GENERAL**

#### **1.01 Drawings**

Dimensions shown on Contract Drawings are approximate only. CONTRACTOR shall verify all piping geometry in the field and shall be responsible for insuring proper alignment and f

o reject all defective material shipped to the job site or stored on the site. Failure of the ENGINEER to detect damaged material shall not relieve the CONTRACTOR from his total responsibility for the completed work if it leaks or breaks after installation. Lay all defective material aside for final inspection by the ENGINEER to determine if corrective repairs may be made, or if the material is to be rejected. The ENGINEER shall determine the extent of the repairs.

CONTRACTOR to classify defective pipe prior to ENGINEER's inspection as follows:

1. Damage to interior and / or exterior paint seal coats.
2. Damage to interior cement - mortar lining.
3. Insufficient cement - mortar lining thickness.
4. Poor quality interior paint seal coat.
5. Pipe out of round.
6. Damaged pipe barrel area to a point where pipe class thickness is reduced.
7. Denting or gouges in plain end of pipe.

The CONTRACTOR shall be responsible for all material, equipment, fixtures and devices furnished and such materials, equipment, fixtures and devices shall comply with the requirements and standards of all Federal, State, and local laws, ordinances, codes, rules and regulations governing safety and health.

The CONTRACTOR shall be solely responsible for the safe storage of all material furnished to or by him until it has been incorporated in the completed project and accepted by the ENGINEER.

Pipe, fittings, valves, hydrants and accessories shall be loaded and unloaded by lifting with hoists or skidding so as to avoid shock or damage. Under no circumstances shall such materials be dropped. Pipe handled on skid ways shall not be skidded or rolled against other pipe. Handling of this material is to be in accordance with AWWA C600-87.

Keep fittings and valves drained and stored before installation in a manner protecting them from damage due to freezing of trapped water in accordance with Section 01600.

### **Part 3: EXECUTION**

#### **3.01 Installation - General Requirements**

All pipe shall be laid and maintained to the required lines and depths. Fittings, valves and hydrants shall be at the required locations with joints centered, spigots home and all valve and hydrant stems plumb and otherwise in strict accordance with the Specifications.

All buried steel lugs, rods, brackets and flanged joint bolts and nuts shall be given one (1) coat of Koppers #50 coal tar coating prior to backfilling and polyethylene encased if the specifications require polyethylene encasement of pipe.

No deviation shall be made from the required alignment, depth or grade except with the written consent of the ENGINEER.

All pipe shall be laid to the depth specified. The depth shall be measured from the final surface grade to the top of the pipe barrel. The minimum pipe cover shall be as shown on the Drawings or as specified in the Specifications Special Conditions.

Do not lay pipe in a wet trench, on subgrade containing frost, and when trench conditions are unsuitable for such work. If all efforts fail to obtain a stable dry trench bottom and the ENGINEER determines that the trench bottom is unsuitable for trench foundation, he will order in writing the kind of stabilization to be constructed.

Thoroughly clean the pipes and fittings before they are installed and this material shall be kept clean until the acceptance of the completed work. Lay pipe with the bell ends facing in the direction of laying, unless otherwise shown on the Drawings, or directed by the ENGINEER. Exercise care to insure that each length abuts against the next in such a manner that no shoulder or unevenness of any kind occurs in the pipe line.

No wedging or blocking is permitted in laying pipe unless by written order of ENGINEER.

Before joints are made, bed each section of pipe the full length of the barrel with recesses excavated so pipe invert forms continuous grade with invert of pipe previously laid. Do

not bring succeeding pipe into position until the preceding length is embedded and securely in place.

Dig bell holes sufficiently large to permit proper joint making and to insure pipe is firmly bedded full length of its barrel.

Walking or working on completed pipeline, except as necessary in tamping and backfilling, is not permitted until trench is backfilled one-foot deep over top of pipes.

Take up and relay pipe that is out of alignment or grade, or pipe having disturbed joints after laying.

Take up and replace with new, such in-place pipe sections found to be defective. Replacement work at CONTRACTOR's expense.

Take necessary precautions to prevent the floating of the pipeline by the accumulation of water on the trench, or the collapse of the pipeline from any cause. Should floating or collapse occur, restoration will be at the CONTRACTOR's expense.

Bedding materials and concrete work for the pipe bedding and thrust restraint shall be as specified previously in Division 2 and 3 respectively.

Take every precaution to prevent foreign material from entering the pipe while it is being placed. During laying operations, do not place debris, tools, clothing, or other materials in the pipe.

Close all openings in the pipeline with watertight plugs when pipe laying is stopped at the close of the day's work or for other reasons, such as rest breaks or meal periods.

Place enough backfill over the center sections of the pipe to prevent floating.

Carry out the cutting of pipe only with equipment specifically designed for that purpose such as an abrasive wheel, rotary wheel cutter, a guillotine pipe saw or a milling wheel saw. The use of chisels or hand saws will not be permitted. Cut ends and rough edges should be beveled slightly.

In distributing material at the site of the Work, each piece shall be unloaded opposite or near the place where it is to be laid in the trench.

If the pipe is to be strung out, it shall be done so in a straight line or in a line conforming to the curvature of the street. Each length of pipe shall be adequately blocked to prevent movement. Stockpiled pipe shall be adequately blocked to prevent movement. No pipe,

### 3.01 Installation - General Requirements (cont.)

material, or any other object shall be placed on private property, obstruct walkways or driveways, or in any manner interfere with the normal flow of traffic.



In the case of pre-stressed concrete, gray and ductile iron pipe, special care shall be exercised, during handling temporary storage or construction to avoid damage to the bells, spigots or flanged ends. If damaged pipe cannot be repaired to the ENGINEER's satisfaction, it shall be replaced at the CONTRACTOR's expense.

The CONTRACTOR shall remove all existing pipe, fittings, valves, pipe supports and blocking and all other items necessary to provide space for making connections to existing pipe and installing all piping which is to be done under this Contract.

The CONTRACTOR shall be responsible for maintaining the minimum required distance between the water line and other utility lines in strict accordance with all Federal, State and local requirements and all right-of-way limitations.

Maximum allowable deflection at the joints for push-on joint pipe shall be as follows providing manufacturer's recommendations are not more stringent:

Size of Pipe	Deflection Angle	Maximum Deflection	
		(18-ft. length)	(20-ft. length)
thru 12"	2-1/2°	9-1/2"	10-1/2"
14" - 36"	1-1/2°	5-1/2"	6"
42" - 48"	1°	3-1/4"	4"

In case the curve is too sharp for the allowable deflection, short lengths of pipe may be used upon approval of the ENGINEER and at no additional cost to the OWNER.

When shown on the Drawings or required by the Specification Special Conditions the CONTRACTOR shall furnish air relief valve assemblies in accordance with Sketch 61-300-8 which is attached to this Section.

Particular care shall be exercised to that no high points are established where air can accumulate. In the event that unforeseen field conditions necessitate a change in the pipe profile and, in the opinion of the ENGINEER, the resulting change requires the installation of an air release valve and manhole, install the same as extra Work to the Contract. If the CONTRACTOR requests a change in the pipe profile solely for ease of construction, and the requested change requires the installation of an air release valve and manhole as determined by the ENGINEER, then the cost of furnishing and installing the air release valve and manhole will be at the expense of the CONTRACTOR. See Sketch

### 3.01 Installation - General Requirements

61-300-8 and 61-300-8A included at the end of this Section for details of an air release valve assembly.

### 3.02 Construction Methods to Avoid Contamination

Heavy particulates generally contain bacteria and prevent even very high chlorine concentrations from contacting and killing such organisms. It is essential that the procedures of this section be observed to assure that a water main and its appurtenances are thoroughly clean for the final disinfection by chlorination.

Precautions shall be taken to protect the interiors of pipes, fittings, and valves against contamination. Pipe delivered for construction shall be strung so as to minimize entrance of foreign material. All openings in the pipeline shall be closed with watertight plugs when pipe laying is stopped at the close of the day's work or for other reasons, such as rest breaks or meal periods. Rodent-proof plugs may be used where it is determined that watertight plugs are not practical and where thorough cleaning will be performed.

Delay in placement of delivered pipe invites contamination. The more closely the rate of delivery is correlated to the rate of pipe laying, the less likelihood of contamination.

Joints of all pipe in the trench shall be completed before work is stopped. If water accumulates in the trench, the plugs shall remain in place until the trench is dry.

Yarning of packing material shall consist of molded or tubular rings, or rope of treated paper or other approved materials. Materials such as jute, asbestos or hemp shall not be used. Packing material shall be handled in a manner that avoids contamination.

No contaminated material or any material capable of supporting prolific growth of microorganisms shall be used for sealing joints. Sealing material or gaskets shall be handled in a manner that avoids contamination. The lubricant used in the installation of sealing gaskets shall be suitable for use in potable water. It shall be delivered to the job in closed containers and shall be kept clean.

If dirt enters the pipe, and in the opinion of the ENGINEER the dirt will not be removed by the flushing operation, the interior of the pipe shall be cleaned by mechanical means and then shall be swabbed with a 1% hypochlorite disinfecting solution. Cleaning with the use of a pig, swab or "go-devil" should be undertaken only when the ENGINEER has specified such and has determined that such operation will not force mud or debris into pipe joint spaces.

If it is not possible to keep the pipe and fittings dry during installation, every effort shall be made to assure that any of the water that may enter the pipe joint spaces contains an available chlorine concentration of approximately 25 mg/L. This may be accomplished by

### 3.02 Construction Methods to Avoid Contamination

adding calcium hypochlorite granules or tablets to each length of pipe before it is lowered into a wet trench, or by treating the trench water with hypochlorite tablets.

If the main is flooded during construction, it shall be cleared of the flood water by draining and flushing with potable water until the main is clean. The section exposed to the flood water shall then be filled with chlorinated potable water that, at the end of a 24 hour holding period, will have a free chlorine residual of not less than 25 mg/L. The chlorinated water may then be drained or flushed from the main. After construction is completed, the main shall be disinfected using the continuous feed or slug method.

### 3.03 Valve Installation

Prior to installation, inspect valves for direction of opening, freedom of operation, tightness of pressure containing bolting, cleanliness of valve ports and especially seating surfaces, handling damage and cracks. Correct defective valves or hold for inspection by the ENGINEER.

Set and join to the pipe in the manner specified in Section 3.01. Provide valves 12-inch and larger with special support, such as crushed stone or concrete pads, so that the pipe will not be required to support the weight of the valve. Set truly vertical.

Provide all valves with a valve box. Set the top of the valve box neatly to the grade of the surface of the existing ground, unless directed otherwise by the ENGINEER. Do not transfer shock or stress to the valve and center and plumb the box over the wrench nut of the valve. Do not use valves to bring misaligned pipe in such manner as to prevent stress on the valve. See Sketch 61-300-6 at the end of this Section for a typical valve box installation detail.

When authorized by the OWNER provide valve marking posts at locations designated by the ENGINEER all in accordance with Sketch 61-300-14 included at the end of this section. Payment will be made per post in accordance with supplemental unit price schedule.

### 3.04 Thrust Restraint

Provide all plugs, caps, tees, and bends (both horizontal and vertical) with concrete reaction backings and/or restrained joint pipe as detailed on the Drawings, or specified in the Specification Special Conditions.

Place concrete reaction backing between undisturbed solid ground and the fitting to be anchored. Concrete reaction backing to be installed in accordance with Specification Section 3300. The backing unless otherwise shown or directed, shall be located as to

### 3.04 Thrust Restraint (cont.)

contain the resultant thrust force and so that the pipe and fitting joints will be accessible for repair.

Temporary thrust restraint at temporary caps or plugs shall be the responsibility of the CONTRACTOR. Submit details of temporary restraint to the ENGINEER for approval.

At connections with existing water mains where there is a limit on the time the water main may be removed from service, use metal harnesses of anchor clamps, tie rods and straps; mechanical joints utilizing set-screw retainer glands; or restrained push-on joints. Metal harnessing may not be used by the CONTRACTOR in lieu of concrete backing without the approval of the ENGINEER. Submit details of the proposed installation to the ENGINEER for approval. For pipe up to 12 inches in size, use a minimum of two 3/4-inch tie rods. For pipe 16-inch in size, four 3/4 inch tie rods are required and for 20-24-inches pipe, six 3/4-inch tie rods are required. For larger pipe sizes, consult the ENGINEER. Install retainer glands in accordance with the instructions of the particular manufacturer furnishing the glands.

Material for metal harnessing and tie-rods shall be ASTM A-36 or A-307 as a minimum requirement.

Protection of Metal Harnessing: Protect tie rods, clamps and other metal components against corrosion by hand application of a bituminous coating or by encasement of the entire assembly with 8-mil thick, loose polyethylene film in accordance with AWWA C105. Grease all tie rods prior to installing polyethylene.

### 3.05 Typical Installation Details

The below listed Sketch numbers are attached to this Specification Section and are referenced throughout the Specifications.

Sketch No.	Description	Issue Date
61-300-6	Typical Valve Box Installation	12/90
61-300-7	Typical Fire Hydrant Assembly	12/90
61-300-8	Typical Air Release Valve - Deep Bury	12/90
61-300-8A	Typical Air Blow-Off Detail - Shallow Bury	12/90
61-300-9	Typical Air Blow-Off Detail	12/90
61-300-10	Typical Service Line Detail	12/90
61-300-11	Optional Arrangement, For 1-1/2" and 2" Service Lines	12/90
61-300-13	Steel Pipe Bollard Detail	12/90
61-300-14	Valve Marking Post Detail	12/90

## **Section 15020**

### **DISINFECTING PIPELINES**

#### **Part 1: GENERAL**

### 1.01 Scope of Work

The CONTRACTOR shall flush and disinfect all pipelines installed under this Contract.

### 1.02 Work by Owner

The OWNER will furnish water for testing, flushing and disinfecting pipelines. The OWNER will also perform bacteriological testing.

### 1.03 Protection

Due to the toxicity of chlorine fumes, men performing work under this Section shall be equipped with all safety equipment and shall be attended by other personnel who are in the vicinity where work is to be performed.

The forward of AWWA Standards B300-87 and B301-87 contain information and additional reference material regarding the safe handling of hypochlorite and liquid chlorine. The CONTRACTOR shall familiarize himself with this information prior to performing any disinfection work.

### 1.04 Related Work

Pipeline installation precautions to avoid contamination are described in Specification Section 15000.

## **Part 2: PRODUCTS**

### 2.01 Materials and Equipment

CONTRACTOR shall furnish chlorine liquid (with the approval of the ENGINEER) and injection equipment and/or calcium hypochlorite (HTH) as needed to complete the disinfection of all pipelines.

Liquid chlorine contains 100% available chlorine and is packaged in steel containers usually of 100lb, 150lb, or 1 ton net chlorine weight. Liquid chlorine is to be furnished in accordance with AWWA B301-87.

Calcium hypochlorite is available in granular form or in approximately 5-g tablets, and contains approximately 65% available chlorine by weight. The material should be stored in a cool, dry, and dark environment to minimize its deterioration.

Calcium hypochlorite is to be furnished in accordance with AWWA B300-87.

## **Part 3: EXECUTION**

### 3.01 Preparation

With the exception of the tablet method, all pipelines shall be pressure and leak tested, flushed, and cleaned of debris and dirt prior to application of the disinfectant. The tablet method requires the pipeline to be kept completely clean and dry during construction.

### 3.02 Application of Disinfectant

Methods to be used for disinfection are those detailed in ANSI/AWWA C-651-86 (water mains).

### 3.03 Water Mains

Three (3) methods of chlorination are described below. Information in the forward of AWWA Standard C651 will be helpful in determining the best method to be used.

#### A Tablet Method

The tablet method consists of placing calcium hypochlorite granules and tablets in the water main as it is being installed and then filling the main with potable water when installation is completed.

NOTE: This method may be used only if the pipes and appurtenances are kept clean and dry during construction.

Placing of calcium hypochlorite granules. During construction, calcium hypochlorite granules shall be placed at the upstream end of the first section of pipe, at the upstream end of each branch main, and at 500 foot intervals. The quantity of granules shall be as shown in Table 1.

WARNING: This procedure must not be used on solvent welded plastic or on screwed joint steel pipe because of the danger of fire or explosion from the reaction of the joint compounds with the calcium hypochlorite.

Placing of calcium hypochlorite tablets. During construction, 5-g calcium hypochlorite tablets shall be placed in each section of pipe and also one such tablet shall be placed in each hydrant, hydrant branch and other appurtenances. The number of 5-g tablets required for each pipe section shall be  $0.0012d^2 L$  [squared] L rounded to the next highest integer, where D is the inside pipe diameter in inches and L is the length of the pipe section in feet. Table 2 shows the number of tablets required for commonly used sizes of pipe. They shall be attached by a food grade adhesive such as \*Permatex Form-A Gasket No.2 and \* Permatex clear RTV Silicone adhesive or equal. There shall be no adhesive on the tablet except on the broad side attached to the surface of the pipe. Attach all the tablets inside and at the top of the main, with approximately equal numbers of tablets at each end of a given pipe length. If the tablets are attached before the pipe

section is placed in the trench, their position shall be marked on the section so it can be readily determined that the pipe is installed with the tablets at the top.

Filling and contact. When installation has been completed, the main shall be filled with water at a rate such that water within the main will flow at a velocity no greater than 1 fps. Precautions shall be taken to assure that air pockets are eliminated. This water shall remain in the pipe for at least 24 hours. If the water temperature is less than 5°C (41°F), the water shall remain in the pipe for at least 48 hours. Valves shall be positioned so that the strong chlorine solution in the main being treated will not flow into water mains in active service.

TABLE 1

Ounces of Calcium Hypochlorite Granules to be placed  
at beginning of Main and at each 500 Foot Intervals

<u>Pipe Diameter</u>	<u>Calcium Hypochlorite Granules</u>
4	0.5
6	1.0
8	2.0
12	4.0
16 and larger	8.0

TABLE 2

Number of 5-g Hypochlorite Tablets  
Required for Dose of 25 mg/L\*\*

Pipe Diameter Inches	Length of Pipe Section, feet				
	13 or less	18	20	30	40
4	1	1	1	1	1
6	1	1	1	2	2
8	1	2	2	3	4
10	2	3	3	4	5
12	3	4	4	6	7
16	4	6	7	10	13

\* A product of the Permatex Co., Brooklyn, New York and Kansas City, Kansas.

\*\* Based on 3.25 available chlorine per tablet, any portion of tablet rounded to next higher number.

#### B. Continuous Feed Method

The continuous feed method consists of placing calcium hypochlorite granules in the main during construction (optional), completely filling the main to remove all air pockets,

flushing the completed main to remove particulates, and filling the main with potable water chlorinated so that after a 24-hour holding period in the main there will be a free chlorine residual of not less than 10 mg/L.

Placing calcium hypo chlorinate granules. The purpose of this procedure is to provide a strong chlorine concentration in the first flow of flushing water that flows down the main. This procedure is recommended particularly where the type of pipe is such that this first flow of water will flow into annular spaces at pipe joints.

Preliminary flushing. Prior to being chlorinated, the main shall be filled to eliminate air pockets and shall be flushed to remove particulates. The flushing velocity in the main shall be not less than 2.5 fps unless the ENGINEER determines that conditions do not permit the required flow to be discharged to waste. Table 3 shows the rates of flow required to produce a velocity of 2.5 fps in pipes of various sizes.

NOTE: Flushing is no substitute for preventive measures during construction. Certain contaminants such as caked deposits resist flushing at any feasible velocity.

TABLE 3

Required Flow Openings to Flush Pipelines  
(40 psi Residual Pressure in Water Main)

Pipe Diameter in Inches	Flow Required to Produce 2.5 fps Velocity in Main gpm	Size of Tap on Main* in inches	Hydrant Outlets	
			Number	Size
4	100	15/16	1	2-1/2
6	220	1-3/8	1	2-1/2
8	390	1-7/8	1	2-1/2
10	610	2-5/16	1	2-1/2
12	880	2-13/16	1	2-1/2
16	1565	3-5/8	1	2-1/2

\* Size of tap on main, with no significant length of discharge piping.

In mains of 24-inches or larger diameter, an acceptable alternative to flushing is to broom-sweep the main, carefully removing all sweepings prior to chlorinating the main.

#### Chlorinating the Main.

(1) Water from the existing distribution system or other approved source of supply shall be made to flow at a constant, measured rate into the newly laid water main.



In the absence of a meter, the rate may be approximated by means such as placing a pitot gauge in the discharge of measuring the time to fill a container of known volume.

(2) At a point not more than 10 feet downstream from the beginning of the new main, water entering the new main shall receive a dose of chlorine fed at a constant rate such that the water will have not less than 25 mg/L free chlorine. To assure that this concentration is provided, measure the chlorine concentration at regular intervals in accordance with the procedures described in the current edition of the AWWA Standards Methods.

Table 4 gives the amount of chlorine required for each 100 feet of pipe of various diameters. Solutions of 1 percent chlorine may be prepared with calcium hypochlorite in 8 gallons of water.

TABLE 4

Chlorine Required to Produce 25 mg/L Concentration  
in 100 feet of Pipe by Diameter

Pipe Diameter in Inches	100 Percent Chlorine lb.	1 Percent Chlorine Solutions gal.
4	.013	.16
6	.030	.36
8	.054	.65
10	.085	1.02
12	.120	1.44
16	.217	2.60

(3) During the application of chlorine, valves shall be positioned so that the strong chlorine solution in the main being treated will not flow into water mains in active service. Chlorine application shall not cease until the entire main is filled with heavily chlorinated water. The chlorinated water shall be retained in the main for at least 24 hours, during which time all valves and hydrants in the section treated shall be operated in order to disinfect the appurtenances. At the end of this 24-hour period, the treated water in all portions of the main shall have a residual of not less than 10 mg/L free chlorine.

(4) The preferred equipment for applying liquid chlorine is a solution feed vacuum-operated chlorinator to mix the chlorine gas in solution water, in combination with a booster pump for injecting the chlorine gas solution water into the main to be disinfected. It is recommended that direct feed chlorinators not be used. (A direct feed

chlorinator is one which operates solely from the pressure in the chlorine cylinder.) Hypochlorite solution may be applied to the water main with a gasoline or electrically powered chemical feed pump designed for feeding chlorine solutions. Feed lines shall be of such material and strength as to withstand safely the corrosion caused by the concentrated chlorine solutions and the minimum pressures that may be created by the pumps. All connections shall be checked for tightness before the solution is applied to the main.

### C. Slug Method

The slug method consists of placing calcium hypochlorite granules in the main during construction, completely filling the main to eliminate all air pockets, flushing the main to remove particulates, and slowly flowing through the main a slug of water dosed with chlorine to a concentration of 100 mg/L in order that all parts of the main and its appurtenances will be exposed to the highly chlorinated water for a period of not less than 3 hours.

The flushing is to be performed in accordance with the flushing procedure described in Section B. Continuous Feed Method

Chlorinating the Main. At a point not more than 10 feet downstream from the beginning of the new main, water entering the new main shall receive a dose of chlorine fed at a constant rate such that the water will have not less than 100 mg/L free chlorine. To assure that this concentration is provided, the chlorine concentration should be measured at regular intervals. The chlorine shall be applied continuously and for a sufficient period to develop a solid column of "slug" of chlorinated water that will, as it moves through the main, expose all interior surfaces to a concentration of approximately 100 mg/L for at least 3 hours.

The free chlorine residual shall be measured in the slug as it moves through the main. If at any time it drops below 50 mg/L the flow shall be stopped, chlorination equipment shall be relocated at the head of the slug, and as flow is resumed, chlorine shall be applied to restore the free chlorine in the slug to not less than 100 mg/L.

As the chlorinated water flows past fittings and valves, related valves and hydrants shall be operated so as to disinfect appurtenances and pipe branches.

### 3.04 Disposal of Heavily Chlorinated Water

After the applicable retention period, heavily chlorinated water should not remain in contact with pipe for more than 48 hours. In order to prevent damage to the pipe lining or corrosion damage to the pipe itself, the heavily chlorinated water shall be flushed from the main until chlorine measurements show that the concentration in the water leaving the main is no higher than that generally prevailing in the system or is acceptable for domestic use. CONTRACTOR shall contact the local sewer department to arrange for disposal of the heavily chlorinated water to the sanitary sewer.

The chlorine residual of water being disposed shall be neutralized by treating with one of the chemicals listed in Table 5. If a sanitary sewer system is unavailable for disposal of the chlorinated water an alternative disposal site must be selected.

The proposed alternative disposal site to which the chlorinated water is to be discharged shall be inspected and approved by the ENGINEER. A reducing agent shall be applied to the chlorinated water to be wasted to completely neutralize the chlorine residual remaining in the water. (See Table 5 for neutralizing chemicals). Where necessary, federal, state, and local regulatory agencies should be contacted to determine special provisions for the disposal of heavily chlorinated water.

**TABLE 5**

Pounds of chemicals required to neutralize various residual  
Chlorine concentrations in 100,000 gallons of water.

Residual Chlorine Concentration mg/L	Sulfur Dioxide (SO <sub>2</sub> )	Sodium Bisulfate (NaHSO <sub>3</sub> )	Sodium Sulfite (NaSO <sub>3</sub> )	Sodium Thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ·5H <sub>2</sub> O )
1	0.8	1.2	1.4	1.2
2	1.7	2.5	2.9	2.4
10	8.3	12.5	14.6	12.0
50	41.7	62.6	73.0	60.0

### **3.05 Bacteriological Testing**

After final flushing and before the water main is placed in service, a sample or samples will be collected from the end of the line by the CONTRACTOR and be tested by the OWNER for bacteriological quality in accordance with Standard Methods of the Examination of Water and Wastewater. At least one sample will be collected from the new main and one from each branch. In the case of mains greater than 2500 feet, samples will be collected along the length of the line when possible as well as at its end.

Bacteriological tests must show complete absence of coliforms. If tests show presence of coliform CONTRACTOR will be required to perform additional flushing and disinfection of the pipeline until such time acceptable tests are obtained, all at no cost to the OWNER. The CONTRACTOR will not be charged for the additional testing performed by the OWNER.

## **Section 15025**

### **CLEANING PIPELINES**

## Part 1: GENERAL

### 1.01 Scope of Work

When required by the Specification Special Conditions or when it is determined that normal flushing will not sufficiently remove dirt and debris introduced during construction the CONTRACTOR shall clean the required pipelines installed under these Contract Documents. The cleaning shall use foam pigs, swabs or “go-devils” as described herein.

### 1.02 General

After the installation of water mains normal flushing often proves inadequate to remove all the entrapped air, loose debris and other objects that may have been left in the main during installation. Therefore, after the installation of water mains it may be necessary to use polyurethane foam pigs and/or polyurethane hard foam swabs to remove all foreign matter from the pipeline (i.e. “pig” the pipeline).

Cleaning per the requirements of this section shall be performed prior to testing and disinfection of the main.

### 1.03 Related Work

See Specification Section 15000.3.02-Construction Methods to Avoid Contamination.  
See Specification Section 15020.3.01-Preparation (prior to disinfecting pipelines).

### 1.04 Protection During Flushing and Cleaning

The CONTRACTOR shall assure that an adequate amount of flushing water at sufficiently high pressures exists and that disposal of the water can be done safely. Do not flush a large main supplied by a single smaller one as the volume available is usually inadequate for flushing.

Prior to flushing, or cleaning, the CONTRACTOR shall notify OWNER, ENGINEER and the following:

- a. Fire Department
- b. Other utilities, such as gas, electric and telephone companies, who may have underground facilities in the area.
- c. Customers who may be inconvenienced by reduced pressure or dirty water.

Isolate the section to be flushed from the system. Operate all valves slowly to prevent water hammer.

Open the fire hydrant or blow-off valve slowly until the desired flow rate is obtained. When flushing from a dry barrel fire hydrant, use the gate valve upstream of the hydrant

for throttling purposes. Open the hydrant valve fully to prevent water from escaping into the ground through the fire hydrant barrel drain.

Minimize worker injury risks by following adequate safety precautions. A safety program should include the education and training of workers in accident prevention, emergency response, and first aid techniques. Prepare specific safety rules for your equipment operators, excavation crews and main flushing and cleaning crews.

Many of the valves to be operated during flushing operations may be in or close to traffic in the street. When operating these valves warn or detour nearby traffic with the use of signs or flags. Place vehicles with warning lights to protect workers. One member should watch for traffic while the other operates the valve. Wear brightly colored safety vests at all times.

An energy dissipater will avoid damage to property and the flooding of streets. Attach an energy dissipater directly to a fire hydrant, blow-off assembly, fire hose of vehicle. An energy dissipater connected to a fire hose, while providing the ability to control the direction of flow, requires means of securing its position. Do not allow crew members to hold energy dissipaters in place. Dissipaters will move violently if not held securely. Use the flushing crew vehicle to secure the position of an energy dissipater.

The heavy flow of water may create traffic problems. If this is unavoidable, place traffic signs well ahead of the flushing site. Keep children away from the flow of flushing water.

The safety considerations just discussed also apply to main cleaning. If excavation is required during main cleaning operation, crews will most likely be working in the street as will crews operating valves during cleaning operations. Ensure that traffic is diverted safely around the immediate working areas by using traffic signs and a flag person. Wear brightly colored safety vests and hard hats near excavation areas at all times.

## Part 2: PROCUCTS

### 2.01 Materials and Equipment

CONTRACTOR shall furnish the foam cleaning plugs, labor and equipment, as needed to pig all pipelines, and shall furnish all materials required for the expulsion of air and other debris from pipelines.

As the cleaning described in this section pertains to new water mains, the use of pipe cleaning plugs which utilize Bristles, wire brushes, carbide abrasives, steel studs or any other Type abrasive is not permitted unless specifically approved by the ENGINEER.

The CONTRACTOR is to consult a manufacturer of pipe cleaning plugs, such as Knapp Polly Pig (Houston, Texas), to determine the type and size of cleaning plug best suited for the application. Two types of plugs shall be considered and are described as follows:

#### A. Swabs

Swabs used for cleaning mains shall be made of polyurethane foam. This foam has a density of 1 to 2 lb./cu. ft. Swabs shall be purchased from commercial manufacturers of swabs for pipes. Both soft and hard grade foam swabs are available. New mains are typically cleaned with hard foam swabs.

#### B. Pigs

The other type of cleaning plug available is called a pig. Pigs, if used, shall be commercially manufactured for the specific purpose of cleaning pipes. They shall be made of polyurethane foam weighing 2 to 15 lb./cu. ft. Pigs are bullet shaped and come in various grades of flexibility and roughness.

#### C. Sizing of Plugs

Use swabs cut into cubes and cylinders slightly larger than the size of the pipe to be cleaned. Cubes one inch larger in dimension than the nominal diameter of the pipe being cleaned have worked well for cleaning pipes up to 12-inches in diameter.

For mains greater than 12-inches in diameter, the swab diameter must be considered individually for each operation. For new mains, swabs 3-inches larger than the pipe diameter have worked well. Swabs for the larger mains are usually 1-1/2 times the diameter in length.

Use pigs typically 1/4-inch to 1/2-inch larger in diameter than the pipe to be cleaned.

Consult suppliers for the proper size of plug to use on the specific job.

### Part 3: EXECUTION

#### 3.01 Plug Installation and Removal

In general, the CONTRACTOR shall furnish all equipment, material, and labor to satisfactorily expose cleaning wyes, or other entry or exit points. Remove cleaning wye covers, etc., as required by the ENGINEER and to insert the plugs into the mains.

If approved by the ENGINEER, stripped fire hydrants, air valves and blow-offs may serve as entry and exit points for smaller sized mains. The ENGINEER will examine these appurtenances and the connecting laterals to ensure that adequate openings exist through which a plug may be launched.

If these appurtenances are used, a special launcher to ease the insertion and launching of the plug is required. If available a pressurized water source such as a fire hydrant can be used to launch the plug. If water from the system is not available nearby, use a water truck with pump.

If hydrants are used as entry and exit points, the CONTRACTOR shall, under ENGINEER supervision, remove the internal mechanisms and plug the drains. Insert the plug and replace the cap with a special flange with a 2-1/2-inch fitting. Connect the 2-1/2-inch fitting with a pressure gauge and valve to a pressurized water source. After the last valve isolating the section to be cleaned is closed, open the hydrant supply valve. Propel the swab or pig into the main by opening the exit valve.

In mains greater than 8-inches, Wyes shall be used at the entry and exit points. Fabricate the wye section one size larger than the main to ease the insertion and extraction of the plug. The use of wyes, as with the previously mentioned appurtenances, requires an outside source of pressurized water for launching. Cap the wye with a flange with a 2 to 6 inch fitting for connecting with the pressurized water source.

Many pigs, since they are less flexible than swabs, are harder to insert into a pipe. Other methods acceptable to insert pigs include:

1. winching with a double sling,
2. winching with a rope attached to the pig,
3. compression with a banding machine prior to insertion, and
4. the use of a specially designed tapered steel pipe which is removed after use.

During swab or pig installation, leave as much water as possible in the main to be cleaned. The water suspends the material being removed from the pipe and minimizes the chance of the material forming a solid plug. Water in the pipe also keeps the swab or pig from traveling through the pipe at excessive rates. If swabs or pigs travel too fast they will remove less material. The swab or pig will also wear more rapidly in such a case.

At the exit point or blow-off, install a wye long enough to house the swab or pig. Attach temporary piping to the end cap to allow the drainage of the water.

Where expulsion of the cleaning plugs is required through a dead end main, the CONTRACTOR shall prevent backflow of purged water into the main after passage of the cleaning plug. This can be accomplished by installing mechanical joint bends and pipe joints to provide a riser out of the trench. Additional excavation of the trench may serve the same purpose and is acceptable.

### 3.02 Pre-Cleaning Procedures

Preplan and prepare for the ENGINEER's review, a written cleaning plan.

Suggested procedures prior to cleaning include the following:



1. Identify mains to be cleaned on a map. Mark the location of the entry, water supply and exit points, any blow-offs to be used, main gates to be closed, and the path of the swab or pig
2. Under the ENGINEER's supervision, inspect and operate all valves and hydrants to be used on the cleaning operation.
3. Check location and type of hydrants, launch and exit location, and blow-offs to be used. Make blow-off tap connections if necessary.
4. The OWNER will notify customers served by the main to be cleaned that their water will be off for a specified period on the day of the cleaning.
5. The OWNER will identify customers who may require temporary services during the main cleaning operation. The CONTRACTOR shall provide the temporary connections.
6. Determine the number and size of plugs to be used.

### 3.03 Cleaning Procedure

After approval by the ENGINEER of the CONTRACTOR's cleaning plan the following cleaning procedures as applicable shall be performed by the CONTRACTOR:

#### A. Swab Cleaning Procedures

1. Open the water supply upstream of the swab. Throttle the flow in the main at the discharge (plug exit) point so that the swab passes through the main at a speed of 2 to 4 fps. At this velocity, swabs will effectively clean pipes for distances of up to 4000 feet before disintegrating to a size smaller than the main. Use pilot gauges at the exist hydrant or blow-off to estimate the flow rate in the main.
2. Note the time of entry of the swab into the main and estimate its time or arrival at the exit point. If the swab does not reach the exit point in the estimated time plus ten minutes, then a blockage has probably occurred. Reverse the flow in the main and note the time required for the swab to reach the original entry point. From the return travel time, approximate the location of the blockage. The ENGINEER may require a swab to which a transmitter has been attached to be used to accurately locate a blockage.
3. Once the first swab has been recovered, typically, make two to three runs of four to five swabs each depending on how quickly flushing water clears. Continue operation until the water behind the swabs emerging at the exit clears up within one minute. Account for all swabs inserted into the main.

#### B. Pig Cleaning Procedures

1. Remove all air valves along the line. This will provide pressure relief should the pig suddenly stop and assure that no air is trapped in the main.
2. If the pig is inserted directly into the main, set it in motion by opening the upstream gate valve and a downstream fire hydrant or blow-off valve



(usually the valve in the capped end at the exit point). If the pig is launched from a wye, fire hydrant, or other appurtenance, use an external pressurized water source to inject the pig into the main as described in Section 3.01.

3. Once the pig is in motion in the main, control its speed by throttling the discharge at a downstream fire hydrant or blow-off. Operate pigs typically at 1 fps. This slow speed will help prevent pressure surges when the pig passes through undersized valves, enters smaller pipes, or turns through tees or crosses. Speeds of up to 2 fps can be used on straight runs with not restrictions or sharp turns.
4. Make sufficient passes of the pig to obtain thorough cleaning. Two pigs may be used in tandem to save time and water. Sufficient cleaning is established when the water discharging after the pig becomes clear within one minute.

### 3.04 Post Cleaning Procedure

After successful completion of cleaning the main shall be tested, flushed and disinfected in accordance with applicable sections of these Specifications.

## **Section 15030**

### **PRESSURE AND LEAKAGE TESTS**

#### Part 1: GENERAL

##### 1.01 Scope of Work

The CONTRACTOR shall test all piping, valves, and appurtenances installed under these Contract Documents. Testing shall be performed concurrent with installation. Unless otherwise approved by the ENGINEER, no more than 1000 feet of pipe shall be installed without being tested.

##### 1.02 Submittals

The CONTRACTOR shall prepare and submit to the ENGINEER schedules and procedures for testing of all parts of the water main installed in accordance with these Contract Documents. The schedule shall be submitted seven days prior to any testing.

## Part 2: PRODUCTS

### 2.01 Equipment

The pump, pipe connections, and all necessary apparatus for the pressure and leakage tests, except gauges and metering devices, shall be furnished by the CONTRACTOR. The OWNER will furnish gauges and metering devices for the tests, but the CONTRACTOR shall make all excavations and backfills, and furnish all necessary assistance for conducting the tests.

## Part 3: EXECUTION

### 3.01 General

After the pipe has been laid, thrust backing cured (min. 5 days) and the trench completely or partially backfilled, the entire pipeline, or any section thereof, shall be subjected to hydrostatic pressure and leak tests in accordance with ANSI / AWWA C600-87, Section 4 – Hydrostatic Testing.

The CONTRACTOR may, at his option, completely backfill the trench or partially backfill the trench over the center portion of each pipe section to be tested. The ENGINEER may however direct the CONTRACTOR to completely backfill the trench if local traffic or safety conditions require such action.

The pipeline will be subjected to a hydrostatic pressure of no less than 100 psi above the normal operating pressure. For operating pressures that do not exceed 200 psi, the pipeline will be subjected to a hydrostatic pressure that is 1.5 times the normal operating pressure, but no more than the design rating of the pipe.

After installation of a tapping sleeve and valve but prior to making the tap into the main the tapping sleeve and valve assembly shall be tested. The required test pressure shall be determined in the same manner as for pipe but no pressure drop will be allowed during the test. Test pressure must be maintained for 15 minutes for acceptance.

### 3.02 Filling and Testing

Each segregated section of pipeline will be slowly filled with water insuring that all air is expelled. Extreme care must be taken to insure all air is expelled from the pipeline during the filling of pipe with water. The line shall stand full of water for twenty-four hours prior to testing to allow all air to escape. If necessary, tap the main at points of highest

elevation so that air can be expelled as the pipe is filled with water. After successful completion of filling and air expulsion, but prior to testing, the corporation stops shall be removed and the taps tightly plugged.

The specified test pressure, measured at the point of lowest elevation, will then be applied by means of a pump connected to the pipe in a manner satisfactory to the ENGINEER. If the elevation of the high point of the pipeline being tested is such that the pressure during testing will be below 85% of the required test pressure the ENGINEER will require a separate test to be performed of this section of pipeline. In lieu of a separate test the test pressure measured at the lowest elevation may be increased, within the pressure rating of the pipeline material, such that resulting pressure at the highest point exceeds 85% of the required test pressure. The test pressure will not vary by more than  $\pm 5$  psi and the test will be of at least two-hour duration.

A leakage test will be conducted concurrently with the pressure test. Leakage is defined as the quantity of the water measured as make-up water (volumetrically in a container or meter) that must be supplied into the newly laid pipeline to maintain pressure within 5 psi of the test pressure after the air in the pipeline has been expelled and the pipe filled with water.

No pipeline installation will be accepted by the ENGINEER if the leakage is greater than that shown in the following table:

Allowable Leakage per 1000 ft. of Pipeline\*---gph

Nominal Pipe Diameter---in.

<u>Avg.</u> <u>Test</u> <u>Pressure</u> <u>psi</u>	4	6	8	12	16	20	24	30	36	42	48
100	0.30	0.45	0.60	0.90	1.20	1.50	1.80	2.25	2.70	3.15	3.60
125	0.34	0.50	0.67	1.01	1.34	1.68	2.01	2.52	3.02	3.53	4.03
150	0.37	0.55	0.74	1.10	1.47	1.84	2.21	2.76	3.31	3.86	4.41
175	0.40	0.59	0.80	1.19	1.59	1.98	2.38	2.98	3.58	4.17	4.77
200	0.43	0.64	0.85	1.28	1.70	2.12	2.55	3.19	3.82	4.46	5.09
225	0.45	0.68	0.90	1.35	1.80	2.25	2.70	3.38	4.05	4.73	5.41
250	0.47	0.71	0.95	1.42	1.90	2.37	2.85	3.56	4.27	4.99	5.70
275	0.50	0.75	1.00	1.49	1.99	2.49	2.99	3.73	4.48	5.23	5.98
300	0.52	0.78	1.04	1.56	2.08	2.60	3.12	3.90	4.68	5.46	6.24

350	0.56	0.84	1.12	1.69	2.25	2.81	3.37	4.21	5.06	5.90	6.74
400	0.60	0.90	1.20	1.80	2.40	3.00	3.60	4.50	5.41	6.31	7.21
450	0.64	0.95	1.27	1.91	2.55	3.18	3.82	4.78	5.73	6.69	7.64

\*If the pipeline under test contains sections of various diameters, the allowable leakage will be the sum of the computed leakage for each size.

The table has been generated from the formula: 
$$L = \frac{SD(P)^{1/2}}{133,200}$$
where L is the allowable leakage in gallons per hour, S equals the length of pipe in feet, D is the nominal pipe diameter in inches and P is the test pressure in PSIG.

Should any test disclose damaged or defective materials or leakage greater than that permitted, the CONTRACTOR shall at his own expense, locate and repair and/or replace defective materials. The tests shall be repeated until the leakage is within the permitted allowance and is satisfactory to the ENGINEER.

**Section 15105**

**DUCTILE IRON PIPE AND FITTINGS**

**(Owner Furnished)**

**Part 1: GENERAL:**

**1.01 Coordination of Work**

Connection to existing pipelines may require shutdown of OWNER facilities. Construction work and connection shall be closely coordinated with the OWNER through the ENGINEER, in consult with the OWNER, may select the time, including Saturdays, Sundays, or holidays, which, in the opinion of the ENGINEER, will cause the least inconvenience to the ENGINEER and/or its customers, for connection to existing pipelines, and the CONTRACTOR will perform such connections at such times as may be directed by the OWNER at the Contract prices and no claim for premium time or additional costs will be made by the CONTRACTOR.

**1.02 Related Work**

Piping – General Provisions – Section 15000

**Part 2: PRODUCTS**

**2.01 Pipe Material**

OWNER will furnish and CONTRACTOR shall install all ductile iron pipe and fittings. Materials to be furnished by OWNER are included in Section SSC-1000.1.03 of the Specifications Special Conditions.

Research has documented that certain pipe materials (such as polyvinyl chloride, polyethylene, and polybutylene) and certain elastomers (such as those used in gasket material) may be subject to permeation by lower-molecular weight organic solvents or petroleum products. Products supplied under this section have been selected based on the non-expectation of encountering petroleum products of organic solvents. If during the course of pipeline installation the CONTRACTOR identifies, or suspects, the presence of petroleum products or any unknown chemical substance the ENGINEER is to be notified immediately. Installation of any further piping in the area of suspected contamination shall be stopped until direction is provided by the ENGINEER.

Part 3: EXECUTION

3.01 Installation

The provisions specified in Section 15000 shall be strictly followed in addition to the following requirements:

A. Push-on Joints

The surface with which the rubber gasket comes in contact shall be thoroughly cleaned just prior to assembly. The gasket shall then be inserted into the groove in the bell. Before starting joint assembly, a liberal coating of special lubricant shall be applied to the gasket and the spigot end is pushed home.

B. Mechanical Joints

All components shall be cleaned and lubricated with soapy water prior to assembly. Slip the follower gland and gasket over the pipe plain end making sure the small side of the gasket and lip of the gland face the bell socket. Insert the plain end into socket. Push gasket into position with fingers, gasket should be evenly seated. Slide gland into position, insert bolts and tighten nuts by hand. Bolts are then tightened alternately (across from one another) to the following normal torques:

Bolt Size	Range of Torque in Foot-Pounds
5/8"	40 – 60
3/4"	60 – 90
1"	70 – 100
1-1/4"	90 – 120

### C. Restrained Joints

#### (1) Ball and Socket

Assemble and install the ball and socket joint according to the manufacturer's recommendations. The joint shall be thoroughly cleaned and lubricated. Check the retainer ring fastener.

#### (2) Push-on

Assemble and install the push-on joint according to the manufacturer's recommendations. The joint shall be thoroughly cleaned and lubricated. Check the retainer ring fastener.

During "pushing home" of any style piping timber shall be placed between the jacking device (backhoe bucket, pipe jack, etc.) and the pipe being driven home.

### **Section 15106**

### **DUCTILE IRON PIPE AND FITTINGS**

### **(Owner Furnished)**

#### **Part 1: GENERAL**

##### **1.01 Coordination of Work**

Connection to existing pipelines may require shutdown of OWNER facilities. Construction work and connections shall be closely coordinated with the OWNER through the ENGINEER, in consult with the OWNER through the ENGINEER. The ENGINEER, in consult with the OWNER, may select the time, including Saturdays, Sundays, or holidays, which, in the opinion of the ENGINEER, will cause the least inconvenience to the ENGINEER and/or its customers, for connection to existing pipelines, and the CONTRACTOR will perform such connections at such times as may be directed by the OWNER at the Contract prices and no claim for premium time or additional costs will be made by the CONTRACTOR.

##### **1.03 Related Work**

Piping – General Provisions – Section 15000

##### **1.04 Submittals**

Shop drawings and manufacturer's literature for all CONTRACTOR supplied materials shall be promptly submitted to the ENGINEER for approval in accordance with Section 1300.

## Part 2: PRODUCTS

### 2.02 Pipe Material

Research has documented that certain pipe materials (such as polyvinyl chloride, polyethylene, and polybutylene) and certain elastomers (such as those used in gasket material) may be subject to permeation by lower-molecular weight organic solvents or petroleum products. Products supplied under this section have been selected based on the non-expectation of encountering petroleum products of organic solvents. If during the course of pipeline installation the CONTRACTOR identifies, or suspects, the presence of petroleum products or any unknown chemical substance the ENGINEER is to be notified immediately. Installation of any further piping in the area of suspected contamination shall be stopped until direction is provided by the ENGINEER.

### 2.01 Pipe Material

#### A. General

Ductile iron pipe shall conform to the latest specifications as adopted by the American National Standards Institute, Inc., (ANSI) and the American Water Works Association (AWWA). Specifically, ductile iron pipe shall conform to ANSI / AWWA C151/A21.51.

The pipe shall be coated outside with a bituminous coating in accordance with ANSI / AWWA C151/A21.51. The pipe interior shall be cement mortar lined and seal coated in compliance with the latest revision of ANSI / AWWA C104/A21.4. The cement mortar lining shall be double thickness.

#### B. Pipe Class

The class of pipe to be furnished shall be in accordance with Table 1 and the below listed notes.

Table 1

Rated Working Pressure and Maximum Depth of Cover For Ductile Iron Pipe  
Manufactured in Accordance With ANSI /AWWA C151/A21.51

			<u>Rated</u>					
			<u>Water</u>					
<u>Pipe</u>		<u>Nominal</u>	<u>Working</u>		<u>Laying</u>	<u>Condition</u>		
<u>Size</u>	<u>Thick.</u>	<u>Thick.</u>	<u>Pressure</u>	<u>Type 1</u>	<u>Type 2</u>	<u>Type 3</u>	<u>Type 4</u>	<u>Type 5</u>
<u>Inches</u>	<u>Class</u>	<u>Inches</u>	<u>Psi +</u>	<u>Max.</u>	<u>Depth</u>	<u>Of Cover,</u>	<u>Feet</u>	
6	50	0.25	350	32	38	44	56	75
8	50	0.27	350	25	30	36	46	64
12	50	0.31	350	17	22	27	36	64
16	50	0.34	350	13	17	21	30	47
20	50	0.36	300	10	14	18	27	38
24	50	0.38	250	8	12	17	23	31

NOTES:

1. Larger pipe sizes up to 54-inch can be installed as Class 50 with cover up to nine (9) feet and an operating pressure of 200 psi. when trench depths exceed fifteen (15) feet for pipe sizes of 16-inch or larger, Class 51 pipe should be used.
2. The thickness of Class 50 ductile iron pipe is adequate to support  $\frac{3}{4}$  and 1-inch corporations. For the installation of equipment requiring a larger tap (i.e., air relief valves or larger corporations) a full saddle is required due to limited wall thickness.
3. There are special conditions where a larger wall thickness is required. At treatment plant or booster station sites where frequent excavation can be anticipated in the vicinity of pipe, Class 54 pipe shall be installed to minimize external damage to the pipe from trenching equipment. Class 56 pipe is required where the pipeline is laid on a river channel bottom to prevent external damage to the pipe and minimize the potential for costly pipe replacement.

C. Testing

Each length of pipe shall be subjected to a hydrostatic proof test as required by ANSI / AWWA C151/A21.51.

D. Joints

1. Mechanical and Push-on

Mechanical and push-on joints including accessories shall conform to ANSI / AWWA C111/A21.11

2. Flanged

Flanged joints shall conform to ANSI / AWWA C110/A21.10 or ANSI B16.1 for fittings and ANSI / AWWA C115/A21.15 for pipe. Flanged joints shall not be used in underground installations except within structures.

All flanged joints shall be furnished with 1/8-inch thick, red rubber or styrene butadiene rubber gaskets. The bolts shall have American Standard heavy unfinished hexagonal head



and nut dimensions all as specified in American Standard for Wrench Head Bolts and Nuts and Wrench Openings (ANSI B18.2). For bolts of 1-3/4-inches in diameter and larger, bolt studs with a nut on each end are recommended. Material for bolts and nuts shall conform to ASTM A107.

2.02 Fittings

A. Ductile Iron Fittings

Standard fittings shall be ductile iron conforming to ANSI / AWWA C110/A21.10. Compact ductile iron fittings shall meet the requirements of ANSI / AWWA C153/A21.53.

1. Working Pressure

Fittings shall be suitable for the following working pressures unless otherwise noted:

Size	Pressure in Pounds per Square inch	
	Compact Ductile Iron	Standard Ductile Iron
3” – 24”	350	350
30” – 48”	350	250

2. Coating and Lining

The fittings shall be coated with a bituminous coating in accordance with ANSI / AWWA C110/A21.10 and lined inside with cement mortar and seal coated in accordance with ANSI / AWWA C104/A21.4. The cement mortar lining shall be double thickness.

B. Joints

1. Mechanical and Push-on

Mechanical and push-on joints including accessories shall conform to ANSI / AWWA C111/A21.11

2. Flanged

Flanged joints shall meet the requirements of ANSI / AWWA C115/A21.15 or ANSI B16.1 or ANSI / AWWA C115/A21.15. Flanged joints shall not be used in underground installations except within structures.

All flanged joints shall be furnished with a minimum 1/8-inch thick, red rubber or styrene butadiene rubber gasket. The bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in ANSI B18.2. For bolts of 1-3/4-

inches in diameter and larger, bolt studs with a nut on each end are recommended. Material for bolts and nuts shall conform to ASTM A107.

3. Restrained

When restrained joints are required, for pipe and fittings, they shall be of the boltless push-on type which provides joint restraint independent of the joint seal. Restrained system shall be suitable for the following working pressures:

<u>Size</u>	<u>Pressure in Pounds per Square inch</u>
4" – 12"	250
14" – 24"	350
30" – 50"	250

Part 3: EXECUTION

3.01 Installation

The provisions specified in Section 15000 shall be strictly followed in addition to the following requirements:

A. Push-On Joints

The surfaces with which the rubber gasket comes in contact shall be thoroughly cleaned just prior to assembly. The gasket shall then be inserted into the groove in the bell. Before starting joint assembly, a liberal coating of special lubricant shall be applied to the gasket and the spigot end. With the spigot end centered in the bell, the spigot end is pushed home.

B. Mechanical Joints

All components shall be cleaned and lubricated with soapy water prior to assembly. Slip the follower gland and gasket over the pipe plain end making sure the small side of the gasket and lip of the gland face the bell socket. Insert the plain end into socket. Push gasket into position with fingers, gasket should be evenly seated. Slide gland into position, insert bolts and tighten must by hand. Bolts are then tightened alternately (across from one another) to the following normal torques:

<u>Bolt Size</u>	<u>Range of Torque in Foot-Pounds</u>
5/8"	40 – 60
3/4"	60 – 90
1"	70 – 100
1-1/4"	90 – 120

### C. Restrained Joints

#### 1. Ball and Socket

Assemble and install the ball and socket joint according to the manufacturer's recommendations. The joint shall be thoroughly cleaned and lubricated. Check the retainer ring fastener.

#### 2. Push-On

Assemble and install the push-on joint according to the manufacturer's recommendations. The joint shall be thoroughly cleaned and lubricated. Check the retainer ring fastener.

During "pushing home" of any style piping timber shall be placed between the jacking device (backhoe bucket, pipe jack, etc.) and the pipe being driven home.

## **Section 15110**

### **STEEL PIPE AND FITTINGS**

#### **(CONTRACTOR Furnished)**

#### **Part 1: GENERAL**

##### **1.01 Coordination of Work**

Connection to existing pipelines may require shutdown of OWNER facilities. Construction work and connections shall be closely coordinated with the OWNER through the ENGINEER, in consult with the OWNER through the ENGINEER. The ENGINEER, in consult with the OWNER, may select the time, including Saturdays, Sundays, or holidays, which, in the opinion of the ENGINEER, will cause the least inconvenience to the ENGINEER and/or its customers, for connection to existing pipelines, and the CONTRACTOR will perform such connections at such times as may be directed by the OWNER at the Contract prices and no claim for premium time or additional costs will be made by the CONTRACTOR.

##### **1.02 Related Work**

## Piping – General Provisions – Section 15000

### 1.03 Submittals

Shop drawings and manufacturer's literature for all CONTRACTOR supplied materials shall be promptly submitted to the ENGINEER for approval in accordance with Section 1300.

## Part 2: PRODUCTS

### 2.01 Pipe Material

All steel pipe shall be either fabricated pipe or mill pipe manufactured in accordance with AWWA C200 and the following:

Pipe up to and including, 24-inch diameter shall be mill type pipe conforming to ASTM Specification A52, Grade B, seamless or fabricated pipe using ASTM A283, Grade C steel. Pipe larger than 24-inches shall be fabricated pipe using ASTM, A283, Grade C steel with straight longitudinal welded seams.

The diameter specified shall be the nominal inside diameter for pipe sizes up to 12-inches and the nominal outside diameter for pipe larger than 12-inches.

Wall thickness for steel pipe and fittings shall be minimum .375 inches for pipe sizes up to eight (8) inches. For pipe diameters larger than eight (8) inches the minimum wall thickness shall be .5 inches. Heavier wall thickness, if required, will be specified in the Specification Special Conditions.

Steel fittings to be furnished shall conform to AWWA Standard C208.

Flanges shall be Class D, slip-on type in accordance with AWWA Standard C207. Flanges shall be flat faced with O.D. and drilling in accordance with ANSI Standard B16.1.

Field welding of pipe shall be in accordance with AWWA Standard C206.

Interior of all steel pipe and fittings shall be cement mortar lined in accordance with AWWA Standard C205. Field welded joints shall be lined in accordance with the Appendix to AWWA Standard C205. All lining shall be sealed with a bituminous seal coat approved for use with potable water.

Pipe and fittings shall be provided with water stops where shown on the Drawings or as required to prevent leakage around the pipe fittings at penetrations between wet and dry areas.

The exterior of all buried steel pipe and fittings shall receive shop applied prime coat and coal tar enamel protective coating in accordance with AWWA Standard C203. Fusion-bonded epoxy coating in accordance with AWWA Standard C213 is also acceptable.

### Part 3: EXECUTION

#### 3.01 Installation

General provisions provided in Specification Section 15000 shall be strictly followed in addition to the following:

Pipe joints shall be where shown on the Drawings except where conditions dictate changes and such changes are approved by the ENGINEER. The CONTRACTOR shall be responsible for insuring proper alignment and fit of all steel piping.

The cutting of pipe for installing valves or fittings shall be done in a neat and workmanlike manner without damage to the pipe or lining. The end shall be smooth and at right angle to the axis of the pipe or properly beveled for the weld joint as required. Flame cutting of metal pipe shall not be permitted. All pipe cutting shall be at the CONTRACTOR's expense.

All required field welding of steel pipe shall be performed in accordance with AWWA Standard C206.

### Section 15115

### CONCRETE PIPE AND FITTINGS

#### (Contractor Furnished)

### Part 1: GENERAL

#### 1.01 Coordination of Work

Connection to existing pipelines may require shutdown of OWNER facilities. Construction work and connections shall be closely coordinated with the OWNER through the ENGINEER, in consult with the OWNER through the ENGINEER. The ENGINEER, in consult with the OWNER, may select the time, including Saturdays, Sundays, or holidays, which, in the opinion of the ENGINEER, will cause the least inconvenience to the ENGINEER and/or its customers, for connection to existing pipelines, and the CONTRACTOR will perform such connections at such times as may be directed by the OWNER at the Contract prices and no claim for premium time or additional costs will be made by the CONTRACTOR.

### 1.05 Related Work

Piping – General Provisions – Section 15000

### 1.06 Submittals

Shop drawings and manufacturer's literature for all CONTRACTOR supplied materials shall be promptly submitted to the ENGINEER for approval in accordance with Section 1300.

## Part 2: PRODUCTS

### 2.03 Pipe Material

Research has documented that certain pipe materials (such as polyvinyl chloride, polyethylene, and polybutylene) and certain elastomers (such as those used in gasket material) may be subject to permeation by lower-molecular weight organic solvents or petroleum products. Products supplied under this section have been selected based on the non-expectation of encountering petroleum products or organic solvents. If during the course of pipeline installation the CONTRACTOR identifies, or suspects, the presence of petroleum products or any unknown chemical substance the ENGINEER is to be notified immediately. Installation of any further piping in the area of suspected contamination shall be stopped until direction is provided by the ENGINEER.

### 2.01 Pipe Materials

#### A. Prestressed Concrete Pressure Pipe, Steel Cylinder Type

Prestressed concrete pressure pipe shall conform to the latest specifications as adopted by the American Water Works Association (AWWA). Specifically, prestressed concrete pressure pipe, steel cylinder type shall conform to AWWA C300, latest issue, except as modified herein.

The pipe shall be designed to meet the following requirements:

#### 1. External Load

Depth of cover – 2-1/2 feet to 10 feet, whichever depth produces the greatest load in conjunction with live load.

Trench width – nominal pipe diameter plus 24 inches

Soil density – 120 pounds per cubic foot.

Ku – 0.130

Laying condition – Type 2, per AWWA Standard C600.

Live load – per ANSI / AWWA Standard C151/A21.51,

(H-20, one truck, plus 1.5 impact).

If the depth of cover exceeds 10 feet, it will be so indicated on the Drawings and the pipe manufacturer shall design the pipe as required in these areas.

## 2. Internal Pressure

Working pressure – as per the Specification Special Conditions.

If not provided use 250 PSIG.

Surge pressure allowance – 100 psi.

## 3. Combined Loading

Concrete pipe shall be designed in accordance with AWWA C300, latest revision, using the “Cubic Parabola Design Method” outlined in Appendix A as follows:

- (a) The combination of design pressure and earth loading will fall under the Design-Curve.
- (b) The combination of design pressure plus specified surge pressure, and earth loading shall fall under the Transient-Capacity Curve.
- (c) The combination of design pressure and earth loading plus line loading shall fall within the Transient-Capacity Curve.

## B. Design Calculations

The CONTRACTOR shall submit design calculations to the ENGINEER for the most severe loading conditions for each size and class of pipe. If requested by the ENGINEER, the CONTRACTOR shall submit calculations to support the design of any particular piece or pieces of pipe anywhere on the project as part of his Bid Price for the Contract and at no additional cost to the OWNER.

The design calculations shall be presented in a neat, readable form, with all fixtures, values and units included to facilitate ease of checking. Calculations shall include, but not be limited to, the following:

- 1. pipe size
- 2. cylinder thickness and area
- 3. cylinder yield point and ultimate strength (ASTM Designation)
- 4. wire diameter or gauge
- 5. wire area

6. wire size
7. wire spacing
8. wire wrapping force
9. ultimate strength of wire
10. internal pressure at zero core compression ( $P_0$ )
11. elastic limit pressure ( $P_L$ )
12. burst strength ( $P_{burst}$ )
13. 3-edge bearing load to produce incipient cracking
14. 9/10 of the three-edge bearing loading producing .001 inch crack in the core with no internal pressure ( $W_0$ )
15. ultimate 3-edge load
16. resultant concrete compression
17. gross wrapping stress in wire
18. compressive strength of core concrete at time of wrapping
19. core thickness
20. outside coating thickness
21. plotting related to design curves for Cubic Parabola Design Method for combined load conditions

### C. Testing

The design of each size and class of pipe shall be checked by hydrostatic tests conducted on representative pipe in the manufacturer's shop to obtain the following actual test strengths:

1. The pressure to produce a surface crack in the coating of the barrel 0.001 inches long shall be at least  $0.8 P_0$  for lined cylinder pipe or  $P_0$  for embedded cylinder pipe.
2. The ultimate pressure to produce burst shall be at least  $P_b$ .

The design of each size and class of concrete cylinder pipe shall be verified by tests conducted on representative specimens. The tests described in this paragraph are for proof of design only and it is not necessary that such tests be made on pipe manufactured specifically for this Contract. Certified reports covering tests made on other pipe of the same size, class, and design as specified herein and manufactured from materials or equivalent type and quality may be accepted as adequate proof of design.

### D. Joints

Joints for concrete pipe and fittings shall be of the rubber gasket type meeting the requirements of AWWA Specification C300 with exposed portions of the joint rings after casting, being protected with a metallic coating having a minimum thickness of 0.004 inches. Joint lubricant shall be as recommended by the pipe manufacturer. Rubber gaskets shall meet the physical requirements of the appropriate ASTM Specifications.

## 2.02 Fittings



Fittings for reinforced concrete pipe, steel cylinder type, prestressed shall be designed so as to be compatible with the pipe and so as to provide at least equal resistance to internal and external loads of the pipe. Design criteria, joints, coatings, and linings shall be as specified for the pipe. Fittings shall conform to the requirements of AWWA C300, latest concrete pipe to iron pipe or valves where necessary for proper connection.

The CONTRACTOR shall stock, without additional compensation, a number of bevel adapters and short lengths of pipe at the job site to be used for diverting the main past obstructions or to make any changes in the line and grade of the main due to omissions on the laying schedule or tabulated layout.

He also shall provide, without additional compensation, bevel pipe, outlet connections on straight pipe, closure-pieces, and other accessories required as required to satisfactorily install the new main as shown on the plans.

## 2.02 Coating

Pipe and fittings shall have an exterior mortar coating as specified in AWWA C301, latest revision.

## Part 3: EXECUTION

### 3.01 Installation

General provisions provided in Section 15000 shall be strictly followed in addition to the following:

Before assembling a joint, the spigot end of the pipe shall be thoroughly cleaned. The inside of the bell end of the pipe and the gasket shall be cleaned and lubricated with vegetable soap. The gasket is then placed around the spigot end so it is properly seated in the circumferential groove to maintain uniform tension in the gasket all around the pipe. The spigot end is then aligned with the bell end of the pipe and carefully entered into the bell.

The joint shall be checked to determine if the gasket is in the proper position. The joints of pipe 24 inches or larger shall be checked from the inside of the pipe. Before the spigot is thrust completely, home, steel spacers are inserted in the seat of the bell to leave a half-inch clearance. A feeler gauge is then entered into the recess to check the position of the

gasket. If the gasket cannot be felt all around the pipe, the spigot shall be removed. If the gasket is not damaged, it may be reused, but both the gasket and the joint shall be relubricated. After it has been determined the gasket is in its proper position, the joint spacers are removed and the pipe pushed or pulled completely home. The joints of pipe smaller than 24 inches may be checked from the outside of the pipe by inserting a feeler gauge into the flare of the bell to assure that no portion of the gasket is protruding.

After the joint is assembled, a cloth band is placed around the joint recess and wired or strapped in position to provide a means of pouring grout in the recess. A grout composed of one part cement and three parts sand is poured into the joint recess beneath the band. Measures should be taken to assure the entire recess around the pipe is completely filled.

If welding of prestressed concrete pipe joints is required by the ENGINEER, the welding shall be done in accordance with American Water Works Service Company drawing no. 61-300-12SK titled, "Specifications for Welding Prestressed Concrete Pipe Joints". This drawing is included at the end of this Section.

### **Section 15120**

### **POLYVINYL CHLORIDE (PVC) PIPE**

### **(OWNER Furnished)**

#### **Part 1: GENERAL**

##### **1.01 Coordination of Work**

Connection to existing pipelines may require shutdown of OWNER facilities. Construction work and connections shall be closely coordinated with the OWNER through the ENGINEER, in consult with the OWNER through the ENGINEER. The ENGINEER, in consult with the OWNER, may select the time, including Saturdays, Sundays, or holidays, which, in the opinion of the ENGINEER, will cause the least inconvenience to the ENGINEER and/or its customers, for connection to existing pipelines, and the CONTRACTOR will perform such connections at such times as may be directed by the OWNER at the Contract prices and no claim for premium time or additional costs will be made by the CONTRACTOR.

##### **1.02 Related Work**

Piping – General Provisions – Section 15000

#### **Part 2: PRODUCTS**

Research has documented that certain pipe materials (such as polyvinyl chloride, polyethylene, and polybutylene) and certain elastomers (such as those used in gasket material) may be subject to permeation by lower-molecular weight organic solvents or

petroleum products. Products supplied under this section have been selected based on the non-expectation of encountering petroleum products of organic solvents. If during the course of pipeline installation the CONTRACTOR identifies, or suspects, the presence of petroleum products or any unknown chemical substance the ENGINEER is to be notified immediately. Installation of any further piping in the area of suspected contamination shall be stopped until direction is provided by the ENGINEER.

## 2.02 Pipe Material

OWNER will furnish and CONTRACTOR shall install all ductile iron pipe and fittings. Materials to be furnished by OWNER are included in Section SSC-1000.1.03 of the Specifications Special Conditions.

To join field-cut pipe, it is necessary to first prepare the pipe end. A square cut is essential for proper assembly. The pipe shall be marked around its entire circumference prior to cutting to assure a square cut. Use a factory-finished beveled end as a guide for proper bevel angle, and depth of bevel plus the distance to the insertion reference mark. The end shall be beveled using a pipe taper. A portable sander or abrasive disc may also be used to bevel the pipe end. Round off any sharp edges on the leading edge of the bevel with a pocket knife or a file.

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



**Kentucky Transportation Cabinet**

**Highway District 2 (1)**

**And**

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

**Kentucky Pollutant Discharge Elimination System**

**Permit KYR10**

**Best Management Practices (BMP) plan**

**Groundwater protection plan**

**For Highway Construction Activities**

**For**

**Reconstruct intersection at Fairview Drive (KY  
3143) and KY 298 in Daviess County (1)**

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

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

### Project information

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

1. Owner – Kentucky Transportation Cabinet, District 2 (1)
2. Resident Engineer: (2)
3. Contractor name: (2)  
Address: (2)  
  
Phone number: (2)  
Contact: (2)  
Contractors: agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number (2)
5. Route Reconstruct intersection at Fairview Drive (KY 3143) and KY 298 in Daviess County(1)
6. Latitude/Longitude (project mid-point) 37.730277, -87.073611 (1)
7. County (project mid-point) Daviess (1)
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

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

### A. Site description:

1. Nature of Construction Activity (from letting project description)  
ADDRESS CONGESTION AND MOBILITY OF US 68 FROM KY 91 to KY 1007 IN HOPKINSVILLE (MP 9.221 to MP 10.137) IN CHRISTIAN COUNTY (1)
2. Order of major soil disturbing activities (2) and (3)
3. Projected volume of material to be moved 9983 CY (1)
4. Estimate of total project area (acres) 5.5 (1)
5. Estimate of area to be disturbed (acres) 5.3 (1)
6. Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information. (1)
7. Data describing existing soil condition (1) & (2) See Geotech report if available. See Roadway Plans.
8. Data describing existing discharge water quality (if any) No existing water quality information available (1) & (2)
9. Receiving water name North Fork Panther Creek (1)
10. TMDLs and Pollutants of Concern in Receiving Waters: (1 DEA)
11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.
12. Potential sources of pollutants:

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

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.
  - At the beginning of the project, all DDAs for the project will be inspected for areas that are a source of storm water pollutants.

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

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

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



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

- Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probably changes include:
  - Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMP's which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
  - Permanent Seeding and Protection
  - Placing Sod
  - Planting trees and/or shrubs where they are included in the project
- BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are : Seeding and Protection, Erosion Control Blanket. (1)

## C. Other Control Measures

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

### 2. Waste Materials

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

### 3. Hazardous Waste

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

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

### 4. Spill Prevention

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

#### ➤ **Good Housekeeping:**

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

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

#### ➤ **Hazardous Products:**

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

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

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

#### ➤ **Petroleum Products:**

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

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

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

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

### ➤ **Fertilizers:**

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

### ➤ **Paints:**

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

### ➤ **Concrete Truck Washout:**

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

### ➤ **Spill Control Practices**

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

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

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

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

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. No other local requirements are being added to this project. (1)

### **E. Maintenance**

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

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

the purpose of post construction storm water management with specific guidance for any non-routine maintenance. No features of this project will require post construction maintenance over and above normal maintenance procedures. (1)

### F. Inspections

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

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

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

### G. Non – Storm Water discharges

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

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

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

### H. Groundwater Protection Plan (3)

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

- Contractors statement: (3)

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

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

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

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

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

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

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

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

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

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

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

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

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

## Contractor and Resident Engineer Plan certification

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.

## Resident Engineer and Contractor Certification:

(2) Resident Engineer signature

Signed \_\_\_\_\_ title \_\_\_\_\_,  
Typed or printed name<sup>2</sup> signature

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

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

2. KyTC note: to be signed by the Chief District Engineer or a person designated to have the authority to sign reports by such a person (usually the resident engineer) in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601 Reference the Project Control Number (PCN) and KPDES number when one has been issued.



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

Sub-Contractor Certification

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

Subcontractor

Name:  
Address:  
Address:  
  
Phone:

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

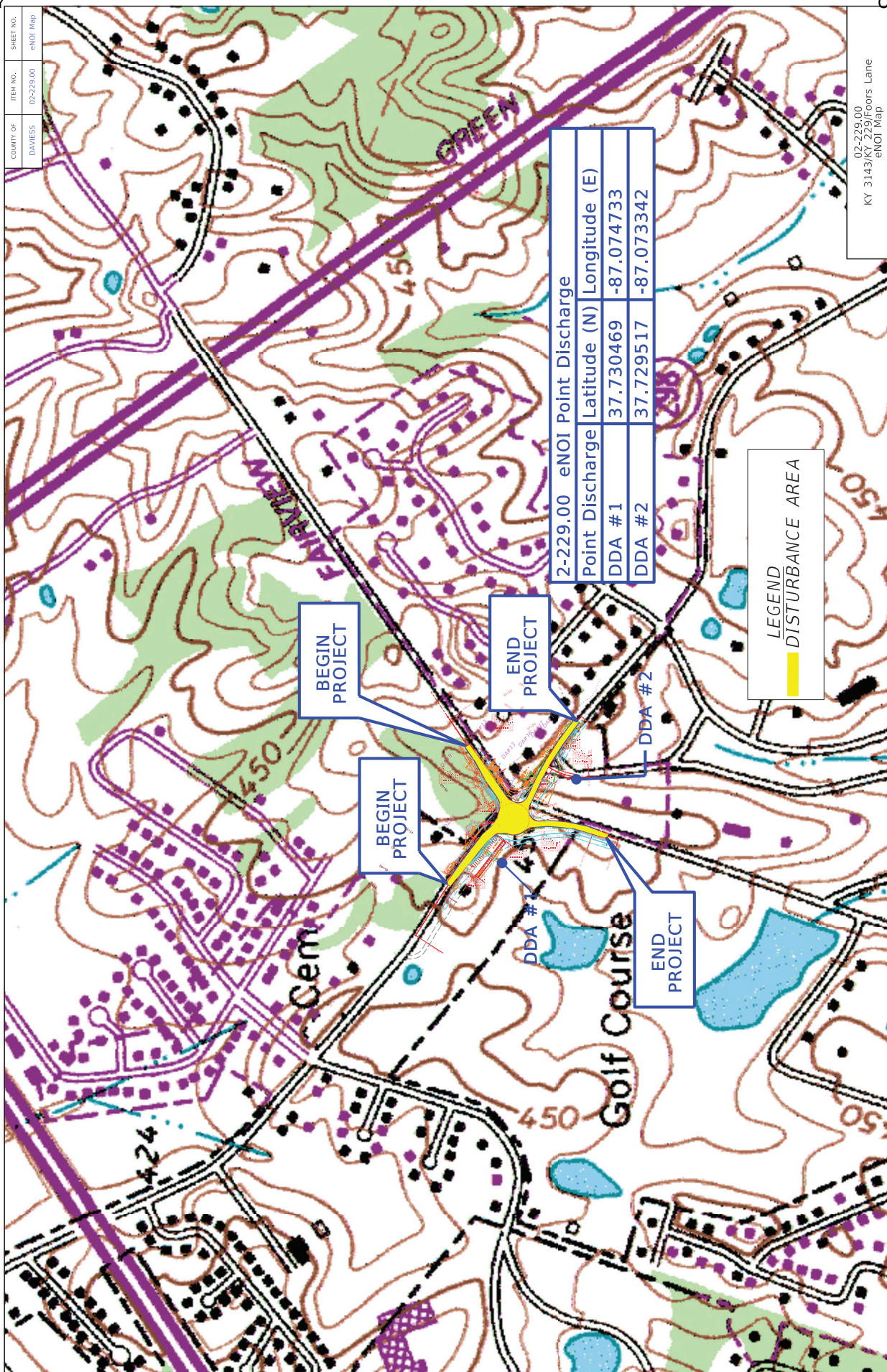
I certify under penalty of law that I understand the terms and conditions of the general Kentucky Pollutant Discharge Elimination System permit that authorizes the storm water discharges, the BMP plan that has been developed to manage the quality of water to be discharged as a result of storm events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

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

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

2-229.00	eNOI	Point Discharge
Point Discharge	Latitude (N)	Longitude (E)
DDA #1	37.730469	-87.074733
DDA #2	37.729517	-87.073342

02-229.00  
KY 3143/KY 229/Foors Lane  
eNOI Map



LEGEND  
DISTURBANCE AREA

BEGIN PROJECT

END PROJECT

**BEGIN PROJECT**

END  
PROJECT

— DDA #2

DDA #1

penRoads Designer v23.00.01.11	USER: Renee.Boucharte DATE PLOTTED: September 7, 2005 FILE NAME: C:\PWWORK\K\RENEE.BOUCHARTER\RED2442827\KTRC_ORD_20_SEED.DGN
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**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

June 26, 2025

Deneatra Henderson  
KYTC District 2  
1840 N Main St  
Madisonville, KY 42431

Re: KYR10 Coverage Acknowledgment  
KPDES No.: [KYR10T596](#)  
KYTC Project: [Item 02-229.00](#)  
Permit Type: [Construction Stormwater](#)  
AI ID: [176670](#)  
[Davies County, Kentucky](#)

Dear [Deneatra Henderson](#) :

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

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

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

Any questions concerning the general permit and its requirements should be directed to me at [502-782-7076](tel:502-782-7076) or email me at [Robin.Snider@ky.gov](mailto:Robin.Snider@ky.gov)

Construction Site GPS Coordinates: [37.730414, -87.07373](#)  
Receiving Water: [North Fork Panther Creek](#)

Sincerely,

A handwritten signature in black ink that reads "Robin M. Snider".

**Robin Snider**  
Surface Water Permits Branch  
Division of Water

cc: [Lauren Summers](#) , eNOI Preparer  
[Lindsey Bibbee](#), Madisonville Regional Office

KENTUCKY TRANSPORTATION CABINET  
COMMUNICATING ALL PROMISES (CAP)

Item No. 2 - 229

County: Daviess

Route: 298

Project Manager: RENEE BOUCHERIE

4/3/25

CAP #	Date of Promise	Promise made to:	Location of Promise:	CAP Description
1	10/4/23	Kevin/Karla Arnold	Parcel 26-4531 Old Hartford Road	The tree located at approximately Station 73+20, offset left 40'is not to be disturbed. Equipment and/or materials are to be stored overnight in the Temporary Easement area.
2	1/25/24	City of Owensboro	Parcel 1	The contractor is to provide two weeks of notice to the City in advance of the closure of the parking lot for resurfacing and is to provide 30 days notice to the City before beginning construction of the project at large. The City retains the existing vinyl fence in the area of the parking lot for a \$0 salvage value and is to remove it from the project area within one week of the 30 day notice given in advance of construction. In the event the City does not remove the fencing before construction KYTC will assume ownership of it and remove it during construction. The eastern end of the parking lot is to be constructed with an asphalt turn-around area as shown on the attached parking lot detail sheet.



KENTUCKY TRANSPORTATION CABINET  
COMMUNICATING ALL PROMISES (CAP)

Item No. 2 - 229

County: Daviess

Route: 298

Project Manager: RENEE BOUCHERIE

4/3/25

CAP #	Date of Promise	Promise made to:	Location of Promise:	CAP Description
3	8/19/24	Stephen/Donna Rohrer	Parcel 23	<p>Entrances are to be reconstructed as shown on the attached exhibits within the temporary easements and two areas of consent and release. Consent and release documents are incorporated by reference and attached to this Memorandum of Understanding.</p> <p>It is understood and agreed between the parties that reconstruction of the entrance located left of Fairview Drive Station 87+88 includes resurfacing of the entire turnaround area with grading to drain to the drop box inlet nearest to the north property line. The privacy hedges running perpendicular to and parallel to Fairview Drive are not to be disturbed by construction of the entrance left of station 87+88.</p> <p>The property owners acknowledge that the agreed upon compensation includes payment for the loss of any trees affected by construction of the project or by future maintenance within the Permanent Drainage Easement identified as Tract 023 A; however, the construction contractor is to minimize impacts to the privacy hedge to the extent possible and to make every reasonable effort to preserve the privacy hedge.</p> <p>It is understood between the parties that the portion of the underground piping that carries the drainage from the roof and gutters away from the home that is within the disturb limits will be removed during construction.</p> <p>The section of the existing sidewalk that runs approximately parallel with Fairview Drive and that joins the concrete driveway accessing the overhead bays of the attached garage to the front entrance of the home is to be removed through the curve to the first joint that runs perpendicular to existing Old Hartford Road, leaving the portion of the sidewalk that runs parallel to existing Old Hartford Road (unless other arrangements are agreed upon between the property owners and the construction contractor.)</p> <p>The existing entrance left of Fairview Drive Station 88+31 will be closed and header curb installed spanning the former access point as shown on the plan sheets.</p> <p>The proposed new entrance left of Old Hartford Road at approximately Station 70+40 is understood to result in the loss of a small maple tree which will be removed by the contractor during construction.</p> <p>The contractor is requested to contact the property owners a minimum of two weeks in advance of beginning construction of the new entrance at 4501 Old Hartford Road.</p>
4	10/4/23	Karla/Kevin Arnold	Parcel 26	<p>VOID CAP NOTE 1 REGARDING PARCEL 26.</p> <p>The tree located at approximately Station 73+10, offset left 40' is not to be disturbed. Equipment and/or materials are not to be stored overnight in the Temporary Easement area.</p>

**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>

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

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

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

## **2.0 MATERIALS.**

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

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

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

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



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

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

\*Insert numerals as directed by the Engineer.

Add other messages during the project when required by the Engineer.

### 2.3 Power.

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

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

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

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

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

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

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

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

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

Effective June 15, 2012

SPECIAL NOTE FOR TURF REINFORCING MAT

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

**2.0 MATERIALS.**

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

**2.2 Classifications**

The basis for selection of the type of mat required will be based on the long term shear stress level of the mat of the channel in question or the degree of slope to protect and will be designated in the contract. The Type 4 mats are to be used at structural backfills protecting critical structures, utility cuts, areas where vehicles may be expected to traverse the mat, channels with large heavy drift, channels with high shear stresses, and where higher factors of safety, very steep slopes and/or durability concerns are needed as determined by project team and designer and will be specified in the plans by designer.

Properties	Type 1	Type 2	Type 3	Type 4
Maximum Slope (H:V)	1:1	1:1	0.5:1	0.5:1
Un-vegetated Shear	≥ 2.0 lbs/ft <sup>2</sup> (≥ 96 Pa)	≥ 2.0 lb/ft2 (≥ 96 Pa)"	≥ 2.0 lb/ft2 (≥ 96 Pa)	≥ 2.0 lb/ft2 (≥ 96 Pa)

Stress <sup>b, c, d</sup> ASTM D6460				
Vegetated Shear Stress <sup>c, d, e, f</sup> ASTM D6460	≥ 6.0 lbs/ft <sup>2</sup> (≥ 287 Pa)	≥ 8.0 lb/ft2 (≥ 383 Pa)	≥ 10.0 lb/ft2 (≥ 479 Pa)	≥ 12.0 lb/ft2 (≥ 575 Pa)
Seedling Emergence <sup>d</sup> ASTM D7322	≥ 250%	≥ 250%	≥ 250%	≥ 250%
MD Material Tensile Strength <sup>d, f</sup> ASTM D6818	≥ 150 lbs/ft (≥ 2.2 kN/m)	≥ 175 lbs/ft (≥ 2.6 kN/m)	≥ 200 lbs/ft (≥ 2.9 kN/m)	≥ 1,500 lbs/ft (≥ 21.9 kN/m)
TD Material Tensile Strength <sup>d, f</sup> ASTM D6818	≥ 150 lbs/ft (≥ 2.2 kN/m)	≥ 175 lbs/ft (≥ 2.6 kN/m)	≥ 200 lbs/ft (≥ 2.9 kN/m)	≥ 1,500 lbs/ft (≥ 21.9 kN/m)
Mass Per Unit Area <sup>d</sup> ASTM D6566	≥ 8.0 oz/yd <sup>2</sup> (≥ 271 g/m <sup>2</sup> ))	≥ 8.0 oz/yd <sup>2</sup> (≥ 271 g/m2)	≥ 8.0 oz/yd <sup>2</sup> (≥ 271 g/m2)	≥ 8.0 oz/yd2 (≥ 271 g/m2)
Material Thickness <sup>d</sup> ASTM D6525	≥ 0.25 in (≥ 6.35 mm)	≥ 0.25 in (≥ 6.35 mm)	≥ 0.25 in (≥ 6.35 mm)	≥ 0.25 in (≥ 6.35 mm)
UV Stability <sup>c, e</sup> ASTM D4355	≥ 80% @ 500 hrs	≥ 80% @ 500 hrs	≥ 80% @ 1,000 hrs	≥ 90% @ 1,000 hrs

- a. For Type 4 mats, property values tested per ASTM D6818 and D6525 are reported as minimum average roll values (MARVs). MARVs are calculated as the typical minus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any samples taken from quality assurance testing will exceed the value reported.
- b. Required minimum shear stress TRM (un-vegetated) can sustain without physical damage or excess erosion (> 12.7 mm (0.5 in.) soil loss during successive, minimum 30 minute flow events in large scale testing.
- c. Acceptable large-scale testing protocol may include ASTM D6460, or other independent testing deemed acceptable by the engineer. Large-scale performance testing typically involves limited soil types and vegetative stands, therefore it is recommended that an appropriate factor of safety be used in design and product selection (see Guidance Document for further information).
- d. Typical values are calculated as the average value, it yields a 50% degree of confidence that any samples taken from quality assurance testing will exceed the value reported.
- e. Required minimum shear stress TRM (fully vegetated) can sustain without physical damage or excess erosion (> 12.7 mm (0.5 in.) soil loss during successive, minimum 30 minute flow events in large scale testing.
- f. For TRMs containing degradable components, property values must be obtained on the non-degradable portion of the matting alone.

NOTE: TRMs are typically used in hydraulic applications, such as high flow ditches and channels, steep slopes, stream banks, and shorelines, where erosive forcers may exceed the limits of natural, unreinforced vegetation or in areas where limited vegetation establishment is anticipated.

2.3 Quality Assurance Sampling, Testing, and Acceptance

- A) Performance Testing: The Department will require AASHTO’s NTPEP index testing. The Department will also require the manufacturer to perform internal MARV testing at a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory for tensile strength, tensile elongation, mass per unit area, and thickness once every 24,000 yds of production or whatever rate is required to ensure

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97.7% confidence under ASTM D4439& 4354. The Department will require Full scale testing for slope and channel applications shear stress shall be done under ASTM D 6459, ASTM D 6460-07 procedures.

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

Current mats meeting the above criteria are shown on the Department's List of Approved Materials. Mats that exceed the criteria for KYTC Types 1-4 are available. Contact an erosion control material supplier for more information.

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

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

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

**3.2 Installation.** Install mats according to Standard Drawing Sepias "Turf Mat Channel Installation" and "Turf Mat Slope Installation." Install mats at the specified elevation and alignment. Anchor the mats with staples with a minimum length of 12 inches. Use longer anchors for installations in sandy, loose, or wet soils as directed by the Engineer or Manufacturer's Representative. The mat should be in direct contact with the soil surface. Infill and overfill the mat with a minimum of ½" of soil as directed by the Manufacturer.

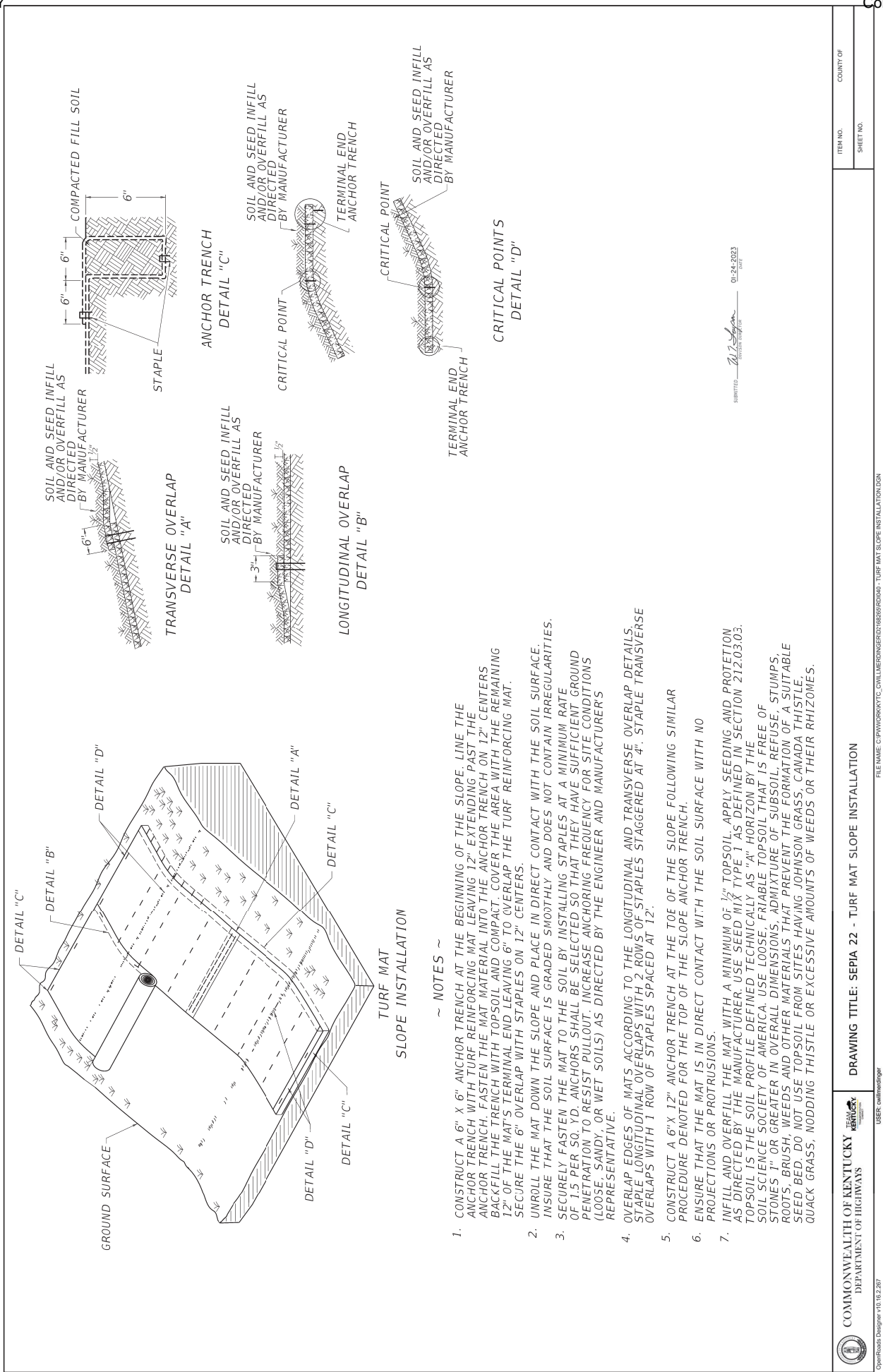
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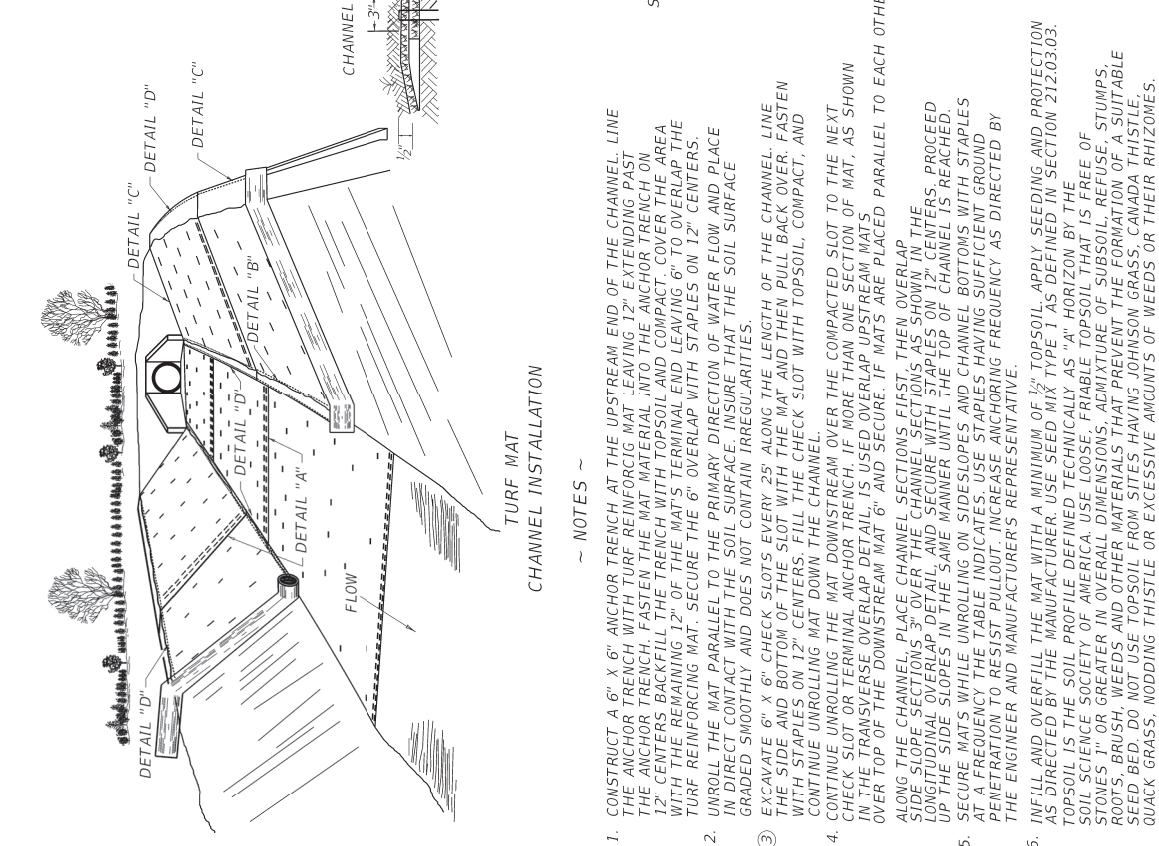
**4.0 MEASUREMENT.** The Department will measure the quantity of Turf Reinforcement Mat by the square yard of surface covered. The Department will not measure preparation of the bed, providing a Manufacturer’s Representative, topsoil, or seeding for payment and will consider them incidental to the Turf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

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
23274EN11F	Turf Reinforcement Mat 1	Square Yard
23275EN11F	Turf Reinforcement Mat 2	Square Yard
23276EN11F	Turf Reinforcement Mat 3	Square Yard
23277EN11F	Turf Reinforcement Mat 4	Square Yard

June 29, 2023





SLOPE GRADE	ANCHORING FREQUENCY
UP TO 2H:1V	1.5 ANCHORS/50YD
2H:1V TO 1H:1V	2.0 ANCHORS/50YD
STEEPER THAN 1H:1V AND CHANNEL BOTTOMS	3.0 ANCHORS/50YD

SUBMITTED W.T. Lujan 01-24-2023  
DIVISION DIRECTOR DATE

1. CONSTRUCT A 6" X 6" ANCHOR TRENCH AT THE UPSTREAM END OF THE CHANNEL LINE. THE ANCHOR TRENCH WITH TURF REINFORCIG MAT LEAVING 12" EXTENDING PAST THE ANCHOR TRENCH. FASTEN THE MAT MATERIAL INTO THE ANCHOR TRENCH ON 12" CENTERS BACKFILL THE TRENCH WITH TOPSOIL AND COMPACT. COVER THE AREA WITH THE REMAINING 12" OF THE MAT'S TERMINAL END LEAVING 6" TO OVERLAP THE TURF REINFORCING MAT. SECURE THE 6" OVERLAP WITH STAPLES ON 12" CENTERS.
2. UNROLL THE MAT PARALLEL TO THE PRIMARY DIRECTION OF WATER FLOW AND PLACE IN DIRECT CONTACT WITH THE SOIL SURFACE. INSURE THAT THE SOIL SURFACE GRADED SMOOTHLY AND DOES NOT CONTAIN IRREGULARITIES.
3. EXCAVATE 6" X 6" CHECK SLOTS EVERY 25' ALONG THE LENGTH OF THE CHANNEL LINE. THE SIDE AND BOTTOM OF THE SLOT WITH THE MAT AND THEN PULL BACK OVER. FASTEN WITH STAPLES ON 12" CENTERS. FILL THE CHECK SLOT WITH TOPSOIL, COMPACT, AND CONTINUE UNROLLING MAT DOWN THE CHANNEL.
4. CONTINUE UNROLLING THE MAT DOWNSTREAM OVER THE COMPACTED SLOT TO THE NEXT CHECK SLOT OR TERMINAL ANCHOR TRENCH. IF MORE THAN ONE SECTION OF MAT, AS SHOWN IN THE TRANSVERSE OVERLAP DETAIL, IS USED OVERLAP UPSTREAM MAT'S OVER TOP OF THE DOWNSTREAM MAT 6" AND SECURE. IF MAT'S ARE PLACED PARALLEL TO EACH OTHER ALONG THE CHANNEL, PLACE CHANNEL SECTIONS FIRST, THEN OVERLAP SIDE SLOPE SECTIONS 3" OVER THE CHANNEL SECTIONS AS SHOWN IN THE LONGITUDINAL OVERLAP DETAIL, AND SECURE WITH STAPLES ON 12" CENTERS. PROCEED UP THE SIDE SLOPES IN THE SAME MANNER UNTIL THE TOP OF CHANNEL IS REACHED.
5. SECURE MATS WHILE UNROLLING ON SIDESLOPES AND CHANNEL BOTTOMS WITH STAPLES AT A FREQUENCY THE TABLE INDICATES. USE STAPLES HAVING SUFFICIENT GROUND PENETRATION TO RESIST PULLOUT. INCREASE ANCHORING FREQUENCY AS DIRECTED BY THE ENGINEER AND MANUFACTURER'S REPRESENTATIVE.
5. INFILL AND OVERFILL THE MAT WITH A MINIMUM OF 1 1/2" TOPSOIL, APPLY SEEDING AND PROTECTION AS DIRECTED BY THE MANUFACTURER. USE SEED MIX TYPE 1 AS DEFINED IN SECTION 212.03.03. TOPSOIL IS THE SOIL PROFILE DEFINED TECHNICALLY AS "A" HORIZON BY THE SOIL SCIENCE SOCIETY OF AMERICA. USE LOOSE, FRIABLE TOPSOIL THAT IS FREE OF STONES 1" OR GREATER IN OVERALL DIMENSIONS, ADMIXTURE OF SUBSOIL, REFUSE, STUMPS, ROOTS, BRUSH, WEEDS AND OTHER MATERIALS THAT PREVENT THE FORMATION OF A SUITABLE SEED BED. DO NOT USE TOPSOIL FROM SITES HAVING JOHNSON GRASS, CANADA THISTLE, QUACK GRASS, NODDING THISTLE OR EXCESSIVE AMOUNTS OF WEEDS OR THEIR RHIZOMES.



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

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

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

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

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

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

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

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

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

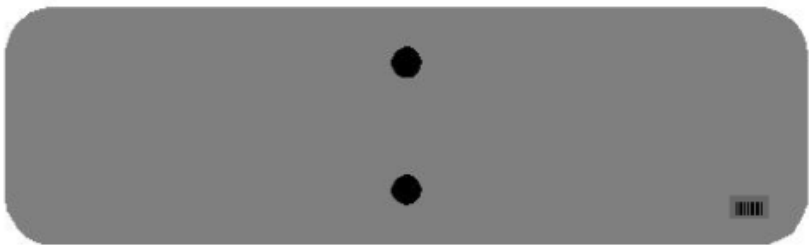
The installation of the permanent sign will be measured in accordance to Section 715.

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

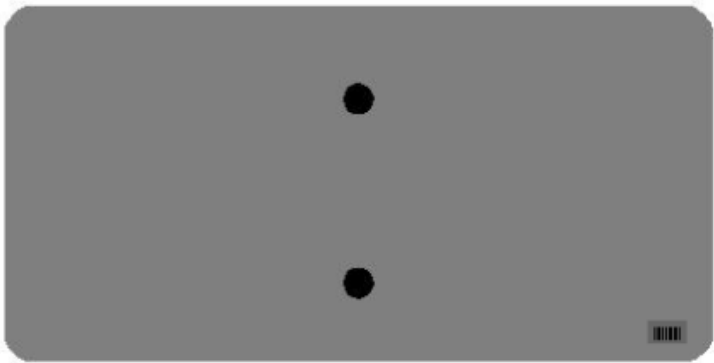
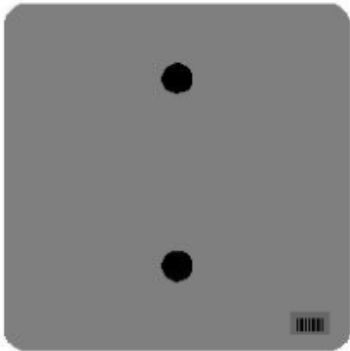
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24631EC	Barcode Sign Inventory	Each

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

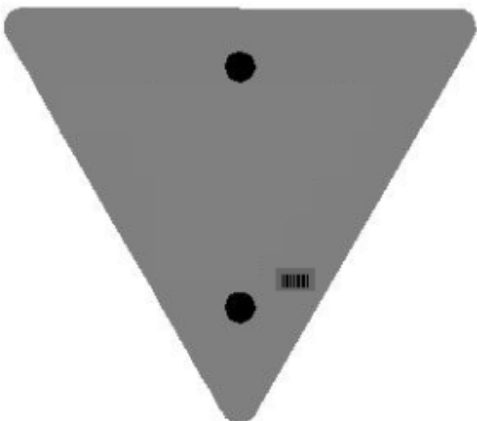
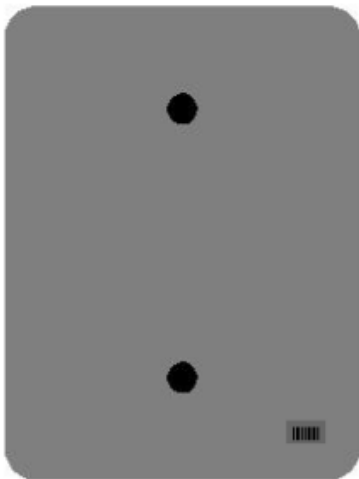
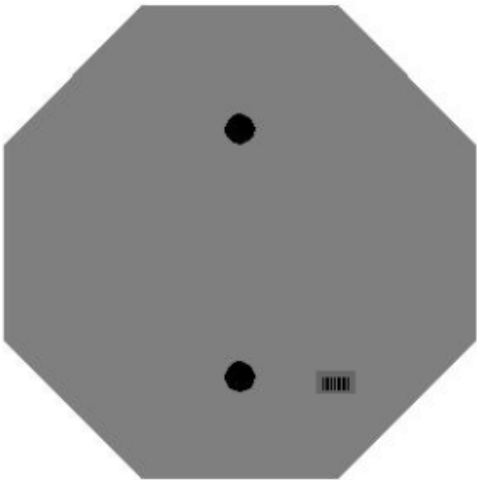
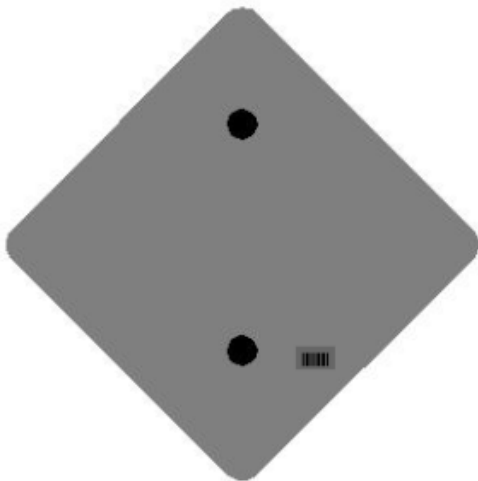
One Sign Post



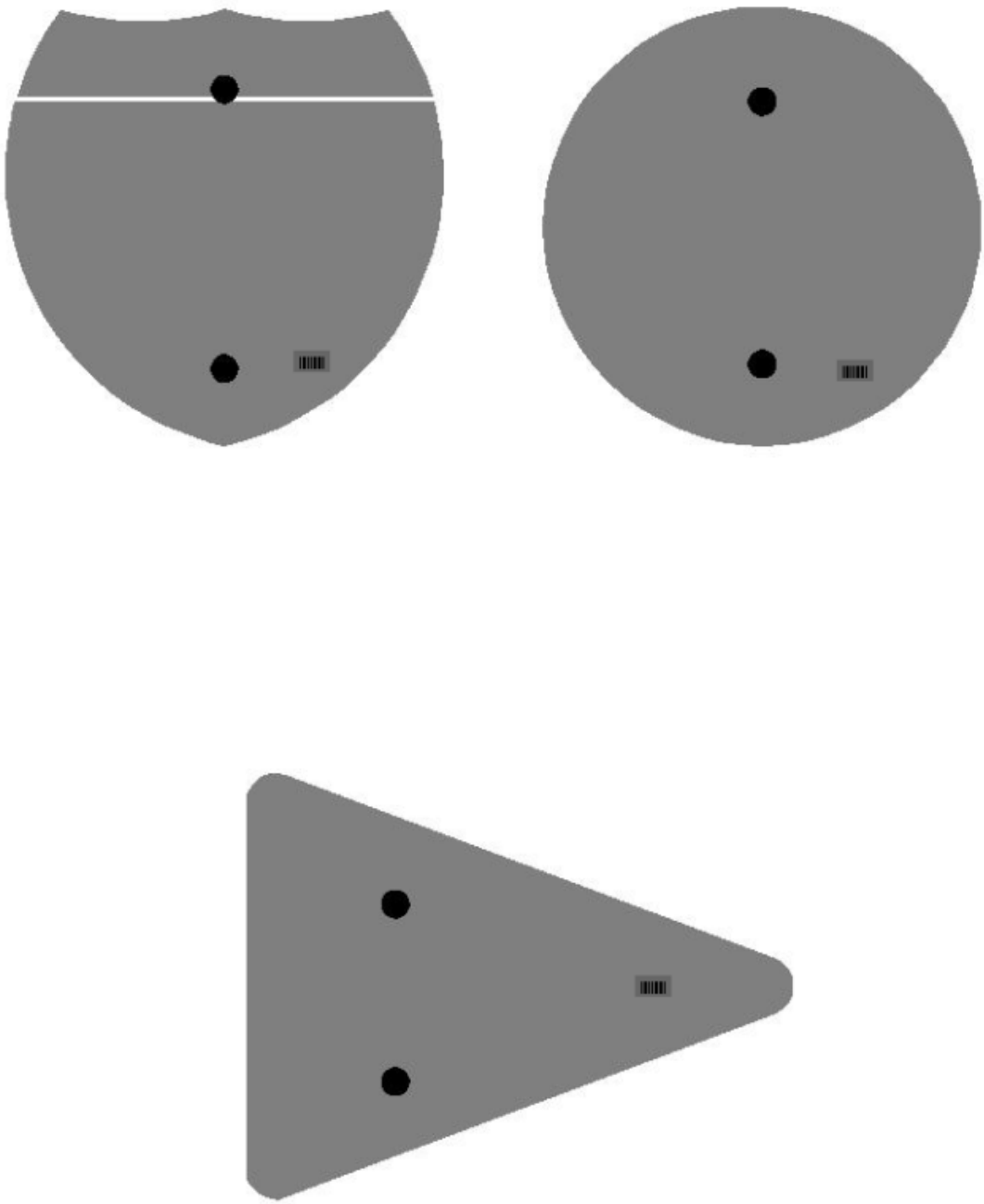
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2" Wide Post



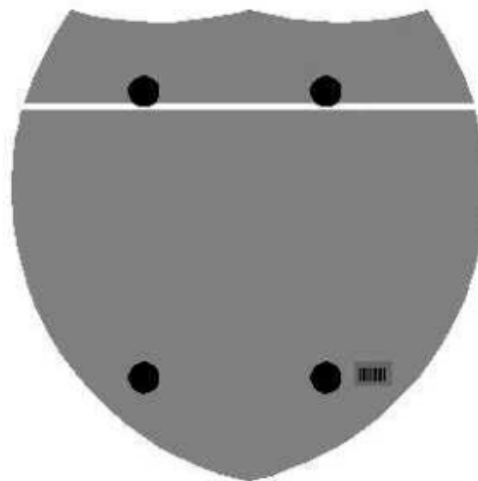
One Sign Post



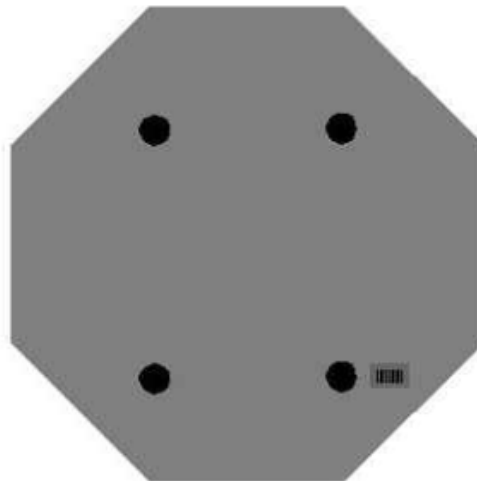
One Sign Post



### Double Sign Post

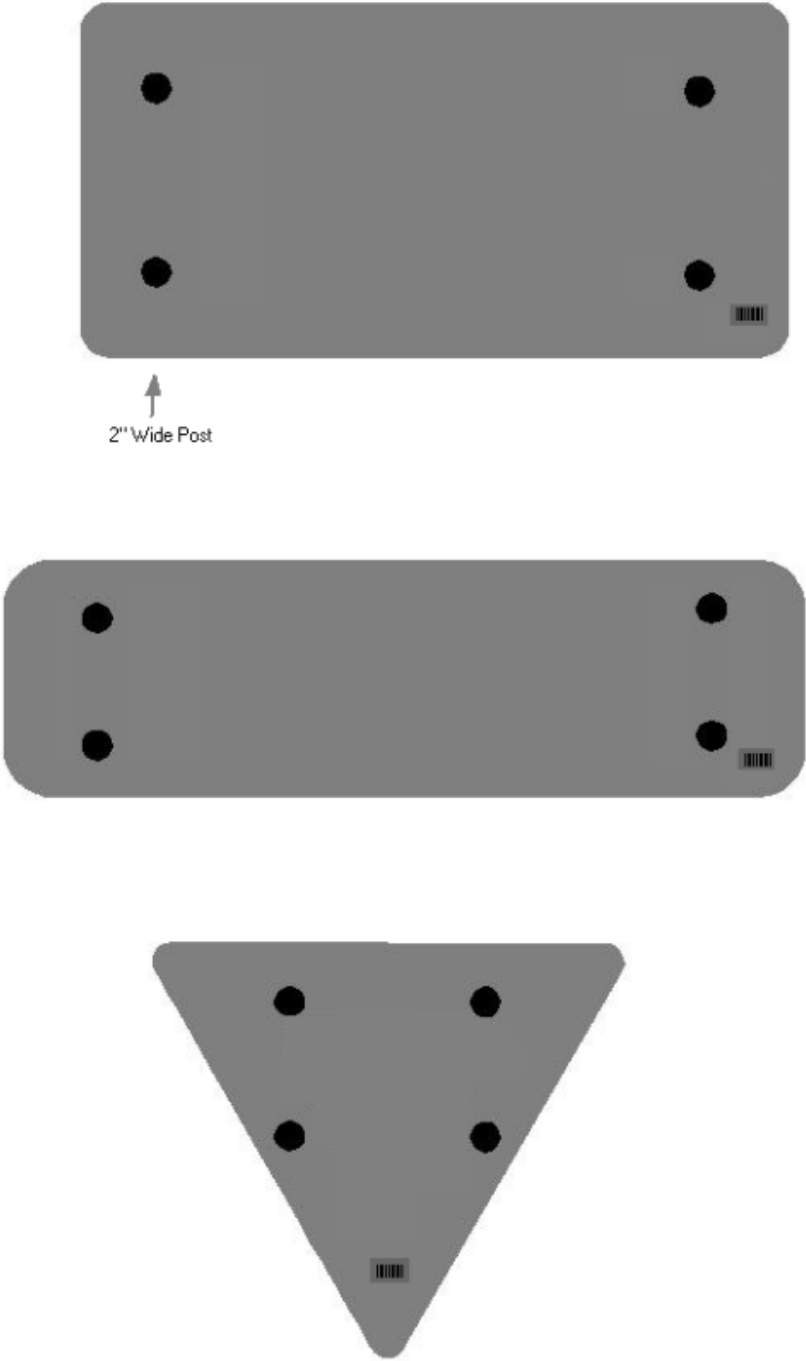


Interstate  
Shield



48" Stop

2 Post Signs



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## **SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE**

1. **DESCRIPTION.** This specification covers the requirements and practices for applying an asphalt adhesive material to the longitudinal joint of the surface course of an asphalt pavement. Apply the adhesive to the face of longitudinal joint between driving lanes for the first lane paved. Then, place and compact the adjacent lane against the treated face to produce a strong, durable, waterproof longitudinal joint.
2. **MATERIALS, EQUIPMENT, AND PERSONNEL.**

2.1 Joint Adhesive. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide an adhesive conforming to the following requirements:

Property	Specification	Test Procedure
Viscosity, 400 ° F (Pa·s)	4.0 – 10.0	ASTM D 4402
Cone Penetration, 77 ° F	60 – 100	ASTM D 5329
Flow, 140 ° F (mm)	5.0 max.	ASTM D 5329
Resilience, 77 ° F (%)	30 min.	ASTM D 5329
Ductility, 77 ° F (cm)	30.0 min.	ASTM D 113
Ductility, 39 ° F (cm)	30.0 min.	ASTM D 113
Tensile Adhesion, 77 ° F (%)	500 min.	ASTM D 5329, Type II
Softening Point, ° F	171 min.	AASHTO T 53
Asphalt Compatibility	Pass	ASTM D 5329

Ensure the temperature of the pavement joint adhesive is between 380 and 410 °F when the material is extruded in a 0.125-inch-thick band over the entire face of the longitudinal joint.

2.2. Equipment.

2.2.1 Melter Kettle. Provide an oil-jacketed, double-boiler, melter kettle equipped with any needed agitation and recirculating systems.

2.2.2 Applicator System. Provide a pressure-feed-wand applicator system with an applicator shoe attached.

2.3 Personnel. Ensure a technical representative from the manufacturer of the pavement joint adhesive is present during the initial construction activities and available upon the request of the Engineer.

3. **CONSTRUCTION.**

3.1 Surface Preparation. Prior to the application of the pavement joint adhesive, ensure the face of the longitudinal joint is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the joint face by the use of compressed air.

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Ensure this preparation process occurs shortly before application to prevent the return of debris on the joint face.

3.2 Pavement Joint Adhesive Application. Ensure the ambient temperature is a minimum of 40 ° F during the application of the pavement joint adhesive. Prior to applying the adhesive, demonstrate competence in applying the adhesive according to this note to the satisfaction of the Engineer. Heat the adhesive in the melter kettle to the specified temperature range. Pump the adhesive from the melter kettle through the wand onto the vertical face of the cold joint. Apply the adhesive in a continuous band over the entire face of the longitudinal joint. Do not use excessive material in either thickness or location. Ensure the edge of the extruded adhesive material is flush with the surface of the pavement. Then, place and compact the adjacent lane against the joint face. Remove any excessive material extruded from the joint after compaction (a small line of material may remain).

3.3 Pavement Joint Adhesive Certification. Furnish the joint adhesive's certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a random sample of pavement joint adhesive from each manufacturer's lot of material. Extrude two 5 lb. samples of the heated material and forward the sample to the Division of Materials for testing. Reynolds oven bags, turkey size, placed inside small cardboard boxes or cement cylinder molds have been found suitable. Ensure the product temperature is 400°F or below at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of Pavement Joint Adhesive in linear feet. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of Pavement Joint Adhesive, the cleaning of the joint face, or furnishing and placing the adhesive. The Department will consider all such items incidental to the Pavement Joint Adhesive.
5. PAYMENT. The Department will pay for the Pavement Joint Adhesive at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.



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Pavement Joint Adhesive Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
Joint Adhesive Referenced in Subsection 2.1.1						
Viscosity, 400 ° F (Pa•s)			3.0-3.4	2.5-2.9	2.0-2.4	≤1.9
ASTM D 3236	4.0-10.0	3.5-10.5	10.6-11.0	11.1-11.5	11.6-12.0	≥ 12.1
Cone Penetration, 77 ° F			54-56	51-53	48-50	≤ 47
ASTM D 5329	60-100	57-103	104-106	107-109	110-112	≥ 113
Flow, 140 ° F (mm) ASTM D 5329	≤ 5.0	≤ 5.5	5.6-6.0	6.1-6.5	6.6-7.0	≥ 7.1
Resilience, 77 ° F (%) ASTM D 5329	≥ 30	≥ 28	26-27	24-25	22-23	≤ 21
Tensile Adhesion, 77 ° F (%) ASTM D 5329	≥ 500	≥ 490	480-489	470-479	460-469	≤ 459
Softening Point, ° F AASHTO T 53	≥ 171	≥ 169	166-168	163-165	160-162	≤ 159
Ductility, 77 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9
Ductility, 39 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9

Code  
20071EC

Pay Item  
Joint Adhesive

Pay Unit  
Linear Foot

May 7, 2014

## **PART III**

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

REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

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

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, 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](mailto: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](mailto: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 procurement 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/WHDL/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 procurement 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.

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## **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 administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

### Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:
  - a. withholding payments to the contractor under the contract until the contractor complies; and/or
  - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

### **Standard Title VI/Non-Discrimination Statutes and Authorities**

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*).

## EXECUTIVE BRANCH CODE OF ETHICS

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:	<div><div>. Executive Order 14026 generally applies to the contract.</div><div>. 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.</div></div>
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:	<div><div>. Executive Order 13658 generally applies to the contract.</div><div>. 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.</div></div>

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

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BRTN0004-005 06/01/2024

ALLEN, CALLOWAY, CHRISTIAN, LOGAN, SIMPSON, TODD, TRIGG, and  
WARREN COUNTIES

	Rates	Fringes
BRICKLAYER.....	\$ 33.70	16.57

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CARP0357-002 04/01/2025

	Rates	Fringes
CARPENTER.....	\$ 33.89	24.02
DIVER.....	\$ 51.21	24.02
PILEDRIVERMAN.....	\$ 34.39	24.02

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ELEC0369-006 05/27/2025

BUTLER, EDMONSON, LOGAN, TODD & WARREN COUNTIES:

Rates	Fringes
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ELECTRICIAN.....	\$ 40.96	22.44
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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.		
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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
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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 Concrete Pump; Skid Steer Machine with all Attachments; Switchman or Brakeman; Throttle Valve Person; Tractair & Road Widening Trencher; Tractor (50 H.P. or Over); Truck Crane Oiler; Tugger; Welding Machine; Well Points;& Whirley Oiler

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

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

CRANES - with booms 150 ft. & Over (Including JIB), and where the length of the boom in combination with the length of the piling 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.

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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
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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
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LAB00189-005 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; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; 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

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; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; 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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LAB00561-001 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; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; 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
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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

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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
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PLUM0502-004 08/01/2024

ALLEN, BUTLER, EDMONSON, SIMPSON & WARREN

	Rates	Fringes
Plumber; Steamfitter.....	\$ 41.90	24.89
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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
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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

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information

on contractor requirements and worker protections under the EO is available at <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)).

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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](mailto: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](mailto: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](mailto: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**

251035

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	1,510.00	TON		\$	
0020	00194		LEVELING & WEDGING PG76-22	304.00	TON		\$	
0030	00214		CL3 ASPH BASE 1.00D PG64-22	825.00	TON		\$	
0040	00216		CL3 ASPH BASE 1.00D PG76-22	635.00	TON		\$	
0050	00324		CL3 ASPH SURF 0.50B PG64-22	161.00	TON		\$	
0060	00326		CL3 ASPH SURF 0.50B PG76-22	532.00	TON		\$	
0070	02084		JPC PAVEMENT-8 IN	247.00	SQYD		\$	
0080	02101		CEM CONC ENT PAVEMENT-8 IN	391.00	SQYD		\$	
0090	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0100	02677		ASPHALT PAVE MILLING & TEXTURING	151.00	TON		\$	
0110	02720		SIDEWALK-4 IN CONCRETE	311.00	SQYD		\$	
0120	20071EC		JOINT ADHESIVE	2,130.00	LF		\$	
0130	24970EC		ASPHALT MATERIAL FOR TACK NON-TRACKING	4.39	TON		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0140	00078		CRUSHED AGGREGATE SIZE NO 2	3,979.00	TON		\$	
0150	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS		\$	
0160	01310		REMOVE PIPE	379.00	LF		\$	
0170	01585		REMOVE DROP BOX INLET	1.00	EACH		\$	
0180	01787		REMOVE MANHOLE	1.00	EACH		\$	
0190	01791		ADJUST MANHOLE FRAME TO GRADE	3.00	EACH		\$	
0200	01810		STANDARD CURB AND GUTTER	2,693.00	LF		\$	
0210	01825		ISLAND CURB AND GUTTER	420.00	LF		\$	
0220	01875		STANDARD HEADER CURB	370.00	LF		\$	
0230	02014		BARRICADE-TYPE III	10.00	EACH		\$	
0240	02091		REMOVE PAVEMENT	101.00	SQYD		\$	
0250	02101		CEM CONC ENT PAVEMENT-8 IN	215.00	SQYD		\$	
0260	02159		TEMP DITCH	6,778.00	LF		\$	
0270	02160		CLEAN TEMP DITCH	3,389.00	LF		\$	
0280	02200		ROADWAY EXCAVATION	6,806.00	CUYD		\$	
0290	02242		WATER	357.00	MGAL		\$	
0300	02381		REMOVE GUARDRAIL	115.00	LF		\$	
0310	02429		RIGHT-OF-WAY MONUMENT TYPE 1	21.00	EACH		\$	
0320	02432		WITNESS POST	21.00	EACH		\$	
0330	02545		CLEARING AND GRUBBING 5.5 ACRES	1.00	LS		\$	
0340	02562		TEMPORARY SIGNS	275.00	SQFT		\$	
0350	02585		EDGE KEY	112.00	LF		\$	
0360	02603		FABRIC-GEOTEXTILE CLASS 2	578.00	SQYD		\$	
0370	02608		FABRIC-GEOTEXTILE CLASS 4A	10,401.00	SQYD	\$3.84	\$	\$39,939.84
0380	02625		REMOVE HEADWALL	4.00	EACH		\$	

Report Date 10/23/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0390	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0400	02671		PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH		\$	
0410	02690		SAFELOADING	13.00	CUYD		\$	
0420	02701		TEMP SILT FENCE	6,778.00	LF		\$	
0430	02703		SILT TRAP TYPE A	5.00	EACH		\$	
0440	02704		SILT TRAP TYPE B	5.00	EACH		\$	
0450	02705		SILT TRAP TYPE C	5.00	EACH		\$	
0460	02706		CLEAN SILT TRAP TYPE A	5.00	EACH		\$	
0470	02707		CLEAN SILT TRAP TYPE B	5.00	EACH		\$	
0480	02708		CLEAN SILT TRAP TYPE C	5.00	EACH		\$	
0490	02726		STAKING	1.00	LS		\$	
0500	03171		CONC BARRIER WALL TYPE 9T	250.00	LF		\$	
0510	05950		EROSION CONTROL BLANKET	1,286.00	SQYD		\$	
0520	05952		TEMP MULCH	17,025.00	SQYD		\$	
0530	05953		TEMP SEEDING AND PROTECTION	12,705.00	SQYD		\$	
0540	05963		INITIAL FERTILIZER	0.80	TON		\$	
0550	05964		MAINTENANCE FERTILIZER	1.30	TON		\$	
0560	05985		SEEDING AND PROTECTION	25,410.00	SQYD		\$	
0570	05990		SODDING	1,572.00	SQYD		\$	
0580	05992		AGRICULTURAL LIMESTONE	15.80	TON		\$	
0590	06510		PAVE STRIPING-TEMP PAINT-4 IN	8,363.00	LF		\$	
0600	06514		PAVE STRIPING-PERM PAINT-4 IN	8,363.00	LF		\$	
0610	06546		PAVE STRIPING-THERMO-12 IN W	50.00	LF		\$	
0620	06568		PAVE MARKING-THERMO STOP BAR-24IN	33.00	LF		\$	
0630	06569		PAVE MARKING-THERMO CROSS-HATCH	172.00	SQFT		\$	
0640	06573		PAVE MARKING-THERMO STR ARROW	8.00	EACH		\$	
0650	06574		PAVE MARKING-THERMO CURV ARROW	3.00	EACH		\$	
0660	06575		PAVE MARKING-THERMO COMB ARROW	10.00	EACH		\$	
0670	10020NS		FUEL ADJUSTMENT	13,460.00	DOLL	\$1.00	\$	\$13,460.00
0680	10030NS		ASPHALT ADJUSTMENT	23,305.00	DOLL	\$1.00	\$	\$23,305.00
0690	21289ED		LONGITUDINAL EDGE KEY	2,002.00	LF		\$	
0700	22000ED		WOOD PLANK FENCE	250.00	LF		\$	
0710	22520EN		PAVE MARKING-THERMO YIELD BAR-36 IN	72.00	LF		\$	
0720	23010EN		PAVE MARK TEMP PAINT STOP BAR-24 IN	350.00	LF		\$	
0730	23274EN11F		TURF REINFORCEMENT MAT 1	389.00	SQYD		\$	
0740	24814EC		PIPELINE INSPECTION	2,015.00	LF		\$	
0750	26248EC		ELECTRONIC DELIVERY MGMT SYSTEM - AGG	1.00	LS		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0760	00522		STORM SEWER PIPE-18 IN	1,173.00	LF		\$	
0770	00524		STORM SEWER PIPE-24 IN	534.00	LF		\$	
0780	00526		STORM SEWER PIPE-30 IN	252.00	LF		\$	
0790	00528		STORM SEWER PIPE-36 IN	56.00	LF		\$	
0800	01000		PERFORATED PIPE-4 IN	775.00	LF		\$	
0810	01005		PERFORATED PIPE EDGE DRAIN-4 IN	2,537.00	LF		\$	
0820	01010		NON-PERFORATED PIPE-4 IN	180.00	LF		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0830	01456		CURB BOX INLET TYPE A	8.00	EACH		\$	
0840	01496		DROP BOX INLET TYPE 3	9.00	EACH		\$	
0850	01559		DROP BOX INLET TYPE 13G	1.00	EACH		\$	
0860	01568		DROP BOX INLET TYPE 13S	5.00	EACH		\$	
0870	01643		JUNCTION BOX-24 IN	2.00	EACH		\$	
0880	01740		CORED HOLE DRAINAGE BOX CON-4 IN	19.00	EACH		\$	
0890	01756		MANHOLE TYPE A	4.00	EACH		\$	
0900	02607		FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	6,737.00	SQYD	\$2.00	\$	\$13,474.00
0910	26131ED		SLOPED AND MITERED HEADWALL-18 IN	1.00	EACH		\$	
0920	26132ED		SLOPED AND MITERED HEADWALL-24 IN	1.00	EACH		\$	
0930	26134ED		SLOPED AND MITERED HEADWALL-36 IN	1.00	EACH		\$	

Section: 0004 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0940	06406		SBM ALUM SHEET SIGNS .080 IN	238.00	SQFT		\$	
0950	06407		SBM ALUM SHEET SIGNS .125 IN	122.00	SQFT		\$	
0960	06410		STEEL POST TYPE 1	108.00	LF		\$	
0970	06411		STEEL POST TYPE 2	392.00	LF		\$	
0980	20418ED		REMOVE & RELOCATE SIGNS	1.00	EACH		\$	
0990	21596ND		GMSS TYPE D	12.00	EACH		\$	
1000	24631EC		BARCODE SIGN INVENTORY	62.00	EACH		\$	

Section: 0005 - LIGHTING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1010	04700		POLE 30 FT MTG HT	13.00	EACH		\$	
1020	04720		BRACKET 4 FT	2.00	EACH		\$	
1030	04722		BRACKET 8 FT	3.00	EACH		\$	
1040	04723		BRACKET 10 FT	3.00	EACH		\$	
1050	04724		BRACKET 12 FT	3.00	EACH		\$	
1060	04725		BRACKET 15 FT	2.00	EACH		\$	
1070	04740		POLE BASE	13.00	EACH		\$	
1080	04750		TRANSFORMER BASE	13.00	EACH		\$	
1090	04761		LIGHTING CONTROL EQUIPMENT	1.00	EACH		\$	
1100	04780		FUSED CONNECTOR KIT	26.00	EACH		\$	
1110	04820		TRENCHING AND BACKFILLING	1,625.00	LF		\$	
1120	04833		WIRE-NO. 8	4,680.00	LF		\$	
1130	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	16.00	EACH		\$	
1140	21543EN		BORE AND JACK CONDUIT	445.00	LF		\$	
1150	24589ED		LED LUMINAIRE	13.00	EACH		\$	
1160	24901EC		PVC CONDUIT-2 IN-SCHEDULE 80	1,775.00	LF		\$	
1170	24955ED		REMOVE SIGNAL EQUIPMENT	1.00	EACH		\$	

Section: 0006 - WATERLINE

Report Date 10/23/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1180	14015		W ENCASEMENT STEEL OPEN CUT RANGE 4	111.00	LF		\$	
1190	14016		W ENCASEMENT STEEL OPEN CUT RANGE 5	45.00	LF		\$	
1200	14037		W PIPE DUCTILE IRON 08 INCH	17.00	LF		\$	
1210	14060		W PIPE PVC 08 INCH	956.00	LF		\$	
1220	14062		W PIPE PVC 12 INCH	79.00	LF		\$	
1230	14095		W TIE-IN 08 INCH	5.00	EACH		\$	
1240	14097		W TIE-IN 12 INCH	1.00	EACH		\$	
1250	14106		W VALVE 08 INCH	7.00	EACH		\$	
1260	14106		W VALVE 08 INCH - INSERTION	4.00	EACH		\$	
1270	14108		W VALVE 12 INCH - INSERTION	1.00	EACH		\$	

Section: 0007 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1280	02568		MOBILIZATION	1.00	LS		\$	
1290	02569		DEMOBILIZATION	1.00	LS		\$	