



CALL NO. 113

CONTRACT ID. 091128

PERRY COUNTY

FED/STATE PROJECT NUMBER BRZ 1003 (192)

DESCRIPTION KENTUCKY BOULEVARD (KY 2448)

WORK TYPE BRIDGE WITH GRADE, DRAIN & SURFACE

PRIMARY COMPLETION DATE 220 WORKING DAYS

LETTING DATE: May 22, 2009

Sealed Bids will be received in the Division of Construction Procurement and/or the Auditorium located on the 1st floor of the Transportation Cabinet Office Building until 10:00 AM EASTERN DAYLIGHT TIME May 22, 2009. Bids will be publicly opened and read at 10:00 AM EASTERN DAYLIGHT TIME.

ROAD AND BRIDGE PLANS

DBE CERTIFICATION REQUIRED - 1%

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

(Check guaranty submitted: Cashier's Check Certified Check Bid Bond)

BID BONDS WHEN SUBMITTED WILL BE RETAINED WITH THE PROPOSAL

DBE General Plan Included

BID

PROPOSAL ISSUED TO: _____

SPECIMEN

Address City State Zip

TABLE OF CONTENTS

PART I	SCOPE OF WORK
	<ul style="list-style-type: none">• PROJECT(S), COMPLETION DATE(S), & LIQUIDATED DAMAGES• CONTRACT NOTES• FEDERAL CONTRACT NOTES• ASPHALT MIXTURE• DGA BASE• DGA BASE FOR SHOULDERS• INCIDENTAL SURFACING• FUEL AND ASPHALT PAY ADJUSTMENT• OPTION B• SPECIAL NOTE(S) APPLICABLE TO PROJECT• WASTE AND BORROWED SITES• RIGHT OF WAY NOTES• UTILITY CLEARANCE• UTILITY SPECIFICATIONS• DEPT OF ARMY - NATIONWIDE PERMIT• KPDES STORM WATER PERMIT, BMP AND NOI• COMMUNICATING ALL PROMISES
PART II	SPECIFICATIONS AND STANDARD DRAWINGS
	<ul style="list-style-type: none">• SPECIFICATIONS REFERENCE• SUPPLEMENTAL SPECIFICATIONS• [SP-4] WELDING STEEL BRIDGES• [SP-69] EMBANKMENT AT BRIDGE END BENT STRUCTURES
PART III	EMPLOYMENT, WAGE AND RECORD REQUIREMENTS
	<ul style="list-style-type: none">• FEDERAL-AID CONSTRUCTION CONTRACTS - FHWA 1273• NONDISCRIMINATION OF EMPLOYEES• EXECUTIVE BRANCH CODE OF ETHICS• PROJECT WAGE RATES• NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EEO
PART IV	INSURANCE
PART V	BID ITEMS

PART I
SCOPE OF WORK

CONTRACT ID - 091128

ADMINISTRATIVE DISTRICT - 10

PROJECT(S) IDENTIFICATION AND DESCRIPTION:

COUNTY - PERRY
BRZ 1003 (192)

PCN - DE09724480928

KENTUCKY BOULEVARD (KY 2448) REPLACE BRIDGE AND APPROACHES AT NORTH FORK KENTUCKY RIVER
AT WOODLAND PARK 0.5 MILE SOUTH OF JUNCTION KY 451, A DISTANCE OF 0.13 MILES. BRIDGE
WITH GRADE, DRAIN & SURFACE. SYP NO. 10-01071.00.
GEOGRAPHIC COORDINATES LATITUDE 37°14'46" LONGITUDE 83°10'57"

COMPLETION DATE(S):

220 WORKING DAYS

APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

PROPOSAL ADDENDA

All addenda to this proposal must be applied when calculating bid and certified in the bid packet submitted to the Kentucky Department of Highways. Failure to use the correct and most recent addenda may result in the bid being rejected.

BID SUBMITTAL

Bidder must use the Department's Expedite Bidding Program available on the Internet web site of the Department of Highways, Division of Construction Procurement. (www.transportation.ky.gov/contract)

The Bidder must download the bid file located on the web site to prepare a bid packet for submission to the Department. The bidder must include the completed bid packet printed from the Program along with the disk created by said program.

JOINT VENTURE BIDDING

Joint Venture bidding is permissible. However, both companies MUST purchase a bidding proposal. Either proposal may be submitted but must contain the company names and signatures of both parties where required. 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 is advised that the Underground Facility Damage Protection Act of 1994, became law January 1, 1995. It is the contractor's responsibility to determine the impact of the act regarding this project, and take all steps necessary to be in compliance with the provision of the act.

01/01/2009

FEDERAL CONTRACT NOTES

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

102.02 Current Capacity Rating
102.08 Irregular Proposals
102.09 Proposal Guaranty

102.10 Delivery of Proposals
102.14 Disqualification of Bidders

CIVIL RIGHTS ACT OF 1964

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

NOTICE TO ALL BIDDERS

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

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

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

FHWA 1273

The requirements of Paragraph VI of FHWA 1273 does not apply to projects with a total cost of less than \$1,000,000.00.

SECOND TIER SUBCONTRACTS

Second Tier subcontracts on federally assisted projects shall be permitted. However, in the case of DBE's, second tier subcontracts will only be permitted where the other

subcontractor is also a DBE. All second tier subcontracts shall have the consent of both the Contractor and the Engineer.

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

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

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

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

DBE GOAL

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

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

OBLIGATION OF CONTRACTORS

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

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

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

CERTIFICATION OF CONTRACT GOAL

Contractors shall include the following certification in bids for projects for which a DBE goal has been established. **BIDS SUBMITTED WHICH DO NOT INCLUDE CERTIFICATION OF DBE PARTICIPATION WILL NOT BE READ PUBLICLY.** 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 printed bid packet. 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

All bidders are encouraged to submit their General DBE Participation Plan with their bid on the official form. Lowest responsive bidders whose bid packages include DBE Participation Plans may be awarded the contract at the next Awards Committee meeting provided that the DBE goal is met. 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;
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.

The apparent low bidder who does not submit a General DBE Participation Plan with the bid shall submit it within 10 calendar days after receipt of notification that they are the apparent low bidder. The project will not be considered for award prior to submission and approval of the apparent low bidder's DBE Participation Plan.

Detailed DBE Participation Plan forms will be included in the Contractor Package presented to successful bidders following the awarding of the project. The Detailed DBE Participation Plan must be completed and returned to Contract Procurement in accordance with Cabinet policy. A copy of the blank estimate will be included with the Detailed DBE Participation Plan to list sequence items by PCN (Project Control Number).

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

CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS

If the DBE participation submitted in the bid by the apparent lowest responsive bidder does not meet or exceed the DBE contract goal, the apparent lowest responsive bidder must submit a Good Faith Effort Package to satisfy the Cabinet that sufficient good faith efforts were made to meet the contract goals prior to submission of the bid. Efforts to increase the goal after bid submission will not be considered in justifying the good faith effort, unless the contractor can show that the proposed DBE was solicited prior to the letting date. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted. One complete set and nine (9) copies of this information must be received in the office of the Division of Contract Procurement no later than 12:00 noon of the tenth calendar day after receipt of notification that they are the apparent low bidder.

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

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

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

9. Whether the bidder specifically negotiated with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be subcontracted includes potential DBE participation;
10. Whether the bidder made any efforts and/or offered assistance to interested DBEs in obtaining the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal; and
11. Any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include DBE participation.

FAILURE TO MEET GOOD FAITH REQUIREMENT

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

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

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

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

SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT

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

- Disallow credit toward the DBE goal;
- Withholding progress payments;

- Withholding payment to the prime in an amount equal to the unmet portion of the contract goal; and/or
- Termination of the contract.

PROMPT PAYMENT

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

CONTRACTOR REPORTING

All contractors must keep detailed records and provide reports to the Cabinet on their progress in meeting the DBE requirement on any highway contract. These records may include, but shall not be limited to payroll, lease agreements, cancelled payroll checks, executed subcontracting agreements, etc. Prime contractors will be required to submit certified reports on monies paid to each DBE subcontractor or supplier utilized to meet a DBE goal.

Prime contractors will incorporate a requirement into DBE subcontracts, including supply contracts, that DBEs must provide to the Division of Construction, a copy of all checks received from the prime contractor within seven days of receipt of payment for work performed on Cabinet projects. Checks to DBE subcontractors must include the PCN number, estimate number, and the sequence and quantity.

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.

01/01/2009

ASPHALT MIXTURE

The rate of application for all asphalt mixtures shall be estimated at 110 lbs/sy per inch of depth, unless otherwise noted.

DGA BASE

The rate of application for DGA Base shall be estimated at 115 lbs/sy per inch of depth.

DGA BASE FOR SHOULDERS

The rate of application shall be estimated at 115 lbs/sy per inch of depth. Payment for necessary grading and/or shaping of existing shoulders prior to placing of Dense Graded Aggregate Base shall be included in the unit price bid per ton for Dense Graded Aggregate Base.

INCIDENTAL SURFACING

The quantities established in the proposal include estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, and road and street approaches. These items are to be paved to the limits as shown on Standard Drawing RPM 110 or to the limits as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, the paving of the crossroads shall be to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. These areas are to be surfaced or resurfaced as directed by the Engineer and no direct payment will be allowed for placing and compacting.

FUEL AND ASPHALT PAY ADJUSTMENT

The following contract items: Asphalt Adjustment and Fuel Adjustment, are for possible future payments. Additional monies may need to be setup with an additional change order if existing contract amount is insufficient to pay all items on the contract. Unit price is \$1.00. Quantity will be actual adjustment after work is completed.

OPTION B

The Contractor is advised that the compaction of asphalt mixtures furnished to this project will be accepted by OPTION B in accordance with Section 402 and Section 403 of the current Standard Specification.

SPECIAL NOTE FOR STAINING CONCRETE SURFACES

DESCRIPTION:

This work shall consist of furnishing and applying a concrete penetrating stain to all visible concrete surfaces of the structure except the riding surface of the slab. This includes the sidewalk, rail curb, and overhang of the superstructure; the cap, columns, and stem of the piers to the top of footing; and the wings, cap, back-wall, and diaphragm of each end bent to 6 inches below the ground line on the outside faces.

MATERIALS:

The concrete stain shall be a penetrating stain mix designed especially for exterior cementitious type surfaces. It may be either a single component system which carries both its color and water repellent protection into the concrete or a multi-coat system requiring a separate final penetrating water repellent application.

The staining process shall create a surface finish that allows water vapor transmission without blistering or peeling and resists deterioration from water, acid, alkali, fungi, sunlight, or weathering. The penetrating stain shall be a water-borne low volatile organic compounds (V.O.C.) material, less than 290 grams/liter. In addition, the penetrating stain shall conform to the following performance requirements:

- Adhesion: Not less than 250 psi (average of 5 tests) in accordance with ASTM D4541 Test Method B
- Weathering resistance: No visible degradation after 2000 hours accelerated exposure in accordance with ASTM G152 and ASTM G153 or after 2000 hours accelerated exposure in accordance with ASTM D4587.
- Water Vapor Transmission: Not less than 50 grams\ meter² \ 24 hours in accordance with ASTM E96 using the water method.

The Contractor shall supply the Engineer with documentation showing compliance with these requirements as well as technical data sheets and material safety data sheets before ordering staining products.

The final color of the stained concrete shall conform to Federal Standard 595B Number 23690 to match the tile color of the nearby Hazard City Water Plant.

TEST PANEL:

The Contractor shall prepare a concrete test panel to demonstrate workmanship and final coloring for each lot or batch number used on the project. The panel size shall be not less than 36" x 36". The panel shall be prepared and stained in the same manner as the proposed structure. The panel shall be stained over a two day period. One half of the panel shall be stained on the first day and the remaining panel stained after a 24

hour waiting period, so that work termination lines can be demonstrated to blend well. The panel shall also include the proposed form liner pattern. No work on staining the structure shall begin until the Engineer has approved the test panels. The panels shall be viewed under standard daylight so that color uniformity between batch or lot numbers can be evaluated. The Engineer may require additional panels to be created if the initial panels do not produce the desired results. Corrective measures may be attempted on unsuitable completed panels at the Engineer's discretion. All work and materials to produce the test panels shall be incidental to the concrete staining.

CONCRETE SURFACE PREPARATION:

The Contractor shall provide a surface finish to the concrete according to the specifications. The concrete surfaces to receive staining shall be cured to the amount of time specified by the stain manufacturer before applying the stain, but not less than 21 days.

The Contractor shall clean and prepare the surfaces to receive staining according to the manufacturer's recommendations. The cleaning process shall include at minimum a water blast of not less than 2,500 psi applied 6" from the surface in a sweeping motion of less than 30°. Use potable water.

STAIN APPLICATION:

All concrete stain shall be delivered to the site in original sealed containers clearly marked with the manufacturer's name, brand name, batch and lot numbers, date of manufacture, and color. The Contractor shall follow the manufacturer's directions for storage and handling of all materials.

The Contractor shall prepare and apply the stain according to the manufacturer's directions. The stain shall not be applied unless weather conditions will permit complete drying of material prior to rain, fog, dew or temperatures beyond the manufacturer's prescribed limits. The Contractor must comply with all safety instructions from the manufacturer.

Areas not to receive stain shall be masked. The stain applied to the structure shall be consistent with the quality and appearance of the approved test panel. If unevenness in color, lines of work termination, etc. exist, the Engineer may have all such surfaces restained at the Contractor's expense.

METHOD OF MEASUREMENT:

Concrete Staining will be measured by the total number of square yards of projected plane area of concrete surfaces acceptably stained.

BASIS OF PAYMENT:

The unit price bid per square yard of Concrete Staining shall include the cost of all labor, materials, and equipment necessary to perform the work. No additional payment will be made for the required test panels.

Guardrail Delivery Verification Sheet

CID NO: _____

Item No: _____

<u>GUARDRAIL, END TREATMENT, TERMINAL SECTION, OR POST TYPE</u>	<u>UNIT</u>	<u>FIELD VERIFIED AMOUNT</u>	<u>DELIVERED AMOUNT</u>
GUARDRAIL-STEEL W BEAM	LF	_____	_____
TEMPORARY GUARDRAIL	LF	_____	_____
GUARDRAIL TERMINAL SECTION	EACH	_____	_____
CRASH CUSHION TYPE IX-A	EACH	_____	_____
GUARDRAIL END TREATMENT TYPE 1	EACH	_____	_____
GUARDRAIL END TREATMENT TYPE 2A	EACH	_____	_____
GUARDRAIL END TREATMENT TYPE 3	EACH	_____	_____
GUARDRAIL END TREATMENT TYPE 4A	EACH	_____	_____
GUARDRAIL END TREATMENT TYPE 7	EACH	_____	_____
GUARDRAIL CONNECTOR TO BRIDGE END	EACH	_____	_____
GUARDRAIL CONNECTOR TO CONC MED BARR	EACH	_____	_____
GUARDRAIL CONNECT-SHLD BRIDGE PIER	EACH	_____	_____
TIMBER GUARDRAIL POST	EACH	_____	_____
STEEL GUARDRAIL POST	EACH	_____	_____

Removed guardrail, end treatments, terminal sections, and posts shall be delivered to the Bailey Bridge Yard in Frankfort, KY and shall be neatly stacked in accordance with section 719.03.07 of the standard specifications. Contractor, engineer, and Bailey Bridge Yard representative must all sign off on this sheet before payment may be made.

	PRINTED NAME	SIGNATURE	DATE
Resident Engineer (or representative)	_____	_____	_____
Contractor (or Representative)	_____	_____	_____
Bailey Bridge Yard Representative	_____	_____	_____

SPECIAL PROVISION FOR WASTE AND BORROW SITES

The contractor is advised that it is their responsibility to gain U.S. Army Corp of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". "Waters of the United States" are defined as perennial or intermittent streams, ponds or wetlands. Ephemeral streams are also considered jurisdictional waters, and are typically dry except during rainfall, but have a defined drainage channel. Questions concerning any potential impacts to "Waters..." should be brought to the attention of the appropriate District Office for the Corps of Engineers for a determination, prior to disturbance. Any fees associated with obtaining approval from the U.S. Army Corp of Engineer or other appropriate regulatory agencies for waste and borrow sites is the responsibility of the contractor.

01/01/2009

Right-of-Way Certification Form

Federal Funded

Original

State Funded

Re-Certification

This form must be completed and submitted to FHWA with the PS&E package for federal-aid funded Interstate, Appalachia, and Mega projects. This form shall also be submitted to FHWA for all federal-aid projects that fall under conditions No. 2 & 3 outlined elsewhere in this form. For all other federal-aid projects, this form shall be completed and retained in the KYTC project file.

Date: 2 April 2009

Project #: FD52 CO97 7617401R **County:** Perry

Item #: 10-1071.00 **Federal#:** BRZ 1003 (184)R

Description of Project: Bridge & approaches @ N. Fk. KY River & KY 451

Letting Date: May 22, 2009

Projects that require NO new or additional right-of-way acquisitions and/or relocations

- The proposed transportation improvement will be built within the existing rights-of-way and there are no properties to be acquired, individuals and families ("relocates") to be relocated, or improvements to be removed as part of this project.

Projects that require new or additional right-of-way acquisitions and/or relocations

- Per 23 CFR 635.309, the KYTC hereby certify that all relocates have been relocated decent, safe, and sanitary housing or that KYTC has made available to relocates adequate replacement housing in accordance with the provisions of the current FHWA directive(s) covering the administration of the Highway Relocation Assistance Program **and** that at least one of the following three conditions has been met. **(Check those that apply)**

1. All necessary rights-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 these improvements and enter all land. **Fair market value has been paid or deposited with the court.**

- 2. Although all necessary rights-of-way have 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. Trial or appeal of some parcels may be pending in court and on other parcels full legal possession has not been obtained, but an interlocutory judgment has been granted, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish these improvements. **Fair market value has been paid or deposited with the court for most parcels. Fair market value for all pending parcels will be paid or deposited with the court prior to start of construction. (See note.)**

Project #: FD52 CO97 7617401R
 Item #: 10-1071.0
 Letting Date: May 22, 2009

County: Perry
 Federal#: BRZ 1003 (184)R
 Description of Project: Bridge & approaches @ N. Fk. KY River & KY 451

This project has 3 total number of parcels to be acquired, and 5 total number of individual of families to be relocated, as well as -1- total number of businesses to be relocated.

- 1 Parcels were acquired by a signed fee simple deed and fair market value has been paid (Type 1)
- 0- Parcels have been acquired through condemnation and IOJ granted by the court and fair market value has been deposited with the court (Type 1 Certification)
- 2 Parcels have not been acquired at this time but can be re-certified as acquired prior to notice to proceed for construction. (Explain below for each parcel) (Type 2 Certification)
- Parcels have been acquired or have a "right of entry" but the fair market value has not been paid or has not been posted with the court, and they can not be re-certified prior to construction. (These parcels require and explanation below for each one as well as FHWA approval. (Type 3 only)
- 0- Some displaces have not been relocated from all parcels: (explain below for each parcel) (notes to plans may be required)

Parcel #	Name/Station	Explanation for delayed acquisition, delayed, Relocation, or delayed payment of fair market value	Proposed date of Payment or of relocation
101	Burke	Deed signed & submitted for payment; awaiting additional funds to pay property owner and record deed.	9 April 2009
102	Burke	Deed signed & submitted for payment; awaiting additional funds to pay property owner and record deed.	9 April 2009

There are -0- billboards and/or -0- cemeteries involved on this project.
 There are -0- water or monitoring wells on parcels and . All

**UTILITY NOTES TO BE INCLUDED IN THE PROPOSAL
SPECIAL NOTES FOR UTILITY CLEARANCE
IMPACT ON CONSTRUCTION**

PERRY COUNTY, BRZ 1003 (182)
FD52 097 76174 01 U
Kentucky Boulevard (KY 2448)
Item No. 10 - 1071.00

The following utility companies have facilities to be relocated and/or adjusted on subject project.

Kentucky Power Company - The Electric Company has started relocating Phase 1 (Main Street) still waiting R/W payment/vacant parcel before disconnection. Phase 2 cannot relocate until R/W finalizes Chaney Hotel/demolishing/clean up. Electric Company will monitor R/W clearance of Hotel and schedule Phase 2 relocation. The Electric Company anticipates to be relocated by let date.

Windstream Kentucky East, LLC - The Telephone Company has scheduled relocation of facilities and will follow the Electric Company's relocation route. The Telephone Company anticipates to be relocated by let date.

Hazard Television Company - The Television Cable Company has scheduled relocation of facilities and will follow Windstream's relocation route. The Television Company anticipates to be relocated by let date.

City of Hazard - The City's water, sewer and gas facilities will be included in the roadway contract.

There are no railroads involved on subject project.

PROTECTION OF UTILITIES

The location of utilities provided in the contract document has been furnished by the facility owners and/or by reviewing record drawing and may not be accurate. It will be the roadway contractor's responsibility to locate utilities before excavating by calling the various utility owners and by examining any supplemental information supplied by the Cabinet. If necessary, the roadway contractor shall determine the exact location and elevation of utilities by hand digging to expose utilities before excavating in the area of a utility. The cost for repair and any other associated costs for any damage to utilities caused by the roadway contractor's operations shall be borne by the roadway contractor.

The Contractor is advised to contact BUD one-call system; however, the Contractor should be aware that owners of underground facilities are not required to be members of the BUD one-call system. It may be necessary for the Contractor to contact the County Court Clerk to determine what utility companies have facilities in the project area.

TECHNICAL SPECIFICATIONS
FOR CONSTRUCTION OF
KENTUCKY BOULEVARD (KY 2448)
BRIDGE
WATER, SEWER, AND GAS
UTILITY RELOCATION
FD52 097 69570 01 U
ITEM NO. 10-1060.00
HAZARD, PERRY COUNTY, KY
FOR THE
KENTUCKY TRANSPORTATION
CABINET
AND
CITY OF HAZARD, KENTUCKY

APRIL 2009

H. A. Spalding Engineers, Inc.
651 Skyline Drive
Hazard, Kentucky 41701-1664



WATER, SEWER, AND GAS UTILITY RELOCATION
FD\$2 097 2448 000-001 BRZ 1003(192)
ITEM NO. 10-1071.00
KY BLVD (KY 2448) BRIDGE
HAZARD, PERRY COUNTY, KENTUCKY

INDEX FOR TECHNICAL SPECIFICATIONS

DIVISION	PAGE
1.0	DESCRIPTION AND SEQUENCE OF WORK TS - 1 - TS - 3
	Description, Water Utility Relocation..... TS - 1
	Description, Gas Utility Relocation..... TS - 2
	Description, Sewer Utility Relocation TS - 2 - TS - 3
	Sequence of Const. and Maintenance of Service, Water..... TS - 3
	Sequence of Const. and Maintenance of Service, Gas..... TS - 4
	Sequence of Const. and Maintenance of Service, Sanitary Sewer TS - 4
2.0	SPECIAL NOTES TS - 5 - TS - 7
3.0	INSTALLATION TS - 8 - TS-17
	Trenching TS - 8 - TS-11
	Backfilling Trenches..... TS-11
	Cleaning Up and Repairing Damage TS-12
	Hauling and Storage TS-12
	Testing of Lines, Gas TS-12 - TS-13
	Testing of Lines, Water TS-13 - TS-14
	Sanitary Sewer Testing..... TS-14
	Laying Non-Pressure (Sewer) Pipe - General..... TS-14 - TS-16
	Sewer Pipe Bedding TS-16
	Sewer Line Testing - General..... TS-16
	Sewer Line Air Testing..... TS-16 - TS-17
	Guarantee..... TS-17
4.0	MATERIAL..... TS-18 - TS-32
	Gas Valves and Box TS-18
	PE Gas Pipe and Fittings..... TS-18
	Gas Line Tapping Tees (1-1/4" - 4")..... TS-18
	Gas Service Tubing TS-18
	Liner Pipe, Gas, Water, Sewer..... TS-18 - TS-19
	Gas Line Vents TS-19
	Gas Line Markers..... TS-19
	PVC Water Pipe - Class 200..... TS-19
	Ductile Iron Water Pipe TS-20
	Ductile Iron Ball Joint River Crossing Pipe (Water & Sewer Force Main)..... TS-20
	Water Service Tubing (1-1/4", 1", 3/4") TS-21
	Water Valves 12" and Smaller TS-21
	Water Valve Boxes TS-21 - TS-22
	STD. Blow-Off Hydrants..... TS-22

DIVISION	PAGE
4.0 Material (cont.)	
Water Air Release Valves	TS-23
Water ARV Box and Cover	TS-23
Water Meter Setting Equipment.....	TS-23
Water Meters (1" & 3/4")	TS-23
Water Meter Box and Cover	TS-24
Large River Water Test Station (By-Pass Flow Meter)	TS-24
Water Caps (If Used)	TS-24
Water Tie-Ins Description	TS-24
Gas Service Reties	TS-25
Water Service Reties	TS-25
PVC Pipe and Fittings (Sanitary Sewer)	TS-25 – TS-26
PVC Pipe Force Main	TS-26
Lateral Cap (If Used).....	TS-26
PVC Sewer Service Laterals.....	TS-26 – TS-27
14" PE (Using Pipe Bursting)	TS-27 – TS-28
Lateral Reconnect.....	TS-28
Drain Re-Route	TS-28
Sanitary Sewer Television Inspection	TS-28
Existing Buried Manhole	TS-28 – TS-29
Concrete Work.....	TS-29 – TS-32

TECHNICAL SPECIFICATIONS **KENTUCKY BLVD (KY 2448) BRIDGE** **WATER, SEWER, AND GAS UTILITY RELOCATION**

1.0 DESCRIPTION AND SEQUENCE OF WORK

1.1 Description, Water Utility Relocation

Note: An existing water project is in the planning stages which will precede the construction of this project. All construction previously noted for the line designated as WA will be completed by this earlier project and is the reason for the omission of Line "WA".

At the location shown on the plans begin construction of the line designated as WB. First, locate the discharge Tee for the existing booster station; past this tee install a short piece of plain end pipe and then a 90 degree elbow and 8" valve and box. Ensure that the existing tee and valve for the line that crosses the river are removed from the flow path. Continue running 8" D.I. until reaching WB Sta. 0+63 where you will begin 90' of 12" bored liner pipe. Continue running 8" D.I. until reaching WB Sta. 2+81 where you will begin 270' of 8" D.I. ball joint (D.I.B.J.) river crossing pipe. At this location also set a 1 CYD concrete anchor as detailed on the plans. When reaching WB Sta. 5+51, end 8" D.I.B.J., set concrete anchor as designated, and begin 8" PVC waterline using transition fittings/gaskets, as required. At WB Sta. 5+85 set an 8" MJ tee, three 8" valve and boxes, large river test station, and continue running 8" PVC as indicated with one of the lines being designated as WC. Continuing on with the line designated as WB, set a 1" meter and make retie to the existing service for the motel building that is to remain. Use 1" service line to make this retie. Use all necessary fittings and materials to make this meter retie. At WB Sta. 6+25 begin 30' of 12" open cut liner pipe as indicated. Continue running the 8" PVC as indicated on the plans, using the liner pipe lengths as indicated until reaching WB Sta. 10+77. At this point set one 8" valve and box, one 6" valve and box, standard hydrant, and complete tie #3 as indicated. Past this tie point, retie the existing water meter as shown off the existing line. Use 3/4" service and other materials as required to make this meter retie. This completes the construction of the line designated as WB.

At WC Sta. 0+00 (see above) continue running 8" PVC as indicated to WC Sta. 1+95 where you will complete the retie. Insure that this retie is completed east of the existing MJ tee and valves which serve the line which runs to the southeast. Contact City of Hazard personnel to insure that this tie-in is made so to serve both existing lines. Reverting to WC Sta. 0+82, run approx. 45' of 3/4" service, setting 3/4" meter where indicated, and tie back into 1" line which leads into a small shed (1" line to east to be abandoned). This completes the construction of the line designated as WC.

1.2 Description, Gas Utility Relocation

The following description is the construction for the Gas Line Utility Relocation portion of the Plans. This description is not all inclusive and does not consider sequence and maintenance of service which are discussed in following sections of these Specifications.

The Contractor shall begin by tying to an existing 6" polyethylene (hereinafter PE) at the location shown on the plans and for the line designated as GA. At this location place a 90 degree butt fusion welded elbow, 6" gas valve and box, and proceed with construction of a new 6" PE line as indicated. (Important, see Section 1.5 for other required work). At the location shown on the plans provide approximately 100' of 10" bored liner pipe complete with vents on both ends, end seals, and casing spacers. At the location shown set a 6" gas valve, 6" butt fusion 90 degree elbow, and retie to the existing 6" PE line as indicated. Effectively purge the existing 6" gas line to be abandoned. This completes construction of the line designated as GA.

Begin construction of the gas line designated as GB. Begin this construction by setting a 2" "hot" tapping tee and 2" gas valve and box. When appropriate, go downstream of this new tap, pinch the line, and install a cap. Proceed as indicated on the plans, utilizing approximately 35' of 8" open cut liner pipe equipped with one vent on the high end, casing seals on both ends, and casing spacers at GB Sta. 0+70. Proceed by laying 2" PE pipe as indicated on the plans until reaching GB Sta. 4+31 where you will construct approximately 30' of 8" open cut liner pipe equipped with a vent on the high end of the pipe, casing seals on both ends, and casing spacers. Repeat at GB Sta. 4+89 for 25' of open cut liner pipe. At GB Sta. 5+41 tie into the existing 2" PE line as indicated with a 2" "Hot" tapping tee and 2" valve. As above, provide a pinch off and cap. This completes the construction of line designated as GB. Effectively purge the existing 2" line that exists between the two tie points noted.

The Contractor **shall review the maintenance of service requirements** in the "Sequence" portion of these specifications.

1.3 Description, Sewer Utility Relocation

At the location shown on the plans for the line designated as SA, provide a 3" MJ 90 degree elbow equipped with grip rings and tie into the existing 3" PVC force main. Complete the construction as shown including the 100' of 8" bored liner pipe equipped with casing end seals and casing spacers, and proceed towards the manhole as indicated at SA Sta. 2+63. At this point, smoothly core a new hole into the side of the manhole at the location and elevation indicated. Smoothly regROUT the 3" line into the side of the existing manhole. This completes construction of the line designated as SA.

At the location shown on the plans begin construction of the line designated as SB. Begin this construction by placing a 90 degree MJ elbow equipped with grip rings in the existing 6" line. Contractor shall confirm the line type of the existing line before any

construction. From this tie point lay new 6" D.I. force main until reaching the point shown on the plans where you will begin placement of 6" ductile iron ball joint (D.I.B.J.) river crossing pipe. Approximately 1' past the location where you transition from D.I. to D.I.B.J. place a 1 cubic yard concrete anchor as detailed on the plans. Complete all 6" D.I.B.J. as indicated, complete concrete anchor and transition to D.I., and tie into the existing manhole as indicated on the plans using the same construction as noted above. This completes the construction for the line designated as SB.

The line designated as "SC" will be replaced by a new 14" (O.D.) polyethylene line constructed by the pipe bursting method. A television (TV) investigation will be completed on the full length of the line from the shown wet well to the shown manhole (approximately 365'). A video inspection has already been completed from the most easterly manhole to the manhole shown in the new bridge approach and is available for inspection at the office of the Utility Relocation Engineer. As this line will be taken out of service, it is essential that any line which must continue to be served (i.e. for an unknown lateral) be reconnected. It is not believed that this lateral exists but this must be confirmed. If any surface drain is found to connect to the existing sewer it must be rerouted to drain elsewhere. Two bid items, lateral reconnect and drain reroute, have been included in the bid quantities, and may, or may not, be required. The bid items shall be the same for Add or Deduct.

The Contractor shall be required to perform any necessary remedial work at the termination point of the pipe bursting (i.e. at manhole and wet well) and this cost shall be included in the Unit Cost for 14" PE. The Contractor shall also provide by-pass pumping of the sanitary sewer while this line is being replaced. This completes the work designated as line SC.

1.4 Sequence of Construction and Maintenance of Service, Water

The sequence that waterlines are constructed in, i.e. WB, WC, is not overly critical. The Owner does not care which line segment is constructed first. However, maintenance of service to existing customers is extremely critical. The Contractor shall perform all his tasks in a manner which minimizes downtime for any line. All new line shall be brought into service (pressure tested and disinfected) before making any final tie-in which requires cutting of an existing line. For line WB, all work shall be complete and ready for service before making the final tie-ins at the booster station and at WB Sta. 10+77. Do not disturb or bring out of service the existing 8" line which runs from the existing booster station, across the river, and then East and West.

Do not complete any work on the water portion until contacting Mr. Bobby Holland, Jr., City of Hazard Water Superintendent, at (606)-438-6534.

1.5 Sequence of Construction and Maintenance of Service, Gas

The existing 6" line shown on the drawings paralleling KY 451 is the principal source of supply for natural gas to the City of Hazard. The existing 2" gas line that crosses the river, runs parallel to the river, and goes on to Woodland Park Subdivision, is the only source of gas supply for the Woodland Park Subdivision. These 2" taps must be a "hot" taps and can only be completed during low demand (warm) times. These tie-ins shall be completed by first setting the tapping tee and tapping valve, bringing all new line into service, then returning to the tap points, pinching off the main, and installing a cap.

For the 6" line there is an alternate feed path, but this feed path is only suitable during very low demand periods. All work for the Woodland Park tie-in shall be completed before any work is completed on the 6" line. Complete the work on the 6" line only after receiving approval from Mike Keith (see below).

The Contractor shall do no gas related work until contacting, and having the approval of, Mr. Mike Keith, City of Hazard Gas Superintendent, (606)-438-1498.

1.6 Sequence of Construction and Maintenance of Service, Sanitary Sewer

Sequence of construction for the sanitary sewer is not as critical as that required for gas and water. Any sequence of construction which minimizes down time and limits to the best degree difficulties for the traveling public is suitable. The Contractor shall not pollute the waters of the Commonwealth and **will be required to bypass pump** in locations from manhole to manhole or wet well by plugging with inflatable plug/s at upstream and possibly downstream manholes.

2.0 SPECIAL NOTES

- A. Contractors must have personnel adequately trained and certified for installation of fusion welded Polyethylene Gas Pipe and fittings. Contractor shall also have personnel adequately trained for welding and other work associated with steel liner pipe. Contractor shall have personnel adequately qualified per Code of Federal Regulations (CFR) 49 CFR 192.283 and 192.285. These specifications are included by reference herein. Specifically, the Contractor shall have a current "Operator Qualification Plan" per the requirements of the Kentucky Gas Association, Public Service Commission, and any appropriate CFR.
- B. All fittings used on PE gas lines are to be Butt Type, fusion weld. Unless noted, all water line fittings shall be Mechanical Joint equipped with grip rings on all branches.
- C. Liner Pipes shall be installed at the grades shown on the Drawings. This is especially critical for gas liner pipes equipped with only one vent.
- D. All crushed stone for bedding and backfill as directed by the Engineer is considered incidental to other areas of the roadway work.
- E. All concrete on gas line, water line, and sewer line, including the thrust blocks, is a pay item if its use is directed by the Engineer. This will be paid as General Concrete. Reinforcement for this bid item may vary up to #4 bars at 12" each way.
- F. Contractors should note that all non metallic lines including all plastic gas lines, all plastic water lines, and all sanitary sewer laterals shall be laid with #10 copper tracer wire. No other substitutes will be accepted such as smaller ga. wire or marking tapes. Also note that the wire shall be looped into valve boxes and be continuous (by twisting or soldering for good contact) for subsequent location activities by the City of Hazard. Note that the loop allows the City to connect impressed voltages for location purposes.
- G. The Contractor should note the gas line requirements as shown on the Drawings concerning documents which outline complete gas line construction specification. The Contractor in accepting any portion of this bid is presumed to be familiar with these requirements. The project will be constructed in accordance with those requirements. These requirements specifically include the GUIDANCE MANUAL FOR OPERATORS OF SMALL GAS SYSTEMS, USDOT, 1991, and Code of Federal Regulations (49CFR Parts 190-199).
- H. Contractor is responsible for contact with Mr. Mike Keith, City of Hazard Gas Utilities, before any gas line construction, 438-1498. Contractor is responsible for contact with Mr. Bobby Holland, City of Hazard Water Utilities, before any water line construction, 438-1082. Contractor is responsible for contact with Mr. Carlos Combs, City of Hazard Public Works Superintendent, before any sanitary sewer line construction, 438-1123.
- I. Valve collars are required at all gas and water valves. The cost of the valve collars is included in your bid price for valves.
- J. The final precise location of all gas, sewers, and water lines is the responsibility of the Contractor. The Contractor shall be the final judge of the suitability of installing a line in the location shown on the Plans. The plans serve as a guide

to the final line location. The Contractor, because of his extensive knowledge obtained from field work, is highly capable of determining better line locations based on field conditions. Determination of field suitability of laying the line where shown on the Plans is the responsibility of the Contractor. The Contractor, in accepting any portion of this Contract, assumes the responsibility as noted above. The Contractor shall pay special attention to the vertical location of his new lines. Extra cover in certain areas may be required due to subsequent construction activities. The Contractor shall use common sense and his knowledge of this highway work required for vertical location. The warranty period for any gas, water, and sanitary sewer portion shall begin one (1) year after the Contractor has completed all of his work including final backslopes in a particular area.

- K. All "TIES" are bid items including all necessary materials required to make the same.
- L. Contractor shall install all liner pipes and vents at depths which will insure protection from his work and lack of conflict with final and temporary roadway requirements.
- M. In any gas, water, or sanitary sewer line areas which require Class II or Class III Stone backfill, adequate earth cover of a minimum of 2 feet shall be installed over the pipes to provide a cushion from the stone. If he considers it in his best interest, the Contractor may use additional earth cover.
- N. Gas and water line markers shall be used at the locations designated on the plans. Gas and water line markers are considered incidental to other work.
- O. The Contractor is responsible for preparation of "marked up drawings" which show the final As-Built locations of all gas, water, sanitary sewer facilities. These drawings shall be delivered to the office of the Utility Relocation Engineer when the facilities are complete. These drawings shall be signed by the person in responsible charge for the utility relocation work.
- P. Shop Drawing submission to the Utility Relocation Engineer is required of the Contractor. Items which require Shop Drawing approval include (but may not be limited to):

Gas line main	Water line main	Sewer line main
Gas service line	Water valve & boxes	Manholes
Tapping tees	Air release valves	Force main
Gas valves	River test station	TV Inspect. Consultant
Gas valve boxes	Meters	Pipe bursting experience
Liner/vent pipe	Water line markers	
Gas line markers		

The Utility Relocation Engineer's address is:

H. A. Spalding Engineers, Inc.
651 Skyline Drive
Hazard, KY 41701-1664
(606) 436-2151
Project Engineer, Hank A. Spaulding

Submission shall be complete and shall be in an adequate number to allow the Engineer to keep two (2) complete sets while allowing the Contractor any required sets for his use.

Utility Relocation
TS-7

3.0 INSTALLATION

Trenching - Trenching shall be done in a true straight line at all times and fittings shall be used only at the direction of the RESIDENT ENGINEER.

Trenching shall include all clearing and grubbing, including all weeds, briars, trees, and stumps encountered in the trenching. The CONTRACTOR shall dispose of any such material by burning, burial, or hauling away, at no extra cost to the OWNER. Shrubs, hedges, and small trees (3" in dia.) shall be removed and replanted, at no extra cost to the OWNER. Trenching also includes such items as street, road, sidewalk, pipe and small creek crossings; cutting, moving, or repairing damage to fences, poles, or gates and other surface structures, regardless of whether shown on the Plans.

All material encountered in excavation shall be Unclassified. In areas where rock is encountered, a min. of 6" of gravel shall be placed in the bottom of the trench before installation of the pipe. No extra payment will be made for the installation of the gravel as all crushed stone is considered incidental to roadway work. The price for the pipe in place shall also include hauling off of all excavated material.

The CONTRACTOR shall determine, as far as possible in advance, the location of all existing sewer, culvert, drain, water, electric, and gas pipes and other subsurface structures and avoid disturbing same in opening his trenches. In case of sewer, water, and gas services, and other facilities easily damaged by machine trenching, same shall be uncovered without damage ahead of trenching, and restored immediately after trenching machine has passed, without extra cost to the OWNER. The CONTRACTOR shall protect such existing facilities, including power and telephone poles and guy wires, against danger or damage due to settlement of his backfill. It shall be the responsibility of the CONTRACTOR to inform customers of utilities of disruption of service as soon as it is known that it has or will be cut off.

The CONTRACTOR shall at all times during trenching operations on the streets, carry a stock of pipe and fittings likely to be needed for replacement of pipe to facilitate immediate repair.

Construction equipment will not be approved for use where treads are injurious to paving encountered. Curbs, sidewalks, and other structures shall be protected by the CONTRACTOR from damage by his construction equipment.

In case of damage to any existing structures, repair and restoration shall be made at once and backfill shall not be replaced until this is done. In all cases, restoration and repair shall be such that the damaged structure will be in as good condition and serve its purpose as completely as before and such restoration and repair shall be done without extra charge, except as set forth under the provisions of the General Conditions or where shown as Bid Item on the Plans or Specifications. Where there is the possibility of damage to existing utility lines by trenching machine, the ENGINEER may

order hand search excavation ahead of machine trenching to uncover same, at no extra cost to the OWNER.

All trenches must be dug neatly to lines. Hand trenching may be required by the ENGINEER, at no extra payment, where undue damage would be caused to existing structures and facilities by machine trenching. Trenches in earth shall be dug to just above grade by machine and shall be finished down to grade by hand, unless otherwise specified.

Where trenching is cut through paving, which does not crumble on edges, trench edge shall be cut to at least two (2") inches deep to straight and neat edges before excavation is started, and care taken to preserve edge to facilitate neat repaving as shown on the Drawings.

All excavation shall be open trenches, except where otherwise called for on the Plans or by special permission of the ENGINEER, for boring or jacking under railroads, sidewalks, and the highway.

When working along the highway the CONTRACTOR shall furnish, install and maintain necessary signs, lights or other warning devices as prescribed by the Kentucky Department of Transportation and shall furnish and employ sufficient flagmen to direct traffic in the construction area all as directed by the Department of Transportation. All signs, devices, flagmen, etc. shall be as prescribed in the "Manual on Uniform Traffic Control Devices, Part VI," latest revision.

The CONTRACTOR shall so coordinate his work as to produce a minimum of interference with normal traffic on highways and streets. He may, with the approval of the ENGINEER and governing agency, close a street to traffic for such length of time considered necessary by the ENGINEER, provided persons occupying property abutting the streets have an alternate route of access to the property which is suitable for their needs during the time closure. It shall be the responsibility of the CONTRACTOR to give 24 hours advance notice to Fire and Police Departments and to occupants of a street which will be closed in a manner approved by the ENGINEER.

The opening of more than 500 feet of trench ahead of the pipe laying and more than 500 feet of open ditch left behind pipe laying before backfilling, will not be permitted except upon written consent of the OWNER. No trench shall be left open or work stopped on same for a considerable length of time. If such is necessary, trench shall be refilled according to backfill specifications.

In crossing a road or street a temporary bridge must be placed over the excavation if traffic conditions require its use before backfilling. Where required or when directed by the ENGINEER, road or street crossings will be limited to one-half of travel width before placing temporary bridge over the excavated side. Whenever trenching is performed on public ways, the CONTRACTOR shall furnish and maintain barricades, lanterns, warning sign and signals as far as one block ahead or at locations directed by the

governing agency as required for public safety. All such necessary bridges, barricades, lanterns, signs and signals shall be provided by and at the expense of the CONTRACTOR. The CONTRACTOR shall maintain road crossings in a passable condition for traffic until the final acceptance of the work at no cost to the OWNER.

Where pipelines run through wooded terrain, cutting of trees within limits of maximum permissible trench width, as set forth in this article, will be permitted. However, cutting of additional trees on sides of trench to accommodate operation of trenching machine will not be permitted. The CONTRACTOR shall obtain specific permission of the OWNER before cutting any tree larger than four (4") inches in diameter.

Sheeting and shoring of trench will be required of this CONTRACTOR where necessary to protect life, property, or any structure from damage or to maintain maximum permissible trench widths at top of pipe. Sheeting, sheet piling, trench jacks, braces, shores, and stringers shall be used to hold trench walls. These shall be withdrawn as the trenches are being backfilled, after backfill has been placed over pipe at least 18". If their removal, before backfill is completed to surface, endangers adjacent structures such as pipelines, street paving, sidewalk and buildings, then they shall be left in place until such danger has passed and then pulled if possible. Voids caused by sheeting withdrawal shall be backfilled and tamped with thin rammers designed for the purpose so as not to form an obstruction at the ground level. Dewatering of the trenches shall be considered a part of trenching at no extra cost to the OWNER. Dewatering of trenches shall include ground water and storm or sanitary sewage. Suitable pumping and other dewatering equipment is to be provided by the CONTRACTOR to insure the installation of the pipeline structure in a dewatered trench and under the proper conditions. Dewatering shall include all practical means available for prevention of surface runoff into trenches and scouring against newly laid pipe.

Piles of excavated material shall be trenched or temporarily piped to prevent, as far as practical, blockage of drainage ditches and gutters and resultant water carriage of excavated materials over street surfaces.

Where subgrade of trench has insufficient stability to support the pipeline and hold it to its original grade, the ENGINEER may order stabilization by various means. Exclusive of dewatering normally required for construction and instability caused by neglect of the CONTRACTOR, it shall be paid for at unit prices set up in the Contract such as extra excavation, crushed rock for pipe bedding, concrete cradle, or piling.

The location of pipe and their appurtenances, as shown, are those intended for the final construction. However, conditions may present themselves before construction of any line is started, that would indicate desirable changes in location. Also, development of property traversed may require location changes. In such cases, the OWNER reserves that right to make reasonable changes in line and structure location without extra cost except as may be determined by the application of the unit prices bid to the quantities actually involved. The OWNER is under no obligation to locate pipelines, so they may be excavated by machine.

The work of uncovering and backfilling required for locating existing sewers, waterlines and other existing facilities for connection of improvements, or avoidance in location of proposed pipeline, where such uncovering and backfilling is not within trench for improvements, shall be at the CONTRACTOR's expense.

The CONTRACTOR will be required to test all waterlines and appurtenances with water at 150 lbs. per square inch before backfilling. Backfilling before testing will be allowed at the discretion of the ENGINEER at points where danger to the public, or other hazards, demand that such be done immediately after pipe is laid. All leakage apparent after testing must be repaired before backfilling.

Backfilling Trenches:

Backfilling must be started as soon as practicable after pipe has been laid. Packing of earth across and around pipe at six (6') foot intervals and between joints shall be the usual procedure as the laying proceeds. This is in order to avoid danger of misalignment from slide, flooding or other causes. The ENGINEER shall be given a maximum of 24 hours for inspection before backfilling. Only earth, or rock less than 2-1/2" size, shall be used as backfill materials up to six (6") inches above top of pipe. No stones or other hard or heavy substances may be thrown directly upon the pipes or into the trench until the above named cover of earth is obtained. Above the 6 or 12 inches above pipe, rock may be used in the backfill to an extent not greater than one-half of the total backfill materials used. If additional earth is required, it must be obtained and placed by the CONTRACTOR. Filling with rock and earth shall proceed simultaneously in order that all voids in the rock may be filled with earth. Where noted on the Plans and within the shoulder of the Kentucky Highways, the CONTRACTOR shall backfill to finish highway grade with DGA. The DGA shall be tamped in six (6") inch layers in accordance with Department of Transportation Specifications. In these areas (if any) DGA will be a pay item. All material hauled away shall be placed at no cost and at a location specified by the ENGINEERS.

No extra charge shall be made for supplying outside materials for backfill or removing excess excavation material from the site of the work.

Extra cost of compaction of backfill on street and driveway crossings and tunnels shall be included in price bid for trenching and backfilling and tunneling.

Where highway slopes, thin grass, or cover crops are destroyed by trenching, laying, or backfilling operations, and access to them, surface shall be prepared by disking, fertilizing 5 lbs. of 5-10-5 or 6-8-6 per 1,000 square feet and seeding 21 lbs. of Italian Rye Grass per 1,000 square feet, light harrowing, then reseeding with crop destroyed or one part Red Top, three parts certified Kentucky Bluegrass seed mixed together at the rate of 2 lbs. per 1,000 square feet of surface. This shall be included in the price for trenching and backfilling. Requirement of the Department of Transportation, Bureau of Highways, for reseeding shall take precedence over these specifications.

Cleaning Up and Repairing Damage:

The Contract will not be considered complete until all construction structures and equipment and rubbish from construction are cleaned from the site of the work.

All damage to existing grounds and structures caused by construction operations must be repaired or the OWNER compensated for such damage before contract will be considered complete. This does not include replacement of sod, but does include required shaping of ground for sodding or planting of grass and the removal and disposition of all rock from blasting three (3") inches or over in size.

Hauling and Storage:

The CONTRACTOR will be required to deliver all pipe, fittings, valves and valve boxes and other materials and place same as and where required for laying.

Care must be exercised in the handling of all materials and equipment and the CONTRACTOR will be held responsible for all breakage or damage to same caused by his workmen, agents or appliances for handling or moving. Pipes and other castings shall in no case be thrown or dropped from cars, trucks, or wagons to the ground but same shall be lowered gently and not allowed to roll against or strike other castings and unyielding objects violently. Pipe and special castings may be distributed at places that will not interfere with other building operations as unloaded or yard and distributed as required, as the CONTRACTOR may elect.

Valves, valve boxes, jointing materials, meter box covers, castings, fabricated metal, reinforced steel, etc. shall be yarded or housed in some convenient location by the CONTRACTOR and delivered on the ground, as required.

The cost of all hauling, handling, and storage shall be included in the price bid for equipment and materials in place.

The OWNER takes no risk or responsibility for fire, theft, flood, or damage until after the final acceptance of the work.

Testing of Lines, Gas:

On all projects involving the installation of gas pipelines the finished work shall comply with the provisions listed below, or similar requirements which will insure equal or better results.

..a. All PE gas mains shall be given a pressure test to between 90 and 100 psi. Do not exceed 100 psi.

..b. Where practicable, gas pipelines shall be tested between line valves or plugs in lengths of not more than 1500 feet.

..c. Duration of test shall be determined by volumetric content of test section and instrumentation in order to ensure discovery of all potentially hazardous leaks per TITLE 49, CFR.

..d. Where leaks are evident they shall be repaired immediately.

..e. All pipe, fittings and other materials found to be defective under test shall be removed and replaced.

..f. Lines which fail to meet tests shall be repaired and retested as necessary until test requirements are complied with.

..g. The CONTRACTOR shall furnish all necessary equipment, including recording gauge and clock used during leakage test and recording pressure charts during duration of test. Recording pressure charts shall remain the property of the ENGINEER at conclusion of test.

..h. All gas lines shall be pressure tested in strict accordance with U.S.D.O.T. 49 CFR 192.509 for steel lines and 192.513-C for plastic lines. The Contractor may test the steel line prior to installation and connection with the plastic line. After connection the entire system shall be pressure tested between 90 and 100 psi (or three (3) times design pressure) as per 192.513-C. A recording pressure gauge shall be used and pressure charts shall be furnished to the Owner at the completion of the testing and shall be retained for permanent record.

Testing of Lines, Water:

On all projects involving the installation of water pipeline, the finished work shall comply with the provisions listed below, or similar requirements which will insure equal or better results.

..a. All water mains shall be given a hydrostatic test to 150 psi, under which leakage shall not exceed the limits established in Section 4 of AWWA Standard Specifications C600.

..b. Where practicable, pipelines shall be tested between line valves or plugs in lengths of not more than 1500 feet.

..c. Duration of test shall be not less than two hours.

..d. Where leaks are evident on the surface where joints are covered, the joints shall be recaulked, repoured, bolts retightened or relaid, and leakage minimized regardless of total leakage as shown by test.

..e. All pipe, fittings and other materials found to be defective under test shall be removed and replaced.

..f. Lines which fail to meet tests shall be repaired and retested as necessary until test requirements are complied with.

..g. The CONTRACTOR shall furnish a recording gauge and clock used during leakage test and recording pressure charts during duration of test. Recording pressure charts shall remain the property of the ENGINEER at conclusion of test.

The new potable waterlines shall not be placed in service, either temporarily or permanently, until they have been thoroughly disinfected in accordance with the following requirements and to the satisfaction of the ENGINEER.

After testing, a solution of hypochlorite using HTH, or equal, shall be introduced into the section of the line being disinfected sufficient to insure a chlorine dosage of at least 50 ppm in the main. While the solution is being applied the water should be allowed to escape at the ends of the line until tests indicate that a dosage of at least 50 ppm has been obtained throughout the pipe. Open and close all valves and cocks while chlorinating agent is in the piping system. The Chlorinated water shall be allowed to remain in the pipe for 24 hours, after which a residual of at least 25 ppm shall be obtained. The disinfection shall be repeated until 25 ppm is obtained, after which time the main shall be thoroughly flushed until the residual chlorine content is not greater than 1.0 ppm.

Following disinfection of the line, bacteriological samples shall be collected and analyzed in accordance with the requirements of Kentucky Department of Natural Resources and Environmental Protection. When the samples have been approved, the new line then may be connected to the system.

Sanitary Sewer Testing

All sanitary sewer force mains shall be pressure tested using the procedure described above for water lines. Non-Pressure pipe shall be tested as outlined below.

Laying Non-Pressure (Sewer) Pipe – General

A. General

1. All pipe shall be tested for uniform diameter, straightness and defects before laying and rejected pipe shall be removed from the project.
2. All pipe after being inspected and accepted shall be laid to the lines and grades shown on the Drawings. The Contractor shall furnish all labor and materials for staking out lines and grades. All gravity pipelines shall be

laid to constant grades between invert elevations shown on the Drawings. Grades shown on drawings are invert of pipe, unless specifically noted otherwise. The pipe lengths shall be fitted together and matched to form a smooth and uniform invert.

3. Subgrade, undercut, bedding and backfilling under, around and over the pipe shall all be in accordance with the details shown on the Drawings. No pipe shall be laid until the subgrade is properly in place.
4. Unnecessary walking upon the completed pipelines shall be avoided until trench has been backfilled to over the top of the pipe.
5. The interior of the pipe shall be cleaned of all dirt, jointing materials and superfluous materials of every description. When laying of pipe is stopped, the end of the pipe shall be securely plugged or capped. Care should be taken to prevent flotation of the pipe in the event the trench should flood. The Contractor will be responsible for relaying and/or relocating pipe if the pipe is laid before trenching has progressed far enough to eliminate the possibility of grade conflicts or realignment on account of existing structures, pipelines, or conduits.
6. In trench conditions where pipe is in danger of sinking below grade or floated out of grade or line, or where backfill materials are of such a fluid nature that such movements of pipe might take place during the placing of the backfill, the pipe shall be weighted or secured permanently in place.
7. Trench excavation and pipe bedding shall conform with provisions contained elsewhere in Detailed Specifications.
8. Pipes shall be laid free from all structures other than those planned. Openings in and joints to contact walls shall be constructed as shown on the Drawings.
9. Non-pressure pipes entering structures underground and unsupported by original earth for a distance of more than 3', shall be supported by Class "B" concrete, where depth of such support does not exceed 3'. All pipes entering buildings or basins, below original ground, which are higher than 3' depth above subgrade, span more than 3' between wall and original earth, and with more than 24" of cover or under a roadway, shall be supported by concrete beams with piers at 6' intervals between structural wall and edge of excavation for the structure, in order to prevent breakage from settlement of backfill about the structure. Concrete and reinforcing steel for these supports shall be in the lump sum portion of the contract; and no extra payment will be allowed. Pipe entering structures shall have flexible joint within 18" of exterior of structure or from point of leaving concrete support.

10. No backfilling, except for securing pipe in place, shall be done until the Engineer has inspected the joints, alignment, and grade in the section laid. Such inspection, however, does not relieve the Contractor of liability in case of defective joints. Joints that show leakage will not be accepted. If after backfilling and inspection, any joints are found that are allowing groundwater to enter the sewer, such joints shall be sealed by the Contractor.
- B. Sewer Pipe Bedding
1. Pipe bedding for gravity sewers shall be as shown on the Drawings. Crushed stone used for bedding shall be size shown, and shall comply with State Highway Department Standards.
- C. Sewer Line Testing - General
1. On completion of sewer lines, all sewers and manholes will be inspected for foreign matter, including sand brought in by infiltration, and any such matter shall be removed before final acceptance of the lines.
 - a. Testing of the pipe as specified shall be carried out after all appurtenances have been installed. All pipelines shall be tested for compliance with the Specifications. If leaks are discovered, they shall be repaired by the Contractor as part of the work of laying this pipe and appurtenances and as approved by the Engineer. The Contractor shall supply all labor, equipment, material, gauges, pumps, etc., required to conduct the tests.
 - b. All equipment, pipe and appurtenances shall be repaired or replaced and the tests repeated at the Contractor's expense until the pipe, appurtenances and equipment are in satisfactory compliance with these Contract Documents, in the judgement of the Engineer.
- D. Sewer Line Air Testing.
1. Air testing shall be required on all gravity sewer lines.
 2. All lines shall be flushed and cleared of debris prior to air testing. The maximum length of line to be air tested at any one time shall be from manhole to manhole.
 3. Air shall be slowly supplied to the plugged pipe until the internal pressure reaches 5.0 pounds per square inch (PSI) greater than the average back pressure of any groundwater that may be above the pipe. Two minutes shall be allowed for a stabilization period before proceeding further.

4. The acceptance of the pressure test shall be determined by measuring the time required for the internal pressure to decrease from 0.5 PSI to 1.5 PSI below test pressure. The time for this one PSI loss of air pressure must not be less than 6 minutes per foot of nominal pipe diameter.
5. Tees and service laterals shall be considered as part of the line being tested. All plugs shall be firmly blocked to insure that they will not be displaced during testing. Descriptive literature for all equipment and procedures to be used in air testing must be submitted to the Engineer for acceptance.
6. All defective work, as so proven by the air test, shall be immediately repaired and retested until proven to be satisfactory.
7. Inspection in pipe laying and air testing shall in no way relieve the Contractor of the responsibility for passing subsequent test for infiltration or correcting poor workmanship.

Guarantee:

The CONTRACTOR, and through him each subcontractor, in accepting the contract for this construction, or respective portions of the construction covered by these Plans and Specifications, does hereby agree to replace and make good, without expense to the OWNER, any work or material which may be found to be defective within one (1) year from either the date of the final certificate of payment for all highway work or the one year period on any respective portion which the OWNER'S agent considers complete in regards all CONTRACTORS work. The logic for this is that the Road Replacement Project may take longer to complete in all respects than the utility portion. However, the OWNER needs protection that the CONTRACTOR will not damage the line through his work and equipment. The deterioration due to ordinary use and wear and failure of materials furnished by the OWNER are excepted from this guarantee.

This guarantee shall include damage done by settlement of backfills and filling regrade elevations, such damage and sinking of fills being considered as defective workmanship. This shall also include pavement failure.

The CONTRACTOR shall reimburse the OWNER for cost of damage, if any, as well as cost of replacing defective materials or workmanship. If replacements are not made within ten (10) days in case of materials, then the OWNER shall have the right to make replacements and charge cost of same to the CONTRACTOR or his Bondsman.

4.0 MATERIAL:

Gas Valve and Box:

Gas valve to be constructed of Marlex TR 418 material. Valve to be Rockwell Polyvalve Ball Valve, #82211, or approved equal. Valve Boxes for 1-1/4" to ten (10") inch valves shall be telescope type with screw top, of length for thirty-three (33") inch to forty-two (42") inch pipe cover over the top of the pipe. They shall have a minimum inside diameter of 4-1/4" for intersection with an arc base. Valve boxes shall be Mueller No. H-10366 as manufactured by the Mueller Co., Decatur, Ill., or approved equal. Valve box lids shall be Mueller H-10369 or approved equal and marked "**GAS**". All valve boxes not installed in pavement (bituminous or concrete) shall have installed a valve box collar similar in all respects to the Cloud Company U-235 Valve Retainer Ring, alternate as shown on the detail sheet, or approved equal.

PE Gas Pipe and Fittings:

Gas pipe and fittings shall be medium density polyethylene PE 2406 (Yellow) SDR 11. The pipe shall conform to ASTM D 1248, and ASTM D 3350 for a PE 2406 material. All pipe and fittings shall meet requirements outlined in currently approved ASTM D 2513 specifications, ASTM D 3261 specification, and Department of Transportation Title 49, Part 192. All fittings to be Butt Fusion type. All pipe and fittings to be Plexco (PE 2406), or approved equal. All PE pipe shall be fused in strict accordance with manufacturer's instructions. Contractor is responsible for having personnel adequately trained for this installation.

Gas Line Tapping Tees (1-1/4" - 4"):

Only makers of long standing will be allowed. Use Central Plastics Company, Electrofusion, High Volume Tapping Tee, or approved equal as detailed on the Drawings.

Gas Service Tubing:

All gas service tubing to meet ASTM D2513 and SDR 11, be of Yellow P.E. 2406 material. All service line to be Plexico PE 2406, or approved equal.

Liner Pipe, Gas, Water, Sewer:

Liner Pipe of the size and location as shown on the Plans shall be placed. The pipe shall be a new high quality Wrought Steel, standard weight Pipe with the same properties as determined by the American National Standard for standard weight welded and seamless wrought steel pipe.

Liner Pipe Size:	Wall Thickness
14" and under	0.250"
16"	0.281"
18"	0.312"

Used pipe will not be accepted. The unit price for gas, water, and sanitary sewer liner pipe includes the cost of purchasing and installing Phillips Engineering Model PE-MS 500 plastic casing insulators (or approved equal), spaced at five feet on center and for the installation of casing end seals. These end seals shall be Phillips Engineering Company (PECO) Model C Custom, or approved equal.

Gas Line Vents:

Gas line vents shall be of the arrangement as shown on the Plans. Size of all anticipated gas line vents is 2" inside diameter. All gas line vent pipe shall be Schedule 40 Welded and seamless Wrought steel pipe. All vent pipe shall be new. Where gas line vents are exposed, they shall receive two (2) coats of "Safety Yellow" epoxy paint. This epoxy paint shall extend to a min. of one foot below regrade. All fittings shall be Full Weld type, including the return bend, as detailed. The top of the return bend shall be installed 48" above finished grade. The final bend up to the vertical portion shall be a minimum of 24" below finished grade. This final vertical vent portion shall be adequately tamped and braced per good construction technique.

Gas Line Markers:

Gas line markers shall be installed at the locations shown on the Plans. These gas line markers shall be Repnet, Sentry Post, Bno. SPF-48-GP3-Y, Flat Post, Yellow color, 48" height above finish grade. The gas line markers shall be equipped with appropriate line size indication and City of Hazard information which is on file with the manufacturer. Marker to be equipped with standard soil anchor.

PVC Water Pipe - Class 200:

Waterline designated as PVC shall be PVC type pressure pipe designed ASTM Class 200. The pipe shall conform to ASTM 2241 for Standard Dimension Ratios, SDR 21 for pressure characteristics. The pipe shall be extruded from clean, virgin, approved class 12454-A PVC compound conforming to ASTM resin Specification D1784. Rubber rings shall conform to ASTM D 1869. This pipe shall be CertainTeed Fluid-Tite PVC Pressure pipe or approved equal. Laying radius of pipe shall in all cases be equal to, or greater than, that listed by the manufacturer of the pipe. All tees, elbows, and bends shall be Mechanical Joint unless noted on the Plans. All tees, elbows and bends shall also be equipped with Grip Rings unless specifically excluded on the Plans.

Ductile Iron Water Pipe:

All pipe designated as ductile iron shall be of Grade 60-42-10 material meeting AWWA C151 Minimum physical properties. Thickness of the pipe shall be determined in accordance with ANSI/AWWA C150/A21.50 and shall be Type 4 Bedding Condition except in high traffic areas where Type 5 Bedding shall be used; all pipe shall be thickness Class 50 with the exception of 4" and 3" which shall be thickness Class 51. Joints shall meet the requirements of AWWA C111 for Fastite Joint Pipe ANSI/AWWA C151.51 and Mechanical Joint ANSI/AWWA C111/A21.11. Pipe shall be equal to that manufactured by the U. S. Pipe Company or approved equal. All tees, elbows, and bends shall be Mechanical Joint. The exterior of the pipe shall be furnished with an asphaltic coating. Installation shall be as recommended by the manufacturer in their printed manual. Pulling devices and tie-in devices shall be that normally furnished by the manufacturer for this type of installation. All Tees, elbows and bends shall also be equipped with Grip Rings unless specifically excluded on the Plans. All tees, elbows and bends shall also be equipped with Grip Rings unless specifically excluded on the Plans. In lieu of Grip Rings the Contractor may use Retainer Glands.

The Bid Form or Plans may list D.I.M.J., and D.I.C.J. These abbreviations stand for Ductile Iron, Mechanical Joint and Ductile Iron, Compression Joint (Push-On) Pipe, respectively.

Installation shall be as recommended by the manufacturer in their printed manual. Pulling devices and tie-in devices shall be that normally furnished by the manufacturer for this type of installation.

Ductile Iron Ball Joint River Crossing Pipe (Water & Sewer Force Main):

Ball joint pipe shall be USIFLEX Boltless Ball Joint Pipe as manufactured by the United States Pipe and Foundry Company, or approved equal. The pipe shall comply with the requirements of ANSI/AWWA C 151/A21.51 and ANSI/AWWA C 110/A21.10 which are applicable to its manufacture. The separately cast ductile iron bell shall conform to the requirements of ASTM A536, Grade 70-50-05. The steel retainer ring shall conform to the requirements of ASTM A148, Grade 90-60.

Wall thickness shall be ANSI/AWWA thickness Class 55. The exterior of the pipe shall be furnished with an asphaltic coating.

Installation shall be as recommended by the manufacturer in their printed manual. Pulling devices and tie-in devices shall be that normally furnished by the manufacturer for this type of installation.

Where sewer force main is not in ordinary high water apply marking tape as specified under "PVC Pipe Force Main".

Water Service Tubing (1-1/4", 1", 3/4"):

All service tubing to be Class 200. Acceptable manufacturers are Phillips and Orangeburg. Any other manufacturer shall be approved by the Engineer.

Water Valves 12" and Smaller:

All valves must be of cast iron with bronze mountings, unless otherwise specified. Only makers of well-known and approved standings, who have been making similar devices for a period of at least ten (10) years, prior to the bid date, will be considered. Also, maker shall be prepared to furnish through the bidder, within one (1) week after award is made, complete catalogues or other descriptive matter giving complete details and dimensions of valves they proposed to furnish.

All valves shall be provided with suitable operating devices and adapted for operation in the position in which they are shown on the plans. All screw operated valves shall open by turning to the left.

All valves shall have mechanical joints both ends (unless noted on the Plans) and shall conform to A.W.W.A Specifications D-150, N.R.S. complying to A.W.W.A. C222 and ANSI A21.11.

All 4" through 12" Gate valves shall be resilient seat Gate valves, 200 psi max working pressure, 400 psi test pressure, Mueller A-2370-20, or approved equal. 3" and 2" Gate valves shall be double disc, parallel seat, bronze faces and disc rings with wedging mechanism simple and direct, Mueller A-2380-20, or approved equal. 1-1/2" and 1-1/4" Gate valves shall be Mueller H-10914, bronze Gate valve with solid wedge and F.I.P. thread with appropriate fittings and hand wheel. All valves shall conform to the latest revision of "Specifications for Gate Valves for Ordinary Water Works Service," adopted by A.W.W.A. Test pressure 300 lbs. (min.) per square inch and working pressure 150 lbs. (min. allowable working pressure) per square inch.

Water Valve Boxes:

Valve Boxes for 1-1/4" through eight (8") inch valves shall be telescope type with screw top, of extension length twenty-five (25) through thirty-six (36") inches. Ten (10") inch and twelve (12") inch valve boxes shall have an extension length ranging from eighteen (18") inches to twenty-four (24") inches. These minimum valve box lengths redefine depth of cover over pipe at valve locations. These requirements shall be maintained. Pieces of scrap PVC or ductile iron pipe with lid installed **shall not** be acceptable. Valve boxes shall be Tyler 461-S for ten (10") inch and twelve (12") inch valves, Tyler 562-S for two (2") inch through eight (8") inch valves, or approved equal. All valve boxes shall have a minimum inside diameter of 4-1/4" for intersection with an arc base. All valve box lids shall be manufactured by the same firm as the box and marked WATER. All valve boxes shall have installed a valve box collar similar in all respects to

the Cloud Company U-235 Valve Retainer Ring, alternate as shown on the detail sheet, or approved equal.

Std. Blow-off/Fire Hydrants:

All Fire Hydrants connected to 12", 10", 8", and 6" water mains shall have six (6") inch Mechanical Joint connections, use 6" line valve, and be 5-1/4" sized Fire Hydrants. All shall have two hose outlets and one steamer connection designed for 150 pounds working pressure and test of 300 pounds hydrostatic pressure and shall conform to the latest specifications of the A.W.W.A. All working parts shall be bronze. Steamer nozzle shall be National Standard Threads. The two 2-1/2" hose nozzles shall be National Standard Threads. Hydrants shall be designed so that no water will be lost when they are broken off and so they can be repaired in a few minutes with repair kit that is to be furnished.

Design, materials and workmanship shall be similar and equal to the latest stock pattern ordinarily produced by the manufacturer. Length of barrel shall be such to provide thirty (30") inch minimum cover over connecting lines. Working drawings and full description of proposed hydrants shall be submitted to the Engineer before ordering. Hydrant size to be 5-1/4".

Hydrants shall be painted one (1) coat of red paint and two (2) finishing coats of an approved paint of the color directed by the Engineer.

Hydrants shall be set at such elevations that the connecting pipe will have the same depth of cover as the distribution mains. The hydrant shall be set as shown on the Typical Drawings for fire hydrant setting. The back of the hydrant, opposite the pipe connection, shall be firmly wedged against the vertical face of the trench to prevent the hydrant from blowing off the line. All fire hydrants shall use grip rings as indicated on the Drawings. Not less than seven cubic feet of broken stone shall be placed around the base of the hydrant to insure drainage. The backfill around hydrants shall be thoroughly compacted to the grade line in a manner satisfactory to the Engineer. Hydrants shall have the interiors cleaned of all foreign matter before installation. Stuffing boxes shall be tightened and the hydrant shall be inspected in opened and closed positions to see that all parts are in working condition.

Hydrants shall be Mueller Super Centurion 200, Cat. No. A-423, with two (2) hose nozzles and one (1) pumper nozzle, or approved equal.

SPECIAL NOTE: All fire hydrants to be connected using same type (PVC, C900, or D.I.) line as to the main to which they connect. Contractor shall also review the project Drawings to see the requirements for tying all hydrants back to mainline tees. This tying shall consist of grip rings when PVC pipe is used. When ductile iron pipe is used, retainer glands will be considered equal to the above.

Water Air Release Valves

Air Release Valves shall be simple lever, float operated. The body and cover shall be cast iron. The float shall be stainless steel with bronze linkage. All connection sizes shall be as shown on the Plans. The air relief valve shall be so designed as to operate at a pressure of 150 psi. The maximum venting capacity shall be 22 cubic feet of free air per minute. The valve shall be Valmatic 15A, or approved equal.

Water ARV Box and Cover:

All ARV's shall be installed within a circular plastic meter box of nominal 18"x30" interior dimensions. The properties of the box shall be equal to Mid-States Meter MS 183010. The cover shall be Ford, Type C, appropriately sized, or approved equal.

Water Meter Setting Equipment:

Meter yoke to be Muller 1404-2 with non-approved Dual Check Valve feature, 7" to 9" riser height with valve for 5/8" x 3/4" or 1" meter unit. Unit shall be copper. Service saddle shall be bronze, Muller Single Strap H-13000 Series. Corp. Stop to be Muller 15008. All the above materials shall be as specified or approved equal.

Water Meters (1" & 3/4"):

All meters shall be Badger Model 70, (for 1" service) or Badger Model 25 (for 3/4" service) or approved equal, with bronze case, suitable for operation with radio read metering equipment, have working pressure without leakage or damage of 150 psi, 1" x 1" laying length of 10-3/4", accurate to plus or minus, 1.5 percent, between 3/4 and 70 gpm. Meter shall be designed to permit the use of either a straight reading, environmentally sealed local register and remote reading electronic register. The registration reading shall be US Gallons. The register shall not be in contact with the water being measured. The register devices shall be designed to permit removal and exchange without the removal of the meter from the service installation or interruption of service water supply.

All meters shall be equipped with RTR (RecordAll Transmitter Register) and the Pit ORION Transmitter. This transmitter shall be designed for water meter pit installation that is subject to flooding or submergence. The RTR shall be factory wired to the Pit ORION Transmitter. The assembly shall be designed for "Beneath Metal Lid" operation. The batteries powering the unit shall have a warranty of seven (7) years. The expected life of the battery shall be thirteen (13) years. The assembly shall be equipped with optional leak detection and cut wire tamper indication capability. The assembly shall be installed inside the meter box in accordance with the manufacturer's instructions.

Water Meter Box and Cover:

In low traffic areas, as designated by the Engineer, high impact plastic meter boxes having the same material specifications as those given for the ARV box shall be used. The box shall be Mid States Meter MS 182410, 18" diameter x 24" depth, or approved equal. The cover shall be Tyler 6880 Cast Iron, or approved equal.

In high traffic areas, meter boxes shall be equal in all respects to Cloud Concrete UT-050 having an inside diameter of 18" and a depth of 24". When using the concrete box the lid shall be as specified above.

Large River Water Test Station (By Pass Flow Meter):

Large river test stations shall be installed where shown on the Drawings. Detail for the large test station is shown on Sheet UR-5 of the Drawings. This large river test station consists only of the materials herein specified. The valve, 1-1/2" PE, and other items necessary are paid at your unit price for those items. The large river test station consists of a standard meter box and cover as previously specified with the exception that a 24" diameter box shall be used. Additionally, use a Mueller H-1422-00 copper setter, 1-1/2" size, with extra ground key meter stop, Corporation stop shall be 1-1/2" Mueller B-25005. Unit shall be copper. Two (2) 8" MJ Tapped Tees are included in this bid unit price along with the nipples and curb stops as detailed on the Drawings. The meter shall be Badger RecordAll, Model No. M120, suitable for a maximum continuous flow rate of 120 gpm. All the above materials shall be as specified or approved equal.

Water Caps (If Used):

Provide MJ cap with grip ring for size and type of pipe indicated. No difference in pay for any size.

Water Tie-Ins Description:

The descriptions below give a brief listing of materials which will or may be included in each individual water retie. This listing is provided for the convenience of the Contractor so he may determine the cost of materials and work associated with each tie-in. This list is not all inclusive and other items, fittings, etc. may be required to complete each tie. As shown on the plans, all water ties will be bid as one lump sum item.

Tie #1 - Provide and install an 8" MJ ell, note that 8" valve is excluded from bid item price.

Tie #2 - Provide and install 8" fittings as required.

Tie #3 - Provide and install 8" MJ ell, fittings as required, note that 8" valve is excluded from bid item price.

Gas Service Reties:

It is hoped that all sizable utilities location can be reasonably accurately determined by having the appropriate utility flag, stake, or otherwise show the Contractor the location of the facilities. It is not anticipated that the utility will have the ability to accurately field determine the location of all 3/4" or 1" gas service lines. It is anticipated that the Contractor may cut gas service lines during the construction of this project. This Bid Item pays for the repair and reconnection of this anticipated, or unanticipated, gas service. The Contractor will be paid this Unit Price only if good construction technique is used. The decision of the Engineer in this matter is final.

Water Service Reties:

It is hoped that all sizable utilities location can be reasonably accurately determined by having the appropriate utility flag, stake, or otherwise show the Contractor the location of the facilities. It is not anticipated that the utility will have the ability to accurately field determine the location of all 3/4" or 1" water service lines. It is anticipated that the Contractor may cut water service lines during the construction of this project. This Bid Item pays for the repair and reconnection of this anticipated, or unanticipated, water service. The Contractor will be paid this Unit Price only if good construction technique is used. The decision of the Engineer in this matter is final.

PVC Pipe and Fittings (Sanitary Sewer):

PVC pipe used for gravity sewer applications shall meet all requirements of ASTM Specification D-3034, latest revision for pipe sized 4" thru 15" and ASTM F679 T-1 for pipe sized 18" thru 27". Pipe and fittings shall meet the extra strength minimum of SDR-35 of that specification.

All pipe and fittings shall be inspected at the factory and on the job site. Testing of PVC pipe and fittings shall be accomplished in conformance with the latest revision of ASTM D3034, ASTM F679 T-1, ASTM D2444, ASTM 2412, and ASTM D2152. The manufacturer shall submit five (5) copies of certification of test for each lot of material represented by shipment to the job site.

The pipe shall be homogeneous throughout and free from cracks, holes, foreign inclusions or other defects. The pipe shall be as uniform in color as commercially practical. PVC pipe shall have a ring painted around spigot ends in such a manner as to allow field checking of setting depth of pipe in the socket.

Pipe must be delivered to job site by means which will adequately support it, and not subject it to undue stresses. In particular, the load shall be so supported that the bottom rows of pipe are not damaged by crushing. Pipe shall be unloaded carefully and strung or stored as close to the final point of placement as is practical. Pipe shall not be stored outside where subject to sunlight.

Jointing of PVC pipe shall be by a natural rubber ring inserted into the belled end of the pipe or double hub joints. Solvent weld joints are not acceptable.

The PVC pipe manufacturer shall provide special fittings, acceptable to the Engineer to make water-tight connections to manholes and for all service connections.

The pipe shall be equal in all respects to that manufactured by CertainTeed Corporation, Valley Forge, PA.

PVC Pipe Force Main:

Force main shall be PVC type pressure pipe designated ASTM Pressure Class 200. The pipe shall conform to ASTM D 2241 for standard dimension ratios and shall be SDR-21. The pipe shall be extruded from clean, virgin, approved Class 12454-A PVC compound conforming to ASTM resin specification D1784. Rubber rings shall conform to ASTM D1869. This pipe shall be CertainTeed Fluid-Tite PVC Pressure Pipe, or approved equal. All sewage force main shall be marked so to not be mis-identified as waterline. One method to accomplish this is as follows:

The Contractor shall furnish and install a pressure-sensitive vinyl pipe marker on all force mains. This marker shall be specially designed for installation on the types of pipe used. The marker shall be green with white letters, and shall be 9 inches long by 2 inches wide, with 1-1/4 inch letters. Wording shall be "SANITARY SEWER". The markers shall be placed on the top of the pipe after it has been placed in the ground and connected. The markers shall be placed 5'-0" center to center when measured from marker to marker. An alternate method with continuous line marking tape is shown on the Drawings

The price for these markers shall be included in the price per foot for the pipe or included as part of a lump sum bid for utility conflicts.

The markers shall be Opti-Code as manufactured by the Seton Name Plate Corporation, P.O. Drawer PMB-1331, New Haven, CT 06505.

Other methods may be acceptable should they prove equal or superior to that given above.

Lateral Cap (If Used):

See Drawings for detail of how existing V.C. (assumed) caps are applied.

PVC Sewer Service Laterals:

PVC service laterals shall have the same specifications and characteristics as the PVC Sanitary Sewer. Only rubber gasketed joints will be accepted. The method of ending the laterals is shown on the Drawings and shall be installed at the location as directed

The work of uncovering and backfilling required for locating existing sewers, waterlines and other existing facilities for connection of improvements, or avoidance in location of proposed pipeline, where such uncovering and backfilling is not within trench for improvements, shall be at the CONTRACTOR's expense.

The CONTRACTOR will be required to test all waterlines and appurtenances with water at 150 lbs. per square inch before backfilling. Backfilling before testing will be allowed at the discretion of the ENGINEER at points where danger to the public, or other hazards, demand that such be done immediately after pipe is laid. All leakage apparent after testing must be repaired before backfilling.

Backfilling Trenches:

Backfilling must be started as soon as practicable after pipe has been laid. Packing of earth across and around pipe at six (6') foot intervals and between joints shall be the usual procedure as the laying proceeds. This is in order to avoid danger of misalignment from slide, flooding or other causes. The ENGINEER shall be given a maximum of 24 hours for inspection before backfilling. Only earth, or rock less than 2-1/2" size, shall be used as backfill materials up to six (6") inches above top of pipe. No stones or other hard or heavy substances may be thrown directly upon the pipes or into the trench until the above named cover of earth is obtained. Above the 6 or 12 inches above pipe, rock may be used in the backfill to an extent not greater than one-half of the total backfill materials used. If additional earth is required, it must be obtained and placed by the CONTRACTOR. Filling with rock and earth shall proceed simultaneously in order that all voids in the rock may be filled with earth. Where noted on the Plans and within the shoulder of the Kentucky Highways, the CONTRACTOR shall backfill to finish highway grade with DGA. The DGA shall be tamped in six (6") inch layers in accordance with Department of Transportation Specifications. In these areas (if any) DGA will be a pay item. All material hauled away shall be placed at no cost and at a location specified by the ENGINEERS.

No extra charge shall be made for supplying outside materials for backfill or removing excess excavation material from the site of the work.

Extra cost of compaction of backfill on street and driveway crossings and tunnels shall be included in price bid for trenching and backfilling and tunneling.

Where highway slopes, thin grass, or cover crops are destroyed by trenching, laying, or backfilling operations, and access to them, surface shall be prepared by disking, fertilizing 5 lbs. of 5-10-5 or 6-8-6 per 1,000 square feet and seeding 21 lbs. of Italian Rye Grass per 1,000 square feet, light harrowing, then reseeding with crop destroyed or one part Red Top, three parts certified Kentucky Bluegrass seed mixed together at the rate of 2 lbs. per 1,000 square feet of surface. This shall be included in the price for trenching and backfilling. Requirement of the Department of Transportation, Bureau of Highways, for reseeding shall take precedence over these specifications.

Cleaning Up and Repairing Damage:

The Contract will not be considered complete until all construction structures and equipment and rubbish from construction are cleaned from the site of the work.

All damage to existing grounds and structures caused by construction operations must be repaired or the OWNER compensated for such damage before contract will be considered complete. This does not include replacement of sod, but does include required shaping of ground for sodding or planting of grass and the removal and disposition of all rock from blasting three (3") inches or over in size.

Hauling and Storage:

The CONTRACTOR will be required to deliver all pipe, fittings, valves and valve boxes and other materials and place same as and where required for laying.

Care must be exercised in the handling of all materials and equipment and the CONTRACTOR will be held responsible for all breakage or damage to same caused by his workmen, agents or appliances for handling or moving. Pipes and other castings shall in no case be thrown or dropped from cars, trucks, or wagons to the ground but same shall be lowered gently and not allowed to roll against or strike other castings and unyielding objects violently. Pipe and special castings may be distributed at places that will not interfere with other building operations as unloaded or yard and distributed as required, as the CONTRACTOR may elect.

Valves, valve boxes, jointing materials, meter box covers, castings, fabricated metal, reinforced steel, etc. shall be yarded or housed in some convenient location by the CONTRACTOR and delivered on the ground, as required.

The cost of all hauling, handling, and storage shall be included in the price bid for equipment and materials in place.

The OWNER takes no risk or responsibility for fire, theft, flood, or damage until after the final acceptance of the work.

Testing of Lines, Gas:

On all projects involving the installation of gas pipelines the finished work shall comply with the provisions listed below, or similar requirements which will insure equal or better results.

..a. All PE gas mains shall be given a pressure test to between 90 and 100 psi. Do not exceed 100 psi.

..b. Where practicable, gas pipelines shall be tested between line valves or plugs in lengths of not more than 1500 feet.

..c. Duration of test shall be determined by volumetric content of test section and instrumentation in order to ensure discovery of all potentially hazardous leaks per TITLE 49, CFR.

..d. Where leaks are evident they shall be repaired immediately.

..e. All pipe, fittings and other materials found to be defective under test shall be removed and replaced.

..f. Lines which fail to meet tests shall be repaired and retested as necessary until test requirements are complied with.

..g. The CONTRACTOR shall furnish all necessary equipment, including recording gauge and clock used during leakage test and recording pressure charts during duration of test. Recording pressure charts shall remain the property of the ENGINEER at conclusion of test.

..h. All gas lines shall be pressure tested in strict accordance with U.S.D.O.T. 49 CFR 192.509 for steel lines and 192.513-C for plastic lines. The Contractor may test the steel line prior to installation and connection with the plastic line. After connection the entire system shall be pressure tested between 90 and 100 psi (or three (3) times design pressure) as per 192.513-C. A recording pressure gauge shall be used and pressure charts shall be furnished to the Owner at the completion of the testing and shall be retained for permanent record.

Testing of Lines, Water:

On all projects involving the installation of water pipeline, the finished work shall comply with the provisions listed below, or similar requirements which will insure equal or better results.

..a. All water mains shall be given a hydrostatic test to 150 psi, under which leakage shall not exceed the limits established in Section 4 of AWWA Standard Specifications C600.

..b. Where practicable, pipelines shall be tested between line valves or plugs in lengths of not more than 1500 feet.

..c. Duration of test shall be not less than two hours.

..d. Where leaks are evident on the surface where joints are covered, the joints shall be recaulked, repoured, bolts retightened or relaid, and leakage minimized regardless of total leakage as shown by test.

..e. All pipe, fittings and other materials found to be defective under test shall be removed and replaced.

..f. Lines which fail to meet tests shall be repaired and retested as necessary until test requirements are complied with.

..g. The CONTRACTOR shall furnish a recording gauge and clock used during leakage test and recording pressure charts during duration of test. Recording pressure charts shall remain the property of the ENGINEER at conclusion of test.

The new potable waterlines shall not be placed in service, either temporarily or permanently, until they have been thoroughly disinfected in accordance with the following requirements and to the satisfaction of the ENGINEER.

After testing, a solution of hypochlorite using HTH, or equal, shall be introduced into the section of the line being disinfected sufficient to insure a chlorine dosage of at least 50 ppm in the main. While the solution is being applied the water should be allowed to escape at the ends of the line until tests indicate that a dosage of at least 50 ppm has been obtained throughout the pipe. Open and close all valves and cocks while chlorinating agent is in the piping system. The Chlorinated water shall be allowed to remain in the pipe for 24 hours, after which a residual of at least 25 ppm shall be obtained. The disinfection shall be repeated until 25 ppm is obtained, after which time the main shall be thoroughly flushed until the residual chlorine content is not greater than 1.0 ppm.

Following disinfection of the line, bacteriological samples shall be collected and analyzed in accordance with the requirements of Kentucky Department of Natural Resources and Environmental Protection. When the samples have been approved, the new line then may be connected to the system.

Sanitary Sewer Testing

All sanitary sewer force mains shall be pressure tested using the procedure described above for water lines. Non-Pressure pipe shall be tested as outlined below.

Laying Non-Pressure (Sewer) Pipe – General

A. General

1. All pipe shall be tested for uniform diameter, straightness and defects before laying and rejected pipe shall be removed from the project.
2. All pipe after being inspected and accepted shall be laid to the lines and grades shown on the Drawings. The Contractor shall furnish all labor and materials for staking out lines and grades. All gravity pipelines shall be

laid to constant grades between invert elevations shown on the Drawings. Grades shown on drawings are invert of pipe, unless specifically noted otherwise. The pipe lengths shall be fitted together and matched to form a smooth and uniform invert.

3. Subgrade, undercut, bedding and backfilling under, around and over the pipe shall all be in accordance with the details shown on the Drawings. No pipe shall be laid until the subgrade is properly in place.
4. Unnecessary walking upon the completed pipelines shall be avoided until trench has been backfilled to over the top of the pipe.
5. The interior of the pipe shall be cleaned of all dirt, jointing materials and superfluous materials of every description. When laying of pipe is stopped, the end of the pipe shall be securely plugged or capped. Care should be taken to prevent flotation of the pipe in the event the trench should flood. The Contractor will be responsible for relaying and/or relocating pipe if the pipe is laid before trenching has progressed far enough to eliminate the possibility of grade conflicts or realignment on account of existing structures, pipelines, or conduits.
6. In trench conditions where pipe is in danger of sinking below grade or floated out of grade or line, or where backfill materials are of such a fluid nature that such movements of pipe might take place during the placing of the backfill, the pipe shall be weighted or secured permanently in place.
7. Trench excavation and pipe bedding shall conform with provisions contained elsewhere in Detailed Specifications.
8. Pipes shall be laid free from all structures other than those planned. Openings in and joints to contact walls shall be constructed as shown on the Drawings.
9. Non-pressure pipes entering structures underground and unsupported by original earth for a distance of more than 3', shall be supported by Class "B" concrete, where depth of such support does not exceed 3'. All pipes entering buildings or basins, below original ground, which are higher than 3' depth above subgrade, span more than 3' between wall and original earth, and with more than 24" of cover or under a roadway, shall be supported by concrete beams with piers at 6' intervals between structural wall and edge of excavation for the structure, in order to prevent breakage from settlement of backfill about the structure. Concrete and reinforcing steel for these supports shall be in the lump sum portion of the contract; and no extra payment will be allowed. Pipe entering structures shall have flexible joint within 18" of exterior of structure or from point of leaving concrete support.

10. No backfilling, except for securing pipe in place, shall be done until the Engineer has inspected the joints, alignment, and grade in the section laid. Such inspection, however, does not relieve the Contractor of liability in case of defective joints. Joints that show leakage will not be accepted. If after backfilling and inspection, any joints are found that are allowing groundwater to enter the sewer, such joints shall be sealed by the Contractor.

B. Sewer Pipe Bedding

1. Pipe bedding for gravity sewers shall be as shown on the Drawings. Crushed stone used for bedding shall be size shown, and shall comply with State Highway Department Standards.

C. Sewer Line Testing - General

1. On completion of sewer lines, all sewers and manholes will be inspected for foreign matter, including sand brought in by infiltration, and any such matter shall be removed before final acceptance of the lines.

a. Testing of the pipe as specified shall be carried out after all appurtenances have been installed. All pipelines shall be tested for compliance with the Specifications. If leaks are discovered, they shall be repaired by the Contractor as part of the work of laying this pipe and appurtenances and as approved by the Engineer. The Contractor shall supply all labor, equipment, material, gauges, pumps, etc., required to conduct the tests.

b. All equipment, pipe and appurtenances shall be repaired or replaced and the tests repeated at the Contractor's expense until the pipe, appurtenances and equipment are in satisfactory compliance with these Contract Documents, in the judgement of the Engineer.

D. Sewer Line Air Testing.

1. Air testing shall be required on all gravity sewer lines.
2. All lines shall be flushed and cleared of debris prior to air testing. The maximum length of line to be air tested at any one time shall be from manhole to manhole.
3. Air shall be slowly supplied to the plugged pipe until the internal pressure reaches 5.0 pounds per square inch (PSI) greater than the average back pressure of any groundwater that may be above the pipe. Two minutes shall be allowed for a stabilization period before proceeding further.

4. The acceptance of the pressure test shall be determined by measuring the time required for the internal pressure to decrease from 0.5 PSI to 1.5 PSI below test pressure. The time for this one PSI loss of air pressure must not be less than 6 minutes per foot of nominal pipe diameter.
5. Tees and service laterals shall be considered as part of the line being tested. All plugs shall be firmly blocked to insure that they will not be displaced during testing. Descriptive literature for all equipment and procedures to be used in air testing must be submitted to the Engineer for acceptance.
6. All defective work, as so proven by the air test, shall be immediately repaired and retested until proven to be satisfactory.
7. Inspection in pipe laying and air testing shall in no way relieve the Contractor of the responsibility for passing subsequent test for infiltration or correcting poor workmanship.

Guarantee:

The CONTRACTOR, and through him each subcontractor, in accepting the contract for this construction, or respective portions of the construction covered by these Plans and Specifications, does hereby agree to replace and make good, without expense to the OWNER, any work or material which may be found to be defective within one (1) year from either the date of the final certificate of payment for all highway work or the one year period on any respective portion which the OWNER'S agent considers complete in regards all CONTRACTORS work. The logic for this is that the Road Replacement Project may take longer to complete in all respects than the utility portion. However, the OWNER needs protection that the CONTRACTOR will not damage the line through his work and equipment. The deterioration due to ordinary use and wear and failure of materials furnished by the OWNER are excepted from this guarantee.

This guarantee shall include damage done by settlement of backfills and filling regrade elevations, such damage and sinking of fills being considered as defective workmanship. This shall also include pavement failure.

The CONTRACTOR shall reimburse the OWNER for cost of damage, if any, as well as cost of replacing defective materials or workmanship. If replacements are not made within ten (10) days in case of materials, then the OWNER shall have the right to make replacements and charge cost of same to the CONTRACTOR or his Bondsman.

4.0 MATERIAL:

Gas Valve and Box:

Gas valve to be constructed of Marlex TR 418 material. Valve to be Rockwell Polyvalve Ball Valve, #82211, or approved equal. Valve Boxes for 1-1/4" to ten (10") inch valves shall be telescope type with screw top, of length for thirty-three (33") inch to forty-two (42") inch pipe cover over the top of the pipe. They shall have a minimum inside diameter of 4-1/4" for intersection with an arc base. Valve boxes shall be Mueller No. H-10366 as manufactured by the Mueller Co., Decatur, Ill., or approved equal. Valve box lids shall be Mueller H-10369 or approved equal and marked "GAS". All valve boxes not installed in pavement (bituminous or concrete) shall have installed a valve box collar similar in all respects to the Cloud Company U-235 Valve Retainer Ring, alternate as shown on the detail sheet, or approved equal.

PE Gas Pipe and Fittings:

Gas pipe and fittings shall be medium density polyethylene PE 2406 (Yellow) SDR 11. The pipe shall conform to ASTM D 1248, and ASTM D 3350 for a PE 2406 material. All pipe and fittings shall meet requirements outlined in currently approved ASTM D 2513 specifications, ASTM D 3261 specification, and Department of Transportation Title 49, Part 192. All fittings to be Butt Fusion type. All pipe and fittings to be Plexco (PE 2406), or approved equal. All PE pipe shall be fused in strict accordance with manufacturer's instructions. Contractor is responsible for having personnel adequately trained for this installation.

Gas Line Tapping Tees (1-1/4" - 4"):

Only makers of long standing will be allowed. Use Central Plastics Company, Electrofusion, High Volume Tapping Tee, or approved equal as detailed on the Drawings.

Gas Service Tubing:

All gas service tubing to meet ASTM D2513 and SDR 11, be of Yellow P.E. 2406 material. All service line to be Plexico PE 2406, or approved equal.

Liner Pipe, Gas, Water, Sewer:

Liner Pipe of the size and location as shown on the Plans shall be placed. The pipe shall be a new high quality Wrought Steel, standard weight Pipe with the same properties as determined by the American National Standard for standard weight welded and seamless wrought steel pipe.

Liner Pipe Size:	Wall Thickness
14" and under	0.250"
16"	0.281"
18"	0.312"

Used pipe will not be accepted. The unit price for gas, water, and sanitary sewer liner pipe includes the cost of purchasing and installing Phillips Engineering Model PE-MS 500 plastic casing insulators (or approved equal), spaced at five feet on center and for the installation of casing end seals. These end seals shall be Phillips Engineering Company (PECO) Model C Custom, or approved equal.

Gas Line Vents:

Gas line vents shall be of the arrangement as shown on the Plans. Size of all anticipated gas line vents is 2" inside diameter. All gas line vent pipe shall be Schedule 40 Welded and seamless Wrought steel pipe. All vent pipe shall be new. Where gas line vents are exposed, they shall receive two (2) coats of "Safety Yellow" epoxy paint. This epoxy paint shall extend to a min. of one foot below regrade. All fittings shall be Full Weld type, including the return bend, as detailed. The top of the return bend shall be installed 48" above finished grade. The final bend up to the vertical portion shall be a minimum of 24" below finished grade. This final vertical vent portion shall be adequately tamped and braced per good construction technique.

Gas Line Markers:

Gas line markers shall be installed at the locations shown on the Plans. These gas line markers shall be Repnet, Sentry Post, Bno. SPF-48-GP3-Y, Flat Post, Yellow color, 48" height above finish grade. The gas line markers shall be equipped with appropriate line size indication and City of Hazard information which is on file with the manufacturer. Marker to be equipped with standard soil anchor.

PVC Water Pipe - Class 200:

Waterline designated as PVC shall be PVC type pressure pipe designed ASTM Class 200. The pipe shall conform to ASTM 2241 for Standard Dimension Ratios, SDR 21 for pressure characteristics. The pipe shall be extruded from clean, virgin, approved class 12454-A PVC compound conforming to ASTM resin Specification D1784. Rubber rings shall conform to ASTM D 1869. This pipe shall be CertainTeed Fluid-Tite PVC Pressure pipe or approved equal. Laying radius of pipe shall in all cases be equal to, or greater than, that listed by the manufacturer of the pipe. All tees, elbows, and bends shall be Mechanical Joint unless noted on the Plans. All tees, elbows and bends shall also be equipped with Grip Rings unless specifically excluded on the Plans.

Ductile Iron Water Pipe:

All pipe designated as ductile iron shall be of Grade 60-42-10 material meeting AWWA C151 Minimum physical properties. Thickness of the pipe shall be determined in accordance with ANSI/AWWA C150/A21.50 and shall be Type 4 Bedding Condition except in high traffic areas where Type 5 Bedding shall be used; all pipe shall be thickness Class 50 with the exception of 4" and 3" which shall be thickness Class 51. Joints shall meet the requirements of AWWA C111 for Fastite Joint Pipe ANSI/AWWA C151.51 and Mechanical Joint ANSI/AWWA C111/A21.11. Pipe shall be equal to that manufactured by the U. S. Pipe Company or approved equal. All tees, elbows, and bends shall be Mechanical Joint. The exterior of the pipe shall be furnished with an asphaltic coating. Installation shall be as recommended by the manufacturer in their printed manual. Pulling devices and tie-in devices shall be that normally furnished by the manufacturer for this type of installation. All Tees, elbows and bends shall also be equipped with Grip Rings unless specifically excluded on the Plans. All tees, elbows and bends shall also be equipped with Grip Rings unless specifically excluded on the Plans. In lieu of Grip Rings the Contractor may use Retainer Glands.

The Bid Form or Plans may list D.I.M.J., and D.I.C.J. These abbreviations stand for Ductile Iron, Mechanical Joint and Ductile Iron, Compression Joint (Push-On) Pipe, respectively.

Installation shall be as recommended by the manufacturer in their printed manual. Pulling devices and tie-in devices shall be that normally furnished by the manufacturer for this type of installation.

Ductile Iron Ball Joint River Crossing Pipe (Water & Sewer Force Main):

Ball joint pipe shall be USIFLEX Boltless Ball Joint Pipe as manufactured by the United States Pipe and Foundry Company, or approved equal. The pipe shall comply with the requirements of ANSI/AWWA C 151/A21.51 and ANSI/AWWA C 110/A21.10 which are applicable to its manufacture. The separately cast ductile iron bell shall conform to the requirements of ASTM A536, Grade 70-50-05. The steel retainer ring shall conform to the requirements of ASTM A148, Grade 90-60.

Wall thickness shall be ANSI/AWWA thickness Class 55. The exterior of the pipe shall be furnished with an asphaltic coating.

Installation shall be as recommended by the manufacturer in their printed manual. Pulling devices and tie-in devices shall be that normally furnished by the manufacturer for this type of installation.

Where sewer force main is not in ordinary high water apply marking tape as specified under "PVC Pipe Force Main".

Water Service Tubing (1-1/4", 1", 3/4"):

All service tubing to be Class 200. Acceptable manufacturers are Phillips and Orangeburg. Any other manufacturer shall be approved by the Engineer.

Water Valves 12" and Smaller:

All valves must be of cast iron with bronze mountings, unless otherwise specified. Only makers of well-known and approved standings, who have been making similar devices for a period of at least ten (10) years, prior to the bid date, will be considered. Also, maker shall be prepared to furnish through the bidder, within one (1) week after award is made, complete catalogues or other descriptive matter giving complete details and dimensions of valves they proposed to furnish.

All valves shall be provided with suitable operating devices and adapted for operation in the position in which they are shown on the plans. All screw operated valves shall open by turning to the left.

All valves shall have mechanical joints both ends (unless noted on the Plans) and shall conform to A.W.W.A Specifications D-150, N.R.S. complying to A.W.W.A. C222 and ANSI A21.11.

All 4" through 12" Gate valves shall be resilient seat Gate valves, 200 psi max working pressure, 400 psi test pressure, Mueller A-2370-20, or approved equal. 3" and 2" Gate valves shall be double disc, parallel seat, bronze faces and disc rings with wedging mechanism simple and direct, Mueller A-2380-20, or approved equal. 1-1/2" and 1-1/4" Gate valves shall be Mueller H-10914, bronze Gate valve with solid wedge and F.I.P. thread with appropriate fittings and hand wheel. All valves shall conform to the latest revision of "Specifications for Gate Valves for Ordinary Water Works Service," adopted by A.W.W.A. Test pressure 300 lbs. (min.) per square inch and working pressure 150 lbs. (min. allowable working pressure) per square inch.

Water Valve Boxes:

Valve Boxes for 1-1/4" through eight (8") inch valves shall be telescope type with screw top, of extension length twenty-five (25) through thirty-six (36") inches. Ten (10") inch and twelve (12") inch valve boxes shall have an extension length ranging from eighteen (18") inches to twenty-four (24") inches. These minimum valve box lengths redefine depth of cover over pipe at valve locations. These requirements shall be maintained. Pieces of scrap PVC or ductile iron pipe with lid installed **shall not** be acceptable. Valve boxes shall be Tyler 461-S for ten (10") inch and twelve (12") inch valves, Tyler 562-S for two (2") inch through eight (8") inch valves, or approved equal. All valve boxes shall have a minimum inside diameter of 4-1/4" for intersection with an arc base. All valve box lids shall be manufactured by the same firm as the box and marked WATER. All valve boxes shall have installed a valve box collar similar in all respects to

the Cloud Company U-235 Valve Retainer Ring, alternate as shown on the detail sheet, or approved equal.

Std. Blow-off/Fire Hydrants:

All Fire Hydrants connected to 12", 10", 8", and 6" water mains shall have six (6") inch Mechanical Joint connections, use 6" line valve, and be 5-1/4" sized Fire Hydrants. All shall have two hose outlets and one steamer connection designed for 150 pounds working pressure and test of 300 pounds hydrostatic pressure and shall conform to the latest specifications of the A.W.W.A. All working parts shall be bronze. Steamer nozzle shall be National Standard Threads. The two 2-1/2" hose nozzles shall be National Standard Threads. Hydrants shall be designed so that no water will be lost when they are broken off and so they can be repaired in a few minutes with repair kit that is to be furnished.

Design, materials and workmanship shall be similar and equal to the latest stock pattern ordinarily produced by the manufacturer. Length of barrel shall be such to provide thirty (30") inch minimum cover over connecting lines. Working drawings and full description of proposed hydrants shall be submitted to the Engineer before ordering. Hydrant size to be 5-1/4".

Hydrants shall be painted one (1) coat of red paint and two (2) finishing coats of an approved paint of the color directed by the Engineer.

Hydrants shall be set at such elevations that the connecting pipe will have the same depth of cover as the distribution mains. The hydrant shall be set as shown on the Typical Drawings for fire hydrant setting. The back of the hydrant, opposite the pipe connection, shall be firmly wedged against the vertical face of the trench to prevent the hydrant from blowing off the line. All fire hydrants shall use grip rings as indicated on the Drawings. Not less than seven cubic feet of broken stone shall be placed around the base of the hydrant to insure drainage. The backfill around hydrants shall be thoroughly compacted to the grade line in a manner satisfactory to the Engineer. Hydrants shall have the interiors cleaned of all foreign matter before installation. Stuffing boxes shall be tightened and the hydrant shall be inspected in opened and closed positions to see that all parts are in working condition.

Hydrants shall be Mueller Super Centurion 200, Cat. No. A-423, with two (2) hose nozzles and one (1) pumper nozzle, or approved equal.

SPECIAL NOTE: All fire hydrants to be connected using same type (PVC, C900, or D.I.) line as to the main to which they connect. Contractor shall also review the project Drawings to see the requirements for tying all hydrants back to mainline tees. This tying shall consist of grip rings when PVC pipe is used. When ductile iron pipe is used, retainer glands will be considered equal to the above.

Water Air Release Valves

Air Release Valves shall be simple lever, float operated. The body and cover shall be cast iron. The float shall be stainless steel with bronze linkage. All connection sizes shall be as shown on the Plans. The air relief valve shall be so designed as to operate at a pressure of 150 psi. The maximum venting capacity shall be 22 cubic feet of free air per minute. The valve shall be Valmatic 15A, or approved equal.

Water ARV Box and Cover:

All ARV's shall be installed within a circular plastic meter box of nominal 18"x30" interior dimensions. The properties of the box shall be equal to Mid-States Meter MS 183010. The cover shall be Ford, Type C, appropriately sized, or approved equal.

Water Meter Setting Equipment:

Meter yoke to be Muller 1404-2 with non-approved Dual Check Valve feature, 7" to 9" riser height with valve for 5/8" x 3/4" or 1" meter unit. Unit shall be copper. Service saddle shall be bronze, Muller Single Strap H-13000 Series. Corp. Stop to be Muller 15008. All the above materials shall be as specified or approved equal.

Water Meters (1" & 3/4"):

All meters shall be Badger Model 70, (for 1" service) or Badger Model 25 (for 3/4" service) or approved equal, with bronze case, suitable for operation with radio read metering equipment, have working pressure without leakage or damage of 150 psi, 1" x 1" laying length of 10-3/4", accurate to plus or minus, 1.5 percent, between 3/4 and 70 gpm. Meter shall be designed to permit the use of either a straight reading, environmentally sealed local register and remote reading electronic register. The registration reading shall be US Gallons. The register shall not be in contact with the water being measured. The register devices shall be designed to permit removal and exchange without the removal of the meter from the service installation or interruption of service water supply.

All meters shall be equipped with RTR (RecordAll Transmitter Register) and the Pit ORION Transmitter. This transmitter shall be designed for water meter pit installation that is subject to flooding or submergence. The RTR shall be factory wired to the Pit ORION Transmitter. The assembly shall be designed for "Beneath Metal Lid" operation. The batteries powering the unit shall have a warranty of seven (7) years. The expected life of the battery shall be thirteen (13) years. The assembly shall be equipped with optional leak detection and cut wire tamper indication capability. The assembly shall be installed inside the meter box in accordance with the manufacturer's instructions.

Water Meter Box and Cover:

In low traffic areas, as designated by the Engineer, high impact plastic meter boxes having the same material specifications as those given for the ARV box shall be used. The box shall be Mid States Meter MS 182410, 18" diameter x 24" depth, or approved equal. The cover shall be Tyler 6880 Cast Iron, or approved equal.

In high traffic areas, meter boxes shall be equal in all respects to Cloud Concrete UT-050 having an inside diameter of 18" and a depth of 24". When using the concrete box the lid shall be as specified above.

Large River Water Test Station (By Pass Flow Meter):

Large river test stations shall be installed where shown on the Drawings. Detail for the large test station is shown on Sheet UR-5 of the Drawings. This large river test station consists only of the materials herein specified. The valve, 1-1/2" PE, and other items necessary are paid at your unit price for those items. The large river test station consists of a standard meter box and cover as previously specified with the exception that a 24" diameter box shall be used. Additionally, use a Mueller H-1422-00 copper setter, 1-1/2" size, with extra ground key meter stop, Corporation stop shall be 1-1/2" Mueller B-25005. Unit shall be copper. Two (2) 8" MJ Tapped Tees are included in this bid unit price along with the nipples and curb stops as detailed on the Drawings. The meter shall be Badger RecordAll, Model No. M120, suitable for a maximum continuous flow rate of 120 gpm. All the above materials shall be as specified or approved equal.

Water Caps (If Used):

Provide MJ cap with grip ring for size and type of pipe indicated. No difference in pay for any size.

Water Tie-Ins Description:

The descriptions below give a brief listing of materials which will or may be included in each individual water retie. This listing is provided for the convenience of the Contractor so he may determine the cost of materials and work associated with each tie-in. This list is not all inclusive and other items, fittings, etc. may be required to complete each tie. As shown on the plans, all water ties will be bid as one lump sum item.

Tie #1 - Provide and install an 8" MJ ell, note that 8" valve is excluded from bid item price.

Tie #2 - Provide and install 8" fittings as required.

Tie #3 - Provide and install 8" MJ ell, fittings as required, note that 8" valve is excluded from bid item price.

Gas Service Reties:

It is hoped that all sizable utilities location can be reasonably accurately determined by having the appropriate utility flag, stake, or otherwise show the Contractor the location of the facilities. It is not anticipated that the utility will have the ability to accurately field determine the location of all 3/4" or 1" gas service lines. It is anticipated that the Contractor may cut gas service lines during the construction of this project. This Bid Item pays for the repair and reconnection of this anticipated, or unanticipated, gas service. The Contractor will be paid this Unit Price only if good construction technique is used. The decision of the Engineer in this matter is final.

Water Service Reties:

It is hoped that all sizable utilities location can be reasonably accurately determined by having the appropriate utility flag, stake, or otherwise show the Contractor the location of the facilities. It is not anticipated that the utility will have the ability to accurately field determine the location of all 3/4" or 1" water service lines. It is anticipated that the Contractor may cut water service lines during the construction of this project. This Bid Item pays for the repair and reconnection of this anticipated, or unanticipated, water service. The Contractor will be paid this Unit Price only if good construction technique is used. The decision of the Engineer in this matter is final.

PVC Pipe and Fittings (Sanitary Sewer):

PVC pipe used for gravity sewer applications shall meet all requirements of ASTM Specification D-3034, latest revision for pipe sized 4" thru 15" and ASTM F679 T-1 for pipe sized 18" thru 27". Pipe and fittings shall meet the extra strength minimum of SDR-35 of that specification.

All pipe and fittings shall be inspected at the factory and on the job site. Testing of PVC pipe and fittings shall be accomplished in conformance with the latest revision of ASTM D3034, ASTM F679 T-1, ASTM D2444, ASTM 2412, and ASTM D2152. The manufacturer shall submit five (5) copies of certification of test for each lot of material represented by shipment to the job site.

The pipe shall be homogeneous throughout and free from cracks, holes, foreign inclusions or other defects. The pipe shall be as uniform in color as commercially practical. PVC pipe shall have a ring painted around spigot ends in such a manner as to allow field checking of setting depth of pipe in the socket.

Pipe must be delivered to job site by means which will adequately support it, and not subject it to undue stresses. In particular, the load shall be so supported that the bottom rows of pipe are not damaged by crushing. Pipe shall be unloaded carefully and strung or stored as close to the final point of placement as is practical. Pipe shall not be stored outside where subject to sunlight.

Jointing of PVC pipe shall be by a natural rubber ring inserted into the belled end of the pipe or double hub joints. Solvent weld joints are not acceptable.

The PVC pipe manufacturer shall provide special fittings, acceptable to the Engineer to make water-tight connections to manholes and for all service connections.

The pipe shall be equal in all respects to that manufactured by CertainTeed Corporation, Valley Forge, PA.

PVC Pipe Force Main:

Force main shall be PVC type pressure pipe designated ASTM Pressure Class 200. The pipe shall conform to ASTM D 2241 for standard dimension ratios and shall be SDR-21. The pipe shall be extruded from clean, virgin, approved Class 12454-A PVC compound conforming to ASTM resin specification D1784. Rubber rings shall conform to ASTM D1869. This pipe shall be CertainTeed Fluid-Tite PVC Pressure Pipe, or approved equal. All sewage force main shall be marked so to not be mis-identified as waterline. One method to accomplish this is as follows:

The Contractor shall furnish and install a pressure-sensitive vinyl pipe marker on all force mains. This marker shall be specially designed for installation on the types of pipe used. The marker shall be green with white letters, and shall be 9 inches long by 2 inches wide, with 1-1/4 inch letters. Wording shall be "SANITARY SEWER". The markers shall be placed on the top of the pipe after it has been placed in the ground and connected. The markers shall be placed 5'-0" center to center when measured from marker to marker. An alternate method with continuous line marking tape is shown on the Drawings

The price for these markers shall be included in the price per foot for the pipe or included as part of a lump sum bid for utility conflicts.

The markers shall be Opti-Code as manufactured by the Seton Name Plate Corporation, P.O. Drawer PMB-1331, New Haven, CT 06505.

Other methods may be acceptable should they prove equal or superior to that given above.

Lateral Cap (If Used):

See Drawings for detail of how existing V.C. (assumed) caps are applied.

PVC Sewer Service Laterals:

PVC service laterals shall have the same specifications and characteristics as the PVC Sanitary Sewer. Only rubber gasketed joints will be accepted. The method of ending the laterals is shown on the Drawings and shall be installed at the location as directed

by the Engineer. The Contractor is responsible for having all materials necessary for this construction. The cost of the lateral ending is included in the unit price of the service lateral.

Under normal conditions, where elevations are not critical, service laterals to customers shall be laid on not less than 1" per foot of length grade. Where elevations are critical min. grade shall be .005 feet per foot laid with batter boards and grade line or laser. In case of deep sewers laterals may be brought up to a depth of approximately 5 feet below ground level with suitable bends and pipe. These pipes shall be laid on a slant outside sewer trench so they will be supported on original earth.

14" PE (Using Pipe Bursting):

At the location shown on the Plans, the Contractor shall install approximately 460' of 14" High Density Polyethylene (PE) pipe in the location of existing 12" vitrified clay (VC) pipe. This new 14" PE shall be installed by the pipe bursting method. The 14" polyethylene pipe shall be PE3408, with a standard dimension ratio (SDR) of 13.5 (pressure Class 130 psi). The pipe shall meet the applicable requirements of ASTM F714, ASTM D-1248, and ASTM D-3350. The pipe shall be homogeneous throughout and free from cracks, holes, foreign inclusions, or other defects. The pipe shall be Plexco, or Engineer approved equal. The required standard dimension ratio has been determined by assuming an E' (soil modulus) of 400 psi for insertion into the Bureau of Reclamation Iowa Formula for initial flexible pipe deflection. The Contractor may, but is under no obligation to, perform soil sampling in at least three points (beginning, middle, end) along the line at the proposed depth of installation to determine if a thinner walled pipe would suffice (i.e., to determine if a higher E' value is appropriate). In no cases shall the pipe wall be thinner than SDR 17. Soil sampling costs shall be at Contractors expense if used. The laboratory utilized shall be approved by the Utility Relocation Engineer.

The Contractor is required to plan and construct the termination points for the pipe bursting operation. One final ending point for the new 14" PE is an existing brick manhole at the location shown on the Plans. The other ending point of the new 14" PE is a brick wet well near an existing lift station. The Contractor is responsible for ensuring that both ending points are repaired to an acceptable condition and to be as structurally sound as they were before construction. The tie-ins shall be of water tight construction. The cost for this work shall be included in the Unit Price for 14" PE. The Contractor shall provide insertion and reception areas which do not overstress the pipe due to bending or drag.

The pipe bursting Contractor shall have successful and adequate experience in similar ground conditions on at least three (3) projects in the State of Kentucky. This project listing shall be provided to the Utility Relocation Engineer.

If lateral reconnection is required, it shall be with either mechanical saddle made of polyethylene pipe material or an HDPE branch saddle fused onto the O.D. of the

installed HDPE pipe. The cost for this work shall be included under the Bid Item Lateral Reconnect.

The in-place 14" PE pipe shall be air tested as specified under Gravity Sewer.

Lateral Reconnect

Should the television inspection and dye testing indicate that an existing sanitary sewer lateral must be retied into the new 14" PE line, this bid item will be paid as a lump sum. It is not known if any such lateral exists, or what size this lateral may be (presumed 4" or 6"). The required service saddle is specified under the 14" PE item; PVC sewer service laterals are described above. This item is the same for add or deduct.

Drain Re-Route:

Should the television inspection and dye testing indicate that surface drains flow into the existing 12" VC sanitary sewer pipe, these drains will require re-routing to a new gravity discharge onto the surface. The Contractor should thoroughly investigate the site to determine possible location of these drainage facilities and their anticipated scope and cost. The re-routing shall utilize the same diameter pipe that flows into the sanitary sewer and utilize adequate grade for proper drainage. Adequate protection of the discharge point shall also be provided. This item is the same for add or deduct.

Sanitary Sewer Television Inspection:

For the pipe shown on the plans, the Contractor shall provide a Television Inspection of the complete length. This inspection shall allow for the accurate determination of existing laterals, unknown manholes, and general pipe condition. This television inspection shall enable the Contractor to accurately field locate on the ground all of the named appurtenances. A DVD recording shall be provided to the Owner detailing all conditions discovered. This DVD shall automatically record the distance and display same for easy determination of work required.

This service shall be provided by personnel adequately trained in the use of suitable equipment. The person or firm employed shall provide this service as part of their normal work activities. This proposed Sub-Contractor shall provide a listing of work products proposed to the Utility Relocation Engineer for approval.

Existing Buried Manhole:

As indicated on the Drawings, there exists a manhole on the line designated as SC which has been covered by significant previous construction. This existing manhole is brick and mortar construction as indicated on a previously completed television inspection. As indicated on the Plans, this manhole is covered by approximately 15' of earth. The Contractor may, if he so desires, uncover this manhole for subsequent work. If the Contractor elects to uncover this manhole he shall be required to refill and

reconstruct the area as required by following construction. It is not critical to the operation of the new 14" PE line that this manhole remain serviceable. However, it is important that this manhole not be so structurally deficient that it could cause damage to the 14" line which will run through it by falling/failing materials. If the pipe bursting activities would/will cause structural damage sufficient to create voids which could negatively impact follow on highway work, excavation of this manhole and refilling with an approved material will be required.

Concrete Work:

General Concrete:

The bid item, General Concrete, includes all concrete which does not entail extensive finishing, forming, and detailed reinforcing for adequate placement. This bid item would include, but is not limited too, street repair, thrust blocks, concrete anchors, and other miscellaneous locations. Plain reinforcement up to a maximum of #4 bars at 12" on center, each face, may be ordered as part of general concrete.

Special Concrete Materials Note:

These specifications briefly detail aggregate, concrete, and bituminous materials. Should these specifications be in conflict with specifications issued by the Kentucky Transportation Cabinet, use whatever materials gives superior results on the gas, water, and sewer line relocation portion.

(a) Proportioning Mix:

Concrete for utility relocation is to be proportioned in two classes according to use as follows:

Class "AA" for interceptor structures, curbs, gutters, driveways, sidewalks, and all items noted on the plans as "Detail" Concrete. All Class "AA" concrete shall be paid as "Detail" Concrete.

Class "AA" concrete shall have a minimum compressive strength of 4,000 lbs. per square inch and shall contain not less than 620 lbs. of cement per cubic yard of concrete. The relative amounts of fine and admixture will not be required.

Class "A" concrete for base courses for highway and street paving, thrust blocks, creek crossings, and valve pads. All Class "A" concrete shall be paid as General Concrete.

Class "A" concrete shall have a minimum compressive strength of 3500 lbs. per square inch and shall contain not less than 564 lbs. of cement per cubic yard of concrete. The relative amounts of fine and admixture will not be required.

The water used in mixing must be a minimum required for a plastic mix. No water will be permitted to be used for purpose of hastening mixing and reducing of tamping and vibration.

The water content allowed will be at all times subject to regulations by the Engineer. In the case of Class "A" concrete (if used for gas line work), not more than five and one-half gallons of water to the bag of cement will be allowed in mixing concrete (or proportionately less when slump is about 4" and/or mix is wet), except in cases where, in the judgement of the Engineer, additional water is necessary to obtain proper results.

Batching equipment shall include scales for weighing contents of wheelbarrows and a device for accurately measuring water by the gallon, to be used for proportioning each batch.

In case of ready-mixed concrete, specifications for proportioning of mixes shall be the same, except that from the manufacturer's experience with his own aggregates, he shall vary proportions of sand and coarse aggregate for the greatest density and workability of mix. Prior to actual delivery of concrete, and at any change of proportioning, the manufacturer shall furnish a statement to the Engineer giving the proportion by weight (dry) of cement and of fine and coarse aggregates that will be used in the manufacture of each mix ordered. Proportions must be approved by the Engineer. Otherwise, proportioning of mix and batching plant shall be according to ASTM Designation C-94, latest revision, specifications for ready-mixed concrete.

(b) Forms:

Forms for concrete with exposed surfaces shall consist of dressed and sized lumber or metal and must match on edges sufficiently to prevent leakage of mortar. Forms shall be built to such accuracy and braced to such an extent that they shall not vary from true lines and surfaces where exposed more than 1/4" before pouring concrete, nor more than 3/8" after pouring. Angle strips (3/4" size) shall be placed in all exposed corners of forms.

(c) Steel Reinforcement Placing:

All such steel shall be delivered in new condition either clean or with only a slight coating of rust. If stored on the site it must be kept under shelter or supporting at least 12" above ground to prevent its becoming coated with dirt and when placed in forms it must be free from scale or dirt.

When placing in forms, steel must be tied together to form a rigid frame before pouring concrete and must be secured in the walls or slabs in such a manner as to insure its holding and position designed for it in the finished work by use of form stands, steel or concrete chairs or spacers. As a rule, steel bars must have a minimum covering of 2" when exposed to air and a minimum of 3" when exposed to earth" of concrete,

unless otherwise noted on the plans. All splices shall be 24 diameters long and 1" between spliced bars.

(d) Mixing and Placing:

Concrete shall be thoroughly mixed at least two minutes after all materials, including water, are in the mixer drum having a capacity of at least one sack batch.

Concrete must be poured into forms slowly enough to permit thorough tamping and vibrating to eliminate any honeycombed surfaces.

Concrete pouring will not be permitted under conditions where there is danger of freezing or when materials are frozen. After pouring, concrete must be protected from freezing weather for at least 72 hours.

Ready-mixed concrete delivery facilities pledged to the concrete pour shall be approved by the Engineer before permission will be given to start the pour. The period between termination of placing by one truck and starting by the next shall not be longer than 10 minutes at temperatures above 70° F., nor longer than 20 minutes below 70° F. The concrete in a truck mixer or agitator must be totally discharged within 1-1/2 hours after the introduction of mixing water to the cement and aggregates. The mixing operation shall begin within 30 minutes after the cement has been intermingled with the aggregates. Otherwise, mixing, mixers, agitators, and inspection shall be according to ASTM Designation C-94, latest revision, specifications for ready-mixed concrete. Non-agitating trucks for hauling concrete from central mixing plant will not be accepted.

(e) Tempering:

All concrete must be kept wet or moist for a period of at least 48 hours after pouring in order to prevent too rapid drying out. In dry weather, wooden forms must be thoroughly wet before concrete is placed in them and must also be kept in this condition during the period above mentioned. Concrete must be covered and kept damp to protect it from the sun as soon as the surfaces are firm enough to allow the placing of such covering or protection.

(f) Fly Ash/Cement Mix:

Where indicated on the plans, the Contractor shall use a fly ash/cement mix (to reduce the amount of cement per cubic yard) to refill pipes which are to be abandoned. The fly ash/cement mixture shall meet the requirements of Sections 601 and 801 of the "Standard Specifications for Road and Bridge Construction, Transportation Cabinet/Department of Highways, Kentucky 2004". The Contractor may, at his option, replace this fly ash/cement mix with flowable fill as specified below.

(g) Flowable Fill:

Flowable fill shall conform to the requirements of Sections 601 of the "Standard Specifications for Road and Bridge Construction, Transportation Cabinet/Department of Highways, Kentucky 2004". All flowable fill shall be proportioned as follows, per cubic yard batch:

Cement	30 lbs.
Fly Ash, Class F	300 lbs.
Natural Sand	3,000 lbs.
Water (Max.)	550 lbs.

Utility Relocation
TS-32

N O T I C E

DEPARTMENT OF THE ARMY CORPS OF ENGINEERS

NATIONWIDE PERMIT AUTHORIZATION

PROJECT: Perry County (KY-2448) Item No. 10-1071.00
Replace Bridge & Approaches

The Section 404 activities for this project have been previously permitted under the authority of the Department of the Army Nationwide Permit No. 14 "Linear Transportation Projects". In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Permit in a conspicuous location at the project site for the duration of construction and comply with the general conditions as required.

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

SUMMARY OF 404 IMPACTS

“Nationwide Permit #14 – Letter of Notification”

Bridge Replacement over North Fork Kentucky River
Perry County, KY
KYTC Item #10-1071.00

1. Sta. 23+11.95 - Construct a 360', three span bridge over the North Fork Kentucky River, replacing a 360' truss bridge structure. The existing bridge will be used for traffic diversion during construction. Once the bridge is completed, the truss structure will be removed. Construction disturbance is limited to approximately 140 feet of stream length. Disturbance area will be contemporaneously reclaimed and restored to original contour and conditions. There are no permanent impacts to waters nor will any special aquatic sites be impacted. The watershed size of the North Fork Kentucky River at this location is 466 square miles.
(Nationwide Permit #14 – Letter of Notification)
2. A temporary crossing will be necessary during the construction phase to accommodate equipment required for the new bridge construction. The temporary crossing will impact less than 100 feet of stream, require approximately 240 cubic yards clean, durable rock and will be designed by the contractor to accommodate normal flow. Disturbance area will be contemporaneously reclaimed and restored to original contour and conditions. There are no permanent impacts to waters nor will any special aquatic sites be impacted.
(Nationwide Permit #14 – Letter of Notification)

* The bridge replacement project is located just downstream of the public drinking water intake for the city of Hazard, KY.

TERMS FOR NATIONWIDE PERMIT NO. 14
Linear Transportation Projects

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

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

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

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 27.) (Sections 10 and 404)

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



ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher
Governor

Teresa J. Hill
Secretary

Capital Plaza Tower
500 Mero Street, 5th Floor
Frankfort, Kentucky 40601
Phone: (502) 564-5525
Fax: (502) 564-3354
www.eppc.ky.gov

General Certification--Nationwide Permit # 14 Linear Transportation Projects

This General Certification is effective March 19, 2007, in conformity with the requirements of Section 401 of the Clean Water Act of 1977, as amended (33 U.S.C. §1341), as well as Kentucky Statute KRS 224.16-050.

Agricultural operations, as defined by KRS 224.71-100(1) conducting activities pursuant to KRS 224.71-100 (3), (4), (5), (6), or (10) are deemed to have certification if they are implementing an Agriculture Water Quality Plan pursuant to KRS 224.71-145.

For all other operations, the Commonwealth of Kentucky hereby certifies under Section 401 of the Clean Water Act (CWA) that it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 5, established pursuant to Sections 301, 302, 304, 306 and 307 of the CWA, will not be violated for the activity covered under NATIONWIDE PERMIT 14, namely Linear Transportation Projects, provided that the following conditions are met:

1. This general certification shall not apply to nationwide permits issued for individual crossings that are part of a larger road segment project where the cumulative, unmitigated wetland impacts within a 14-HUC total one (1) acre or more.
2. The individual stream crossing will impact less than 300 linear feet of intermittent or perennial streams, unless excluded by condition # 3. Impacts to ephemeral streams are not limited under this general certification.
3. This general certification shall not apply to nationwide permits issued for individual crossings which meet condition # 2 but that are part of a larger road segment project where the cumulative, unmitigated intermittent and perennial stream impacts within a 14-HUC exceed 500 linear feet.
4. The activity will not occur within waters of the Commonwealth identified by the Kentucky Division of Water as Outstanding State or National Resource Waters, Cold Water Aquatic Habitat, or Exceptional Waters.

General Certification--Nationwide Permit #14
Linear Transportation Crossings
Page Two

5. Stream impacts covered under this nationwide permit and undertaken by those persons defined as an agricultural operation under the Agricultural Water Quality Act must be completed in compliance with the Kentucky Agricultural Water Quality Plan.
6. Projects that do not meet the conditions of this general certification require an individual Section 401 water quality certification.
7. Activities qualifying for coverage under this general water quality certification are subject to the following conditions:
 - Stream crossings shall be constructed in such a manner that does not impede the movement of aquatic organisms.
 - Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
 - In areas not riprapped or otherwise stabilized, revegetation of stream banks and riparian zones shall occur concurrently with project progression. At a minimum, revegetation will approximate pre-disturbance conditions.
 - To the maximum extent practicable, all in stream work under this certification shall be performed during low flow.
 - Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances where such in stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.
 - Any fill shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If riprap is utilized, it is to be of such weight and size that bank stress or slump conditions will not be created because of its placement.
 - If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when work will be done.

**General Certification--Nationwide Permit #14
Linear Transportation Crossings
Page Three**

- Removal of existing riparian vegetation should be restricted to the minimum necessary for project construction.
- Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling 800/928-2380.

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

This general certification will expire on March 19, 2012, or sooner if the USACE makes significant changes to this nationwide permit.

NATIONWIDE PERMIT GENERAL CONDITIONS

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

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.
(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.
3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.
6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).
10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.
11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.
12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.
13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

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

17. Endangered Species. (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

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

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

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at <http://www.fws.gov/> and <http://www.noaa.gov/fisheries.html> respectively.

18. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106

consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

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

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

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

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

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

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWP's. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWP's.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

22. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

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

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

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

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

(Transferee)

(Date)

26. Compliance Certification. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;
- (b) A statement that any required mitigation was completed in accordance with the permit conditions; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity:

- (1) Until notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
- (2) If 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin

under NWP's 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

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

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

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

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

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWP's and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

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

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory

mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

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

KyTC BMP Plan for Project PCN ## - #####
SYP Item # 10-1071.0



Kentucky Transportation Cabinet

Highway District _10

And

_____ (2), Construction

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

Groundwater protection plan

For Highway Construction Activities

For

**[Replace bridge and approaches over North Fork
Ky River at the 0.031 mile post on Ky 2448]**

Project: PCN ## - #####

KyTC BMP Plan for Project PCN ## - #####
SYP Item # 10-1071.0

Project information

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

1. Owner – Kentucky Transportation Cabinet, District _10_
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 (Address) Hazard, Ky 41701
6. Latitude/Longitude (project mid-point) 37/14/46, 83/10/57 (1)
7. County (project mid-point) Perry
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

A. Site description:

1. Nature of Construction Activity (from letting project description) Bridge and Approaches Replacement over North Fork Ky River 3 span approx. 330' total length.
2. Order of major soil disturbing activities (2) and (3)
3. Projected volume of material to be moved
1300 cubic yards

KyTC BMP Plan for Project PCN ## - #####
SYP Item # 10-1071.0

4. Estimate of total project area (acres) 1.5
5. Estimate of area to be disturbed (acres) 1.5
6. Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information.
7. Data describing existing soil condition (2)
8. Data describing existing discharge water quality (if any) (1) & (2)
9. Receiving water name North Fork Ky River
10. TMDLs and Pollutants of Concern in Receiving Waters: (1 DEA)
11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.
12. Potential sources of pollutants:

The primary source of pollutants is solids that are mobilized during storm events. Other sources of pollutants include oil/fuel/grease from servicing and operating construction equipment, concrete washout water, sanitary wastes and trash/debris. (3)

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

KyTC BMP Plan for Project PCN ## - #####
SYP Item # 10-1071.0

(BMPs) that are site specific. The balance of the BMPs for the project will be listed in the bid documents for selection and use by the contractor on the project with approval by the resident engineer.

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

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

3. As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:
 - Construction Access – This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with gravel and temporary mulch and/or vegetation.
 - At the beginning of the project, all DDAs for the project will be inspected for areas that are a source of storm water pollutants. Areas that are a source of pollutants will receive appropriate cover or BMPs to arrest the introduction of pollutants into storm water. 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.

KyTC BMP Plan for Project PCN ## - #####
SYP Item # 10-1071.0

- Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
- Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
- Non-standard or innovative methods.
- Cut & Fill and placement of drainage structures - The BMP Plan will be modified to show additional BMP's such as:
 - Silt Traps Type B in ditches and/or drainways as they are completed
 - Silt Traps Type C in front of pipes after they are placed
 - Channel Lining
 - Erosion Control Blanket
 - Temporary mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
 - Non-standard or innovative methods
- Profile and X-Section in place – The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probably changes include:
 - Silt Trap Type A, Brush and/or other barriers, Temporary Mulch, and any other BMP which had to be removed for final grading to take place.
 - Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
 - Additional Channel Lining and/or Erosion Control Blanket.
 - Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
 - Special BMP's such as Karst Policy
- Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probably changes include:
 - 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 : (1)

KyTC BMP Plan for Project PCN ## - ####
SYP Item # 10-1071.0

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.

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.

2. Hazardous Waste

All hazardous waste materials will be managed and disposed of in the manner specified by local or state regulation. The contractor shall notify the Resident Engineer if there 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.

3. 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

KyTC BMP Plan for Project PCN ## - #####
SYP Item # 10-1071.0

- Whenever possible, all of the product will be used up before disposing of the container
- Manufacturers' recommendations for proper use and disposal will be followed
- The site contractor will inspect daily to ensure proper use and disposal of materials onsite

➤ **Hazardous Products:**

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

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

The following product-specific practices will be followed onsite:

➤ **Petroleum Products:**

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

KyTC BMP Plan for Project PCN ## - #####
SYP Item # 10-1071.0

➤ **Paints:**

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

➤ **Concrete Truck Washout:**

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

➤ **Spill Control Practices**

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

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

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

KyTC BMP Plan for Project PCN ## - #####
SYP Item # 10-1071.0

requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. (1)

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 the purpose of post construction storm water management with specific guidance for any non-routine maintenance. (1)

F. Inspections

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

- All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.
- Inspections will be conducted by individuals that have received KyTC Grade Level II training or other qualification as prescribed by the cabinet that includes instruction concerning sediment and erosion control.
- 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

KyTC BMP Plan for Project PCN ## - #####
SYP Item # 10-1071.0

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

G. Non – Storm Water discharges

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

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

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

H. Groundwater Protection Plan (3)

KyTC BMP Plan for Project PCN ## - #####
SYP Item # 10-1071.0

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 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;

_____ 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

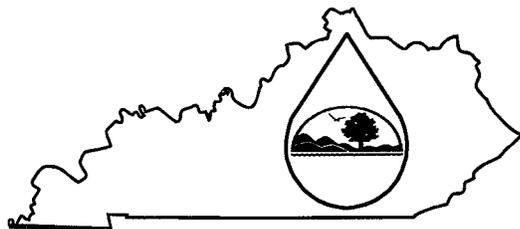
401 KAR 5:037 Section 3. (3) Elements of site specific groundwater protection plan:

- (a) General information about this project is covered in the Project information;
- (b) Activities that require a groundwater protection plan have been identified above;

KyTC BMP Plan for Project PCN ## - #####
SYP Item # 10-1071.0

- (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.)

KPDES FORM NOI-SW



**Kentucky Pollutant Discharge Elimination System
(KPDES)
Notice of Intent (NOI)
for Storm Water Discharges
Associated with Industrial Activity Under the
KPDES General Permit**

Submission of this Notice of Intent constitutes notice that the party identified in Section I of this form intends to be authorized by a KPDES permit issued for storm water discharges associated with industrial activity. Becoming a permittee obligates such discharger to comply with the terms and conditions of the permit.

ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM (See Instructions on back)

I. Facility Operator Information

Name:	KYTC District 10	Phone:	6066668841
Address:	PO Box 621	Status of Owner/Operator:	S
City, State, Zip Code:	Jackson, KY 41339		

II. Facility/Site Location Information

Name:	KYTC PCN ##### SYP Item # 10-1071.0		
Address:	KY 2448		
City, State, Zip Code:	Hazard, Ky 41701		
County:	Perry		
Site Latitude: (degrees/minutes/seconds)	37/14/46	Site Longitude: (degrees/minutes/seconds)	83/10/57

III. Site Activity Information

MS4 Operator Name:							
Receiving Water Body:	North Fork Ky River						
Are there existing quantitative data?	Yes <input type="checkbox"/> If Yes, submit with this form. No <input checked="" type="checkbox"/>						
SIC or Designated Activity Code Primary	1611	2nd	1622	3rd		4th	
If this facility is a member of a Group Application, enter Group Application Number:							
If you have other existing KPDES Permits, enter Permit Numbers:							

IV. Additional Information Required FOR CONSTRUCTION ACTIVITIES ONLY

Project Start Date:		Completion Date:	
Estimated Area to be disturbed (in acres):	1.5		
Is the Storm Water Pollution Prevention Plan in Compliance with State and/or Local Sediment and Erosion Plans?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

V. Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, 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.

Printed or Typed Name:	Mark Westfall, Chief District Engineer		
Signature:		Date:	

**Kentucky Pollutant Discharge Elimination System (KPDES)
Instructions
Notice of Intent (NOI) for Storm Water Discharges Associated with Industrial Activity
To Be Covered Under The KPDES General Permit**

WHO MUST FILE A NOTICE OF INTENT (NOI) FORM

Federal law at 40 CFR Part 122 prohibits point source discharges of stormwater associated with industrial activity to a water body of the Commonwealth of Kentucky without a Kentucky Pollutant Discharge Elimination System (KPDES) permit. The operator of an industrial activity that has such a storm water discharge must submit a NOI to obtain coverage under the KPDES Storm Water General Permit. If you have questions about whether you need a permit under the KPDES Storm Water program, or if you need information as to whether a particular program is administered by the state agency, call the **Storm Water Contact, Industrial Section, Kentucky Division of Water at (502) 564-3410.**

WHERE TO FILE NOI FORM

NOIs must be sent to the following address:

**Section Supervisor
Inventory & Data Management Section
KPDES Branch, Division of Water
Frankfort Office Park
14 Reilly Road
Frankfort, KY 40601**

COMPLETING THE FORM

Type or print legibly in the appropriate areas only. If you have any questions regarding the completion of this form call the **Storm Water Contact, Industrial Section, at (502) 564-3410.**

SECTION I - FACILITY OPERATOR INFORMATION

Give the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this application. The name of the operator may or may not be the same as the name of the facility. The responsible party is the legal entity that controls the facility's operation, rather than the plant or site manager. Do not use a colloquial name. Enter the complete address and telephone number of the operator.

Enter the appropriate letter to indicate the legal status of the operator of the facility.

F = Federal M = Public (other than federal or state)
S = State P = Private

SECTION II - FACILITY/SITE LOCATION INFORMATION

Enter the facility's or site's official or legal name and complete street address, including city, state, and ZIP code.

SECTION III - SITE ACTIVITY INFORMATION

If the storm water discharges to a municipal separate storm sewer system (MS4), enter the name of the operator of the MS4 (e.g., municipality name, county name) and the receiving water of the discharge from the MS4. (A MS4 is defined as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is owned or operated by a state, city, town, borough, county, parish, district, association, or other public body which is designed or used for collecting or conveying storm water.)

If the facility discharges storm water directly to receiving water(s), enter the name of the receiving water.

Indicate whether or not the owner or operator of the facility has existing quantitative data that represent the characteristics and concentration of pollutants in storm water discharges. If data is available submit with this form.

List, in descending order of significance, up to four 4-digit standard industrial classification (SIC) codes that best describe the principal products or services provided at the facility or site identified in Section II of this application.

If the facility listed in Section II has participated in Part 1 of an approved storm water group application and a group number has been assigned, enter the group application number in the space provided.

If there are other KPDES permits presently issued for the facility or site listed in Section II, list the permit numbers.

SECTION IV - ADDITIONAL INFORMATION REQUIRED FOR CONSTRUCTION ACTIVITIES ONLY

Construction activities must complete Section IV in addition of Sections I through III. Only construction activities need to complete Section IV.

Enter the project start date and the estimated completion date for the entire development plan.

Provide an estimate of the total number of acres of the site on which soil will be disturbed (round to the nearest acre).

Indicate whether the storm water pollution prevention plan for the site is in compliance with approved state and/or local sediment and erosion plans, permits, or storm water management plans.

SECTION V - CERTIFICATION

Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, state, Federal, or other public facility: by either a principal executive officer or ranking elected official.

2009 LETTING

**KENTUCKY TRANSPORTATION CABINET
COMMUNICATING ALL PROMISES (CAP)**

PERRY COUNTY

10-1071.00

(NO CAPS INVOLVED IN PROJECT)

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to the *Standard Specifications for Road and Bridge Construction, Edition of 2004*, and *Standard Drawings, Edition of 2000* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2008* and *Standard Drawings, Edition of 2003 with the 2008 Revision*.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

<p>SUBSECTION; REVISION:</p>	<p>101.03 Definitions. Replace the definition for Specifications – <i>Special Provisions</i> with the following:</p> <p>Additions and revisions to the Standard and Supplemental Specifications covering conditions peculiar to and individual project.</p>
<p>SUBSECTION; REVISION:</p>	<p>102.07.01 General. Replace the first sentence with the following:</p> <p>Submit the Bid Proposal on forms furnished on the Department internet website (http://transportation.ky.gov/contract/), including the Bid Packet and disk created from the Expedite Bidding Program.</p>
<p>SUBSECTION; REVISION:</p>	<p>102.07.02 Computer Bidding. Replace the first paragraph with the following:</p> <p>Subsequent to ordering a Bid Proposal for a specific project, use the Department’s Expedite Bidding Program on the internet website of the Department of Highways, Division of Construction Procurement (http://transportation.ky.gov/contract/). Download the bid file from the Department’s website to prepare a Bid Proposal for submission to the Department. Include the completed Bid Packet produced by the Expedite Bidding Program in the Bid Proposal and submit it along with the disk created by said program.</p> <p>Replace the second paragraph with the following:</p> <p>In case of a dispute, the printed Bid Proposal and bid item sheets created by the Expedite Bidding Program take precedence over any bid submittal.</p>
<p>SUBSECTION; REVISION:</p>	<p>102.08 IRREGULAR BID PROPOSALS. Replace point four of the first paragraph with the following:</p> <p>4) fails to submit a disk created from the Expedite Bidding Program.</p> <p>Replace point one of the second paragraph with the following:</p> <p>1) when the Bid Proposal is on a form other than that furnished by the Department or printed from other than the Expedite Bidding Program, or when the form is altered or any part is detached; or</p>
<p>SUBSECTION; REVISION:</p>	<p>103.02 AWARD OF CONTRACT. Replace the first sentence of the third paragraph with the following:</p> <p>The Department will normally award the Contract within 10 working days after the date of receiving Bid Proposals unless the Department deems it best to hold the Bid Proposals of any or all bidders for a period not to exceed 60 calendar days for final disposition of award.</p>

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

<p>SUBSECTION: REVISION:</p>	<p>105.12 FINAL INSPECTION AND ACCEPTANCE OF WORK. Insert the following paragraphs after the first paragraph:</p> <p>Notify the Engineer when all electrical items are complete. A notice of the electrical work completion shall be made in writing to the Contractor. Electrical items will be inspected when the electrical work is complete and are not subject to waiting until the project as a whole has been completed. The Engineer will notify the Division of Traffic Operations within 3 days that all electrical items are complete and ready for a final inspection. A final inspection will be completed within 90 days after the Engineer notifies the Division of Traffic Operations of the electrical work completion.</p> <p>Energize all electrical items prior to notifying the Engineer that all electrical items are complete. Electrical items must remain operational until the Division of Traffic Operations has inspected and accepted the electrical portion of the project. Payment for the electrical service is the responsibility of the Contractor from the time the electrical items are energized until the Division of Traffic Operations has accepted the work.</p> <p>Complete all corrective work within 90 calendar days of receiving the original electrical inspection report. Notify the Engineer when all corrective work is complete. The Engineer will notify the Division of Traffic Operations that the corrective work has been completed and the project is ready for a follow-up inspection. Upon re-inspection, if additional corrective work is required, complete within the same 90 calendar day allowance. The Department will not include time between completion of the corrective work and the follow up electrical inspection(s). The 90 calendar day allowance is cumulative regardless of the number of follow-up electrical inspections required.</p> <p>The Department will assume responsibility for the electrical service on a project once the Division of Traffic Operations gives final acceptance of the electrical items on the project. The Department will also assume routine maintenance of those items. Any damage done to accepted electrical work items by other Contractors shall be the responsibility of the Prime Contractor. The Department will not be responsible for repairing damage done by other contractors during the construction of the remaining project.</p> <p>Failure to complete the electrical corrective work within the 90 calendar day allowance will result in penalties assessed to the project. Penalties will be assessed at ½ the rate of liquidated damages established for the contract.</p> <p>Delete the fifth paragraph from the section.</p>
<p>SUBSECTION: REVISION:</p>	<p>105.13 CLAIM RESOLUTION PROCESS. Delete the last paragraph from the section.</p>
<p>SUBSECTION: REVISION:</p>	<p>106.10 FIELD WELDER CERTIFICATION REQUIREMENTS. Insert the following sentence before the first sentence of the first paragraph:</p> <p>All field welding must be performed by a certified welder unless otherwise noted.</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>112.03.11 Temporary Pavement Markings. B) Placement and Removal of Temporary Striping. Replace the 2nd sentence of the first paragraph with the following:</p> <p>On interstates and parkways, and other roadways approved by the State Highway Engineer, install pavement striping that is 6 inches in width.</p>
<p>SUBSECTION: REVISION:</p>	<p>112.03.12 Project Traffic Coordinator (PTC). Add the following at the end of the subsection:</p> <p>After October 1, 2008 the Department will require the PTC to have successfully completed the applicable qualification courses. Personnel that have not successfully completed the applicable courses by that date will not be considered qualified. Prior to October 1, 2008, conform to Subsection 108.06 A) and ensure the designated PTC has sufficient skill and experience to properly perform the task.</p>

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

SUBSECTION: REVISION:	206.03.02 Embankment Replace the last paragraph with the following: When rock roadbed is specified, construct the upper 2 feet of the embankment according to Subsection 204.03.09 A).
SUBSECTION: REVISION:	213.03.03 Inspection and Maintenance. Insert the following paragraph after the second paragraph: When the Contractor is required to obtain the KPDES permit, it is their responsibility to ensure compliance with the inspection and maintenance requirements of the permit. The Engineer will perform verification inspections a minimum of once per month and within 7 days of a ½ inch or greater rainfall event. The Engineer will document these inspections using Form TC 63-61 A. The Engineer will provide copies of the inspection only when improvements to the BMP's are required. Verification inspections performed by the Engineer do not relieve the Contractor of any responsibility for compliance with the KPDES permit. Initiate corrective action within 24 hours of any noted deficiency and complete the work within 5 days.
SUBSECTION: PART: REVISION:	213.03.05 Temporary Control Measures. F) Temporary Mulch. Replace the last sentence with the following: Place temporary mulch to an approximate 2-inch loose depth (2 tons per acre) and anchor it into the soil by mechanically crimping it into the soil surface or applying tackifier to provide a protective cover. Regardless of the anchoring method used, ensure the protective cover holds until disturbance is required or permanent controls are in installed.
SUBSECTION: REVISION:	303.05 PAYMENT. Replace the second paragraph of the section with the following: The Department will make payment for Drainage Blanket-Type II (ATDB) according to the Lot Pay Adjustment Schedule for Specialty Mixtures in Section 402.
SUBSECTION: PART: REVISION:	401.02.04 Special Requirements for Dryer Drum Plants. F) Production Quality Control. Replace the first sentence with the following: Stop mixing operations immediately if, at any time, a failure of the automatic electronic weighing system of the aggregate feed, asphalt binder feed, or water injection system control occurs.
SUBSECTION: REVISION:	401.02.04 Special Requirements for Dryer Drum Plants. Add the following: Part G) Water Injection System. Provided each system has prior approval as specified in Subsection 402.01.01, the Department will allow the use of water injection systems for purposes of foaming the asphalt binder and lowering the mixture temperature for production of Warm Mix Asphalt (WMA). Ensure the equipment for water injection meets the following requirements: 1) Injection equipment computer controls are automatically coupled to the plants controls (manual operation is not permitted); 2) Injection equipment has variable controls that introduce water ratios based on production rates of mixtures; 3) Injects water into the flow of asphalt binder prior to contacting the aggregate; 4) Provides alarms on the water injection system that operate when the flow of water is interrupted or deviates from the prescribed water rate.
SUBSECTION: REVISION:	401.03.01 Preparation of Mixtures. Replace the last sentence of the second paragraph with the following: Do not use asphalt binder while it is foaming in a storage tank.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

<p>SUBSECTION: 401.03.01 Preparation of Mixtures. REVISION: Replace the third paragraph and Mixing and Laying Temperature table with the following:</p> <p>Maintain the temperature of the component materials and asphalt mixture within the ranges listed in the following table:</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">MIXING AND LAYING TEMPERATURES (°F)</th> </tr> <tr> <th style="width: 40%;">Material</th> <th style="width: 10%;"></th> <th style="width: 20%;">Minimum</th> <th style="width: 30%;">Maximum</th> </tr> </thead> <tbody> <tr> <td>Aggregates</td> <td></td> <td align="center">240</td> <td align="center">330</td> </tr> <tr> <td>Aggregates used with Recycled Asphalt Pavement (RAP)</td> <td></td> <td align="center">240</td> <td align="center">—</td> </tr> <tr> <td rowspan="2">Asphalt Binders</td> <td>PG 64-22</td> <td align="center">230</td> <td align="center">330</td> </tr> <tr> <td>PG 76-22</td> <td align="center">285</td> <td align="center">350</td> </tr> <tr> <td rowspan="4">Asphalt Mixtures at Plant (Measured in Truck)</td> <td>PG 64-22 HMA</td> <td align="center">250</td> <td align="center">330</td> </tr> <tr> <td>PG 76-22 HMA</td> <td align="center">310</td> <td align="center">350</td> </tr> <tr> <td>PG 64-22 WMA</td> <td align="center">230</td> <td align="center">275</td> </tr> <tr> <td>PG 76-22 WMA</td> <td align="center">250</td> <td align="center">300</td> </tr> <tr> <td rowspan="4">Asphalt Mixtures at Project (Measured in Truck When Discharging)</td> <td>PG 64-22 HMA</td> <td align="center">230</td> <td align="center">330</td> </tr> <tr> <td>PG 76-22 HMA</td> <td align="center">300</td> <td align="center">350</td> </tr> <tr> <td>PG 64-22 WMA</td> <td align="center">210</td> <td align="center">275</td> </tr> <tr> <td>PG 76-22 WMA</td> <td align="center">240</td> <td align="center">300</td> </tr> </tbody> </table>	MIXING AND LAYING TEMPERATURES (°F)				Material		Minimum	Maximum	Aggregates		240	330	Aggregates used with Recycled Asphalt Pavement (RAP)		240	—	Asphalt Binders	PG 64-22	230	330	PG 76-22	285	350	Asphalt Mixtures at Plant (Measured in Truck)	PG 64-22 HMA	250	330	PG 76-22 HMA	310	350	PG 64-22 WMA	230	275	PG 76-22 WMA	250	300	Asphalt Mixtures at Project (Measured in Truck When Discharging)	PG 64-22 HMA	230	330	PG 76-22 HMA	300	350	PG 64-22 WMA	210	275	PG 76-22 WMA	240	300
MIXING AND LAYING TEMPERATURES (°F)																																																		
Material		Minimum	Maximum																																															
Aggregates		240	330																																															
Aggregates used with Recycled Asphalt Pavement (RAP)		240	—																																															
Asphalt Binders	PG 64-22	230	330																																															
	PG 76-22	285	350																																															
Asphalt Mixtures at Plant (Measured in Truck)	PG 64-22 HMA	250	330																																															
	PG 76-22 HMA	310	350																																															
	PG 64-22 WMA	230	275																																															
	PG 76-22 WMA	250	300																																															
Asphalt Mixtures at Project (Measured in Truck When Discharging)	PG 64-22 HMA	230	330																																															
	PG 76-22 HMA	300	350																																															
	PG 64-22 WMA	210	275																																															
	PG 76-22 WMA	240	300																																															
<p>SUBSECTION: 402.01 Description. REVISION: Replace the paragraph with the following:</p>	<p>Provide the process control and acceptance testing of all classes and types of asphalt mixtures which may be furnished either as hot mix asphalt (HMA) or warm mix asphalt (WMA) produced with water injection systems.</p>																																																	
<p>SUBSECTION: 402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval. REVISION: Add the following subsection:</p>	<p>402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval. The Department will evaluate trial production of WMA by use of a water injection system provided the system is installed according to the manufacturer's requirements and satisfies the requirements of Section 401. Evaluation will include production and placement of WMA to demonstrate adequate mixture quality including volumetric properties and density by Option A as specified in Subsection 402.03.02 D). Do not place WMA for evaluation on Department projects. Provided production and placement operations satisfy the applicable quality levels, the Department will approve WMA production on Department projects using the water injection system as installed on the specific asphalt mixing plant evaluated.</p>																																																	
<p>SUBSECTION: 402.05.02 Asphalt Mixtures and Mixtures With RAP. REVISION: Replace Subsection Title as below:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.</p>																																																	
<p>SUBSECTION: 402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. REVISION: Replace the paragraph with the following:</p>	<p>The Department will pay for the mixture at the Contract unit bid price and apply a Lot Pay Adjustment for each lot placed based on the degree of compliance with the specified tolerances. Using the appropriate Lot Pay Adjustment Schedule, the Department will assign a pay value for the applicable properties within each subplot and average the subplot pay values to determine the pay value for a given property for each lot. The Department will apply the Lot Pay Adjustment for each lot to a defined unit price of \$50.00 per ton. The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.</p>																																																	

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

<p>SUBSECTION: PART: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. C) Conventional and RAP Mixtures Placed on Shoulders. Replace title with the following: HMA, WMA, and RAP Mixtures Placed on Shoulders.</p>												
<p>SUBSECTION: PART: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. D) Conventional and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge. Replace the title with the following: HMA, WMA, and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge.</p>												
<p>SUBSECTION: PART: TABLES: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option A, Base and Binder Mixtures VMA Replace the VMA table with the following:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="text-align: center;">VMA</th> </tr> <tr> <th style="text-align: center;">Pay Value</th> <th style="text-align: center;">Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.00</td> <td style="text-align: center;">≥ min. VMA</td> </tr> <tr> <td style="text-align: center;">0.95</td> <td style="text-align: center;">0.1-0.5 below min.</td> </tr> <tr> <td style="text-align: center;">0.90</td> <td style="text-align: center;">0.6-1.0 below min.</td> </tr> <tr> <td style="text-align: center;">(1)</td> <td style="text-align: center;">> 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥ min. VMA	0.95	0.1-0.5 below min.	0.90	0.6-1.0 below min.	(1)	> 1.0 below min.
VMA													
Pay Value	Deviation From Minimum												
1.00	≥ min. VMA												
0.95	0.1-0.5 below min.												
0.90	0.6-1.0 below min.												
(1)	> 1.0 below min.												
<p>SUBSECTION: PART: TABLES: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option A, Surface Mixtures VMA Replace the VMA table with the following:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="text-align: center;">VMA</th> </tr> <tr> <th style="text-align: center;">Pay Value</th> <th style="text-align: center;">Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.00</td> <td style="text-align: center;">≥ min. VMA</td> </tr> <tr> <td style="text-align: center;">0.95</td> <td style="text-align: center;">0.1-0.5 below min.</td> </tr> <tr> <td style="text-align: center;">0.90</td> <td style="text-align: center;">0.6-1.0 below min.</td> </tr> <tr> <td style="text-align: center;">(1)</td> <td style="text-align: center;">> 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥ min. VMA	0.95	0.1-0.5 below min.	0.90	0.6-1.0 below min.	(1)	> 1.0 below min.
VMA													
Pay Value	Deviation From Minimum												
1.00	≥ min. VMA												
0.95	0.1-0.5 below min.												
0.90	0.6-1.0 below min.												
(1)	> 1.0 below min.												

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

<p>SUBSECTION: PART: TABLE: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option B Mixtures VMA Replace the VMA table with the following:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="text-align: center;">VMA</th> </tr> <tr> <th style="text-align: center;">Pay Value</th> <th style="text-align: center;">Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.00</td> <td style="text-align: center;">≥min. VMA</td> </tr> <tr> <td style="text-align: center;">0.95</td> <td style="text-align: center;">0.1-0.5 below min.</td> </tr> <tr> <td style="text-align: center;">0.90</td> <td style="text-align: center;">0.6-1.0 below min.</td> </tr> <tr> <td style="text-align: center;">⁽²⁾</td> <td style="text-align: center;">> 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥min. VMA	0.95	0.1-0.5 below min.	0.90	0.6-1.0 below min.	⁽²⁾	> 1.0 below min.											
VMA																								
Pay Value	Deviation From Minimum																							
1.00	≥min. VMA																							
0.95	0.1-0.5 below min.																							
0.90	0.6-1.0 below min.																							
⁽²⁾	> 1.0 below min.																							
<p>SUBSECTION: PART: NUMBER: REVISION:</p>	<p>403.03.03 Preparation of Mixture. C) Mix Design Criteria. 1) Preliminary Mix Design. Replace the last two sentences of the paragraph and table with the following:</p> <p>Complete the volumetric mix design at the appropriate number of gyrations as given in the table below for the number of 20-year ESAL's. The Department will define the relationship between ESAL classes, as given in the bid items for Superpave mixtures, and 20-year ESAL ranges as follows:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2" style="text-align: center;">Class</th> <th rowspan="2" style="text-align: center;">ESAL's (millions)</th> <th colspan="3" style="text-align: center;">Number of Gyration</th> </tr> <tr> <th style="text-align: center;">$N_{initial}$</th> <th style="text-align: center;">N_{design}</th> <th style="text-align: center;">N_{max}</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">< 3.0</td> <td style="text-align: center;">6</td> <td style="text-align: center;">50</td> <td style="text-align: center;">75</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">3.0 to < 30.0</td> <td style="text-align: center;">7</td> <td style="text-align: center;">75</td> <td style="text-align: center;">115</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">≥ 30.0</td> <td style="text-align: center;">8</td> <td style="text-align: center;">100</td> <td style="text-align: center;">160</td> </tr> </tbody> </table>	Class	ESAL's (millions)	Number of Gyration			$N_{initial}$	N_{design}	N_{max}	2	< 3.0	6	50	75	3	3.0 to < 30.0	7	75	115	4	≥ 30.0	8	100	160
Class	ESAL's (millions)			Number of Gyration																				
		$N_{initial}$	N_{design}	N_{max}																				
2	< 3.0	6	50	75																				
3	3.0 to < 30.0	7	75	115																				
4	≥ 30.0	8	100	160																				
<p>SUBSECTION: PART: REVISION:</p>	<p>403.03.09 Leveling and Wedging, and Scratch Course. A) Leveling and Wedging. Replace the first sentence of the first paragraph with the following:</p> <p>Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.</p>																							
<p>SUBSECTION: PART: REVISION:</p>	<p>403.03.09 Leveling and Wedging, and Scratch Course. B) Scratch Course. Replace the second sentence of the first paragraph with the following:</p> <p>Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.</p>																							
<p>SUBSECTION: REVISION:</p>	<p>407.01 DESCRIPTION. Replace the first sentence of the paragraph with the following:</p> <p>Construct a pavement wedge composed of a hot-mixed or warm-mixed asphalt mixture.</p>																							
<p>SUBSECTION: REVISION:</p>	<p>409.01 DESCRIPTION. Replace the first sentence of the paragraph with the following:</p> <p>Use reclaimed asphalt pavement (RAP) from Department projects or other approved sources in hot mix asphalt (HMA) or warm mix asphalt (WMA) provided mixture requirements are satisfied.</p>																							
<p>SUBSECTION: REVISION:</p>	<p>410.01 DESCRIPTION. Delete the second sentence of the paragraph.</p>																							

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

<p>SUBSECTION: REVISION:</p>	<p>410.03.01 Corrective Work. Replace the last sentence of the paragraph with the following: Provide a final surface comparable to the adjacent pavement that does not require corrective work in respect to texture, appearance, and skid resistance.</p>														
<p>SUBSECTION: PART: NUMBER: REVISION:</p>	<p>410.03.02 Ride Quality. B) Requirements. 1) Category A. Replace the last sentence of the first paragraph with the following: At the Department's discretion, a pay deduction of \$1200 per 0.1-lane-mile section may be applied in lieu of corrective work.</p>														
<p>SUBSECTION: PART: NUMBER: REVISION:</p>	<p>410.03.02 Ride Quality. B) Requirements. 2) Category B. Replace the second and third sentence of the first paragraph with the following: When the IRI is greater than 90 for a 0.1-mile section, perform corrective work, or remove and replace the pavement to achieve the specified IRI. At the Department's discretion, a pay deduction of \$750 per 0.1-lane-mile section may be applied in lieu of corrective work.</p>														
<p>SUBSECTION: REVISION:</p>	<p>410.05 PAYMENT. Add the following sentence to the end of the first paragraph: The sum of the pay value adjustments for ride quality shall not exceed \$0 for the project as a whole.</p>														
<p>SUBSECTION: REVISION:</p>	<p>413.05.02 CL3 SMA BASE 1.00D PG76-22. Insert the following sentence between the first and second sentence of the first paragraph: The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.</p>														
<p>SUBSECTION: TABLE: REVISION:</p>	<p>413.05.02 CL3 SMA BASE 1.00D PG 76-22. JOINT DENSITY TABLE Replace the joint density table with the following:</p> <table border="1"> <thead> <tr> <th colspan="2">LANE DENSITY</th> </tr> <tr> <th>Pay Value</th> <th>Test Result (%)</th> </tr> </thead> <tbody> <tr> <td>1.05</td> <td>95.0-96.5</td> </tr> <tr> <td>1.00</td> <td>93.0-94.9</td> </tr> <tr> <td>0.95</td> <td>92.0-92.9 or 96.6-97.0</td> </tr> <tr> <td>0.90</td> <td>91.0-91.9 or 97.1-97.5</td> </tr> <tr> <td>(1)</td> <td>< 91.0 or > 97.5</td> </tr> </tbody> </table>	LANE DENSITY		Pay Value	Test Result (%)	1.05	95.0-96.5	1.00	93.0-94.9	0.95	92.0-92.9 or 96.6-97.0	0.90	91.0-91.9 or 97.1-97.5	(1)	< 91.0 or > 97.5
LANE DENSITY															
Pay Value	Test Result (%)														
1.05	95.0-96.5														
1.00	93.0-94.9														
0.95	92.0-92.9 or 96.6-97.0														
0.90	91.0-91.9 or 97.1-97.5														
(1)	< 91.0 or > 97.5														
<p>SUBSECTION: REVISION:</p>	<p>413.05.03 CL3 SMA SURF 0.50A PG76-22 and CL3 SMA SURF 0.38A PG76-22. Insert the following sentence between the first and second sentence of the first paragraph: The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.</p>														

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

<p>SUBSECTION: TABLE: REVISION:</p>	<p>413.05.03 CL3 SMA SURF 0.50A PG76-22 and CL3 SMA SURF 0.38A PG76-22. JOINT DENSITY TABLE Replace the joint density table with the following:</p> <table border="1"> <thead> <tr> <th colspan="3">DENSITY</th> </tr> <tr> <th>Pay Value</th> <th>Lane Density Test Result (%)</th> <th>Joint Density Test Result (%)</th> </tr> </thead> <tbody> <tr> <td>1.05</td> <td>95.0-96.5</td> <td>92.0-96.0</td> </tr> <tr> <td>1.00</td> <td>93.0-94.9</td> <td>90.0-91.9</td> </tr> <tr> <td>0.95</td> <td>92.0-92.9 or 96.6-97.0</td> <td>89.0-89.9 or 96.1-96.5</td> </tr> <tr> <td>0.90</td> <td>91.0-91.9 or 97.1-97.5</td> <td>88.0-88.9 or 96.6-97.0</td> </tr> <tr> <td>0.75</td> <td>----</td> <td>< 88.0 or > 97.0</td> </tr> <tr> <td>⁽¹⁾</td> <td>< 91.0 or > 97.5</td> <td>----</td> </tr> </tbody> </table>	DENSITY			Pay Value	Lane Density Test Result (%)	Joint Density Test Result (%)	1.05	95.0-96.5	92.0-96.0	1.00	93.0-94.9	90.0-91.9	0.95	92.0-92.9 or 96.6-97.0	89.0-89.9 or 96.1-96.5	0.90	91.0-91.9 or 97.1-97.5	88.0-88.9 or 96.6-97.0	0.75	----	< 88.0 or > 97.0	⁽¹⁾	< 91.0 or > 97.5	----
DENSITY																									
Pay Value	Lane Density Test Result (%)	Joint Density Test Result (%)																							
1.05	95.0-96.5	92.0-96.0																							
1.00	93.0-94.9	90.0-91.9																							
0.95	92.0-92.9 or 96.6-97.0	89.0-89.9 or 96.1-96.5																							
0.90	91.0-91.9 or 97.1-97.5	88.0-88.9 or 96.6-97.0																							
0.75	----	< 88.0 or > 97.0																							
⁽¹⁾	< 91.0 or > 97.5	----																							
<p>SUBSECTION: REVISION:</p>	<p>501.05.02 Ride Quality. Add the following sentence to the end of the first paragraph: The sum of the pay value adjustments for the ride quality shall not exceed \$0 for the project as a whole.</p>																								
<p>SUBSECTION: REVISION:</p>	<p>505.03.04 Detectable Warnings. Replace the first sentence with the following: Install detectable warning pavers at all sidewalk ramps and on all commercial entrances according to the Standard Drawings.</p>																								
<p>SUBSECTION: REVISION:</p>	<p>505.04.04 Detectable Warnings. Replace the paragraph with the following: The Department will measure the quantity in square feet. All retrofit applications for maintenance projects will require the removal of existing sidewalks to meet the requirements of the standard drawings applicable to the project. The cost associated with the removal of the existing sidewalk will be incidental to the detectable warnings bid item or incidental to the bid item for the construction of the concrete sidewalk unless otherwise noted.</p>																								
<p>SUBSECTION: REVISION:</p>	<p>505.05 PAYMENT. Add the following to the bid item table:</p> <table border="1"> <thead> <tr> <th><u>Code</u></th> <th><u>Pay Item</u></th> <th><u>Pay Unit</u></th> </tr> </thead> <tbody> <tr> <td>23158ES505</td> <td>Detectable Warnings</td> <td>Square Foot</td> </tr> </tbody> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	23158ES505	Detectable Warnings	Square Foot																		
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>																							
23158ES505	Detectable Warnings	Square Foot																							
<p>SUBSECTION: REVISION:</p>	<p>509.01 DESCRIPTION. Replace the second paragraph with the following: The Department may allow the use of similar units that conform to the National Cooperative Highway Research Program (NCHRP) 350 Test Level 3 (TL-3) requirements and the typical features depicted by the Standard Drawings. Obtain the Engineers approval prior to use. Ensure the barrier wall shape, length, material, drain slot dimensions and locations typical features are met and the reported maximum deflection is 3 feet or less from the NCHRP 350 TL-3 for Test 3 – 11 (pickup truck impacting at 60 mph at a 25-degree angle.)</p>																								
<p>SUBSECTION: REVISION:</p>	<p>601.03.02 Concrete Producer Responsibilities. Add the following to the first paragraph: If a concrete plant becomes unqualified during a project and there are no other qualified plants in the region, the Department will provide qualified personnel to witness and ensure the producer follows the required specifications. The Department will assess the Contractor a \$100 per hour charge for this service.</p>																								

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

<p>SUBSECTION: REVISION:</p>	<p>606.02.11 Coarse Aggregate. Replace with the following: Conform to Section 805, size No. 8 or 9-M.</p>
<p>SUBSECTION: REVISION:</p>	<p>609.04.06 Joint Sealing. Replace Subsection 601.04 with the following: Subsection 606.04.08.</p>
<p>SUBSECTION: REVISION:</p>	<p>609.05 Payment. Replace the Pay Unit for Joint Sealing with the following: See Subsection 606.05.</p>
<p>SUBSECTION: REVISION:</p>	<p>701.03.06 Initial Backfill. Replace the first sentence of the last paragraph with the following: When the Contract specifies, perform quality control testing to verify compaction according to KM 64-512.</p>
<p>SUBSECTION: REVISION:</p>	<p>701.03.08 Testing of Pipe. Replace and rename the subsection with the following:</p> <p style="padding-left: 40px;">701.03.08 Inspection of Pipe. The engineer will visually inspect all pipe. The Department will require camera/video inspection on a minimum of 50 percent of the linear feet of all installed pipe structures. Conduct camera/video inspection according to KM 64-114. The pipe to be installed under pavement will be selected first. If the total linear feet of pipe under pavement is less than 50 percent of the linear feet of all pipe installed, the Engineer will randomly select installations from the remaining pipe structures on the project to provide for the minimum inspection requirement. The pipe will be selected in complete runs (junction-junction or headwall-headwall) until the total linear feet of pipe to be inspected is at least 50 percent of the total linear feet of all installed pipe on the project.</p> <p style="padding-left: 40px;">Unless the Engineer directs otherwise, schedule the inspections no sooner than 30 days after completing the installation and completion of earthwork to within 1 foot of the finished subgrade. When final surfacing conflicts with the 30-day minimum, conduct the inspections prior to placement of the final surface. The contractor must ensure that all pipe are free and clear of any debris so that a complete inspection is possible.</p> <p style="padding-left: 40px;">Notify the Engineer immediately if distresses or locations of improper installation are discovered. When camera testing shows distresses or improper installation in the installed pipe, the Engineer may require additional sections to be tested. Provide the video and report to the Engineer when testing is complete in accordance with KM 64-114.</p> <p style="padding-left: 40px;">Pipes that exhibit distress or signs of improper installation may necessitate repair or removal as the Engineer directs. These signs include, but are not limited to: deflection, cracking, joint separation, sagging or other interior damage. If corrugated metal or thermoplastic pipes exceed the deflection and installation thresholds indicated in the table below, provide the Department with an evaluation of each location conducted by a Professional Engineer addressing the severity of the deflection, structural integrity, environmental conditions, design service life, and an evaluation of the factor of safety using Section 12, "Buried Structures and Tunnel Liners," of the AASHTO LRFD Bridge Design Specifications. Based on the evaluation, the Department may allow the pipe to remain in place at a reduced unit price as shown in the table below. Provide 5 business days for the Department to review the evaluation. When the pipe shows deflection of 10 percent or greater, remove and replace the pipe. When the camera/video or laser inspection results are called into question, the Department may require direct measurements or mandrel testing.</p> <p style="padding-left: 40px;">The Cabinet may elect to conduct Quality Assurance verifications of any pipe inspections.</p>

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

<p>SUBSECTION: REVISION:</p>	<p>701.04.07 Testing. Replace and rename the subsection with the following:</p> <p align="center">701.04.07 Pipeline Video Inspection. The Department will measure the quantity in linear feet along the pipe invert of the structure inspected. When inspection above the specified 50 percent is performed due to a disagreement or suspicion of additional distresses and the Department is found in error, the Department will measure the quantity as Extra Work according to Subsection 104.03. However, if additional distresses or non-conformance is found, the Department will not measure the additional inspection for payment.</p>												
<p>SUBSECTION: REVISION:</p>	<p>701.05 PAYMENT. Add the following pay item to the list of pay items:</p> <table border="0"> <tr> <td><u>Code</u></td> <td><u>Pay Item</u></td> <td><u>Pay Unit</u></td> </tr> <tr> <td>23131ER701</td> <td>Pipeline Video Inspection</td> <td>Linear Foot</td> </tr> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	23131ER701	Pipeline Video Inspection	Linear Foot						
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>											
23131ER701	Pipeline Video Inspection	Linear Foot											
<p>SUBSECTION: TABLE: REVISION:</p>	<p>701.05 PAYMENT PIPE DEFLECTION DETERMINED BY CAMERA TESTING Replace this table with the following table and note:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">PIPE DEFLECTION</th> </tr> <tr> <th>Amount of Deflection (%)</th> <th>Payment</th> </tr> </thead> <tbody> <tr> <td>0.0 to 5.0</td> <td>100% of the Unit Bid Price</td> </tr> <tr> <td>5.1 to 9.9</td> <td>50% of the Unit Bid Price ⁽¹⁾</td> </tr> <tr> <td>10 or greater</td> <td>Remove and Replace</td> </tr> </tbody> </table> <p>⁽¹⁾ Provide Structural Analysis as indicated above. Based on the structural analysis, pipe may be allowed to remain in place at the reduced unit price.</p>	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 ⁽¹⁾	10 or greater	Remove and Replace		
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 ⁽¹⁾												
10 or greater	Remove and Replace												
<p>SUBSECTION: TABLE: REVISION:</p>	<p>701.05 PAYMENT PIPE DEFLECTION DETERMINED BY MANDREL TESTING Delete this table.</p>												
<p>SUBSECTION: REVISION:</p>	<p>713.02.01 Paint. Replace with the following:</p> <p>Conform to Section 842 and Section 846.</p>												
<p>SUBSECTION: REVISION:</p>	<p>713.03 CONSTRUCTION. Replace the first sentence of the second paragraph with the following:</p> <p>On interstates and parkways, and other routes approved by the State Highway Engineer, install pavement striping that is 6 inches in width.</p>												
<p>SUBSECTION: REVISION:</p>	<p>713.03.03 Paint Application. Replace the second paragraph with the following table:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Material</th> <th>Paint Application Rate</th> <th>Glass Beads Application Rate</th> </tr> </thead> <tbody> <tr> <td>4 inch waterborne paint</td> <td>Min. of 16.5 gallons/mile</td> <td>Min. of 6 pounds/gallon</td> </tr> <tr> <td>6 inch waterborne paint</td> <td>Min. of 24.8 gallons/mile</td> <td>Min. of 6 pounds/gallon</td> </tr> <tr> <td>6 inch durable waterborne paint</td> <td>Min. of 36 gallons/mile</td> <td>Min. of 6 pounds/gallon</td> </tr> </tbody> </table>	Material	Paint Application Rate	Glass Beads Application Rate	4 inch waterborne paint	Min. of 16.5 gallons/mile	Min. of 6 pounds/gallon	6 inch waterborne paint	Min. of 24.8 gallons/mile	Min. of 6 pounds/gallon	6 inch durable waterborne paint	Min. of 36 gallons/mile	Min. of 6 pounds/gallon
Material	Paint Application Rate	Glass Beads Application Rate											
4 inch waterborne paint	Min. of 16.5 gallons/mile	Min. of 6 pounds/gallon											
6 inch waterborne paint	Min. of 24.8 gallons/mile	Min. of 6 pounds/gallon											
6 inch durable waterborne paint	Min. of 36 gallons/mile	Min. of 6 pounds/gallon											

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

SUBSECTION: REVISION:	713.03.04 Marking Removal. Replace the last sentence of the paragraph with the following: Vacuum all marking material and removal debris concurrently with the marking removal operation.									
SUBSECTION: REVISION:	713.05 PAYMENT. Insert the following codes and pay items below the Pavement Striping – Permanent Paint: <table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Pay Item</u></th> <th><u>Pay Unit</u></th> </tr> </thead> <tbody> <tr> <td>23159EN</td> <td>Durable Waterborne Marking – 6 IN W</td> <td>Linear Foot</td> </tr> <tr> <td>23160EN</td> <td>Durable Waterborne Marking – 6 IN Y</td> <td>Linear Foot</td> </tr> </tbody> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	23159EN	Durable Waterborne Marking – 6 IN W	Linear Foot	23160EN	Durable Waterborne Marking – 6 IN Y	Linear Foot
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>								
23159EN	Durable Waterborne Marking – 6 IN W	Linear Foot								
23160EN	Durable Waterborne Marking – 6 IN Y	Linear Foot								
SUBSECTION: REVISION:	714.03 CONSTRUCTION. Insert the following paragraph at the end of the third paragraph: Use Type I Tape for markings on bridge decks, JPC pavement and JPC intersections. Thermoplastic should only be used for markings on asphalt pavement									
SUBSECTION: REVISION:	714.03.07 Marking Removal. Replace the third sentence of the paragraph with the following: Vacuum all marking material and removal debris concurrently with the marking removal operation.									
SUBSECTION: REVISION:	716.01 DESCRIPTION. Insert the following after the first sentence: Energize lighting as soon as it is fully functional and ready for inspection. Ensure that lighting remains operational until the Division of Traffic Operations has provided written acceptance of the electrical work.									
SUBSECTION: REVISION:	716.02.01 Roadway Lighting Materials. Replace the third sentence of the paragraph with the following: Submit for material approval an electronic file of descriptive literature, drawings, and any requested design data.									
SECTION: REVISION:	717 – THERMOPLASTIC INTERSECTION MARKINGS. Replace the section name with the following: INTERSECTION MARKINGS.									
SUBSECTION: REVISION:	717.01 DESCRIPTION: Replace the paragraph with the following: Furnish and install thermoplastic or Type I tape intersection markings (Stop Bars, Crosswalks, Turn Arrows, etc.) Thermoplastic markings may be installed by either a machine applied, screed extrusion process or by applying preformed thermoplastic intersection marking material.									
SUBSECTION: REVISION:	717.02 MATERIALS AND EQUIPMENT. Insert the following subsection: 717.02.06 Type I Tape. Conform to Section 836.									
SUBSECTION: REVISION:	717.03.03 Application. Insert the following part to the subsection: B) Type I Tape Intersection Markings. Apply according to the manufacturer's recommendations. Cut all tape at pavement joints when applied to concrete surfaces.									

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

<p>SUBSECTION: PART: REVISION:</p>	<p>717.03.05 Proving Period. A) Requirements. Insert the following to this section:</p> <p>2) Type I Tape. During the proving period, ensure that the pavement marking material shows no signs of failure due to blistering, excessive cracking, bleeding, staining, discoloration, oil content of the pavement materials, drippings, chipping, spalling, poor adhesion to the pavement, loss of retroreflectivity, vehicular damage, and normal wear. Type I Tape is manufactured off site and warranted by the manufacturer to meet certain retroreflective requirements. As long as the material is adequately bonded to the surface and shows no signs of failure due to the other items listed in Subsection 714.03.06 A) 1), retroreflectivity readings will not be required. In the absence of readings, the Department will accept tape based on a nighttime visual observation.</p>																																							
<p>SUBSECTION: REVISION:</p>	<p>717.03.06 Marking Removal. Replace the third sentence of the paragraph with the following:</p> <p>Vacuum all marking material and removal debris concurrently with the marking removal operation.</p>																																							
<p>SUBSECTION: REVISION:</p>	<p>717.05 PAYMENT. Insert the following bid item codes:</p> <table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Pay Unit</u></th> <th><u>Pay Item</u></th> </tr> </thead> <tbody> <tr> <td>06563</td> <td>Pave Marking – R/R X Bucks 16 IN</td> <td>Linear Foot</td> </tr> <tr> <td>20782NS714</td> <td>Pave Marking Thermo – Bike</td> <td>Each</td> </tr> <tr> <td>23251ES717, 23264ES717</td> <td>Pave Mark TY I Tape X-Walk, Size</td> <td>Linear Foot</td> </tr> <tr> <td>23252ES717, 23265ES717</td> <td>Pave Mark TY I Tape Stop Bar, Size</td> <td>Linear Foot</td> </tr> <tr> <td>23253ES717</td> <td>Pave Mark TY I Tape Cross Hatch</td> <td>Square Foot</td> </tr> <tr> <td>23254ES717</td> <td>Pave Mark TY I Tape Dotted Lane Extension</td> <td>Linear Foot</td> </tr> <tr> <td>23255ES717</td> <td>Pave Mark TY I Tape Arrow, Type</td> <td>Each</td> </tr> <tr> <td>23268ES717-23270ES717</td> <td></td> <td></td> </tr> <tr> <td>23256ES717</td> <td>Pave Mark TY I Tape- ONLY</td> <td>Each</td> </tr> <tr> <td>23257ES717</td> <td>Pave Mark TY I Tape- SCHOOL</td> <td>Each</td> </tr> <tr> <td>23266ES717</td> <td>Pave Mark TY 1 Tape R/R X Bucks-16 IN</td> <td>Linear Foot</td> </tr> <tr> <td>23267ES717</td> <td>Pave Mark TY 1 Tape-Bike</td> <td>Each</td> </tr> </tbody> </table>	<u>Code</u>	<u>Pay Unit</u>	<u>Pay Item</u>	06563	Pave Marking – R/R X Bucks 16 IN	Linear Foot	20782NS714	Pave Marking Thermo – Bike	Each	23251ES717, 23264ES717	Pave Mark TY I Tape X-Walk, Size	Linear Foot	23252ES717, 23265ES717	Pave Mark TY I Tape Stop Bar, Size	Linear Foot	23253ES717	Pave Mark TY I Tape Cross Hatch	Square Foot	23254ES717	Pave Mark TY I Tape Dotted Lane Extension	Linear Foot	23255ES717	Pave Mark TY I Tape Arrow, Type	Each	23268ES717-23270ES717			23256ES717	Pave Mark TY I Tape- ONLY	Each	23257ES717	Pave Mark TY I Tape- SCHOOL	Each	23266ES717	Pave Mark TY 1 Tape R/R X Bucks-16 IN	Linear Foot	23267ES717	Pave Mark TY 1 Tape-Bike	Each
<u>Code</u>	<u>Pay Unit</u>	<u>Pay Item</u>																																						
06563	Pave Marking – R/R X Bucks 16 IN	Linear Foot																																						
20782NS714	Pave Marking Thermo – Bike	Each																																						
23251ES717, 23264ES717	Pave Mark TY I Tape X-Walk, Size	Linear Foot																																						
23252ES717, 23265ES717	Pave Mark TY I Tape Stop Bar, Size	Linear Foot																																						
23253ES717	Pave Mark TY I Tape Cross Hatch	Square Foot																																						
23254ES717	Pave Mark TY I Tape Dotted Lane Extension	Linear Foot																																						
23255ES717	Pave Mark TY I Tape Arrow, Type	Each																																						
23268ES717-23270ES717																																								
23256ES717	Pave Mark TY I Tape- ONLY	Each																																						
23257ES717	Pave Mark TY I Tape- SCHOOL	Each																																						
23266ES717	Pave Mark TY 1 Tape R/R X Bucks-16 IN	Linear Foot																																						
23267ES717	Pave Mark TY 1 Tape-Bike	Each																																						
<p>SUBSECTION: REVISION:</p>	<p>805.01 GENERAL. Replace the second paragraph with the following:</p> <p>The Department’s List of Approved Materials includes the Aggregate Source List, the list of Class A and Class B Polish-Resistant Aggregate Sources, and the Concrete Restriction List.</p>																																							
<p>SUBSECTION: REVISION:</p>	<p>805.04 CONCRETE. Replace the “AASHTO T 160” reference in first sentence of the third paragraph with “KM 64-629”</p>																																							
<p>SUBSECTION: TABLE: PART: REVISION:</p>	<p>805.15 GRADATION ACCEPTANCE OF NON-SPECIFICATION COARSE AGGREGATE. AGGREGATE SIZE USE Cement Concrete Structures and Incidental Construction Replace “9-M for Waterproofing Overlays” with “8 or 9-M for Waterproofing Overlays”</p>																																							

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition (Effective with the May 22, 2009 Letting)

SUBSECTION: 805.15 GRADATION ACCEPTANCE OF NON-SPECIFICATION COARSE AGGREGATE.
REVISION: Replace the "SIZES OF COARSE AGGREGATES" table in with the following:

Aggregate Size		AMOUNTS FINER THAN EACH LABORATORY SIEVE (SQUARE OPENINGS) PERCENTAGE BY WEIGHT																
		Sieve	4 inch	3 1/2 inch	3 inch	2 1/2 inch	2 inch	1 1/2 inch	1 inch	3/4 inch	1/2 inch	3/8 inch	No. 4	No. 8	No. 16	No. 30	No. 100	No. 200
1	Nominal ⁽³⁾ Maximum Aggregate Size 3 1/2 inch	100	90-100		25-60		0-15		0-5									
2	2 1/2 inch			100	90-100	35-70	0-15		0-5									
23	2 inch			100		40-90	0-15			0-5								
3	2 inch				100	90-100	35-70	0-15		0-5								
357	2 inch				100	95-100	35-70	0-15		10-30			0-5					
4	1 1/2 inch				100	100	90-100	20-55	0-15		0-5							
467	1 1/2 inch				100	100	95-100	35-70	10-30	0-5								
5	1 inch				100	100	90-100	20-55	0-10	0-5								
57	1 inch				100	100	95-100	25-60				0-10	0-5					
610	1 inch				100	100	85-100	40-75				15-40						
67	3/4 inch						100	90-100			20-55	0-10	0-5					
68	3/4 inch						100	90-100			30-65	5-25	0-10	0-5				
710	3/4 inch						100	80-100			30-75	0-30						
78	1/2 inch						100	100	90-100	40-75	5-25	0-10	0-5					
8	3/8 inch						100	100	85-100	10-30	10-30	0-10	0-5					
9-M	3/8 inch						100	100	75-100	0-25	0-5							
10 ⁽²⁾	No. 4										100	85-100				10-30		
11 ⁽²⁾	No. 4										100	40-90	10-40			0-5		
DENSE GRADED AGGREGATE ⁽¹⁾	3/4 inch						100	70-100			50-80	30-65				10-40		4-13
CRUSHED STONE BASE ⁽¹⁾	1 1/2 inch				100			60-95			30-70	15-55				5-20		0-8

⁽¹⁾ Gradation performed by wet sieve KM 64-620 or AASHTO T 11/T 27.

⁽²⁾ Sizes shown for convenience and are not to be considered as coarse aggregates.

⁽³⁾ Nominal Maximum Size is the largest sieve on the gradation table for an aggregate size on which any material may be retained.

Note: The Department will allow blending of same source/same type aggregate when precise procedures are used such as cold feed, belt, or equivalent and combining of sizes or types of aggregate using the weigh hopper at concrete plants or controlled feed belts at the pugmill to obtain designated sizes.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the May 22, 2009 Letting)

<p>SUBSECTION: REVISION:</p>	<p>805.16 SAMPLING AND TESTING. Replace the "AASHTO T 160" method with the "KM 64-629" method for the Concrete Beam Expansion Test. Replace the "ASTM D 3042" method with the "KM 64-625" method for Insoluble Residue.</p>									
<p>SUBSECTION: REVISION:</p>	<p>810.04.01 Coating Requirements. Replace the "Subsection 806.07" references with "Subsection 806.06"</p>									
<p>SUBSECTION: PART: REVISION:</p>	<p>810.06.01 Polyvinyl Chloride (PVC) Pipe. B) Culvert and Entrance Pipe. Replace the title with the following: B) Culvert Pipe, Storm Sewer, and Entrance Pipe.</p>									
<p>SUBSECTION: REVISION:</p>	<p>837.03 APPROVAL. Replace the last sentence with the following: The Department will sample and evaluate for approval each lot of thermoplastic material delivered for use per contract prior to installation of the thermoplastic material. Do not allow the installation of thermoplastic material until it has been approved by the Division of Materials. Allow the Department a minimum of 10 working days to evaluate and approve thermoplastic material.</p>									
<p>SUBSECTION: REVISION:</p>	<p>837.03.01 Composition. COMPOSITION Table: Replace <table border="1"> <tr> <td>Lead Chromate</td> <td>0.0 max.</td> <td>4.0 min.</td> </tr> <tr> <td colspan="3">with</td> </tr> <tr> <td>Heavy Metals Content</td> <td colspan="2">Comply with 40 CFR 261</td> </tr> </table> </p>	Lead Chromate	0.0 max.	4.0 min.	with			Heavy Metals Content	Comply with 40 CFR 261	
Lead Chromate	0.0 max.	4.0 min.								
with										
Heavy Metals Content	Comply with 40 CFR 261									
<p>SECTION: REVISION:</p>	<p>DIVISION 800 MATERIAL DETAILS Add the following section in Division 800 SECTION 846 – DURABLE WATERBORNE PAINT 846.01 DESCRIPTION. This section covers quick-drying durable waterborne pavement striping paint for permanent applications. The paint shall be ready-mixed, one-component, 100% acrylic waterborne striping paint suitable for application on such traffic-bearing surfaces as Portland cement concrete, bituminous cement concrete, asphalt, tar, and previously painted areas of these surfaces. 846.02 Approval. Select materials that conform to the composition requirements below. Provide independent analysis data and certification for each formulation stating the total concentration of each heavy metal present, the test method used for each determination, and compliance to 40 CFR 261 for leachable heavy metals content. Submit initial samples for approval before beginning striping operations. The initial sample may be sent from the manufacture of the paint. The Department will randomly sample and evaluate the paint each week that the striping operations are in progress. The non-volatile portion of the vehicle shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis. The acrylic resin used shall be a 100% cross-linking acrylic as evidenced by infrared peaks at wavelengths 1568, 1624, and 1672 cm-1 with intensities equal to those produced by an acrylic resin known to be 100% cross-linking.</p>									

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition
(Effective with the May 22, 2009 Letting)**

PAINT COMPOSITION		
Property and Test Method	Yellow	White
Daytime Color (CIELAB) Spectrophotometer using illuminant D65 at 45° illumination and 0° viewing with a 2° observer	L* 81.76 a* 19.79 b* 89.89 Maximum allowable variation 2.0ΔE*	L* 93.51 a* -1.01 b* 0.70 Maximum allowable variation 2.0ΔE*
Nighttime Color (CIELAB) Spectrophotometer using illuminant A at 45° illumination and 0° viewing with a 2° observer	L* 86.90 a* 24.80 b* 95.45 Maximum allowable variation 2.0ΔE*	L* 93.45 a* -0.79 b* 0.43 Maximum allowable variation 2.0ΔE*
Heavy Metals Content	Comply with 40 CFR 261	Comply with 40 CFR 261
Titanium Dioxide ASTM D 4764	NA	10% by weight of pigment min.
VOC ASTM D 2369 and D 4017	1.25 lb/gal max.	1.25 lb/gal max.
Contrast Ratio (at 15 mils wft)	0.97	0.99

846.02.01 Manufacturers Certification. Provide a certification of analysis for each lot of traffic paint produced stating conformance to the requirements of this section. Report the formulation identification, traffic paint trade name, color, date of manufacturer, total quantity of lot produced, actual quantity of traffic paint represented, sampling method utilized to obtain the samples, and data for each sample tested to represent each lot produced.

846.03 ACCEPTANCE PROCEDURES FOR NON-SPECIFICATION DURABLE WATERBORNE PAVEMENT STRIPING PAINT. When non-specification paint is inadvertently incorporated into the work the Department will accept the material with a reduction in pay. The percentage deduction is cumulative based on its compositional properties, but will not exceed 60 percent. The Department will calculate the payment reduction on the unit bid price for the routes where the non-specification paint was used.

DURABLE WATERBORNE PAVEMENT STRIPING PAINT REDUCTION SCHEDULE						
Non-conforming Property	Resin	Color	Contrast	TiO₂	VOC	Heavy Metals Content
Reduction Rate	60%	10%	10%	10%	60%	60%

SPECIAL PROVISION FOR WELDING STEEL BRIDGES

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's 2008 Standard Specifications for Road and Bridge Construction.

For all the welding, welders, welding materials, and welding procedures, conform to the requirements of the Bridge Welding Code, ANSI/AASHTO/AWS D1.5-95, and the modifications and additions herein.

The numbering of the sections, articles, parts, paragraphs, etc. that are included hereinafter are based on the numbering of ANSI/AASHTO/AWS D1.5-95. The plans or proposal will include additional requirements for fracture-critical members, and may include additional requirements for special steels such as ASTM A 588.

SECTION 1 GENERAL PROVISIONS

Paragraph 1.0 is added as follows:

1.0 Prequalification of Fabrication Shops

1.0.1 Any structural steel fabrication shop in which welded plate girders, or welded boxes or components for bridge trusses, rigid frames, or bridge arches are fabricated shall be qualified and certified as a Category III fabrication shop by AISC.

Proof of this qualification and certification shall be submitted to the Director, Division of Bridges, prior to or along with the first submission of shop drawings. Shop drawings will not be reviewed until this proof has been received.

1.3 Welding Processes

Paragraph 1.3.1.1 is added as follows:

Gas Metal Arc (GMAW), Flux Cored Arc (FCAW), Electroslag (ESW), and Electrogas (EGW) weld processes shall not be used at any location.

SECTION 2 DESIGN OF WELDED CONNECTIONS

2.1 Drawings

Paragraph 2.1.6 is added as follows:

Shop drawings and welding procedures shall be prepared and submitted for review as specified in Section 607.03.01 of the Department's Standard Specifications. Fabrication shall not begin until shop drawings and welding procedures are reviewed.

2.6 Joint Qualification

The following is added to Paragraph 2.6.1:

Details of welded joints shown on the design drawings may indicate joint preparation for a manual shielded metal-arc process or for a submerged-arc process. Shop details shall

indicate the proper joint preparation for the welding procedure proposed by the shop in instances where the shop prefers a method not detailed on design drawings.

2.8 Details of Plug and Slot Welds

Plug and Slot Welds will not be permitted at any location in any type of steel except where designated on the plans or approved by the Engineer.

2.9 Complete Joint Penetration Groove Welds, and

2.10 Partial Joint Penetration Groove Welds

The following paragraph is added to the 2 articles listed above and will be numbered as follows:

2.9.3 – 2.10.4 Groove welds, except corner and tee joints, shall be finished smooth by grinding each face in the direction of applied stress to a tolerance of plus 1/32 inch and minus zero inch in relation to the face of the base metal.

SECTION 3 WORKMANSHIP

3.1 General Requirements

Paragraph 3.1.6 is added as follows:

Any discontinuities found by the Engineer during the inspection of the fabrication, may lead to further testing by any non-destructive methods as may be directed by the Engineer. The cost of testing will be at the expense of the Department, except as specified in paragraphs 6.5.8 and 6.5.9 herein, and Section 607.03.13 of the Department's Standard Specifications. The cost of removal and repair of any rejectable discontinuities will be borne by the Contractor.

3.2 Preparation of Base Metal

The following is added to Paragraph 3.2.1:

Mill scale and extraneous material shall be removed from the torch side of ASTM A 514 steel plates along the lines to be flame cut, when necessary to obviate excessive notches.

Paragraph 3.2.10 is added as follows:

Sheared plates to be used for webs of built-up members shall be ordered with sufficient additional width to allow for trimming of edges where built-up camber is required. Plates with rolled edges shall be trimmed. Universal mill plates to be used for webs of built-up members shall be ordered with sufficient additional width to allow for trimming of both edges. The faying surfaces of the web and flange plates and the adjacent surfaces that are to be fillet welded shall be cleaned by grinding prior to assembly and welding of web-to-flange. Care shall be exercised to avoid over-grinding.

3.4 Control of Distortion and Shrinkage

Paragraphs 3.4.8 is added as follows:

The welding sequence outlined in the procedure specification shall be such as to avoid needless distortion and shrinkage stresses in accordance with this Article 3.4. For welded plate girders the broad outline of sequence shall be as follows:

1. Flange groove weld
2. Web groove weld
3. Web to flange weld
4. Stiffeners to web welds
5. Stiffeners to flange welds

Paragraph 3.4.9 is added as follows:

All welded shop splices in flanges and webs of girders or frames shall be shown on the shop drawings.

3.7 Repairs

Paragraph 3.7.2.5 is added as follows:

Weld repairs of all material except fracture critical members will be limited to a maximum of 3 attempts to obtain an approved weld. No further attempts shall be made on the member joint involved until the Contractor has proven to the Inspector, by mock-up procedures or otherwise, his ability to properly perform the required weld. Weld repairs on fracture critical members shall comply with the AASHTO Guide Specifications for Fracture Critical Non-Redundant Steel Bridge Members.

SECTION 4 TECHNIQUE

PART B SHIELDED METAL ARC WELDING

4.5 Electrodes for Shielded Metal Arc Welding

Paragraph 4.5.1 is voided and replaced as follows:

All electrodes for shielded metal arc welding shall conform to the requirements of the latest edition of Specification for Covered Carbon Steel Arc Welding Electrodes, ANSI/AWS A5.1 or Specification for Low Alloy Steel Covered Arc Welding Electrodes, ANSI/AWS A5.5, and when used for welding on main members shall be capable of producing weld metal having an impact strength of at least 20 ft.-lbs.. Charpy V-notch, at a temperature of -20 °F or below.

The following is added to Paragraph 4.5.5:

The fabricator shall furnish a test report summary for all lots of electrodes used on main members. All Charpy impact strengths shall be listed in addition to other requirements of ANSI/AWS A5.1 and ANSI/AWS A5.5.

PART C SUBMERGED ARC WELDING

4.8 Electrodes and Fluxes for Submerged Arc Welding

Paragraph 4.8.5 is added as follows:

Flux which shows evidence of moisture pickup shall be dried by heating to above 300 °F for a minimum of 2 hours. Flux which has been left in an unheated dispensing system overnight shall be dried before use by heating to above 300 °F for one hour.

4.9 Procedures for Submerged Arc Welding with a Single Electrode

Paragraph 4.9.2 is voided and replaced as follows:

Web to flange fillet welds shall be made in the flat position. Other fillet welds may be made in either the flat or horizontal position except that single-pass fillet welds made in the horizontal position shall not exceed 5/16 inch. Fillet welds used to connect flange plates to web plates shall be made with a single pass, fully automatic process in the flat position, unless the fabricator has special welding fixtures capable of supporting the flange in a horizontal plane while centering the web on the flange and simultaneously welding both sides of the web to flange connection. The use of this automatic welding fixture must have prior approval before beginning fabrication. This special welding fixture must be capable of maintaining any pre-cut camber specified in the plans. If the centering of the web to the flange or the completed weld does not conform to the applicable specifications, use of the special welding fixture shall be discontinued. Girder welding machines shall never be allowed when the weld size exceeds 3/8 inch. Attempts to weld girders with a girder machine that result in unacceptable weld profiles will result in the process being disapproved, and the unacceptable welds being completely removed and rewelded with submerged arc process in the flat position. Corrective work will not be allowed.

4.11 Procedures for Submerged Arc Welding with Multiple Electrodes

Paragraph 4.11.2 is voided and replaced as follows:

Web to flange fillet welds shall be made in the flat position. Other fillet welds may be made in either the flat or horizontal position, except that single-pass fillet welds made in the horizontal position shall not exceed 1/2 inch. A fully automatic single-pass submerged arc shall be used to connect the flange plates to the web plates, unless the fabricator has special welding fixtures capable of supporting the flange in a horizontal plane while centering the web on the flange and simultaneously welding both sides of the web to flange connection. The use of this automatic welding fixture must have prior approval before beginning fabrication. This special welding fixture must be capable of maintaining any pre-cut camber specified in the plans. If the centering of the web to the flange, or the completed weld, does not conform to the applicable specifications, use of the special welding fixture shall be discontinued. Girder welding machines shall never be allowed when the weld size exceeds 3/8 inch. Attempts to weld girders with a girder machine that result in unacceptable weld profiles will result in the process being disapproved, and the unacceptable welds being completely removed and rewelded with submerged arc process in the flat position. Corrective work will not be allowed.

SECTION 5 QUALIFICATION

5.7 General Requirements for WPS Qualifications

Paragraph 5.7.1.3 is added as follows:

The procedure specifications shall be recorded as a part of the shop detail drawings and shall be submitted to the Director of Bridges for approval. The procedure specifications shall outline the welding sequence for each welded shop assembly, including shoes and rockers. The procedure specifications shall specify for each type of weld, prequalified or other, the following: joint preparation, fit-up, electrode specification, electrode diameter, welding position, polarity, amperage, and number of passes, indicating any procedure change from one pass to the next in the same weld and indicating the maximum thickness in a weldment layer. Where preheating of the base metal is required it shall be indicated in the procedure specifications. Extension bars used in making butt welds shall be detailed on the shop detail drawings or on the welding procedures. Procedure specifications submitted which are not tailored to suit the particular work to be fabricated shall not be considered as fulfilling the requirements of the contract. Qualification of a welding procedure established with ASTM A 441, ASTM A 572, or ASTM A 588 steel shall be considered as procedure qualification for welding the other two steels, combinations of them or with steels included in Article 9.2 having a lower minimum specified yield point.

Welding of ASTM A 242 steel is considered a special application and a welding procedure qualified for any of the other three steels listed may not be acceptable for A 242 steel.

Procedure qualification records, and procedure specifications shall be submitted on forms E-1 and E-2 of Appendix IV.

5.21 Welders, Welding Operators, and Tack Welders Qualification

Paragraph 5.21 is voided and replaced as follows:

All welders, welding operators, and tackers to be employed under these Specifications shall have been qualified by tests as prescribed in Section 5, Part B of these Specifications. If a fabricating shop prequalifies its welders, welding operators, and tackers in accordance with these Specifications and certifies to the Engineer that the welder, welding operator, or tacker has been prequalified within 24 months previous to the beginning of work on the subject structure and has been doing satisfactory welding of the required type within the 3-month period previous to the subject work, the Engineer may consider him qualified. A certification shall be submitted for each welder, welding operator, or tacker and for each project, stating the name of the welder, welding operator, or tacker, the name and title of the person who conducted the examination, kind of specimens, the position of welds, the results of the tests, and the date of the examination. Such a certification of prequalification may also be accepted as proof that a welder, welding operator, or tacker is qualified, if the Contractor who submits it is properly staffed and equipped to conduct such an examination or if the examining and testing is done by a recognized agency which is staffed and equipped for such purpose. In all cases, welders, welding operators, and tackers shall have been qualified by testing according to KM 64-110 within the previous 24 months of the time of actual weld performance.

PART B WELDER'S, WELDING OPERATOR'S, OR TACK WELDER'S QUALIFICATION

Article 5.21.4 is voided and replaced with the following:

5.21.4 Period of Effectiveness

The welder's, welding operator's, or tack welder's qualification will remain in effect as specified in Paragraph 5.8.1, unless there is some specific reason to question a welder's ability.

SECTION 6 INSPECTION

PART A GENERAL REQUIREMENTS

6.1 General

Paragraph 6.1.1.3 is added as follows:

The Contractor shall submit details of his Quality Control Organization to the Director, Division of Construction, for approval prior to any fabrication. Any material fabricated prior to the approval of the Quality Control Organization or prior to the approval of shop drawings will not be accepted.

The Department will normally perform Quality Assurance (Q.A.) inspection and nondestructive testing in addition to that required to be performed by the Contractor. The frequency of the Quality Assurance nondestructive testing may exceed that required of the Contractor, and the areas tested by the Department may differ from the areas tested by the Contractor. Thus, the percentage of N.D.T. Inspection of a joint may exceed the percentages indicated in paragraphs 6.7.1.2 and 6.7.2.1.

All test results of the Contractor's nondestructive testing shall be provided to the Department's representative or Quality Assurance inspector as directed.

Paragraph 6.1.1.4 is added as follows:

Prior to the start of actual welding operations, the Department's inspector, the fabricator's shop inspector, and welding foreman shall hold a conference to ensure that agreement has been reached regarding details of the procedure and sequence of welding to be followed, the current status of qualification tests or evidence of previous tests, the review status of shop drawings and welding procedures, and approval of electrodes and other materials to be used.

Paragraph 6.1.6 is added as follows:

The Department's Q.A. Inspector will, at his option, use Radiographic Inspection or Ultrasonic Inspection in accordance with Article 6.7 for the inspection of groove welds. Web-to-flange fillet welds will be inspected in accordance with Paragraph 6.7.6 by Magnetic Particle Inspections. The intent of the inspection is to assure the highest quality of welding and workmanship. Any discontinuities found by the Department's Q.A. Inspector during the inspection of the fabrication, may lead to further testing by any non-destructive methods as may be directed by the Engineer. All non-destructive testing performed by the Department's Q.A. Inspector is at no direct cost to the Contractor except as specified in Paragraph 6.5.9 and Section 607.03.13 of the Department's Standard Specifications. All rejectable defects found by Q.C. and Q.A. shall be acceptably repaired by the Contractor at no cost to the Department.

6.5 Inspection of Work and Records

Paragraph 6.5.8.1 is added as follows:

The Contractor shall be responsible for establishing an adequate procedure for identifying the structural member being fabricated and the welding operator performing the weld. The procedure for the member identification shall assure positive identification until after erection in the field and the procedure for welding operators shall assure positive identification until after all nondestructive testing of the joint is complete. Neither procedure shall consist of stressriser imprints and both shall be approved by the Engineer. Stenciled imprints may be made along side edges of flanges, and at neutral axes of webs. Subsequent to the assembly of the steel into final members or pieces, the Inspector will be required to furnish the Engineer a complete index properly identifying the type of nondestructive test, report number, test results, and the final mark of the piece, member, or its location in the structure. The Contractor shall furnish to the Inspector assembly marks for each member which will give the final location of each weld. The Inspector shall record the locations of inspected areas and the findings of all nondestructive tests, together with descriptions of any repairs made.

All main member heat numbers will be required to be identified in accordance with Section 607.03.04 (E) of the Department's Standard Specifications.

The Inspectors shall provide copies of the written nondestructive test reports of unacceptable welds to the Contractor with the Inspector's interpretation. The Contractor shall sign and date each report to acknowledge the required welding repairs. In the event the Contractor questions the Inspector's interpretation of test results, they shall review the test together and the Department's Q.A. Inspector's interpretation will be final.

Paragraph 6.5.9 is added as follows:

The total cost to the Department of all additional testing and visual inspection performed due to the finding of rejectable defects or discontinuities as required by paragraphs 6.7.1.2(2) and 6.7.2.1 shall be charged to the Contractor. Such charge will be deducted from any payment or payments due for the contract.

6.6 Obligations of Contractor

Paragraph 6.6.7 is added as follows:

While every reasonable effort will be made to fit the inspection work to the shop fabricating schedule, the Contractor shall cooperate with the Inspector to assure that all the work may be inspected properly. The Contractor shall not be entitled to claims against the Department for extra payment or extensions of contract time due to fabricating delays or expenses resulting from the inspection work.

Paragraph 6.6.8 is added as follows:

The Contractor shall furnish power and utilities for operating inspection equipment, shall provide office and shop space for the inspection work, shall handle the material as necessary and shall enforce the required safety precautions for radioactive exposure. No extra payment will be made for such incidentals and the cost thereof shall be included in the lump sum bid

for structural steel.

PART B RADIOGRAPHIC TESTING OF GROOVE WELDS IN BUTT JOINTS

6.10 Radiographic Procedure

Paragraph 6.10.3 is voided and replaced with the following:

Welds shall be prepared for radiography by grinding and shall be radiographed after grinding and after backing is removed. If any reinforcement, within the specified tolerances remains after grinding, carbon steel shims shall be placed under the penetrometer so that the total thickness of steel between the penetrometer and the film is at least equal to the average thickness of the weld measured through its reinforcement.

6.11 Acceptability of Welds

Article 6.11 is voided and replaced with the following:

6.11 Refer to Paragraph 9.21.6.

PART C ULTRASONIC TESTING OF GROOVE WELDS

6.13 General

Paragraph 6.13.1 is voided and replaced as follows:

The procedures and standards set forth in this Part C are to govern the ultrasonic testing of groove welds and heat affected zones between the thickness of 5/16 inch and 8 inches inclusive, when such testing is required by Article 6.7. These procedures and standards are not to be used for testing tube to tube T, Y, or K connections (see 10.17.4, AWS D1.1), but may be used as a basis for rejection of defective base metal.

SECTION 7 STUD WELDING

7.4 Workmanship

Paragraph 7.4.5 is voided and replaced as follows:

Longitudinal and lateral spacing of stud shear connectors with respect to each other and to edges of beam or girder flanges may vary a maximum of one inch) from the location shown in the drawings. If a row of shear connectors is located in the vicinity of a welded flange splice that row of shear connectors shall have its spacing adjusted so as to clear the heat affected zone of the flange. The minimum distance from the edge of a stud base to the edge of a flange shall be the diameter of the stud plus 1/8 inch but preferably not less than 1 1/2 inches. Other types of studs shall be so located as to permit a workmanlike assembly of attachments without alterations or reaming.

SECTION 9 DESIGN OF NEW BRIDGES

PART D WORKMANSHIP

9.21 Quality of Welds

The following is added to Paragraph 9.21.5.1:

Restrained joints shall have testing delayed until after all welding is completed or shall be retested after all welding contributing to restraint is completed and cooled. The fabricator is responsible for specifying such joints on shop drawings or welding procedures.

Paragraph 9.21.6 is added as follows:

9.21.6 Weld Quality Acceptance

Welds shown by visual inspection, or by nondestructive testing in accordance with Article 6.7, to have defects prohibited by Paragraph 9.21.1, 9.21.2, or 9.21.3, shall be repaired or removed and replaced, by the methods permitted by Article 3.7, or the entire piece shall be rejected as determined by the Engineer. Repaired or replaced welds shall be reinspected by the applicable nondestructive testing method. All required repairs or replacements shall be at the Contractor's expense.

January 1, 2008

SPECIAL PROVISION FOR EMBANKMENT AT BRIDGE END BENT STRUCTURES

This Special Provision will apply when indicated on the plans or in the proposal. Section references herein are to the Department's 2008 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. Construct a soil, granular, or rock embankment with granular or cohesive pile core and place structure granular backfill, as the Plans require. Construct the embankment according to the requirements of this Special Provision, the Plans, Standard Drawing RGX 100 and 105, and the 2008 Standard Specifications.

2.0 MATERIALS.

2.1 Granular Embankment. Conform to Subsection 805.10. When Granular Embankment materials are erodible or unstable according to Subsection 805.03.04, use the Special Construction Methods found in 3.2 of the Special Provision.

2.2 Rock Embankment. Provide durable rock from roadway excavation that consists principally of Unweathered Limestone, Durable Shale (SDI equal to or greater than 95 according to KM 64-513), or Durable Sandstone.

2.3 Granular Pile Core. Select a gradation of durable rock to facilitate pile driving that conforms to Subsection 805.11. If granular pile core material hinders pile driving operations, take appropriate means necessary to reach the required pile tip elevation, at no expense to the Department.

2.4 Cohesive Pile Core. Conform to Section 206 of the Standard Specifications and use soil with at least 50 percent passing a No. 4 sieve having a minimum Plasticity Index (PI) of 10. In addition, keep the cohesive pile core free of boulders, larger than 6 inches in any dimension, or any other obstructions, which would interfere with drilling operations. If cohesive pile core material interferes with drilling operations, take appropriate means necessary to maintain excavation stability, at no expense to the Department.

2.5 Structure Granular Backfill. Conform to Subsection 805.11

2.6 Geotextile Fabric. Conform to Type I or Type IV in Section 214 and 843 as required in the plans.

3.0 CONSTRUCTION.

3.1 General. Construct roadway embankments at end bents according to Section 206 and in accordance with the Special Provision, the Plans, and Standard Drawings for the full embankment section. In some instances, granular or rock embankment will be required for embankment construction for stability purposes, but this special provision does not prevent the use of soil when appropriate. Refer to the plans for specific details regarding material requirements for embankment construction.

Place and compact granular or cohesive pile core, soil, granular or rock embankment, and structure granular backfill according to the applicable density requirements for the project. When constructing granular or rock embankments, use granular pile core for driven pile foundations and use cohesive pile core for pre-drilled pile or drilled shaft foundations. Place geotextile fabric, Type IV between cohesive pile core and structure granular backfill and granular or rock embankment.

When granular or rock embankment is required for embankment construction, conform to the general requirements of Subsection 206.03.02 B). In addition, place the material in no greater than 2-foot lifts and compact with a vibrating smooth wheel roller capable of producing a minimum centrifugal force of 15 tons. Apply these requirements to the full width of the embankment for a distance of half the embankment height or 50 feet, whichever is greater, as shown on Standard Drawing RGX-105.

When using granular pile core, install 8-inch perforated underdrain pipe at or near the elevation of the original ground in the approximate locations depicted on the standard drawing, and as the Engineer directs, to ensure positive drainage of the embankment. Wrap the perforated pipe with a fabric of a type recommended by the pipe manufacturer.

After constructing the embankment, excavate for the end bent cap, drive piling or install shafts, place the mortar bed, construct the end bent, and complete the embankment to finish grade according to the construction sequence shown on the Plans or Standard Drawings and as specified hereinafter.

After piles are driven or shafts installed (see design drawings), slope the bottom of the excavation towards the ends of the trench as noted on the plans for drainage. Using a separate pour, place concrete mortar, or any class concrete, to provide a base for forming and placing the cap. Place side forms for the end bent after the mortar has set sufficiently to support workmen and forms without being disturbed.

Install 4-inch perforated pipe in accordance with the plans and Standard Drawings. In the event slope protection extends above the elevation of the perforated pipe, extend the pipe through the slope protection.

After placing the end bent cap and removing adjacent forms, fill the excavation with structure granular backfill material to the level of the berm prior to placing beams for the bridge. For soil embankments, place Type IV geotextile fabric between embankment material and structure granular backfill. After completing the end bent backwall, or after completing the span end wall, place the structure granular backfill to subgrade elevation. If the original excavation is enlarged, fill the entire volume with compacted structure granular backfill at no expense to the Department. Do not place backfill before removing adjacent form work. Place structure granular backfill material in trench ditches at the ends of the excavation. Place Geotextile Fabric, Type IV over the surface of structure granular backfill prior to placing aggregate base course.

Tamp the backfill with hand tampers, pneumatic tampers, or other means the Engineer approves. Thoroughly compact the backfill under the overhanging portions of the structure to ensure that the backfill is in intimate contact with the sides of the structure.

Do not apply seeding, sodding, or other vegetation to the exposed granular embankment.

3.2 Special Construction Methods. Erodible or unstable materials may erode even when protected by riprap or channel lining; use the special construction method described below when using these materials.

Use fine aggregates or friable sandstone granular embankment at "dry land" structures only. Do not use them at stream crossings or locations subject to flood waters.

For erodible or unstable materials having 50 percent or more passing the No. 4 sieve, protect with geotextile fabric. Extend the fabric from the original ground to the top of slope over the entire area of the embankment slopes on each side of, and in front of, the end bent. Cover the fabric with at least 12 inches of non-erodible material.

For erodible or unstable materials having less than 50 percent passing a No. 4 sieve, cover with at least 12 inches of non-erodible material.

Where erodible or unstable granular embankment will be protected by riprap or channel lining, place geotextile fabric between the embankment and the specified slope protection.

4.0 MEASUREMENT.

4.1 Granular Embankment. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure for payment any Granular Embankment that is not called for in the plans.

The Department will not measure for payment any special construction caused by using erodible or unstable materials and will consider it incidental to the Granular Embankment regardless of whether the erodible or unstable material was specified or permitted.

4.2 Rock Embankment. The Department will not measure for payment any rock embankment and will consider it incidental to roadway excavation or embankment in place, as applicable. (embankments requiring rock with none present within project excavation limits will be constructed using granular embankment)

4.3 Granular Pile Core. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure for payment furnishing and placing 8-inch perforated underdrain pipe and will consider it incidental to the Granular pile core. The Department will not measure for payment any granular pile core that is necessary because the contractor elects to use granular or rock embankment when it is not specified in the plans.

4.4 Cohesive Pile Core. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204.

4.5 Structure Granular Backfill. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure any additional material required for backfill outside the limits shown on the Plans and Standard Drawings for payment and will consider it incidental to the work.

When following construction sequence “A”, as shown on the Standard Drawings, the Department will not measure structure excavation at the end bent for payment and will consider it incidental to Structure Granular Backfill.

The Department will not measure for payment the 4-inch perforated underdrain pipe and will consider it incidental to the Structure Granular Backfill.

4.6 Geotextile Fabric. The Department will measure the quantities as specified in Section 214. The Department will not measure the quantity of fabric used for separating granular or rock embankment and cohesive pile core and will consider it incidental to cohesive pile core.

4.7 End Bent. The Department will measure the quantities according to the Contract. The Department will not measure furnishing and placing the 2-inch mortar or concrete bed for payment and will consider it incidental to the end bent construction.

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>
02223	Granular Embankment	Cubic Yards
20209EP69	Granular Pile Core	Cubic Yards
20210EP69	Cohesive Pile Core	Cubic Yards

69

02231	Structure Granular Backfill	Cubic Yards
02596, 02599	Geotextile Fabric, Type	See Section 214

The Department will consider payment as full compensation for all work required in this provision.

April 24, 2008

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

	Page
I. General-----	1
II. Nondiscrimination-----	1
III. Nonsegregated Facilities-----	3
IV. Payment of Predetermined Minimum Wage-----	3
V. Statements and Payrolls-----	6
VI. Record of Materials, Supplies, and Labor-----	6
VII. Subletting or Assigning the Contract-----	7
VIII. Safety: Accident Prevention-----	7
IX. False Statements Concerning Highway Projects-----	7
X. Implementation of Clean Air Act and Federal Water Pollution Control Act-----	8
XI. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion-----	8
XII. Certification Regarding Use of Contract Funds for Lobbying-----	9

ATTACHMENTS

- A. Employment Preference for Appalachian Contracts
(included in Appalachian contracts only)

I. GENERAL

1. 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.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

- Section I, paragraph 2;
- Section IV, paragraphs 1, 2, 3, 4, and 7;
- Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 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 DOL, or the contractor's employees or their representatives.

6. **Selection of Labor:** During the performance of this contract, the contractor shall not:

a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) 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 Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 *et seq.*) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

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

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

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

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

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

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

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

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 minority groups 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 minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group 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, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

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

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

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

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

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his 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 his avenues of appeal.

6. **Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

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. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

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 minority group and women employees 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 his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. 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 best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

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

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA 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 minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin,

age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) 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 SHA.

8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. 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 completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

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

(1) The number 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;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA 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. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics

shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. 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.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour 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.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said 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

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

a. 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 or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

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

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

a. Apprentices:

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

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

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable

classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

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

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under an approved definition, shall be paid not less than the applicable wage rate on the wagedetermination for the classification of work actually performed.

5. Apprentices and Trainees (Programs of the U.S. DOT):

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of

Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. Withholding:

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

7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any

liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

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

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

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

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

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

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 State. 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).

a. "Its own organization" shall be construed to include only workers employed and paid directly 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, assignee, or agent of the prime contractor.

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 on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA 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 SHA 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 SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

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. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

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, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary 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 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 primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which

this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary 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 Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. 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.

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.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement 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;

c. 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 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Covered Transactions:

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

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 may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and

submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she 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.

**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 (between forty and seventy); 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 (between forty and seventy). 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, disability or age (between forty and seventy), except that such notice or advertisement may indicate a preference, limitation, or specification based on religion, or national origin when religion, or national origin 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 (between forty and seventy), 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: 12-3-92

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (6) provides:

No present or former public servant shall, within six (6) months of following termination of his office or employment, accept employment, compensation or other economic benefit from any person or business that contracts or does business with the state in matters in which he was directly involved during 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, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved 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.

KRS 11A.040 (8) states:

A former public servant shall not represent a person in a matter before a state agency in which the former public servant was directly involved, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, Room 136, Capitol Building, 700 Capitol Avenue, Frankfort, Kentucky 40601; telephone (502) 564-7954.

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

	HIGHWAY BASIC HOURLY RATES	FRINGE BENEFIT PAYMENTS COMBINED
--	-------------------------------------------	-------------------------------------------------

CRAFTS

Boilermakers	24.65.....	12.94
Bricklayers:.....	20.35.....	7.80
Stone Mason	18.95.....	7.80
Carpenters:.....	20.60.....	8.30
Cement Masons:.....	18.70.....	7.80
Electricians:	*26.36.....	10.04

*When workmen are required to work from bosum chairs, trusses, stacks, tanks, scaffolds, catwalks, radio and T. V. towers, structural steel (open, unprotected, unfloored raw steel), and bridges or similar hazardous locations where workmen are subject to a direct fall, except where using JLG's and bucket trucks up to 75 feet: Add 25% to workman's base rate for 50 to 75 feet, and add 50% to workman's base rate for over 75 feet.

Ironworkers, Structural:.....	20.70.....	8.30
Ironworkers, Reinforcing:	20.50.....	8.30
Painters		
All Excluding Bridges	19.92.....	9.57
Bridges	23.92.....	10.07
Piledrivers:.....	20.25.....	8.30
Plumbers.....	22.52.....	7.80
Sheet Metal Worker	20.40.....	7.80

Welders - Receive rate for craft in which welding is incidental.

LABORERS:

General laborer, flagperson, steam jenny.		BASE RATE18.65
		FRINGE BENEFITS8.30

Batch truck dumper, deck hand or scow man, hand blade operator.		BASE RATE18.90
		FRINGE BENEFITS8.30

Power driven tool operator of the following: wagon drill, chain saw, sand blaster, concrete chipper, pavement breaker, vibrator, power wheelbarrow and power buggy, sewer pipe layer, bottom men, dry cement handler, concrete rubber, mason tender.		BASE RATE19.00
		FRINGE BENEFITS8.30

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

LABORERS: (continue)

Asphalt lute and rakerman, side rail setter.	BASE RATE19.05 FRINGE BENEFITS8.30
Gunnite nozzle man, gunnite operator.	BASE RATE19.15 FRINGE BENEFITS8.30
Tunnel laborer (free air).	BASE RATE19.20 FRINGE BENEFITS 8.30
Tunnel mucker (free air).	BASE RATE19.25 FRINGE BENEFITS8.30
Tunnel miner, blaster and driller (free air).	BASE RATE19.60 FRINGE BENEFITS8.30
Caisson worker.	BASE RATE20.15 FRINGE BENEFITS8.30
Powderman.	BASE RATE20.25 FRINGE BENEFITS8.30
Drill operator of percussion type drills which are both powered and propelled by an independent air supply.	BASE RATE21.45 FRINGE BENEFITS8.30

TRUCK DRIVERS:

Truckhelper and warehouseman.	BASE RATE18.90 FRINGE BENEFITS8.30
Driver, winch truck and A-Frame when used in transporting materials.	BASE RATE19.00 FRINGE BENEFITS8.30

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

Driver, (semi-trailer or pole trailer), driver (dump truck, tandem axle), driver of distributor.	BASE RATE19.10 FRINGE BENEFITS8.30
Driver on mixer trucks (all types).	BASE RATE19.15 FRINGE BENEFITS8.30
Truck mechanic	BASE RATE19.20 FRINGE BENEFITS8.30
Driver (3 tons and under), tire changer and truck mechanic helper.	BASE RATE19.23 FRINGE BENEFITS8.30
Driver on pavement breakers.	BASE RATE19.25 FRINGE BENEFITS8.30
Driver (over 3 tons), driver (truck mounted rotary drill).	BASE RATE19.44 FRINGE BENEFITS8.30
Driver, Euclid and other heavy earth moving equipment, Low boy	BASE RATE20.01 FRINGE BENEFITS8.30
Greaser on greasing facilities.	BASE RATE20.10 FRINGE BENEFITS8.30

OPERATING ENGINEERS:

Group A

Auto patrol, batcher plant, bituminous paver, cable-way, clamshell, concrete mixer (21 cu. ft. or over), concrete pump, crane, crusher plant, derrick, derrick boat, ditching and trenching machine, dragline, dredge engineer, elevator (regardless of ownership when used for hoisting any building material), elevating grader and all types of loaders, hoe-type machine, hoisting engine, locomotive, LeTourneau or carry-all scoop, bulldozer, mechanic, orangepeel bucket, piledriver, power blade, roller (bituminous), roller (earth), roller (rock), scarifier, shovel, tractor shovel, truck crane, well points, winch truck, push dozer, grout pump, high lift, fork lift (regardless of lift height), all types of boom cats, multiple operator, core drill, tow or push boat, A-Frame winch truck, concrete paver, gradeall, hoist, hyster, material pump, pumpcrete, ross carrier, sheep foot, sideboom, throttle-valve man, rotary drill, power generator, mucking machine, rock spreader attached to equipment, scoomobile, KeCal loader, tower cranes (French, German and other types), hydrocrane,

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

OPERATING ENGINEERS: (continued)

tugger, backfiller, guries, self-propelled compactor, self-contained hydraulic percussion drill.

BASE RATE.....23.30
FRINGE BENEFITS8.30

Group B

All air compressors (200 cu. ft. per min. or greater capacity), bituminous mixer, concrete mixer (under 21 cu. ft.), welding machine, form grader, tractor (50 H.P. and over), bull float, finish machine, outboard motor boat, brakeman, whirly oiler, tractair and road widening trencher, articulating trucks, mechanic helper.

BASE RATE.....20.40
FRINGE BENEFITS8.30

Group B2

Greaser on grease facilities servicing heavy equipment

BASE RATE.....20.60
FRINGE BENEFITS8.30

Group C

Bituminous distributor, cement gun, conveyor, mud jack, paving joint machine, pump, tamping machine, tractors (under 50 H.P.), vibrator, oiler, air compressors (under 200 cu. ft. per min. capacity), concrete saw, burlap and curing machine, hydro seeder, power form handling equipment, deckhand oiler, hydraulic post driver.

BASE RATE.....19.99
FRINGE BENEFITS8.30

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 the General Laborer except those classified as bona fide apprentices.

These rates are listed pursuant to the Kentucky Determination No. CR-07-II-HWY dated July 3, 2008 and/or Federal Decision No. KY 20080026 dated February 8, 2008.

NOTE: Both Kentucky Determination No. CR-07-II-HWY and Federal Decision No. KY20080026 dated February 8, 2008 apply to this project. This set of wage rates contains a combination of these two wage decisions.

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

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 after an employee works eight (8) hours a day or forty (40) hours a week, whichever gives the employee the greater wages. At least time and one-half the base rate is required for all overtime. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. Wage violations or questions should be directed to the designated Engineer or to the undersigned.

Steve Waddle, Director
Division of Construction Procurement
Frankfort, Kentucky 40622

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
7.0%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Perry County.

PART IV
INSURANCE

INSURANCE

The Contractor shall carry the following insurance in addition to the insurance required by law:

1. Contractor's Public Liability Insurance not less than \$100,000.00 for damages arising out of bodily injuries to or death to one person. Not less than \$300,000.00 for damages arising out of bodily injuries to or death to two or more persons.
2. Contractor's Property Damages Liability Insurance. Not less than \$100,000.00 for all damages arising out of injury or destruction of property in any one accident. Not less than \$300,000.00 for all damages during the policy period.
3. Contractor's Protective Public Liability and Property Damage Insurance. The contractor shall furnish evidence with respect to operations performed for him by subcontractors that he carries in his own behalf for the above stipulated amounts.
4. The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
 - a. "policy contains no deductible clauses."
 - b. "policy contains _____ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured."
5. WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

PART V
BID ITEMS

CONTRACT ID: 091128
COUNTY: PERRY
PROPOSAL: BRZ 1003 (192)

PAGE: 1
LETTING: 05/22/09
CALL NO: 113

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
SECTION 0001 ROADWAY						
0010	00001	DGA BASE	1,039.000	TON		
0020	00020	TRAFFIC BOUND BASE	121.000	TON		
0030	00078	CRUSHED AGGREGATE SIZE NO 2	102.000	TON		
0040	00100	ASPHALT SEAL AGGREGATE	1.000	TON		
0050	00221	CL2 ASPH BASE 0.75D PG64-22	793.000	TON		
0060	00291	EMULSIFIED ASPHALT RS-2	0.120	TON		
0070	00301	CL2 ASPH SURF 0.38D PG64-22	238.000	TON		
0080	00440	ENTRANCE PIPE-15 IN	52.000	LF		
0090	00443	ENTRANCE PIPE-24 IN	33.000	LF		
0100	00464	CULVERT PIPE-24 IN	57.000	LF		
0110	00522	STORM SEWER PIPE-18 IN	281.250	LF		
0120	01000	PERFORATED PIPE-4 IN	100.000	LF		
0130	01010	NON-PERFORATED PIPE-4 IN	40.000	LF		
0140	01020	PERF PIPE HEADWALL TY 1-4 IN	2.000	EACH		
0150	01434	SLOPED BOX OUTLET TYPE 1-24 IN	1.000	EACH		
0160	01480	CURB BOX INLET TYPE B	2.000	EACH		
0170	01487	CURB BOX INLET TYPE F	3.000	EACH		
0180	01499	DROP BOX INLET TYPE 4	1.000	EACH		
0190	01756	MANHOLE TYPE A	2.000	EACH		
0200	01810	STANDARD CURB AND GUTTER	381.850	LF		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 091128
COUNTY: PERRY
PROPOSAL: BRZ 1003 (192)

PAGE: 2
LETTING: 05/22/09
CALL NO: 113

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0210	02014	BARRICADE-TYPE III	2.000	EACH		
0220	02159	TEMP DITCH	500.000	LF		
0230	02200	ROADWAY EXCAVATION	1,303.800	CUYD		
0240	02242	WATER	70.000	MGAL		
0250	02351	GUARDRAIL-STEEL W BEAM-S FACE	100.000	LF		
0260	02360	GUARDRAIL TERMINAL SECTION NO 1	2.000	EACH		
0270	02381	REMOVE GUARDRAIL	175.000	LF		
0280	02429	RIGHT-OF-WAY MONUMENT TYPE 1	7.000	EACH		
0290	02432	WITNESS POST	3.000	EACH		
0300	02484	CHANNEL LINING CLASS III	335.000	TON		
0310	02545	CLEARING AND GRUBBING 1.5 ACRES	(1.00)	LS		
0320	02562	SIGNS	308.500	SQFT		
0330	02585	EDGE KEY	219.000	LF		
0340	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	330.000	SQYD	2.00	660.00
0350	02650	MAINTAIN & CONTROL TRAFFIC	(1.00)	LS		
0360	02651	DIVERSIONS (BY-PASS DETOURS)	(1.00)	LS		
0370	02701	TEMP SILT FENCE	639.000	LF		
0380	02704	SILT TRAP TYPE B	22.000	EACH		
0390	02705	SILT TRAP TYPE C	7.000	EACH		
0400	02707	CLEAN SILT TRAP TYPE B	88.000	EACH		
0410	02708	CLEAN SILT TRAP TYPE C	28.000	EACH		

CONTRACT ID: 091128
COUNTY: PERRY
PROPOSAL: BRZ 1003 (192)

PAGE: 3
LETTING: 05/22/09
CALL NO: 113

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0420	02709	CLEAN TEMP SILT FENCE	1,917.000	LF		
0430	02711	SEDIMENTATION BASIN	3,000.000	CUYD		
0440	02712	CLEAN SEDIMENTATION BASIN	24,000.000	CUYD		
0450	02720	SIDEWALK-4 IN CONCRETE	183.140	SQYD		
0460	02726	STAKING	(1.00)	LS		
0470	02731	REMOVE STRUCTURE 4 SPAN I BEAM BRIDGE	(1.00)	LS		
0480	05950	EROSION CONTROL BLANKET	3,136.000	SQYD		
0490	05952	TEMP MULCH	7,013.000	SQYD		
0500	05953	TEMP SEEDING AND PROTECTION	7,013.000	SQYD		
0510	05966	TOPDRESSING FERTILIZER	1.000	TON		
0520	05990	SODDING	3,877.000	SQYD		
0530	06510	PAVE STRIPING-TEMP PAINT-4 IN	340.000	LF		
0540	06514	PAVE STRIPING-PERM PAINT-4 IN	571.000	LF		
0550	08100	CONCRETE-CLASS A	4.290	CUYD		
0560	08150	STEEL REINFORCEMENT	38.000	LB		
0570	10030NS	ASPHALT ADJUSTMENT	2,484.000	DOLL	1.00	2,484.00
0580	23131ER701	PIPELINE VIDEO INSPECTION	169.000	LF		
0590	23158ES505	DETECTABLE WARNINGS	78.300	SQFT		
SECTION 0002		BRIDGE 25956				
0600	02231	STRUCTURE GRANULAR BACKFILL	214.500	CUYD		
0610	03299	ARMORED EDGE FOR CONCRETE	56.100	LF		

CONTRACT ID: 091128
COUNTY: PERRY
PROPOSAL: BRZ 1003 (192)

PAGE: 4
LETTING: 05/22/09
CALL NO: 113

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0620	04793	CONDUIT-1 1/4 IN	421.500	LF		
0630	08001	STRUCTURE EXCAVATION-COMMON	2,700.500	CUYD		
0640	08002	STRUCTURE EXCAV-SOLID ROCK	133.300	CUYD		
0650	08019	CYCLOPEAN STONE RIP RAP	1,508.200	TON		
0660	08033	TEST PILES	66.000	LF		
0670	08046	PILES-STEEL HP12X53	677.000	LF		
0680	08094	PILE POINTS-12 IN	24.000	EACH		
0690	08100	CONCRETE-CLASS A	316.200	CUYD		
0700	08104	CONCRETE-CLASS AA	580.200	CUYD		
0710	08150	STEEL REINFORCEMENT	45,480.000	LB		
0720	08151	STEEL REINFORCEMENT-EPOXY COATED	169,624.000	LB		
0730	08160	STRUCTURAL STEEL 469563 LBS.	(1.00)	LS		
0740	08170	SHEAR CONNECTORS 4968	(1.00)	LS		
0750	08472	EXPANSION DAM-4 IN NEOPRENE	69.100	LF		
0760	20391NS835	JUNCTION BOX TYPE A	2.000	EACH		
0770	21119ED	CONCRETE FORM LINER	264.500	SQYD		
0780	21679EN	FIBERGLASS DRAIN PIPE	61.100	LF		
0790	23083EN	RAIL SYSTEM TYPE 8	724.300	LF		
0800	23168ED	CONCRETE STAINING	1,567.500	SQYD		
0810	23175ED	JUNCTION BOX TY D	5.000	EACH		
SECTION 0003		UTILITY GAS				

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 091128
COUNTY: PERRY
PROPOSAL: BRZ 1003 (192)

PAGE: 5
LETTING: 05/22/09
CALL NO: 113

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	PRICE	AMOUNT
0820	01065	STEEL ENCASMENT PIPE-8 IN	90.000	LF		
0830	01312	REMOVE AND RELAY PIPE 18 INCH	54.000	LF		
0840	20169EC	RECONNECT METER	1.000	EACH		
0850	21201ED	POLYETHYLENE GAS PIPE-6 IN	274.000	LF		
0860	21772NN	VENT- COMPLETE IN PLACE	5.000	EACH		
0870	21846EN	POLYETHYLENE GAS MAIN-2 IN	541.000	LF		
0880	23294EC	TIE 2 INCH THRU 6 INCH EXISTING GAS LINES	(1.00)	LS		
0890	23336EC	GAS VALVE-6 IN	2.000	EACH		
0900	23337EC	GAS VALVE-2 IN	2.000	EACH		
0910	23338EC	BORED LINER PIPE-10 IN	100.000	LF		
0920	23339EC	GAS LINE-3/4 IN	55.000	LF		
0930	23340EC	PAVEMENT REPLACEMENT	20.000	TON		
0940	23341EC	GENERAL CONCRETE	8.000	CUYD		
SECTION 0004 SEWER						
0950	03382	PVC PIPE-3 IN	263.000	LF		
0960	20772ND	TIE-IN TO MANHOLE	2.000	EACH		
0970	21353ND	TIE-IN TO FORCE MAIN 3 AND 6 INCH	2.000	EACH		
0980	22138NN	RECONNECTION LATERAL	1.000	EACH		
0990	23341EC	GENERAL CONCRETE	3.000	CUYD		
1000	23342EC	DUCTILE IRON FORCE MAIN-6 IN	56.000	LF		
1010	23343EC	DI BALL JOINT FORCE MAIN-6 IN	198.000	LF		

CONTRACT ID: 091128
COUNTY: PERRY
PROPOSAL: BRZ 1003 (192)

PAGE: 6
LETTING: 05/22/09
CALL NO: 113

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1020	23344EC	BORED LINER PIPE-8 IN	100.000	LF		
1030	23345EC	TV INVESTIGATION-12 IN SANITARY SEWER	365.000	LF		
1040	23346EC	BYPASS PUMPING	(1.00)	LS		
1050	23347EC	DRAIN REROUTE	(1.00)	LS		
1060	23354EC	PIPE BURSTING WITH PE LINER	460.000	LF		
SECTION 0005 LIGHTING						
1070	04700	POLE 30 FT MTG HT	3.000	EACH		
1080	04760	POLE W/SECONDARY CONTROL EQUIP	1.000	EACH		
1090	04772	HPS LUMINAIRE OFFSET	3.000	EACH		
1100	04780	FUSED CONNECTOR KIT	6.000	EACH		
1110	04793	CONDUIT-1 1/4 IN	50.000	LF		
1120	04820	TRENCHING AND BACKFILLING	50.000	LF		
1130	04832	WIRE-NO. 12	225.000	LF		
1140	04833	WIRE-NO. 8	1,145.000	LF		
SECTION 0006 WATERLINE						
1150	01095	DUCTILE IRON PIPE-8 IN	315.000	LF		
1160	02268	REMOVE & REPLACE FENCE	10.000	LF		
1170	02606	FIRE HYDRANT	1.000	EACH		
1180	03385	PVC PIPE-6 IN	10.000	LF		
1190	03387	PVC PIPE-8 IN	687.000	LF		
1200	03495	AIR RELEASE VALVE	1.000	EACH		

CONTRACT ID: 091128
COUNTY: PERRY
PROPOSAL: BRZ 1003 (192)

PAGE: 7
LETTING: 05/22/09
CALL NO: 113

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1210	03526	GATE VALVE-6 IN	1.000	EACH		
1220	03528	GATE VALVE-8 IN	5.000	EACH		
1230	20169EC	RECONNECT METER	1.000	EACH		
1240	20311EC	SERVICE LINE-3/4 IN	115.000	LF		
1250	21558EC	SERVICE LINE - 1 IN	35.000	LF		
1260	22090NN	LARGE RIVER TEST STATION	1.000	EACH		
1270	22866NN	WATER METER 1 INCH	1.000	EACH		
1280	22866NN	WATER METER 3/4 INCH	1.000	EACH		
1290	23294EC	TIE 4 TIE INS TO EXISTING WATERLINES	(1.00)	LS		
1300	23340EC	PAVEMENT REPLACEMENT	33.000	TON		
1310	23341EC	GENERAL CONCRETE	33.000	CUYD		
1320	23348EC	DI BALL JOINT PIPE-8 IN	270.000	LF		
1330	23349EC	BORED LINER PIPE-12 IN	90.000	LF		
1340	23350EC	OPEN CUT LINER PIPE-12 IN	95.000	LF		
SECTION 0007 DEMOBILIZATION						
1350	02569	DEMOBILIZATION (AT LEAST 1.5%)		LUMP		
		TOTAL BID				